

# Water security begins and ends with the individual

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Opinion by water scientist: Dr Richard Meissner



The writer says the theft and vandalism of water infrastructure can have an immediate impact on water security. (REUTERS)

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Water security and the appropriate management of water resources are vitally important to South Africa, its population and the economy. According to the Department of Water and Sanitation's 2013 Strategic Overview of the Water Sector in South Africa, the current utilisation of water resources exceeds reliable yield.

This means that during a drought year it is likely that the country will experience water restrictions on a fairly large scale. In addition to this, governance, wastage, leakages, inefficient use, and distribution of the resource seems to be problematic.

The issue is not only how much water we have; it is also a matter of how people

understand what water security means in their daily lives especially considering that the governance and distribution of water are challenges.

The United Nations (UN)-Water agency defines water security as ‘the capacity of a population to safeguard sustainable access to adequate quantities of and acceptable quality water for sustaining livelihoods, human wellbeing, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.’

This definition is a mouthful and the question is, would someone, for instance, in a rural setting, define water security in this manner or would such a person have a slightly different view? If so, what are the implications of such a different view?

Research conducted by the Council for Scientific and Industrial Research (CSIR) revealed how differently people view and understand water security. CSIR researchers have been actively pursuing the question of how people understand water security in two municipalities: the Greater Sekhukhune District Municipality (Limpopo Province) and the eThekweni Metropolitan Municipality (KwaZulu-Natal Province).

To gain a more nuanced picture of the views and understandings of water security, the researchers conducted interviews with a variety of individuals, including stakeholders in industry, government, mining, agriculture, and communities within these local governments.

Most of the interviewees understood water security to be the availability of water coupled with the quality of the resource. How people view water security depends on what is happening in their environment, how they perceive these phenomena and their experiences even if these familiarities are far removed from their daily lives.

For instance, it is likely that the interviewees are aware of the service delivery protests regarding water availability often cropping up in parts of the country, and this brings to mind water (in) security at community level. Service delivery protests are after all topical issues and people are made aware of the protests through news channels.

More water connections mean more water that needs to be made available...

Water quality is the other side of the water security coin - featuring strongly in the interviewees’ understanding of water security. An interviewee from a mining company noted that the municipal water they would use for drinking purposes is of a poor quality. Instead of using the municipal supply, the mine is purchasing bottled water.

During our engagements with stakeholders, it was revealed that water infrastructure and the maintenance thereof is of concern. In his 2015 State of the Nation Address, President Jacob Zuma noted that people are concerned about a number of issues including crime, electricity, and water.

He also alluded to the role of water in the economy noting that water and sanitation infrastructure will play an important part in government's bold 'nine point plan to ignite growth and create jobs.'

The President also highlighted the role of water infrastructure in the National Infrastructure Development programme. In this regard, he said that 'water is a critical resource for economic growth and a better life.'

Large-scale water infrastructure plans and the supply of water to a number of rural municipalities were mentioned by the President.

He also indicated that to curb water losses that amount to R7 billion per annum, government envisages training 15 000 artisans or plumbers to repair leaks in their communities. These individual artisans will therefore play an important part in addressing factors such as leakages, wastage and inefficient use that influence water security.

What this also means is that although the President's State of the Nation Address explains how government will tackle water security issues, the address highlights the role of people and how people might benefit from government action.

In other words, it places people at the centre stage in the utilisation of water resources for socio-economic development. These statements allude to a number of water security dimensions, which include the supply of water through major infrastructure to supply industry and households with more water and sanitation.

What comes to mind in this regard is that as more industries and households receive water through major water infrastructure projects and municipal water supply, what will be the impact on the country's water security as a whole?

More water connections mean more water that needs to be made available. Water security, according to the State of the Nation Address, is also about saving water through leakage detection and repair.

Training 15 000 artisans or plumbers is an admirable step in the right direction for the country. Will we start to see a change in people's perceptions of water security because of the training or will it reinforce current practices of wastage in households?

Stakeholders from the agricultural sector in the Greater Sekhukhune District Municipality we engaged with were quite adamant about this, and rightfully so, since the success or failure of any farming enterprise hinges on the accurate measuring of the water available from boreholes and/or irrigation canals.

Returning to the training of artisans or plumbers, it might also be a good idea to start tackling the problem of theft and vandalism of water infrastructure. The theft and vandalism of water infrastructure can have an immediate impact on people's water security.

One irrigation farmer in the Sekhukhune District Municipality is of the opinion that without pipes, one does not have water.

Theft and vandalism is a recurring problem in both municipalities where criminals target not only potable water infrastructure such as pipelines and electric cables but also wastewater treatment plants.

In one incident, a municipal official told us about an armed robbery at a wastewater treatment plant in the Greater Sekhukhune District Municipality. According to him, this left the plant running at only half its capacity.

Community members and farmers also complain about the theft of vital water infrastructure leaving them without water for days on end. In another incident relayed to us by a different municipal official, the theft of a section of pipeline carrying freshwater to a community in the Greater Sekhukhune District Municipality sparked rioting in the community after it was left without water over a weekend.

Part of the problem is the high price of scrap metal, especially copper, which makes the metal a valuable source of income for the unemployed. Transformers containing copper wiring, electric copper cable and bronze valves are sought after infrastructure.

A definition for water security provided by UN-Water gives a list of the criteria or features of water security, but how people experience it at grassroots level brings into the picture a situation that is much more fluid and complex. As stated previously, water security is about availability and quality where the different variables affecting availability and quality only start to surface when talking to individuals.

Hence, the finer nuances that can influence water security on a daily basis, like wastage by the affluent, inefficient use, leakages, theft and vandalism comes to the fore when interviewing individuals about their experiences around water security.

It is a matter of zooming in, so to speak, on the details underlying the macro perspective of the definition of water security. Having considered this, it is time to revisit our understanding of water security, how it influences individuals and communities and how private and public sector practitioners could react to water security.

By revisiting the concept, it is necessary to first start talking to the individual community member, emerging and commercial farmer, the small business owner, the owner of the lodge on the banks of the Olifants River in the Limpopo Province, the academic, the employer of the large corporation and the public official responsible for maintaining and operating wastewater treatment plants.

This is a necessary first step because water security begins and ends at the individual level and not only at the level of the Department of Water and Sanitation or UN-Water.

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