

When the taps run dry

Kevin Winter

Future Water Institute, University of Cape Town

'When the well is dry we know the value of water' – Benjamin Franklin



The extreme scenario: dams and rivers are dry and conventional piped water and sewerage systems no longer flow. Then what?

It begins with a desperate search by private individuals for alternate means: investment in boreholes and well points, and the abstraction of surface water from rivers and springs nearby; investments in rainwater and storage tanks, and also in a range of water recycling devices; a sudden surge in water consumption as residents stock-up with bottled water; domestic gardens are abandoned and become increasingly covered by hardened surfaces resulting in elevated urban temperatures. Those who can afford will invest in shielding themselves from the threat of being without water.

Meanwhile the local authority is equally desperate to contain the situation by keeping the water flowing, reducing water pressure and avoiding water shedding. Long term water infrastructure projects are hastily moved forward in an attempt to provide rapid short term solutions; the cost of water increases; regulations are enforced and fines are issued in order to meet some of the shortfall of water service costs. Desperate attempts are also made to contain the over-abstraction of groundwater. Water is trucked into neighbourhoods especially in poor urban areas where people cannot afford to buy or store water for themselves.

The environmental signs are observed on a wider scale. They are easy to spot. When groundwater is over-abstracted the first signs are seen when tall trees wither, die and fall over, and when lakes and rivers cease to flow. Levels of dust particles are raised and lower atmospheric temperatures are elevated too. Surface water quality deteriorates with increased concentration of contaminants in confined water bodies.

Impacts on human health become increasing evident. The absence of clean drinking water and water for body washing results in dehydration, diarrhoea and related illnesses along with skins sores and malnutrition.

The economic impacts become widespread. Businesses, jobs and the well-being of the workers are at risk. Farmers in and surrounding city can no longer maintain the land productively – many are bankrupted and forced to migrate to the cities. Places of work are severely disrupted by absenteeism as a result of illnesses and the avoidance of unpleasant sanitary conditions; and productivity is reduced. The attendance at schools, colleges and universities is greatly reduced, assuming that these institutions are still capable of keeping the doors open.

Social tensions arise across the city. There is heightened anger and impatience coupled with a general assault on the authorities who are responsible for the state of water services.

Intolerance leads to flashpoints that bring related tensions to the fore, not only those that are spurred by the lack of water resources.

Then, recovery and a period of celebration. Through the ages, and in contemporary times too, what follows is a brief period of gratitude to the Almighty who has spared the people and brought the rain. These are the lessons from Brisbane, Sydney and Adelaide, in Australia following the Millennium Drought. In the case of Brisbane, what followed was a period of intense rainfall and floods (2011). New plans are then mounted involving costly investments. If done correctly, then these lead to improved conditions that offer cities a major breakthrough in building better coping mechanisms to deal with climate change and in building more water sensitive cities. The crisis can be positive if it used as an opportunity to realign the city to live within the limits and thresholds of its water resources.

The next four months for Cape Town are critical. We are unlikely to reach the extreme scenario as described. We will squeak through the drought provided there is a collective and concerted effort to conserve water. The winter rains are coming, but forecasting in a period of uncertainty is exactly that, it is uncertain. While attention is on the present crisis, it is an important moment to plan for the next challenge of dealing with the likelihood of insufficient water resources by April and May 2018. The clarion call is to adapt to a changing climate, to reduce water demand and to embrace a sustainable approach to meet the socio-economic and environmental water needs of the city. At the same time, in the present crisis level heads are required to resist an urge to invest in water infrastructure that will make water too expensive to share and unaffordable for the majority of citizens.