

SA needs to step up water management

Bimo Nkhata (Ph.D), Associate Professor and director of the Water Research Node, Monash South Africa

In light of the recent move by the South African parliament to declare the drought faced by South Africa a national disaster, Monash South Africa's Centre for Transformative Research in conjunction with the International Water Security Network hosted a comprehensive seminar event aimed at raising awareness on the impact of climate change. The event saw various water experts looking for sustainable actions to address South Africa's water crisis. The event had additional resonance given the global acknowledgement of World Environment Day in June.

Associate Professor and director of the Water Research Node at Monash South Africa, Bimo Nkhata believes more can be done and highlights a suggested approach for South Africa:

South Africa could be saving enough water to meet the needs of strategic sectors and vulnerable communities during periods of recurrent droughts. This will require new and smarter low-tech solutions aimed at improving water reuse practices.

Droughts are a major feature of the climate of South Africa. The country is currently facing one of the worst droughts in 30 years, negatively affecting many sectors including water and agriculture. While the overall actual impact of the 2015/2016 drought is yet to be ascertained, previous similar droughts have resulted in significant reductions in water availability and low agricultural productivity.

South Africa's plans are laudable particularly as they reflect significant progress relative to the reactionary measures in previous drought seasons, but these efforts may not be sustainable or sufficient to tackle the complex challenges of persistent droughts in the future.

We do however need smarter, robust low-tech water reuse solutions. For instructive lessons, we could look to regions in the USA and Australia that have over the years successfully built foundations for more drought

resilient societies.

In San Diego, for example, the city authorities have been able through a multi-year programme to deploy proven low-tech solutions to purify recycled water to produce safe high quality water. This water reclamation programme has proven to be a cost-effective investment for the city's future water needs. It is envisaged that through this programme, by 2035 the city will be able to save about one-third of its future drinking water supply.

Evidence suggests that the San Diego programme will in the long run provide a sustainable source of reliable water supply that is locally controlled and drought proof. Not only is the programme environmentally friendly, but also it better positions the city to become more water independent and more resilient against drought, climate change and natural disasters.

The Minister of Water and Sanitation recently revealed during the presentation of the 2016/2017 budget vote to parliament that the government had already spent over R500 million on emergency and short-term drought relief schemes in eight provinces. Previous experiences internationally have however shown that reactive measures tend to be inadequately coordinated, untimely, and generally ineffective.

The Minister also revealed government's plans to buffer the impact of recurrent droughts in the medium to long term future. A key component of the plan is the large scale development of desalination plants along the coastal regions. These plans are designed to ensure that the country is climate change resilient.

It is important to point out that globally, desalination is somewhat of a contentious topic. Although this high-tech solution has been in existence for many years, especially in extremely dry countries in the Middle East and in Australia, it has also been frequently criticised as a high capital intensive solution with high energy demands.

Going into the future, climate change is expected to make weather patterns more variable, extreme in both directions, and unpredictable.

Weather patterns are likely to shift to intense and frequent drought periods, interspaced with short periods of flash floods.

South Africa may arguably find it relatively easier to financially adapt to these environmental changes given its size of economy, but society in general may find it difficult to justify the development of high tech water infrastructure at exorbitant costs in the midst of growing inequality, high poverty levels as well as a sluggish economy.

To confront recurrent droughts, the country needs to step up its water management efforts by getting better at deciding how to use its limited water resources. The challenge is to save enough water for use during periods of recurrent droughts.

We need long-term research to implement and learn from instructive global lessons. By exposing these global lessons, South Africa is poised to build a foundation for a drought resilient society.