POLICY BRIEF

February 2018
The WRC operates in terms of the Water Research Act (Act 34 of 1971) and its mandate is to support water research and development as well as the building of a sustainable water research capacity in South Africa.

Strategic adaptive management in the water services sector – Proof of concept

A Water Research Commission (WRC) study looked to demonstrate that strategic adaptive management (SAM) could be applied to water services in South Africa. Through a literature review and a case study the project showed that SAM is therefore ideally suited to overcoming the challenges of water services delivery.

Background

South Africa is a rapidly-urbanising developing country that faces uniquely complex water management challenges. Water scarcity (augmented by climate change and population growth), a resource-intensive economy and the legacy of apartheid all contribute to these challenges.

The challenges that local governments face in this regard are driven by various interacting factors. These challenges have amounted to a significant barrier with regards to the effective implementation of the country's national water legislation.

Given these challenges, there is a need to shift toward an alternative, systems-oriented approach to urban water management, in order to deal with problems of both quantity and quality of water and water-based services.

The failure to accomplish the objectives of integrated water resource management in practice, coupled with the lack of overall success in addressing systemic issues in municipalities through national government interventions, has led critics to argue that the institutional design of local government is fundamentally flawed.

In turn, various strategies have been proposed that target a revision of the institutional framework within which water governance takes place. However, such structural adjustments are unlikely to result in meaningful progress unless local government bodies proactively strive to build stakeholder consensus, identify common objectives and uphold shared values, key to which is an organisational culture of learning and adaptive decision-making.

Strategic adaptive management

Strategic adaptive management (SAM) is a new approach to management which embodies the above principles, and it is therefore argued that this approach – rather than onerous technical requirements – may offer potential solutions to the 'wicked' problems confronting the country's water services sector.

This is because, rather than simply rearranging existing silos (which optimise only parts of the system to the detriment of others and thus the organisation as a whole), SAM offers an approach that adapts the way the overall organization functions in reality.

This is as a complex adaptive system, wherein multiple 'parts' work together to make up the whole. It thus enables collaborative action that drives an organisation towards a shared future state through consensus building and effective leadership.

The objectives of this study, firstly, was to provide a 'proof of concept' or evidence that demonstrates that SAM, or an adaption thereof, can be applied to water services in South Africa and, secondly, to examine whether SAM could be practically applied to water services.

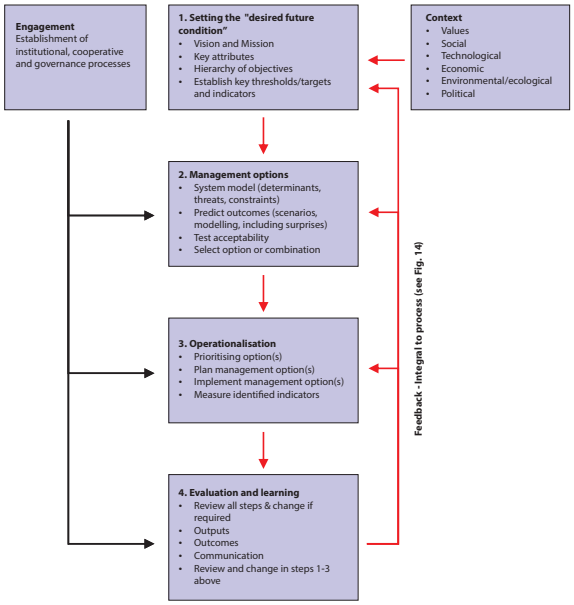

Figure 1. The generic strategic adaptive management process.

Main results

A comprehensive examination of the literature has demonstrated that SAM could be useful in water services in municipalities, and has a significant probability of succeeding, especially in contexts that are more stable and functional. It provides solutions to overcome key challenges that exist in water services e.g. it overcomes 'silos' and fragmentation by building integration and collaboration into its process.

Key to the effectiveness of SAM is the emphasis on developing generative (and adaptive) leadership, the building of trust between all stakeholders, the importance of the vision (desired future) and strategy being owned by stakeholders, the central roles that values play in driving the behaviour of stakeholders and 'structures' that guide decision making and finally the institutionalisation of the management process, in this case, SAM.

Generative leaders remain resilient in the face of obstacles and complexity (such that is found in water services due to over-regulation and political and management flux), and therefore build more resilient capacitated focused organisations.

The practices of SAM, including the feedback loops and adaptive monitoring and evaluation, engenders purpose in stakeholders and ensures improved responsibility and accountability (another Water Services challenge) for achieving the vision and mission of the organisation.

Based on the evidence that SAM has a significant probability of succeeding in the water service context, it then remained to identify a pilot project. To work within resource constraints, it was decided that the focus should be the municipal planning context as experience in other contexts has shown that the planning function is the ideal place to commence the SAM process.

After considering other options, the planning function for Water Sensitive Design (WSD) in the City of Cape Town was chosen as a pilot. WSD was chosen because it requires a significant shift in how the urban water cycle is planned and managed and how water is incorporated into the design of urban areas.

Since the concept is largely untested in the South African context and involves decentralised operational control, it poses a greater risk. It needs close collaboration and integration between various disciplines (including urban planners, landscape architects, engineers, and ecologists) to find solutions to complex urban water management problems.

No matter how often a municipality is restructured, there will always be a need for integration and collaboration across departments. It was therefore concluded that SAM is therefore ideally suited to overcoming the challenges of planning (and later) implementing WSD.

Associate project: *Proof of concept of the application of strategic adaptive management in the water services sector prior to full-scale implementation* (**Project no. K5/1123**). Contact Publications at Tel: (012) 761-9300, Email: orders@wrc.org.za or Visit: www.wrc.org.za.