



## water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

### OPINION PIECE

#### **Ministry should take over deteriorating wastewater treatment plants**

14 August 2017

The problem of the pollution of the Vaal Dam refuses to go away, despite government efforts to keep the chartered waters clean. The dam is facing a greater threat of toxic pollution once again after the Department of Water and Sanitation (DWS) had invested R145,5 million last year to fix the malfunctioning Refengkhoto Waste Water Treatment Plant outside Deneysville.

The department has spent a total R300 million to rehabilitate six waste water treatment plants along the Vaal system to stop rampant pollution of the dam. Vaal Dam is a strategic water resource to the economic development of Gauteng, the hub of South Africa's economy. It (the dam) receives water from 14 rivers that are tributaries to the Vaal River.

The Vaal Dam is intrinsically linked to the multi-billion Lesotho Highlands Water Project (LHWP) which pumps water from gigantic Katse and Polihali Dam in Lesotho. Polihali Dam comprises a 164m high concrete faced rock fill dam on the Senqu River, a concrete side-channel spillway, a free standing compensation outlet tower and appurtenant works.

The Lesotho Highlands Development Authority says dam construction is expected to commence in December 2019 or January 2020, and that it is envisaged to be impounded during the wet season of 2023.

Phase II of the Lesotho Highlands Water Project builds on the successful completion of Phase I in 2003. It delivers water to the Gauteng region and utilises the water delivery system to generate hydro-electricity for Lesotho.

However, at the centre of this bilateral engineering feat is Refengkhoto, a small township on the banks of Vaal Dam in northern Free State. Its residents have never known peace when it comes to clean environment issues, despite the meaning of peace that their township stands for. It falls under the administration of Metsimaholo Local Municipality, which was disbanded last month and placed under the administration of the Free State provincial government for its financial woes.

This, exactly a year after DWS took the trouble of refurbishing six waste water treatment works and handed them back to the municipality for management. The ink of the agreement to manage the plants had hardly dried when news of mismanagement of the Refengkhoto plant started reaching the DWS engineers. According to recent reports, the plant is in shambles and the sewage is flowing freely to the dam. Disturbingly, the environmental situation has deteriorated to a point where children play in sewage puddles and are exposed to all sorts of water-borne diseases. It is a miracle that after years of negligence, the area has hitherto not suffered an epidemic of major proportions.

The situation at Refengkhoto and other waste water treatment plants calls for a direct intervention and a takeover of these strategic by the national government. It cannot be that our people are continuously exposed to health dangers while some municipalities who have been entrusted with the management of sewage plants are fiddling. I am deliberately saying



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some municipalities because others are on top of the game of managing their plants with unprecedented professionalism.

DWS is spearheading the Green Drop, a annual waste water monitoring programme that seeks to promote management and planning based on measurement and to ensure that monitoring is taking as a first step towards effective management. Through the water services by-laws the green drop system seeks to promote local regulation with the purpose of preventing industrial, commercial and domestic practices from having the detrimental impact on sewer collection and treatment operations. The programme also ensures the collection and treatment capacity risks are mitigated.

In 2016 the majority of municipalities who managed and operated 198 plants improved their waste water management skills by taking up lower risk positions during their assessment through the Green Drop system.

The Green Drop Progress report is based on a self-assessment by municipalities and is confirmed by the Department of Water and Sanitation to ensure credibility and verified information is reported to the public. The department's team that served as moderators for the information provided by the water services institutions is made up of a trained group who not only assesses the performance, but also ensure that regulatory advice is given to municipal wastewater management on required improvements.

The main objective of this regulation approach is to identify, measure and develop the core competencies required for the sector that, if strengthened, will gradually and sustainably improve the level of wastewater management in South Africa.

In last year's report the department assessed and verified 824 waste water treatment plants and 152 municipalities throughout the country. The report presents the current risk profile and a 6-year trend analysis of wastewater treatment plants on three levels which reflects a national overview that collate and elevate the detailed findings on system level to that of a provincial overview, which can then be compared and inculcated as a national view of wastewater treatment performance.

Comparative analyses amongst the provincial performances are useful indicators and benchmarks for the various role players. Province specific risk figures and information highlight the strengths, weaknesses and progress for the collective of WSIs within the province or region.

Furthermore, system specific risk data and information regarding the performance of each wastewater treatment system per water service institution (municipal and private sector) is critical for a proper assessment

However, the majority of plants are in high risk (259 plants) and medium risk (218 plants), with 212 plants in critical risk and 135 plants in low risk space.

According to water quality managers in the water services unit of the department, there are various factors that contribute to the mismanagement of waste water treatment plants. Industries that dump their effluent on river catchments and farmers and abattoirs dispose of their pesticides and carcasses within the catchments contribute enormously to the pollution problem.

In 2014 officials of the Blue Scorpions, an enforcement unit of the Department of Water and Sanitation, dismantled pumping facilities of an abattoir that was operating without a water use license in Villiers, Free State. The officials were accompanied by the police, law enforcement agencies. Subsequently, they laid criminal charges against owner of the abattoir, for polluting the Vaal River by dumping animal carcasses and fat remnants next to the river. The actions of the abattoir owner violated the National Water Act which precludes anyone from dumping



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waste within the perimeters of a river. The owner also faced an additional charge of violating the water Act by operating his business without a water use license.

The first Green Drop Report was released in 2009 and it indicated that the national microbiological compliance for South African tap water was measured at 93.3% against the National Standard (SANS 241). At the beginning there was an upward trend and municipalities bought into the programme. Due to various factors, such as the non- release of the Blue Drop/ Green Drop reports, there seemed to be a declining trend that evolved. The problem was not the report, because it was completed by the department and a project service provider and the results were given to individual municipalities before they were released into the public domain. Budgetary cuts in participating national departments became an impediment for progress. Currently, there is a need to adapt the programme, which means that if a full assessment was impractical, a partial assessment was pursued.

Therefore, an upward trend was not maintained and a decline occurred instead. However, there is hope that the reversal of the decline would reinvigorate the programme with the renewed commitment of the municipalities. Even in the municipal sector there is competition for resources of the municipality through the funding that they were allocated. In addition, the assessment of Water Services Authorities that were under-performing or were in critical risk conditions , proved that they required much more funding, because in many instances refurbishment was futile due to the need for complete replacement, which was quite an expensive exercise.

As matters stand, the decline in the maintenance of waste water treatment plants in most towns is alarming and cannot be allowed to deteriorate further. Perhaps it is about time that the Department of Water and Sanitation took over their day-to-day management.