

Water restrictions: too little too late?

After one week of Level 3 water restrictions in Cape Town, many residents are likely to be feeling the strain of watering their gardens by hand. Not only is it hard work but it requires a significant behavioural adjustment. This appears to be the first time that Cape Town residents have had to fall in line with such drastic water saving measures that are required by law in the city. Many citizens will respond to these restrictions although the reports from similar drought conditions in 2004 and 2005 show that it takes a month or two before the reduction in water demand becomes noticeable. Meanwhile the City of Cape Town is going to have to up the ante with a concerted and creative effort to remind citizens that we are fast approaching a critical water shortage. Running out of water by mid-2017 is a disaster that needs to be averted while we still have water in storage. The question is whether Level 3 restrictions, effectively a 30% water saving, are enough to avert a crisis. There is no certainty because it is difficult to predict when significant rains will fall next and how much. If recent rainfall patterns are anything to go on, then small amounts of rainfall of less than 5mm at a time are unlikely to result in storage levels increasing significantly until at least April or May 2017, perhaps even later. Level 3 restrictions could help in allowing these storage levels to 'catch-up', following a combination of two successive years of below average rainfall and an over reliance on stored surface water. This combination is a repeat performance of conditions that last occurred in 2005 when the city came dangerously close to running out of water. Cape Town is too reliant on stored surface water which decreases at a rate of 1% or more every two weeks on average during the summer through evaporation and use. Being over-reliant on this stored water makes the city vulnerable. Therefore while saving water under the current circumstances is critical, it is not a long term sustainable strategy. The City of Cape Town needs to be better prepared to deal with recurrent droughts and it has to do so by investing in a range of effective and safe alternative (and, in some cases, previously ignored) water resources. Examples include: dual reticulation systems that are capable of conveying treated water for watering gardens and sportsfields; using greywater in a controlled environment; using seawater for flushing toilets; capturing and storing rainwater; and using groundwater that does not compromise the water table, ecology and other end users. These kinds of alternative water sources are widely used in other parts of world. Water sensitive cities are not reliant on single sources of water and are better prepared to meet the potential risks of bringing alternative sources into the water resource mix. Restrictions on their own might not be enough to cope with climate change, a growing urban population and increasing water demand; the additional consideration of a diversified water supply system will likely be required to enable the city to deal with the recurrence of dry years.

Drs Kevin Winter, Kirsty Carden and Peter Johnston

Future Water Institute
University of Cape Town
Kevin.winter@uct.ac.za
Contact: 0839235890