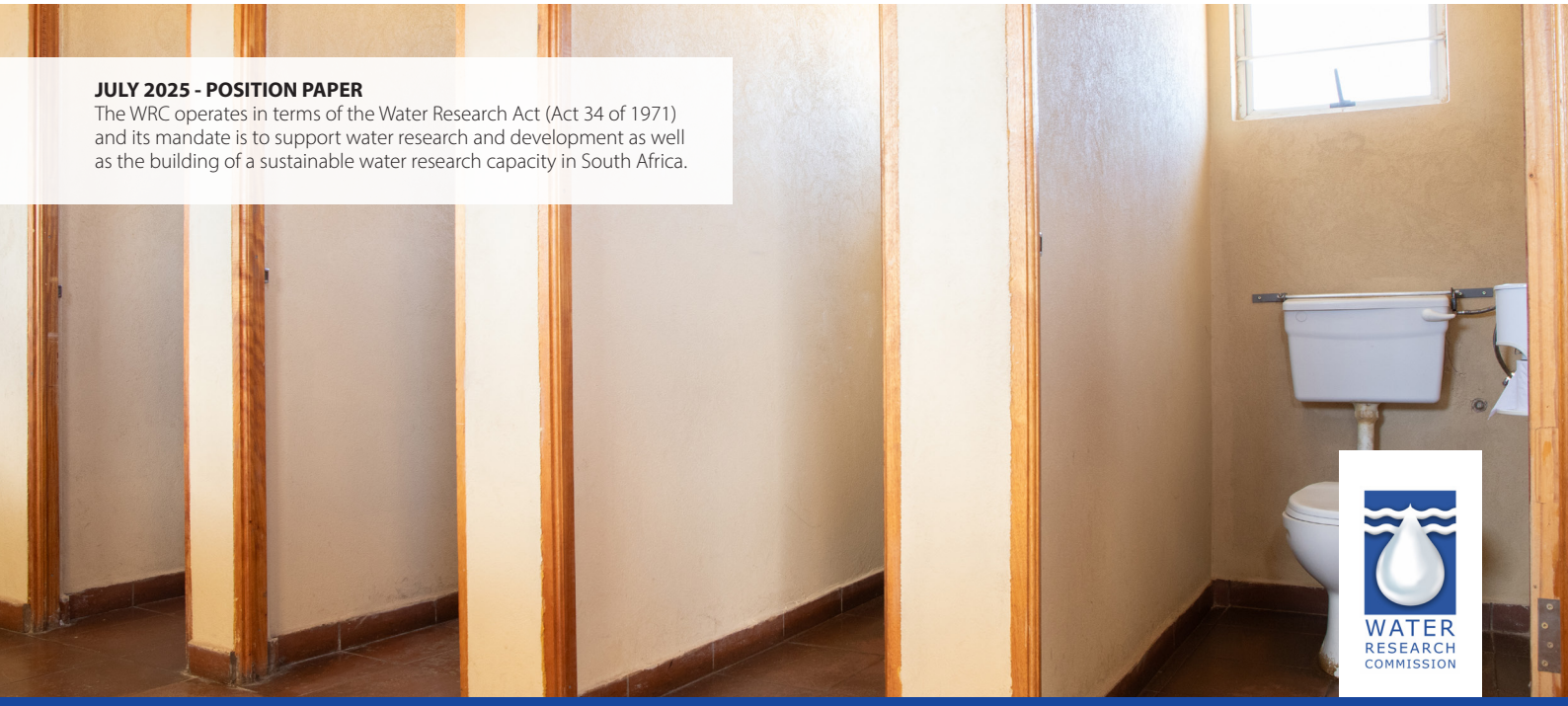

JULY 2025 - POSITION PAPER
The WRC operates in terms of the Water Research Act (Act 34 of 1971) and its mandate is to support water research and development as well as the building of a sustainable water research capacity in South Africa.

TRANSFORMING SCHOOL SANITATION IN SOUTH AFRICA: CAN WE SHIFT TO A MODERNISED AND BRIGHTER FUTURE?

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This position paper was derived from the demonstration of innovative technologies undertaken and the School Sanitation Colloquium, held on 5 June 2024, convened by the Department of Basic Education, and the Water Research Commission's South African Sanitation Technology Enterprise Programme (SASTEP).

Introduction

The state of school sanitation in South Africa continues to be a pressing concern, impacting millions of learners, teachers, and school staff. Despite political urgency and presidential intervention, the problem persists due to inadequate, unsafe, unaffordable, and unsustainable sanitation facilities. This position paper presents a comprehensive framework for improving school sanitation in South Africa. It draws on findings from a two-year research study, input from various stakeholders, and the insights gained from a recent School Sanitation Colloquium. The paper aims to guide the Department of Basic Education (DBE) and its partners towards a brighter future for South African schools, characterised by improved sanitation, water efficiency, and overall well-being.

Improving school sanitation is not just about technology or about counting how many toilets have been installed. It's about understanding the different options and how they perform in different contexts, and what is needed to ensure they continue functioning long-term – from certified compliance with minimum requirements, to management systems, to adequate budgets for operations and maintenance (O&M), to resilience in the face of water constraints. It's about understanding what needs to be done differently and how to transition to a new approach to school sanitation. In addition, South Africa as a whole and including the Department of Basic Education, needs to adopt sustainable innovations that over time, will address water scarcity, climate-based interruptions in water and sanitation services at schools, cost, operations and maintenance, service models and promote sustainable, less 'cheap technology'.

Evidence from unconventional approaches and the new SASTEP demonstration sites has proven that the most cost-effective solutions are not necessarily the cheapest, and what may look like a low-cost option may work out to be very costly over the long term for schools. This may even require working with National Treasury to build a robust business case for addressing the different costs. By focusing on user needs, innovative technologies, and robust contracting systems, this position paper proposes a path toward a brighter future for South African schools, ensuring that all learners have access to safe, hygienic, and sustainable sanitation facilities.

Current status of school sanitation

The DBE's recent Education Facilities Management System (EFMS) 2023 report reveals that while there have been improvements in water supply and sanitation technology, significant challenges remain. According to the report, flush toilets (39%), ventilated improved pits (VIPs) (36%), pit latrines (17%), and dry sanitation (10%) continue to dominate school sanitation infrastructure, with only a small percentage of schools utilising newer, more sustainable options. The EFMS report confirms that three provinces (Eastern Cape, 10%, KwaZulu-Natal, 3%, and Limpopo, 2%) have sites with pit latrines only, representing 3% of the total school sanitation sites, which is a substantial improvement on the 9% indicated in the previously reported 2021 situation (DBE, 2021).

While there have been improvements in the decrease in pit latrines and an increase in VIPs, water supply remains an issue. Six percent of schools are still reliant on tankers for their water supply and 46% on rainwater harvesting, hence water efficient technologies such a full recycle toilets, which give a similar user satisfaction to a full flush system, would be a sensible way forward, provided that standards and high quality can be ensured.

Stakeholder experience

Stakeholders have highlighted concerns related to user acceptance, design and planning, O&M, social and behavioural factors, gender intentionality of toilet system designs and skills, as well as financial constraints. Key issues identified by stakeholders include:

- **The social compact:** A shared vision of dignified sanitation and school infrastructure modernisation is critical to improving school sanitation.
- **User acceptance:** The need for sanitation systems that are user-friendly, safe, and appropriate for learners of all ages.
- **Design and planning:** The importance of appropriate technology selection, considering factors such as topography, water availability, budget constraints, and long-term sustainability.
- **Operation and maintenance:** The critical role of effective O&M practices in ensuring the longevity and performance of sanitation facilities.
- **Social and behavioural aspects:** Addressing gender equality and promoting hygiene education.
- **Funding and expertise:** The gap between available funds and the actual needs for infrastructure development and maintenance.

Barriers to embedding innovative solutions

The nature of public departments presents several barriers that hinder the implementation of innovative sanitation solutions in South African schools, including:

- **No bold vision**: Sanitation in schools is treated as a basic service rather than an opportunity to modernise and drive a 21st-century vision. School services are not driven as a social compact between the government, the pupils, the teachers, the principal, the school governing body, the parents and local businesses who provide funds, expertise, services, or sweat equity for the betterment of South African learners.
- **Inactivity and lack of prioritisation:** Insufficient attention to school sanitation issues at various levels.
- **Ineffectual awareness creation:** Lack of awareness among stakeholders about the benefits of innovative solutions.
- **Reluctance to change:** Resistance to adopting new technologies and approaches due to poor leadership and skills shortages.
- **Lack of accreditation and guidelines:** lack of integration of DWS strategies, regulatory processes and norms and standards into sanitation provision. Insufficient standards and guidance for innovative sanitation systems.
- **Lack of innovative thinking:** Insufficient time given to connecting modernisation, water resource and climate challenges to technology choices. Not enough engagement in improving the quality of the technologies provided. More innovation is required to build new institutional models such as shared service models (water, sanitation, building, security and property O&M) for schools.

Recommendations for the adoption of improved sanitation services

To address these challenges and improve school sanitation, the DBE should pursue the following key opportunities:

- **Advocacy:** Promote awareness of the importance of school sanitation and the benefits of innovative solutions. Promote ownership by principals and school governing bodies and promote partnership with local businesses that can give time and funds to O&M issues. It is recommended that an "adopt a school" policy be developed and supported by national and provincial departments but owned by school governing bodies, parents and their local businesses. The department should consider a nationwide campaign on the social compact needed to modernize and provide better sanitation services to schools.
- **Role clarification:** Clarify and resolve the respective roles of the DBE (national office) and other relevant departments. Clarify and resolve the water service provider role which sits with local municipalities but which the department could facilitate by standardizing contracts with schools water service providers for

capex projects (local contractors vs professional service providers or municipalities or DBSA). The department should also consider provincial O&M service providers for sanitation as a standalone service or as a shared service model for all school services (water, sanitation, building and property management operations, maintenance and services) but ensuring adequate training is available as sanitation treatment technology require a minimum level of skills. These provincial service providers or shared service contracts could also then ensure local contractors are used and can be trained to receive their proper certification to do the job effectively.

- **Policy and regulation:** Develop a comprehensive national policy that addresses school sanitation issues, including standards, certification, and accountability mechanisms. Align to the department of water and sanitation policy, norms and standards and ISO standards for on-site sanitation systems but maintain a long term sustainability and modernization vision.
- **Funding:** Secure adequate funding for school sanitation infrastructure and maintenance, exploring alternative funding sources and cost-effective solutions. Separate indigent school learners from those who can afford to pay and determine the full cost model (CAPEX and long term OPEX) for sustainable sanitation. The full cost model allows the department to enter into smarter long term O&M contracts that allow infrastructure to last its full lifespan and possibly longer due to excellent O&M.
- **Operation and maintenance:** Use Programme Management Unit approach or centralised and shared services model to Implement effective O&M programs, including training, certification of local contractors, resource allocation, and monitoring and evaluation. The centralised models must be resourced with high project managers, engineers and social scientists (for education and training) that ensure the enter value plays their role.
- **Procurement, contracting, and training:** Streamline procurement processes and select appropriate contracting options to ensure quality and efficiency. Consider using the WRC recommendation for scale of innovative solutions by applying the strategic sourcing process for planning and demand management and the multi-stage bidding process for onboarding, selection and scale up. (Procurement: refer to WRC Special Publication Report no. SP174/24). Work with Water Partnerships Office at DBSA to standardize contract arrangements. Train PMU, PSP's or regional service providers with standardized training modules so that they are all aligned to deliver timeously, with excellent quality and in a harmonized way across the country. Train professional service providers on managing innovations and standardizing specifications for non-technological and civils works. Contract these service providers to train local contractors more effectively to ensure quality of service achieved if policy is driving local job creation. Department could play a facilitation role in for certifications of service providers through bodies like CIDB and other associated professional bodies with support from SETA's and TVET colleges.
- **Capacity development:** Enhance the capacity of provincial school governing bodies, principals, teachers, parents and local businesses / stakeholders through training and education. Drive a national schools sanitation campaign appealing for community operational support, schools infrastructure protection and ownership.
- **Local government collaboration:** If the department chooses to use water service authorities, i.e., municipalities, to do the operations and maintenance of school sanitation, then identify functioning local government partners through the use of the blue and green drop reports and negotiate managing sanitation services at schools. Strengthen partnerships with local governments to improve water and sanitation services.
- **Preparing for the future:** Sanitation in schools is treated as a basic service rather than an opportunity to modernize and drive a 21st-century vision. School services should be driven as a social compact between the government, the pupils, the teachers, the principal, the school governing body, the parents and local businesses who provide funds, expertise, services, or sweat equity for the betterment of our kids. Innovation must be constantly evaluated to provide the best possible service that uses technology that drives sustainability and resilience to water and energy security and climate impacts.

Conclusions and recommendations

Although DBE is primarily an educational entity and not geared to sanitation, engineering, or services implementation, etc., the reality of the South African scenario requires that the department take overall responsibility and consider having school sanitation facilities that are future-focused, based on sensible models and utilise performance agreements.

Critical aspects to facilitate this include appropriate contracts and contractors, performance-based management, effective supply chain management, reliable payment processes, and ongoing operational monitoring. Other long-term facilitating aspects are focused on following private sector thinking around financials, etc., working with suppliers, benefits for aggregation of technology at different levels in government, working on economies of scale with longer-term discounts with suppliers across the value chain, etc.

In addition, innovative technologies, such as water-efficient sanitation technology (also known as next-generation sanitation or NGS), can extend the reach of flush toilets into rural and remote areas. WESS and NGS technologies do not require centralised waterborne solutions, and offer new water-efficient technologies, on-site treatment and recycled water for flushing, while offering all schools options for water savings and cost savings in the face of uncertain water supply and climate change.

Although the real work of school sanitation improvement lies in schools, and rests on collaboration between learners, the SMT, SGB and wider community, it also acknowledges that the performance and sustainability of the sanitation facilities in a school is shaped fundamentally by ownership and user acceptance and experience. To achieve significant improvements in school sanitation, the DBE must adopt a comprehensive approach that addresses both the technical and social aspects of the problem. An incentive-based approach could build a collaborative partnership between provincial education departments and school principals and SGBs. Incentive-based regulation, with provincial departments, could be awarded to drive excellence in planning, resource allocation, partnership development and O&M of schools. Incentive-based regulation with schools could be awarded stars that reflect their efforts towards achieving and sustaining better sanitation, and can be used to strengthen monitoring and encourage and reward improvements.

Acknowledgements

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Further reading:

- *Next-generation sanitation technology toolbox for South Africa schools* (**WRC report no. 3184/1/24**)
- *A water practitioner's guide: Implementing innovative solutions and supply chain management* (**WRC report no. SP 174/24**)

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