

WOMEN AND SANITATION

Skipping the queue – female urinals successfully tested in KZN, Mpumalanga

*Female urinals are being tested as a possible solution to the need for sanitation.
Sue Matthews reports.*



Any woman who has waited in a long queue to 'spend a penny' in a public toilet may have been slightly peeved at the quick turnaround in the men's loos, due largely to the availability of urinals. This type of facility has long been reserved for men, from the Pissoirs that were installed on the pavements of Paris from the 1830s – but have more recently given way to self-cleaning, unisex Sanisettes – to the UriLifts that pop up at night to cater for Amsterdam's revellers, only to retreat beneath a manhole cover by day.

Over the years, a number of rather fancy women-specific designs for urinals have been developed in Europe and the United States, but they have not been widely implemented. These have typically been the wall-mounted variety, allowing women

to adopt the same stance they would take to avoid sitting on a toilet seat. Elsewhere in Africa, however, trough-type urinals are known to have been installed at a number of schools for use by girls, with mixed success. The design often incorporates raised footrests, enabling a girl to squat over a sloped channel and urinate without getting her feet wet. Of course, so-called squat toilets – also known as Turkish Toilets – are the norm in the Middle East and Asia, but those are intended for both defecation and urination.

Urinals have some key advantages, particularly in light of the dire state of sanitation in many South African schools. At those schools that still have pit latrines – where there is invariably some risk of falling into the pit – learners needing only to urinate



The toilet huts contained a Weestand urinal – a roll of toilet paper and a bin for disposal of used paper as well as signage to ensure learners used the urinals correctly.

can use the urinal instead, so there is a safety benefit. And since pit latrines must be abolished and replaced with improved sanitation options, urinals can reduce the number of new toilets needed, and hence the cost.

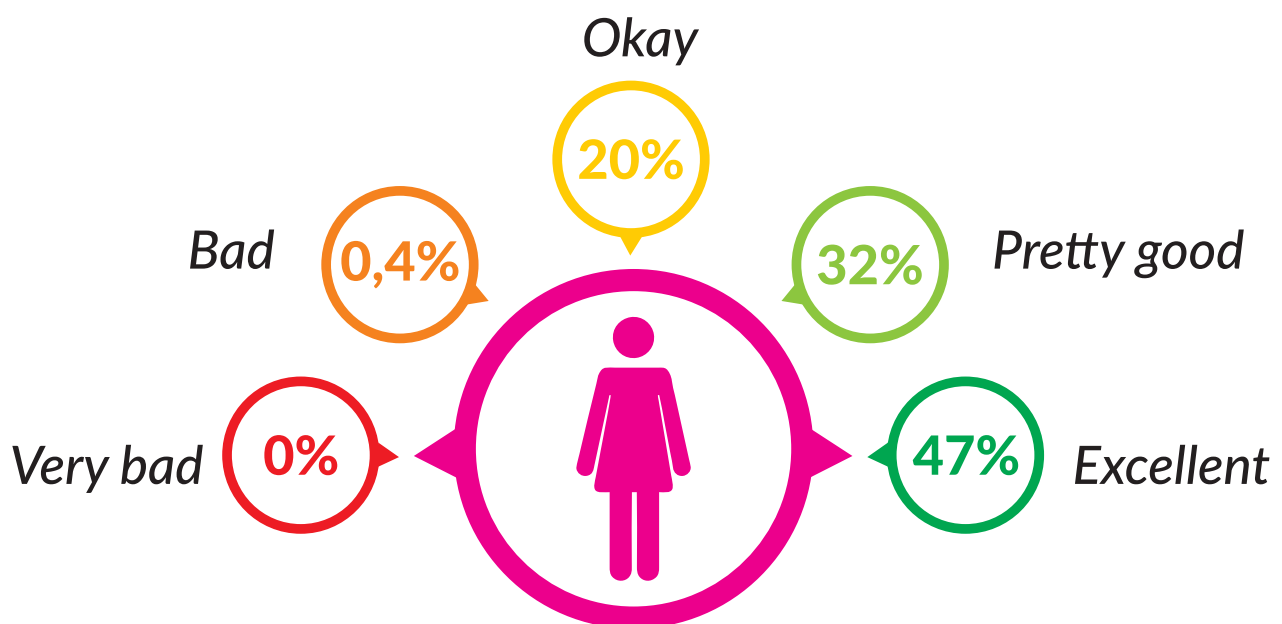
Urinals also reduce learners' exposure to disease by eliminating the need to touch toilet handles and seats, which may be contaminated with faecal matter. In addition, they represent a significant water-saving compared to flush toilets. While

municipal bylaws have outlawed automatic-flush urinals in favour of user-activated ones, there are now waterless versions on the market too. Even well-resourced schools like Bishops in Cape Town and St Stithians in Johannesburg have installed these urinals in the boy's toilets, as part of their water-saving and sustainability efforts.

Recognising the potential benefits of waterless female urinals, the Water Research Commission recently funded a research project by Pietermaritzburg-based firm, Partners in Development, to test the acceptability of urinals among girls and women in South Africa. Initially, eight primary schools in the area were visited, and 625 learners – assisted by three female researchers – completed questionnaires on their toilet usage and their opinions of urinals.

Only 44% of the participants reported that they usually or always sit down on the school toilet seats, while 36% said they never do so. The toilets are primarily used for urination, with 28% of participants saying they never defecate at school. When shown pictures of urinals, 57% indicated that they would prefer the wall-mounted design, while 43% preferred the trough version. However, 47% of participants said they would not be willing to put their used toilet paper in a bin, which is necessary to prevent blockages of the urinal.

A field-testing study was then conducted by setting up a female urinal facility at five different schools – three primary and two secondary schools – over a two-week period. The urinals were supplied by LiquidGold, a start-up company founded by Orion Herman to promote the concept of urine being a valuable resource, since it can be used to produce fertilisers rich in nitrogen and phosphorus. LiquidGold's main focus has been on retrofitting existing urinals with non-return valves that prevent urine odours from travelling back up the drainage pipe, and on entering into service-level agreements with businesses to maintain the system and collect the urine. However, it also



RESULTS OF USERS' EXPERIENCE WHILE USING THE FEMALE URINAL.

worked with students at Vaal University of Technology to develop a gender-neutral waterless urinal, called Weestand, and subsequently installed 14 of these (seven for each gender) in a containerised unit at Osizweni Primary School in Mpumalanga.

Two urinals in individual toilet huts were installed for the field-testing study at the schools, none of which had flush toilets for learners' use. Two researchers remained close by to assist learners before they used the urinal, and then interview them afterwards using a multiple-choice questionnaire. Of the 236 respondents, 70% were primary school learners, partly because it was exam time at the high schools so not all learners were present. Only one learner rated her urinal experience as 'bad', while 79% had a 'pretty good' or 'excellent' experience. When asked what they liked about the urinal, 53% selected the option that it was clean. Some 36% replied there was nothing they disliked about the urinal, but 20% didn't like having to put their used toilet paper in a bin. Only three users out of the 236 said that they would not use the urinal if it was permanently available at their school. All but nine replied that the urinal was better than their existing school toilets, the main reason being that it was clean – yet any toilet facility will become unappealing if not properly managed and maintained, of course.

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When asked what they would change about the urinals, about half of the respondents wanted nothing changed, but 20% of them replied that they would like to be able to sit down. However, Orion Herman has indicated that the LiquiGold urinals were deliberately designed to have a very thin edge so that they would be uncomfortable to sit on, as this would limit the likelihood of defecation. Finally, in response to a question about what matters most to them when using the urinal, the learners responded that privacy (40%), safety (30%) and cleanliness (26%) were their main concerns.



The containerised gender-neutral waterless urinal facility installed at the Osizweni Primary School in Embalehle, Mpumalanga.

This highlights the importance of using partitions in girls' toilets to allow them enough privacy to preserve their sense of dignity. In the containerised urinal facility installed by LiquiGold at Osizweni Primary School, the girls' urinals are in individual cubicles with doors, but this may not be necessary for very young children. Many international examples use only dividers of some kind to provide a privacy screen – although this is possibly the main reason why communal urinals for women have not been widely implemented!

User experiences of adult women were not included in the research project's final report, because the number of respondents was too low to provide useful information. The two urinals had been set up at a community Park Run, and it is not clear whether women avoided using them or were unwilling to be interviewed. The initial acceptability study did include adult women though, via a survey conducted at four taxi ranks in the Pietermaritzburg city centre. A total of 93 women representing a range of ages and from both rural and urban areas were interviewed. More than half of them rated the taxi rank's public toilets as bad or very bad for all four criteria – cleanliness, safety, wait time and privacy – and some 30% said they never sit down on the toilet seats. Almost all of the women indicated they would be willing to try a urinal, and also to put their toilet paper in a bin. Some 61% preferred the wall-mounted version, with three respondents expressing concern that older women would have difficulties squatting for the trough version.

This preference is similar to that expressed by the learners, but it would be relatively easy to introduce trough urinals for girls at schools, because all that would be needed are some slight changes to the design already used for boys' urinals. Partners in Development estimate that a toilet block containing a trough urinal with three stalls as well as a handwashing basin could be supplied at a cost of R17 200 per seat. In contrast, the container with wall-mounted urinals offered by LiquiGold cost R350 000 for a 12 metre version in 2017, equating to R25 000 per seat. Both options are considerably cheaper than the estimated R70 000 budgeted per seat for new Ventilated Improved Pit (VIP) toilets in schools.

The Partners in Development project team therefore recommended that the Department of Education add female urinals as an option in their toolkit to address shortages in school sanitation. "Pilot projects using both trough and wall-mounted urinals for girls should be initiated in schools in different parts of South Africa," they noted in their report. "Schools are potentially an ideal setting to test female urinals, as children more easily adapt to new technologies. Should schools prove to be a successful market for female urinals, this technology could be expanded to serve the needs of public toilets in malls and taxi ranks, among other locations."