9th IWA-ASPIRE Conference & Exhibition 2023
One Water for Smart Cities
October 22-26, 2023 | Kaohsiung Marriott Hotel

Hungry for change: developing, embracing and embedding a tailored risk appetite framework at the Water Authority of Fiji

Dr Amit Chanan*, Dr Annalisa Contos**, Dr Annette Davison***

*Water Authority of Fiji, VFQ8+WCF, Kings Rd, Suva, Fiji, amit.chanan@waf.com.fj

**Atom Consulting, 401/71-73 Archer Street Chatswood, NSW, Australia, annalisa@atomconsulting.com.au

***Risk Edge, PO Box 268, Killara NSW, Australia, annette@riskedge.com.au

Abstract: With the increasing complexity and uncertainty of the global business environment, utilities must ensure that their decisions are based on an accurate assessment of risk. Organizations around the world are focused on empowering and building a risk culture. The Water Authority of Fiji (WAF) recognised that developing risk appetite and tolerances with its board, was an essential step in embedding a common risk culture from the board to boots-on-the-ground activities. WAF also realised that improved organisational risk awareness and maturity, would enable their resilience and long-term success.

The objectives of the project were to:

- develop risk appetite statements that can be used to manage risk and inform investments
- ensure an aligned risk approach from the board to the staff on the ground
- embed a common risk language across the organisation

A six-stage iterative program (Figure 3) was designed to increase risk literacy and develop and embed risk appetite into the organisation's culture. In the first stage of the project, risk awareness and literacy were built through a series of workshops where root cause analysis was used to identify improvements from recent incidents. The second stage was an independent ground truthing of the current risk landscape. At a half-day workshop, the board confirmed the organisational objectives and tested the current risk appetite and its alignment with the groundtruthed activities. The subsequent project stages are the development of risk appetite statements and revised risk framework for consultation; organisational risk assessments, risk strategy development and finally deployment. This paper will showcase the successes and learnings from the project and is of relevance for all utilities as they develop their risk culture and grow in risk maturity.

Keywords: risk appetite; risk culture; risk tolerance, risk literacy

Background

The principles of risk management are that it creates and protects value, improves performance, encourages innovation and supports the objectives being achieved (ISO 31000:2018). With the right risk culture in place and embedded, water utilities remain focussed on their strategic goals; from the fundamental supply of safe water and sanitation services to digital transformation. A proactive risk approach builds trust with stakeholders including customers, regulators and the wider community.

The Water Authority of Fiji (WAF) was established by the Government of Fiji in January 2010 to provide efficient and effective water and wastewater services to its customers. Over the last 4 years, WAF has been on a risk journey, developing a risk framework and governance structure, and establishing an independent risk and audit branch.

WAF recognised that developing risk appetite and tolerance metrics with its board was an essential step to embedding a common risk culture from the board to boots-on-the-ground

activities. WAF also realised that increased organisational risk awareness would improve risk maturity (see Figure 2) and enable their resilience and long-term success in meeting their objectives.

Methodology

WAF developed a 6-stage process to engage the organisation, develop the risk tools and raise risk awareness within everyday operations. Table 1.1 shows the process undertaken to develop the organisation's risk appetite and deploy the updated risk framework. WAF is currently at stage 3 in the process, with deployment (stage 6) planned for October 2023.

The first stage of the process was to increase the risk literacy across the organisation. Two half-day training sessions were conducted: the first with the executive management team and senior managers, the second with supervisors and team leaders. These sessions were designed to encourage participants to consider risk management and barrier failure, in the context of their roles. A facilitated Root Cause Analysis using the 5 why's approach (IEC 62740:2015) of recent incidents was undertaken. From the session, participants understood not only the value of incident investigation to identify and resolve underlying issues to prevent re-occurrence but also the importance of the organisation's corporate functions in maintaining management barriers (Reason, 1990) and supporting the operational staff during the incident. After the practical session, participants were introduced to the concept of risk appetite - the amount and type of risk an organisation is willing to take on, relative to its objectives (ISO 31000:2018). The use of risk appetite to inform and prioritise decisions was also discussed.

A one-hour workshop was held with the executive management team to document the organisation's products and services. This is an important component in defining the scope of any organisation's risk management activities. While documenting a water utility's products and services may sound simple, with the right stakeholders, it often identifies activities outside the utilities core business and allows for comparison of risk across the organisation (Davison 2020). The obligations and risks associated with these peripheral activities often create a series of different risks, when compared to core business activities and therefore, also need to be considered differently, when evaluating risk management approaches.

The second stage was a review of the current risk landscape. Two external teams visited WAF operational sites across the three geographic divisions. This independent ground-truthing tested the actual risk landscape across the risk framework areas of operations, environment, health and safety, financial and reputation. A third team conducted individual interviews with the executive management team members. A diagram mapping the on-site issues (Figure 4) to the risk domain and WAF's focus areas, illustrates the complexity of how a single on-the-ground risk may impact multiple areas.

A half-day workshop was held with the WAF Board to confirm the organisational objectives and test their current risk appetite and its alignment with the groundtruthed activities. An important consideration when setting risk appetite is that when current activities do not meet the stated risk appetite, the organisation can either accept the risk and change their risk appetite statement or invest in projects and programs to bring the risk into appetite. If organisations

accept out of appetite activities without a process to bring them into appetite, risk culture is poor (Sheedy, 2021).

The third stage of the project was the development of risk appetite statements, identification of parameters and reporting options to establish the risk tolerances and board reporting. The risk framework was also updated with the risk appetite statements and updated likelihood and consequence descriptors. This framework will be tested in the fourth stage of the project, which is a series of risk assessment workshops considering:

- Strategic risks
- Operational risks
- Project risks
- Supporting function risks

An outcome of the above is the likelihood of changes or clarifications to the risk framework (including descriptors). The risk reporting parameters will also be tested with key personnel in this stage to ensure the reporting is practicable, does not create a burden and provides useful information to support decision making throughout the organisation.

The Risk Strategy development stage will deliver the updated risk framework which will include the board-approved risk appetite, tolerances and reporting mechanisms. Establishing risk tolerances will define acceptable levels of risk exposure across the organisation, such as financial, operational, environmental, and reputational risks. This approach will enable WAF to prioritise its risk mitigation efforts and allocate resources efficiently, for optimum effect.

The final stage of the project is the deployment of the risk strategy within WAF. The risk culture of the organisation will be strengthened through the embedding of risk management processes throughout daily activities.

Impact

The impact of the project is expected to reach across the breadth of the organisation from the operational staff to the board. Even at this early stage, benefits are already being felt, as an example, as a result of the root cause analysis, identified actions have been implemented. Risk awareness is also increasing. Feedback from the first stages of the project are that people now ‘get risk’, and what they are being asked to implement in their roles.

In articulating their risk appetite, the board has also established risk priorities. Risk mitigation activities for capital works and health and safety are proceeding ahead of the formal adoption of the risk strategy.

Conclusion

To enhance risk management practices, water utilities are increasingly adopting formal risk management frameworks that include articulating risk appetite, establishing risk tolerances and associated reporting. These frameworks make explicit the level of risk the organization is willing to accept, enabling effective decision-making and resource allocation. By defining risk thresholds and tolerances, and establishing reporting chains, water utilities can monitor their progress in addressing priority risks, and meeting their objectives and embed risk culture across the organisation. This approach fosters a proactive rather than reactive mindset, allowing utilities

to identify and mitigate potential risks before they escalate into major incidents or crises. This project illustrates how water utilities at any point on the risk maturity model, not only can, but should utilise risk appetite to improve their decision making and outcomes for the communities they serve.

Table 1.1 Process for risk appetite development and deployment

Stage	Outcome
Risk literacy	Risk aware executive management team and senior staff
Review current risk landscape	Documented evidence of current status of risk tolerance in day-to-day decisions/practices across WAF operations
Development of risk appetite statement and revised Risk Framework for consultation	A developed risk appetite statement An updated Risk Framework to test in the next stage
Organisational risk assessments	5 risk workshops considering • Strategic risks • Operational risks • Project risks • Supporting function risks
Risk strategy development	Clear articulation of risk appetite, tolerance and risk framework for implementation
Deployment of risk strategy	Validate the deployment of the risk strategy

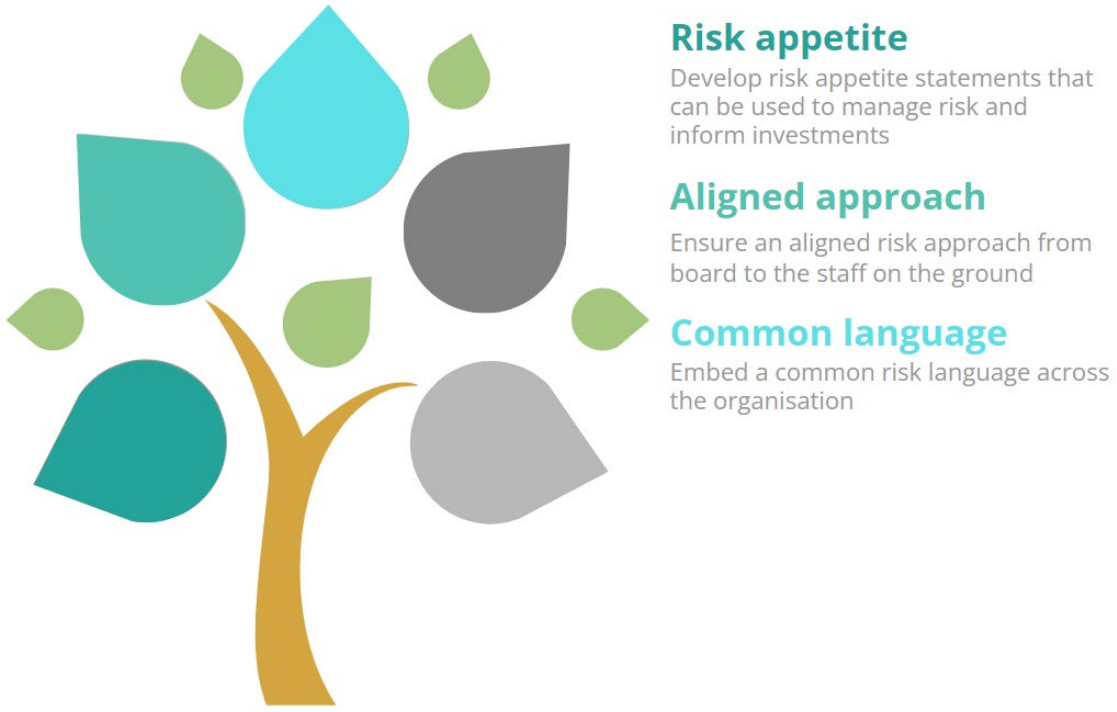

Figure 1. Project goals

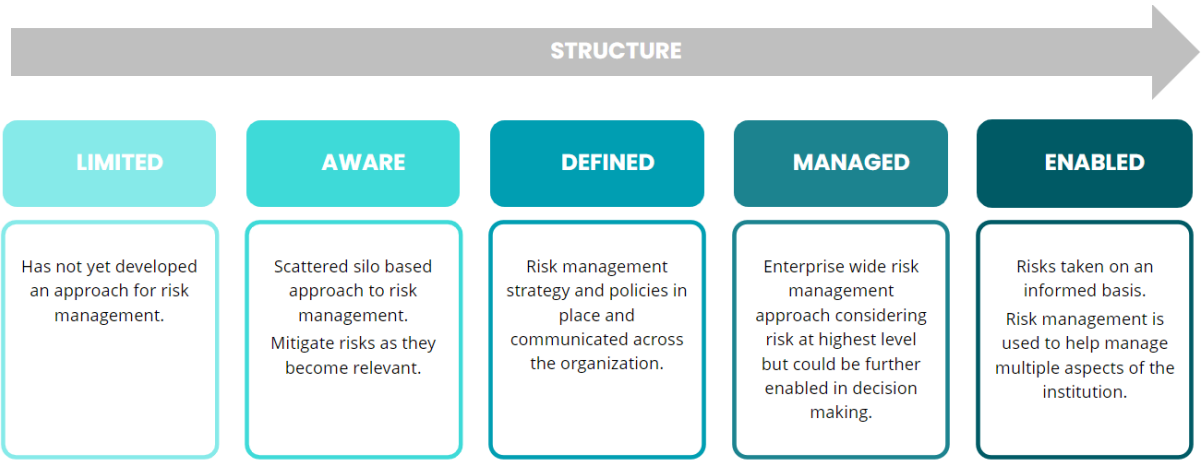

Figure 2. Risk Maturity Scale

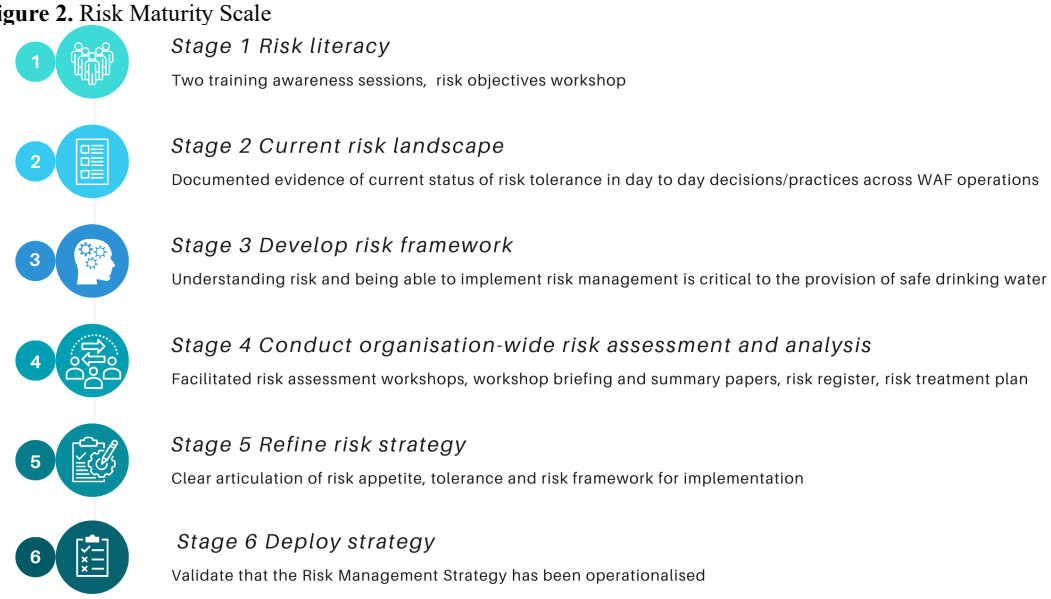

Figure 3. Project stages

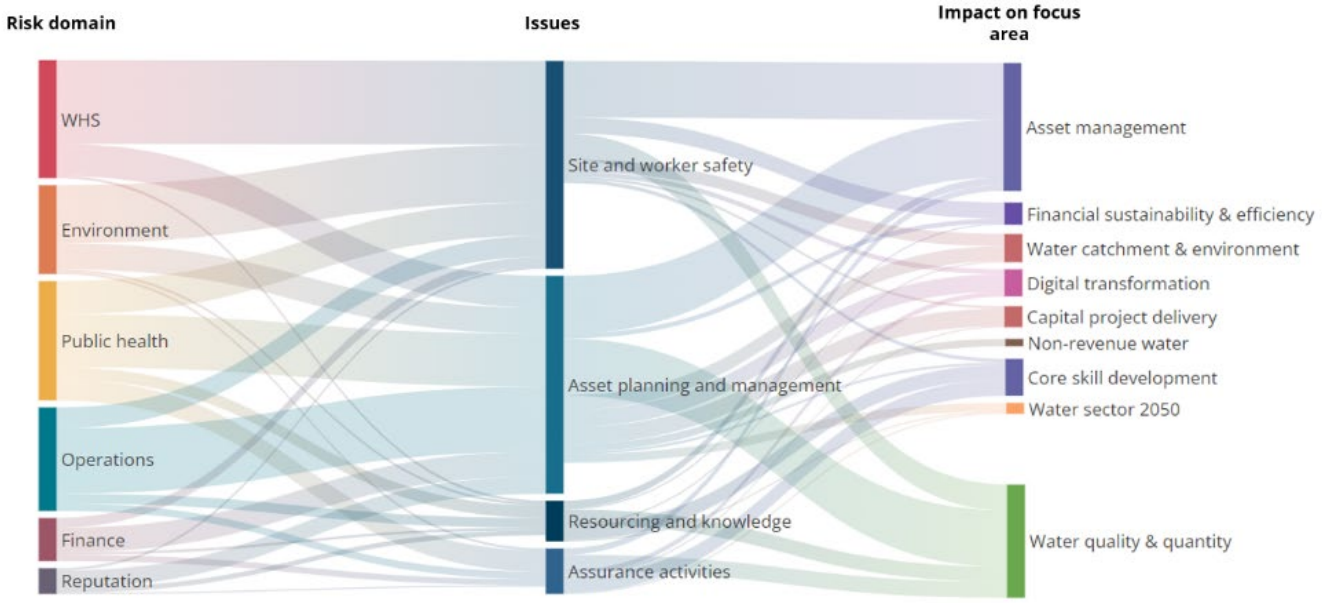

Figure 4. Relationship between site visit observations, their risk domains and focus area impacts

REFERENCES

ISO 31000:2018, *Risk management — Guidelines,* International Organization for Standardization, Geneva, Switzerland

IEC 62740:2015, *Root cause analysis (RCA*), International Electrical Commission, Geneva, Switzerland

Sheedy, E. 2021 *Risk Governance: Biases, Blind Spots and Bonuses*. Routledge, London

Reason, J. 1990 *Human error.* Cambridge University Press Cambridge [England], New York

Davison, A. 2020 *Application of ISO 31000 to Drinking Water Quality Risk Management: A Practical Approach*, Risk Edge Pty Ltd, Australia ISBN 978-0-9875560-0-4.