

A newly-published report by the Water Research Commission (WRC) explored the state of sanitation in rural schools. The report, *Exploring the issues around rural on-site school sanitation in South Africa*, represents the exploratory findings of a current WRC project focusing on improving sanitation services, particularly to rural schools.

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The WRC report includes case studies from the three provinces that make for uncomfortable reading. The Limpopo case studies were from 10 schools visited in 2013 by the public interest law centre, Section27, while the Eastern Cape examples were provided by Impilo Yabantu Services, which provides operation and maintenance services for sanitation blocks in four of the province's educational districts. Research leader, Partners in Development, visited a small number of peri-urban schools in KwaZulu-Natal in 2013, but is conducting a more comprehensive assessment of rural schools in all three provinces for the broader WRC study.

The case studies document toilets that looked like they had never been cleaned, toilet stalls with no doors, full pit latrines and schools with no hand-washing facilities. In one example, the superstructure around the boys' latrines had been destroyed in a storm. In another, a primary school with 520 learners, there were only two pit latrines for girls and two for boys, giving a ratio of 1 toilet to 130 learners. Recommendations for the number of children to be served per toilet typically range from 1:20 to 1:50. According to the norms and standards, a school of this size should have eight toilets for girls and four toilets plus four urinals for boys.

Government is aware of such problems, and has taken steps to address them. Minister of Finance, Nhlanhla Nene, announced in his Budget Speech in February that R29.6-billion had been allocated to the Education Infrastructure Grant for the next three years to help schools meet the minimum

norms and standards, and a further R7.4-billion to the school infrastructure backlogs programme, which funds the Accelerated Schools Infrastructure Delivery Initiative (ASIDI).

The research findings will be used to develop guidelines on management issues, which the project team hopes can be tested in future projects. Another set of guidelines will focus on the design of sanitation facilities and the choice of systems and technologies. The preliminary document explores these aspects, which are important in ensuring that the sanitation options selected will be safe, suitable and sustainable.

For example, providing gender-segregated toilets helps prevent harassment of girls by boys, but since younger children may be bullied by older children in single-sex toilet blocks, facilities may need to be provided for different age groups too.

With regard to technology, standard flush toilets are not possible in many rural settings because – apart from using more water than is sustainable in our water-scarce country – installing sewage pipelines and pump stations is prohibitively costly, and may pose a threat to health and the environment if leaks are not readily detected. At the other end of the scale, Ventilated Improved Pit (VIP) latrines comply with the minimum norms and standards, but are regarded by many as inferior, smelly and sometimes unsafe.

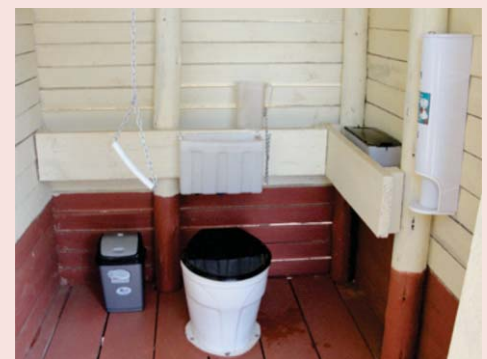
Pour-flush or low-flush toilets potentially offer the best of both worlds, bridging the gap between the convenience of flush systems and the sustainability of VIP systems. With a pour-flush toilet, one to three litres of water is poured into the bowl to flush the toilet, pushing the excreta through the water-seal and into the collection chamber. With a low-flush toilet, a cistern dispenses three litres of water around the pan with each flush. Both types cost significantly less than a full-flush toilet, although about 20% more

than a VIP, and greywater can be used for flushing.

With WRC funding, Partners in Development developed a pour-flush prototype in 2010, which was modified into a low-flush system in 2013. Both types terminate in a simple soakaway or leach pit, which is relatively small compared to a septic tank. Ideally, twin pits should be installed, so that when one becomes full the other can be used instead. The full pit is allowed to dry out for two to four years and then emptied, ready to be used again once the operational pit reaches its capacity.

The toilets were successfully tested in townships in KwaZulu-Natal and the Western Cape, and by June 2015, more than 80 pour-flush and six low-flush units were in operation in 14 schools.

It is concluded that while the WRC touches on how infrastructure interfaces with user needs and the implications for management, a careful review of models for management and user education is planned as the study progresses. It is clear that addressing these three elements – infrastructure, management and education – together is vital in order to expect that any intervention might succeed.



The WRC is funding a project to construct pour flush toilets at six Limpopo primary and secondary schools.

Further reading:

To order the reports, *Exploring the issues around rural on-site school sanitation in South Africa* (Report No. 2381/P/15) contact Publications at Tel: (012) 330-0340, Email: orders@wrc.org.za or Visit: www.wrc.org.za to download a free copy.