

28 January 2009 "Business Day"

Crucial steps in fight to change course of water

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THERE is currently a high level of public interest in water-related matters, and the government is clearly concerned about a number of important water and sanitation issues.

At the national municipal indaba late last year, then deputy president Phumzile Mlambo-Ngcuka, in the presence of the minister of water affairs and forestry, warned that the government was entitled to prosecute municipalities not complying with requirements for safe drinking water and adequate sanitation as prescribed in the National Water Act.

Subsequently the parliamentary portfolio committee on water and forestry invited submissions on implementation and challenges in respect of the act. The South African Institution of Civil Engineering (SAICE) and the Water Institute of SA, which together represent most of the professional water engineers and water scientists in SA, took the unusual step of preparing a strongly worded joint submission.

Recognising the crucial strategic importance of water in our country, the SAICE has continued to monitor developments. Our concerns relate to: water resources; water quality; sanitation; the state of infrastructure; and technical, operational and managerial skills.

Also, current problems could be made worse by new challenges such as climate change, since some of our critical infrastructure was not designed to cope with the increased variability of natural events such as droughts and floods.

The following matters have to be addressed with urgency:

- **Strengthen the link between water resources and use:** It is crucial to foster effective linkage between national water resources planning and local plans and actions for the use of water.

A structured debate about best use of water is needed — the 2009 review of the National Water Resource Strategy is an excellent opportunity for such a discussion.

This review process could be used to explore ways of encouraging more efficient use of water in irrigation, as well as ways of managing demand in other sectors without inhibiting economic growth or neglecting the needs of the many South Africans who do not yet enjoy basic water and sanitation services.

- **Retain and build human resources and capacity in the department:** A key focus area is to halt the loss of essential professional engineering and scientific skills, and to attract new competent staff, by improving service conditions, retaining and retraining staff, and establishing clear growth paths for all personnel.

- **Rebuild systems for monitoring flow in water courses and feedback loops for decision-making:** The capacity of the department to monitor river flows and water quality must be strengthened so that illegal use of the resource is identified and dealt with quickly.
- **Implement the waste discharge charge system:** This system, aimed at penalising polluters for the damage they do to downstream users and the environment, has been formulated and must now be implemented.
- **Build capacity in municipalities:** It is critical to improve the ability of municipalities to plan and manage their water and sanitation services. Among many areas of importance, this should include addressing water theft as well as the reduction of water losses due to leakages from both municipal mains and household plumbing.
- **Enforce compliance with services standards:** The department must be empowered to force municipalities to comply with standards for service reliability, drinking water quality and effluent from wastewater treatment works.

In addition, it must be ensured that municipalities appoint competent personnel, failing which they would have to be compelled to contract other public or private organisations that do have adequate skills and capacity.

If necessary, the constitution should be amended to enable national government to intervene more effectively where municipalities are defaulting on their obligations.

- **Maintain infrastructure:** The establishment and funding of regimes for the systematic operation, maintenance and where necessary, refurbishment of water and sanitation infrastructure, is crucial. Competent operation will not only ensure the quality of service to the public, but will also reduce wear and tear and extend the life of infrastructure.
- **Improve mathematics and science education:** The education department should be persuaded to recognise the urgency of the need to overhaul and adequately resource school-level mathematics and physical science, essential prerequisites for careers in engineering and water science.

SAICE recognises that it may take considerable time for some of the above measures to have significant effect. However, in the short term improvement could be achieved by:

- Informing and involving the public, which has a constitutional right to know and be involved in decisions about security of supply and the quality of water and sanitation services.
- Prioritising of key areas of intervention by DWAF, which should focus on key priorities, and not on a long and inclusive list of interventions.
- Simplifying some parts of the NWA, in particular regulations which are too complex, and hamper implementation.

- Enhancing collaboration with the private sector and the organised professions, and accessing their significant, albeit not unlimited, reservoirs of expertise.

SAICE's initiatives in this regard include:

- Being appointed by the Joint Initiative on Priority Skills Acquisition programme of government (JIPSA) to make recommendations on how to deal with skills bottlenecks.
- The establishment of a Section 21 company that provides mentorship and other skills programmes to municipalities.
- SAICE's ENERGYS mentoring programme ("Engineers Now to Ensure Roll-out by Growing Young Skills"), co-funded by DWAF. (DWAF is also funding several other SAICE initiatives and capacity building programmes.)
- SAICE initiated and implements a programme that promotes informed decision-making by councillors and non-technical officials.

Conclusion

SAICE members can become even more involved. Such involvement can include contribution to this year's review of the NWRS.

Increasing water scarcity, and equitably allocating this precious resource to competing sectors, pose enormous challenges. Provision has to be made to sustain essential economic growth both for present and future generations, while at the same time providing for basic human needs, meeting international obligations and protecting both the water resource and the fragile environment that it supports. This calls for the highest order of integrated management and implementation.

SAICE acknowledges the accomplishments of DWAF in this regard, and the high level of competence that the Department demonstrates.

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