Risk management

Managing water: Embracing the opportunity of risk

It remains a risky business to manage water and provide water and sanitation services. Luckily there is now a handy implementation guide available for local water utilities on how to better manage these risks and embrace the opportunities it presents.
Jorisna Bonthuys reports.

The complex set of risks and uncertainties associated with drinking and wastewater systems requires risk governance to be at the heart of water service providers.

It is required by South African law, yet many municipalities are still struggling to integrate risk governance into their business, including their water and sanitation operations.

And although risk management practices are undertaken in many municipal water departments, these are often just focused on operational activities related to water quality and quantity (such as the Blue Drop, Green Drop and No Drop programmes, water safety and wastewater risk abatement planning). Risk management has not necessarily translated into risk governance at a more strategic level.

These and other issues were tackled by Andrew McDonald and Jessica Fell in a recent study funded by the Water Research Commission. McDonald worked at the consultancy firm Arup and Fell was a Masters student at the University of Cape Town at the time of doing the research.

Their study entitled ***Risk governance in the South African water services sector: business value creation and best practices*** investigated the nature and maturity of risk governance practices in a selection of water service authorities and water service providers.

The researchers looked at best practices both in the international and South African water sectors and developed an implementation guide on risk governance for local municipalities. This guide is the first of its kind for local water utilities. It aims to support those organisations that are still struggling to integrate risk governance throughout their water operations.

Says McDonald, "Now, more than ever, water resource managers, planners, users, and anyone who in any way impacts on the quantity, quality, distribution and use of water, must fully consider uncertainty, risk and opportunity in their decision-making.

"It doesn't matter if you are a municipality serving a village of 100 people or Rand Water serving the whole of Gauteng... The concepts of risk governance are equally important to all water utilities."

Deteriorating water services and the outbreak of waterborne diseases has resulted in many local service delivery protests over the recent years, the report indicates.

Now more than ever it is necessary for all stakeholders in the water sector to start this journey to ensure risk management is integrated into wider business functions and in doing so contribute to better service delivery and water stewardship.

In 2014 water contamination in Bloemhof (in North West) for instance affected over 500 people with diarrhoea and resulted in the death of three babies. Currently, South Africa has a child mortality rate of over 70 per 1 000 births. A major cause of these deaths is diarrhoea, indicating the presence of high levels of pathogenic organisms such as bacteria and viruses in drinking water.

Another example of such a failure (of risk governance) happened in Majakaneng (near Brits in North West) when violent service delivery protests broke out in 2015 after years of an inconsistent water supply. Says McDonald, "In such a situation, if the risk of failing infrastructure had been effectively assessed and managed, the violent protests could potentially have been avoided."

McDonald adds to this, "These incidents are a clear indication of a lack of robust risk management and governance, and illustrate the urgent need for a step change improvement in risk governance at a municipal level."

The water sector requires risks to be effectively managed within a framework of good governance to secure the safe, reliable and cost-efficient delivery of water services. "If the wide-ranging risks associated with water management are not effectively understood and controlled, there will be a continuation in the erosion of social cohesion, deterioration of public health and the constraining of social and economic development," he says.

"One just has to look at international examples such as Walkerton in Canada. A lack of local risk management, coupled with poor wider governance in the local authority, resulted in an outbreak of disease affecting thousands of people. The long term consequences of this were felt for years, including the state governor losing the next election and the water utility manager going to jail. Canada learnt from this and has made significant improvements in the way they understand and govern water related risks. Now South Africa needs to learn and make similar changes".

Study sheds more light

Of the more than 177 entities including local municipalities approached to participate in this study, only 13 participated in the research.

Says McDonald. "Although we don't have data to support this, I have a strong sense that many of the municipalities that did not respond have not integrated risk governance across their organisations."

The study focused on the nature and maturity of risk governance practices, using a specifically developed benchmarking tool. It also explored the interaction between risk management and governance activities and other business functions to identify where risk-based approaches are used to inform decision making and are adding value.

Basically, the researchers wanted to know: How are the operational risks identified? How are decisions made based on this? And: How is this rolled out at a municipal level to allocate budget and resources?

Their findings have provided "interesting insights" into how these organisations understand and manage risk, McDonald indicates.

The overall average risk governance maturity of the 13 organisations ranged from 2.4 (initial) to 3.9 (managed) out of a possible score of five. A similar study was done on a selection of international water utilities identified maturity scores between 3.5 and 4.5. "So when benchmarked against some international organisations, the South African utilities we assessed are doing OK," he indicates "However, we know there are many municipalities who we did not assess, that are likely to be struggling with risk governance, or not doing it at all."

He continues, "The results suggest that the sample included organisations that are already practising reasonably good risk governance and are going above and beyond the requirements of the legislation and guidelines." This is supported by the fact that all the organisations had an enterprise-wide approach with a risk manager, risk policy and risk framework. Some also had detailed risk implementation plans that were being used to roll out risk governance practices in the organisation. Furthermore, the organisations studied all had effective corporate governance structures in place, such as a risk committee and audit committee.

What does legislation say?

The management of risk is a requirement of South African legislation.The national government has recognised the importance of risk management in public institutions and has published various legislation and guidelines and has various regulatory mechanisms in place.

In terms of legislation, both the Public Finance Management Act (No. 1 of 1999) and the Municipal Finance Management Act (No. 56 of 2003) state that the Accounting Officer is responsible for establishing and maintaining effective, efficient and transparent systems and internal controls for financial and risk management. These requirements are usually interpreted to relate to financial and fraud risks.

The Disaster Management Act (No. 57 of 2002) also stipulates that local authorities need to appropriately plan for disasters through developing and implementing disaster risk management plans.
The Occupational Health and Safety Act (No. 85 of 1993) is concerned with risk to employee health and safety and requires employers to implement systems to manage these risks.

The National Treasury has also published the Public Sector Risk Management Framework and the Local Government Capital Asset Management Guidelines. These documents provide a generic guide to a national, provincial and local government for the implementation of asset and risk management strategies to allow them to meet the requirements of the legislation.

In the water sector, the Blue Drop, Green Drop and No Drop programmes all advocate risk-based approaches.

Embracing future risks

Now more than ever it is necessary for all stakeholders in the water sector to start this journey to ensure risk management is integrated into wider business functions and in doing so contribute to better service delivery and water stewardship. This must occur within a framework of good governance and accountability, McDonald believes.

Says McDonald, "None of these organisations has the luxury of operating in a risk-free environment and the risk profile they have requires an extra duty of care on management to contain these risks to acceptable levels. This is especially important to maintain public health.

"We are not only talking about operational risks, but also other risks associated with long-term planning and strategy, people and change management, finances, stakeholder engagement, reputation and climate change. Many risks are systemic, with their root cause outside the control of the municipality. These require a broader governance approach to identify and manage. You can no longer rely on traditional engineering approaches to identify and manage these risks."

Risk must be a central part of all decision-making, at all levels in the organisation, from strategic through to tactical, with decision-making structures and processes defined, he states. "This is because public sector organisations, such as water service authorities and water boards, are bound by their mandates to provide services in the interest of the public. Resources are scarce, and therefore decision making that accounts for risk can help allocate these resources more efficiently, to get more value for money. That's a win for the municipality, for National Treasury and for the rate payer.

"When it comes to decision making, we say let's look at it strategically. It is about taking a step back to identify the root causes and contributing factors of an issue.

"Take for instance a blocked pipe. What are the consequences if the pipe is not unblocked? How significant are the impacts – do we flood one street or do we flood a hospital? What has caused the blockage? How often do blockages occur? What is the long-term approach to preventing blockages in the future? Should this pipe be proactively maintained at all? Or should resources be allocated to another issue elsewhere considered a bigger risk, possibly even in a different department? These are the kinds of trade-off decisions that water managers need to be making all the time, and can really only do it properly when considering risk and working collaboratively."

Having a structured risk management system supported by sound risk governance is therefore a valuable management tool that can increase the prospect of success through minimising negative outcomes. "Always remember that the flip side of risk is opportunity, it's not just about the possibility of something bad happening."

He believes organisations need to develop step-by-step improvement plans that recognise the local context and limitations and are pragmatic about resources, budgets and capability. Importantly, change management, particularly relating to people, is necessary to ensure the improvements are sustainable.

Water often creates shared risks within a municipality, he says. "A risk in a water department could, for instance, be the reliability of a disinfection plant. When the plant fails there could be a health risk if the water has not been sufficiently disinfected. A risk for the water department might then become a contributing factor for a risk to the health department if suddenly the water quality is poor and everybody is getting ill from exposure to it. Do the water department and the health department discuss their shared risks? Are there effective risk governance structures to allow this cross functional working? In some municipalities, I suspect not. To do this well you have to be breaking down the silos in an organisation. If the risk manager is doing their job correctly, they can help do that."

McDonald continues, "Shared risks are also common across organisations, especially when it comes to infrastructure interdependencies. The challenges we have had recently with electricity has highlighted the interconnectedness of our infrastructure systems. If an Eskom substation fails, how does this impact on regional water supply many kilometres away? Do Eskom and the water utility share their risk registers and work together to prevent shared risks from materialising? These are important issues we need to address if we are to become more resilient to the shocks and stresses we now face".

Setting up for success
From the research it is evident that the organisations doing it well have a couple of things in common. Says McDonald, "Firstly, their executive managers are on board. They have recognised that it is important to manage risk. If senior managers don't have systems in place to manage risks, they are in contravention of the law."

"Secondly, they appoint a person as a risk manager or chief risk officer. This person has the mandate to establish the risk governance framework in the organisation. Where it works well this person is also competent in their job and has other people to help him or her, even if it is just one or two people. If it is just one risk manager who has to do this for the whole organisation they typically struggle because of their work load."

Small organisations who don't necessarily have people to resource a whole risk team, can also task people in other departments with some risk responsibilities, he says. "Identify risk champions or risk coordinators in other departments and include some risk governance responsibilities as part of their job description."

This is how risk-based thinking gradually gets embedded across organisations, he says. "The better you integrate across the organisation, the better the organisation can respond to risks."

His advice to local municipalities? "Use the model to benchmark yourself, this will help you to identify where you sit on the maturity scale from one to five. You can then identify areas of strength, that you can continue, and areas of concern, where you might want to improve. Start small and build on where you are already doing something well. This may be in other parts of the municipality and not necessarily in the water department."

The challenges of implementing successful risk governance in the water sector are well documented. Says McDonald, "The journey is demanding and can take up to 15 years. It requires strong and clear leadership, a common vision, a policy, framework and implementation plan, commitment and resources to implement the plan, good governance structures, open and transparent reporting mechanisms and regular engagement with all stakeholders.

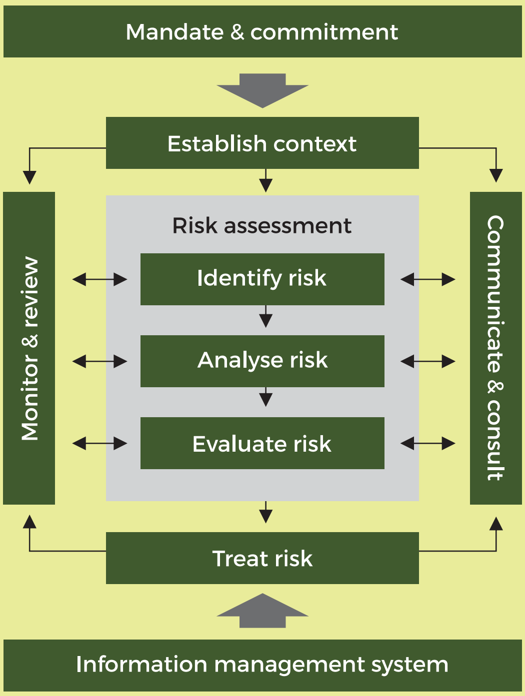
"Moreover, it requires a culture of risk awareness to be embedded in the organisation, which involves changing the mindsets of employees. The findings of the assessments have shown that some of these factors are in place or are being established. This is promising as it shows that these organisations have all started their journey to risk governance excellence."
The final report will be available later this year.

What is risk governance?

It is a complex term and has many definitions. The concept includes more than just operational risk management but extends to for instance organisational, environmental and financial aspects of a business and the way this is all integrated and coordinated.

Says researcher Andrew McDonald, "Risk governance includes a more strategic view of risk and the human and organisational factors. It includes accountability, collaboration, decision-making, sharing of risk and reward, communication, leadership and organisational culture."

Risk governance is different from risk management in that it is more inclusive of all stakeholders.
"The true value of risk governance comes when it is integrated into wider business functions. Many water sector organisations are successfully integrating risk into functions such as strategic planning, tactical planning, asset management, financial management, project delivery, climate change assessment and supply chain management," he says.



The risk assessment process.