

# Sanitation research: Laying the foundation for SUSTAINABLE SERVICE DELIVERY



*The Water Research Commission (WRC) is backing basic sanitation-related research to the tune of R6-million a year to support government in its efforts to provide universal access to basic services by 2014. Lani van Vuuren reports.*

Sanitation has been the so-called 'Cinderella' of basic services in many countries and for a long time the situation in South Africa was no different. When the country held its first democratic elections in 1994 only about 50% of households had access to sanitation. In the first few years of democracy delivery remained slow, hampered by the lack of focus and the division of attention spread over seven different government departments.

The outbreak of cholera in KwaZulu-Natal in 2000 served as a huge wake up call for the country, however. The epidemic resulted in 265 deaths in five

provinces, and 117 147 people, mostly in KwaZulu-Natal, were infected. Increased investment in sanitation investment followed. By 2007, about 73% of households had access to at least a basic level of sanitation.

Government admits that the rate of delivery could have been faster if the extensive roll-out of housing was supported by bulk water and sewerage infrastructure upgrading. The eradication of the bucket system in formal settlements, although completed in most such settlements, remains an elusive target for a handful of municipalities.

## EARLY INVESTMENTS

The WRC became actively involved in funding basic sanitation in the 1980s, especially as the main problem areas that required research to deal effectively with water supply and sanitation in developing countries began to emerge in the aftermath of the Water Supply and Sanitation Decade (1980-1990). Experience gained during the decade indicated that problems in service delivery centred mainly on social, cultural, gender, training, institutional and financial issues, with technological issues being of relatively minor importance.

In the South African context, this was strongly confirmed by the strategic research plan developed by the Research Coordinating Committee for Water Supply & Sanitation for Developing Rural and Urban Communities, established by the WRC during 1994. Early findings on water supply and sanitation coverage emerging from WRC-funded initiatives became the reference standard for policy- and decision-makers, and were incorporated into, for example, Reconstruction and Development Programme documentation and government White Papers.

## CONTINUOUS CHALLENGE

Delivering sustainable basic infrastructure to the remaining unserved percentage of the population remains one of South Africa's greatest socio-economic development challenges. According to the Department of Water Affairs & Forestry, the cost requirement to eradicate the sanitation backlog alone amounts to R25-billion. This excludes cost of operation and maintenance.

Municipalities, on whose shoulders the responsibility for basic services delivery squarely lies, are faced with the challenges of accelerating new service delivery while maintaining existing ageing infrastructure amid a burgeoning population, rampant urbanisation and diminishing skills and capacity.

## ACCELERATING INVESTMENT

The strategic focus of the WRC is guided by these challenges, with a key consideration being to achieve integrated and holistic solutions that aid sustainable development. There is ongoing emphasis on assisting and capacitating local

government in the delivery and acceleration of services, education around sanitation and hygiene issues, and the promotion of sustainable solutions.

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According to Jay Bhagwan, WRC Director: Water Use & Waste Management, the WRC has identified four key areas which are anticipated to provide significant challenges in the basic sanitation sector in the near future:

- ◆ Acceleration of sanitation delivery through improved policy and processes such as hygiene education, attention to sanitation for the disabled, aged and very sick individuals (for example, those suffering from HIV/Aids);
- ◆ Degradation processes in ventilated improved pit latrines (VIPs) and its derivatives. These impact on the operation and life of the pit, as well as the safety of the pit contents for handling and reuse;
- ◆ Strategies and technologies for the emptying of VIPs and the safe management of pit sludges; and
- ◆ Finding new, appropriate technologies and approaches to manage greywater and drainage in low-income areas.

## CURRENT PROJECTS


The WRC's current basic sanitation research portfolio includes many projects. One example is the development of a

guideline tool aimed at empowering water and sanitation services providers in the implementation of sanitation, health and hygiene education programmes in informal settlements.

Another research project is focusing on capturing sustainable ways of accelerating the provision of safe and hygienic sanitation to the millions of South Africans who are still unserved. In this multiyear project the bottlenecks to faster delivery are being identified and analysed, and examples of how they have been successfully overcome documented. Tools and guidelines will be produced to help municipalities achieve the required rate of sustainable service delivery. The project will also document ways to reduce the cost of sanitation delivery to urban areas, and informal settlements in particular.

Another research project funded by the WRC is investigating the feasibility of free basic sanitation. The emphasis here is on identifying successful and cost-effective approaches to implementing sanitation subsidies for sanitation infrastructure in order to achieve government's 2014 sanitation target.

Furthermore, research into the understanding and improvement of basic sanitation technologies continues. One such project is seeking to understand the sludge accumulation in VIPs and other on-site sanitation systems to manage desludging once the pits are full. The research aims to tackle the question of sustainability and through the knowledge generated make the sector better prepared to deal with the challenges.

Through the funding of these and other projects the WRC is playing a crucial role in basic sanitation service delivery. “Our research is providing much needed knowledge and technologies which will assist municipalities in making strategic and informed decisions against the myriad of challenges which exist and will emerge in the future,” concludes Bhagwan. 

**Table 1: Households with access to sanitation**

	1994	2000	2007
Number of households	10 150 478	11 422 150	12 879 070
Households with access to sanitation	5 065 626 (49,9%)	6 582 297 (57,6%)	9 353 279 (72,6%)
MDG	7 608 052	8 561 204	9 653 204
Household with bucket systems	609 675	490 021	113 085

Source: *Development Indicators 2008*