

## Groundwater

### Improving local groundwater governance

# A newly-completed Water Research Commission (WRC) study identified key interventions to improve local groundwater governance.

## Background

There is a growing perception that groundwater governance is simply not working, especially at the local scale, in South Africa. This perception is increasingly being supported by research.

The purpose of this WRC investigation was to address the identified weaknesses in governance by identifying and prioritising key interventions that can improve local groundwater governance in South Africa. These interventions should not simply be a wish list, but must be practical and implementable.

Three local case studies were selected:

- Phillipi Horticultural Area
- Northern Sandveld water user association
- Hermanus monitoring committees

## Possible interventions identified

1. Obtain consensus on a definition of good groundwater governance.
2. A paradigm shift in the scientific rules for groundwater allocations is needed. Current rules based on average annual recharge cannot be substantiated by sound science.
3. Create institutional policies that allow for, encourage and empower water user associations (WUAs) to make their own water management rules.
4. Create institutional policies that allow for, encourage and empower WUAs to monitor their groundwater use.
5. Create institutional policies that allow for, encourage and empower WUAs to monitor the status of their

groundwater resource.

6. Create institutional policies that allow for, encourage and empower WUAs to impose graduated sanctions.
7. Create institutional policies that allow for, encourage and empower WUAs to resolve conflicts using rapid, low-cost approaches.
8. Amend the National Water Act so that WUAs have the right to do water management instead of it being a privilege that they may or may not be granted.
9. Institutional policies to ensure that WUAs integrate broader societal aims and do not just focus on consumptive use.
10. Include a commitment to the Ostrom Design Principles in the GWS.
11. Foster, encourage and the support of local groundwater governance via polycentric governance and nested enterprises.
12. Develop hydrogeological science methodologies that are robust to spatial and temporal variations under local conditions, are broadly accepted by all participating stakeholders.
13. Research into the value of indicators for predicting spatial impacts with sufficient accuracy.
14. Cost-benefit studies to identify where regulation of groundwater use is justified, and where regulation is not justified.
15. Tackle groundwater governance 'Hot Spots' by supporting the implementation of whichever missing design principle seems the most feasible and most beneficial to implement.

## Key interventions

A couple of key interventions were also identified.

The first is a 'one-step-at-a-time' approach whereby in a given local setting attention is given to the implementation of one design principle at a time. The design principle selected should be the one that would be most beneficial to the local stakeholders and the most feasible for the external agency to assist with.

Secondly, initiatives to improve local groundwater governance should take cognisance of, and be guided by, the need to improve social capital at all levels.

Thirdly, initiatives to improve local groundwater governance in South Africa should be driven by an agency or organisation outside of the Department of Water and Sanitation.

## Polycentric local groundwater governance in practice

Polycentric simply means having many centres. While the polycentric governance landscape in its entirety might look very complicated, at the local groundwater governance level it simply means the local governance institution is the governance 'centre' for that particular resource.

The WUA, or other applicable institution, might be constituted as follows:

- Local consumptive and non-consumptive users of the resource.
- Representatives from adjacent water resources-groundwater or surface water – that might interact with the resource in question.
- Representatives from higher water institutions such as CMAs to ensure that national and CMA policies involving equity, sustainable etc. are adhered to.
- Representatives from other local, regional and national institutions that might have concerns about how the resource is used.

This list is not meant to be exhaustive or prescriptive but just to provide some introductory thoughts on how a groundwater WUA might be constituted. The closest existing structures that resemble this polycentric approach are not CMAs or WUAs but groundwater monitoring committees, such as the Saldanha Monitoring Committee.

## Conclusion

In order for local groundwater governance to improve, there needs to be a shift from the perception that groundwater governance can be 'fixed' by a once-off intervention, to the understanding that it is an ongoing and organic process.

The proposed interventions require a change of attitude to local groundwater governance, or a change of mental and conceptual models of local groundwater governance, more than they require changes to laws, science and institutions.

One of the key conceptual underpinnings to good groundwater governance appears to be social capital.

Regarding the current drive to abolish WUAs in South Africa, it is suggested that the key question is, what is the best way to improve the net social capital in the overall governance system – local, CMA, national. It is suggested that a move to polycentric governance might increase social capital more effectively than abolishing WUAs.

The requirements and commitment needed to realise good groundwater governance are daunting. There is a very strong case for only attempting to improve local groundwater governance when there is a strong need to do so, and essentially treating the remainder of the country's groundwater as a de facto private good.

### Further reading:

To order the report, *Key interventions to improve local groundwater governance* (**WRC Report No. 2238/1/15**), contact Publications at Tel: (012) 330-0340; Fax: (012) 331-2565; 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.