

# Chapter 10

## Conclusions



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This book has provided a series of reflections by practitioners on how to make advancements into building resilient water supply services, on the basis of practical application. The main chapters include cases from a range of different contexts. This includes localities where consumers are broadly happy with their water supply and providers are planning ahead to address growing pressures. Real examples are also provided from areas where satisfaction is much lower, where substantial parts of the population do not have safely managed access to services at all. Some of the programmes and initiatives have been developed with high visibility, and with sufficient resources (including funding); however, some have received very little input, in terms of support and capacity. In all examples, action needs to be taken to improve performance levels, systems need to be in place to respond rapidly to threats and longer-term planning must ensure water security for customers and consumers; as well as safeguarding the natural environment.

The case studies do not set out to portray what resilience looks like in practice – but they are representative of the ongoing efforts to respond better to the threats represented by practitioners themselves. We hope the cases can stimulate a realistic and broad discussion on actions currently taking place more generally – to understand how to respond better in the future. They provide points to ponder on how to further develop their own innovative approaches and solutions.

Resilience might be a concept that many understand and recognise the need to pursue, but on the ground deciding what actions to take can be challenging. The cases have shown a diversity of solutions that contribute to resilience, and that in some way ensure that water supply continues to reach people despite risks. In reality, service providers will need to pursue and balance a range of actions across keeping water demands in check. Sustainably augmenting water supply, for example, will always need to go hand in hand with demand management practices. Collaborating with diverse stakeholders across the sector and with other uses of water will need to take place as well. A coherent approach that encompasses not only a diversity in technologies, but also in the types of approaches will be needed that links corporate and financial elements (not discussed in this book), adding another layer of complexity.

A final lesson has shown us that as many of the cases were described prior to the coronavirus disease 2019 pandemic, changes in the context have given even further testing of resilience approaches to ensure water keeps flowing during the pandemic – a necessity to ensure people continue to benefit from water and to practice good hygiene (i.e. handwashing), one of the measures cited to stem transmission. The contributors to this book have reported delays in actions implemented, particularly in capacity building due to movement restrictions, and difficulty in working with stakeholders in many contexts where face-to-face communication is essential.

Drawing from a range of contexts and threats, as editors of this book our main recommendations focus on the following six aspects.

- Water companies and service providers need to ensure they have a vision and a sound grasp of local, national and global threats that undermine all aspects of water supply performance. This needs to result in appropriate and effective interventions, including implementing the best selection of technologies, approaches, and partnerships, and focussing on a few interventions with the biggest impacts. One approach will not hold all the answers to resilience, a broad range of responses are needed. We refer to this as taking the correct action, at the right time, and doing it well.
- To function effectively, front-line operators continuously need to develop and fine-tune approaches to respond to chronic, rapid and slow-onset threats. For example, water supply, sewage and other essential infrastructure is often not spared the impacts of rapid disasters. All aspects of water treatment and supply can be affected and this has a direct impact on households, neighbourhoods, schools, hospitals and other essential services. Front-line operators need to be able to respond rapidly to fix, repair or even just patch-up critical assets, as well as looking at future threats like climate change and growing demand.
- Often practitioners work under incredibly difficult and testing circumstances. There needs to be a focus on *doing what you can with what you have*. When major water supply infrastructure is already absent or inadequate, emergency

interventions may only provide a stop-gap until existing assets are rehabilitated or new physical assets are provided. Asset management planning to build resilience and strengthen utility performance needs to be better documented. This will enable suppliers to adopt a systematic approach to meet the required service levels in the most cost-effective manner. It will also help water companies to justify interventions to potential investors.

- Front-line operators need greater support to document and publish their detailed knowledge and experience, which they have in abundance. This book has tried to demonstrate this benefit, but more data, better information and real-time customer feedback is required.
- Greater support for collaboration – across boundaries and between sectors—is necessary for structured cross-learning. Understanding different experiences can lead to new insights, leading actors to enable new capacities and initiatives. This book might be a first step in seeing what actions emerge, and what they look like in very different contexts, building on this would be to build capacities and skills that enable new initiatives. As we strive to make water supplies more effective and resilient there needs to be greater transparency, openness and commitment to ongoing adaptation and learning.
- Although many different threats have been described, water scarcity has been specifically highlighted in all cases as a major threat to sustainable water supply. Globally, a number of responses are in place. However, the conclusions drawn by front-line suppliers point to the urgent necessity for longer term planning frameworks, and sufficient resources and capacities to address this universal threat. System-wide efficiencies are needed to address this threat.

Although there is no ‘one size fits all’ solution, what is clear is that in order to build more resilient services, interventions need to be both *appropriate* and *effective*—delivered to high professional standards, and requiring various stakeholders to work together. In contexts where high service levels already exist then practitioners can often take action on specific and targeted interventions to address current and future pressures. However, if water companies are starting from a low base, or the network of people, institutions, infrastructure, policy and finance are absent, then they need to focus on interventions that will achieve the greatest impacts. Often these water companies face a range of challenges, with perhaps the most obvious being catchment degradation, inadequate infrastructure, poor service performance levels, and limited revenue generation and investment. All of these inter-connected problems need to be addressed and they will not be overcome by focussing solely on climate resilience.

Resilience is an evolving concept, and approaches on the ground are constantly developing. As capacities grow and water suppliers can anticipate and mitigate risks to water supply we will be better prepared to deal with the challenges that water supply faces today.