



OPINION PIECE

Upgrading water projects enhances supplies and saves millions

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Upgrading South Africa's ageing water infrastructure appears to be steadily and consistently paying dividends. Improving or servicing the very means or procedures that bring the resource into our homes has been hailed as a great milestone to have brought relief to this water-scarce country (listed among the 30 water limited nations).

Most analysts predict that South Africa's water demand will outstrip its supply between 2025 and 2030, according to projections in the National Treasury's 2012 Budget Review. Listed among the world's 30 driest countries, South Africa is "water stressed" and the current inability to provide clean water to communities contributes to poverty, inequality and poor health, according to a government strategy document.

According to the second edition of the National Water Resource Strategy, South Africa loses about 1.58 million cubic meters of water each year (or about a third of its urban supply) to leaks and theft.

"We must improve our revenue collection both at national and municipal levels," DWS's Trevor Balzer said, adding that the DWS is putting together an investment plan that will have more detail on how the funding gap will be closed.

Thanks to the interventions by the Department of Water and Sanitation (DWS) as a deep "think tank" approach is taken towards finding solutions to this water loss problem. DWS's Water Reconciliation Strategy Study, conducted by the Directorate: National Water Resource Planning of the Department, forecasts that water demand will outstrip supply by 2020 if we do nothing to conserve water.

Funding was also counted as a major factor, but the department supported and approved the process of renewing our water infrastructure. An estimate amount of money DWS needed to spend on water infrastructure over the next decade rose by almost a quarter, from R570 billion to R700 billion. The country had budgeted for about 45% of the R700 billion needed, leaving a gap of R385 billion, he said.



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This planning is now paying dividends. The City of Johannesburg has saved R700 million, thanks to the first phase of its Water Infrastructure Upgrade and Renewal Project. The project, which costs R1.7 billion, commenced in Soweto in 2004, with the objective to tackle massive physical losses from pipe leakages and pipe bursts, as well as commercial losses from deemed consumption at a flat rate to prepaid metering through fixing and repairing internal plumbing and pipe replacement.

Before the implementation of the first phase in Soweto, more than 40% of the water supplied to the community of the area was lost through physical – pipe leakages and commercial losses – cost recovery. As a result of the intervention, the average water consumption dropped from 66 kilolitres per household per month to 12 kilolitres per household per month - an improvement of more than 80%.

Prior to the project, Johannesburg Water purchased 469 billion litres per annum from Rand Water for the entire City, of which 129 billion litres – 27.5% - per annum were supplied to Soweto.

According to Johannesburg Water's (JW) Managing Director, Lungile Dhlamini, JW expects to save about R222 million per annum – an equivalent to 40.5 billion litres per annum from bulk purchases when the first phase of the project nears completion in December 2015. He says R1.1 billion of the R1.7 billion has been invested since 2004.

Dhlamini says the project will be extended to other deemed consumption areas – unmetered areas billed on a flat rate – including Orange Farm and Ivory Park. The main objective is to change the behaviour of water consumers to conserve water and pay for the water consumed through prepaid metering.”

Thus far, Johannesburg Water has successfully installed 131 244 prepaid meters and replaced 144 kilometres of pipes in Soweto including fixing internal plumbing. However, meter tampering and by-passing remains a major challenge, resulting in under recovery of revenue. Penalties in the form of fines are imposed for meter tampering and education sessions are held at community level to change behaviour.

Other means of restoring or replacing ageing water infrastructure is by implementing water outages while the repair work is in progress. DWS implemented a planned and proactive water outage of the Usutu subsystem (also known as the Usutu Government Water Scheme) for 16 days from end of November into December 2014.



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This planned outage was meant to undertake maintenance, refurbishment and rehabilitation of the infrastructure in order to ensure sustainable supply of bulk water for the future.

The planned outage was necessary for maintenance and refurbishment of the infrastructure, some of which has been in operation for more than 40 years.

A planned outage for the Lesotho Highlands Water Project happened during the months of October and November 2012. The Lesotho Highlands Water Project (LHWP) augments the water resources in the Vaal River System. This system provides water to Rand Water, Sasol, Eskom and a large number of smaller users.

During outages, communities in affected municipalities are provided with water supplied by water tankers and JoJo tanks strategically placed for convenient access. Such projects need to be supported by all municipalities in the country as they affect the areas mostly serviced by local municipalities.

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