

## IWRM

### Indigenous knowledge for water management

**A completed Water Research Commission (WRC) project investigated operational indigenous knowledge of water and waste management, and establishing ways to integrate them into water services management.**

#### Background

Although we are well into the millennium, many municipalities have still not met the water and sanitation backlogs as outlined in the Strategic Framework for Water Services. While government tries to find a balance between providing the minimum services and maintaining existing services, the poor in South Africa remain without access to clean water and sanitation facilities.

Since the introduction of the Free Basic Services Policy, municipalities are also under enormous pressure to meet service delivery targets, resulting in many municipalities implementing ill-conceived and unsustainable technology solutions. Many bitter and expensive lessons have since been learnt, however, it has also created alternative technologies, including indigenous practices in the water and waste management fields.

#### WRC project

This WRC-funded research was aimed at introducing communities, municipalities, practitioners etc. across South Africa to alternative ways of managing water and to allow indigenous knowledge to inform future policies. The approach to the study included a literature review to establish local and international trends, consultation with key stakeholders, as well as identifying and documenting local and international case studies.

#### Indigenous water management

The history of indigenous water and waste management (IWM) in South Africa is dominated by water as a collective

good, and a finite resource. Therefore, it was carefully protected and conserved. Very little written literature is available on the history of pre-colonial South Africans in relation to water and sanitation practices.

The early indigenous nomads of South Africa had no need to construct elaborate water-supply systems and irrigation was unknown, they believed that fountains and springs would run eternally.

The typical knowledge of a South African nomad consisted of a sophisticated understanding of water resources, water bearing plants and ideal locations for shallow wells. Their predictions were based on in-depth knowledge systems inherited from their ancestors, and when elders predicted weather anomalies they reacted by organising and executing rain ceremonies.

#### IWM practices

A total of 35 IWM practices were identified and assessed in terms of its economic, environmental and social sustainability and its ability to be replicated in South Africa.

All IWM practices evaluated fall in the medium to high significance range from an environmental point of view. There is no practice of the 35 identified practices that will have a negative impact on the environment.

A total of 71% has a high environmental significance rating, leaving 29% with a medium environmental significance rating. This finding is in line with general consensus that indigenous practices are environmentally sustainable.

These practices were developed at a time when people

understood and relied on natural resources, therefore the thought of abusing such resources was unthinkable. However, it must be cautioned that if these IWWM practices are not managed it will result in environmental degradation.

There are IWWM practices that are socially insignificant, implying that although the practices are developed by a particular ethnic group, the evaluation demonstrates that these can be applied to communities without the fear of offending or alienating anyone.

A total of 43% of the IWWM practices can be implemented without being adapted to local social conditions. In principle the IWWM practices analysed imply fair access to livelihood, education, and resources; full participation in the cultural life of the community and self-determination in meeting fundamental needs for everyone. The practices are open to everyone.

In many rural areas in South Africa, people use their free basic allowance of water to water their food gardens. Stonelines, planting pits, terracing, traditional teras cultivation, roof tanks and wells, etc. will assist in water efficient agricultural practices. These solutions will leave the householder with more water for domestic purposes. In addition, it will contribute to water conservation.

Currently, waterborne diseases affect a large part of the South African population. The Nguni handwashing technique and traditional medicines for hand cleaning will assist in decreasing the number of people who are affected by these diseases.

The use of aloe juice for hand cleaning in the absence of water should be investigated further. Should it prove useful, people living in informal settlements who do not always

have access to water or have limited access to water could use this as a dry hand cleaning option.

Only 9% of the IWWM practices evaluated are not recommended for replication.

## Recommendations

The following recommendations are made:

- The Department of Arts and Culture should invest in a national scale awareness campaign to market South African indigenous knowledge.
- The existing policies developed to protect indigenous knowledge should be demystified and translated into an action plan for the water sector.
- The Department of Trade and Industry should invest in commercialising some of the indigenous knowledge stemming from South Africa.
- All future water policies must include a section on indigenous knowledge systems. This can be done as a stand-alone section or addressed through cross-cutting issues.
- Improved alignment is required between the Department of Agriculture, Forestry and Fisheries; Water Affairs and Cooperative Governance and Traditional Affairs in designing and implementing policies and strategies that include indigenous knowledge systems.

### Further reading:

To order the report, *Investigating operational indigenous knowledge of water and waste management, and establishing ways to integrate them into water services management* (Report No. 1941/1/13) contact Publications at Tel: (012) 330-0340, Email: [orders@wrc.org.za](mailto:orders@wrc.org.za) or Visit: [www.wrc.org.za](http://www.wrc.org.za) to download a free copy.