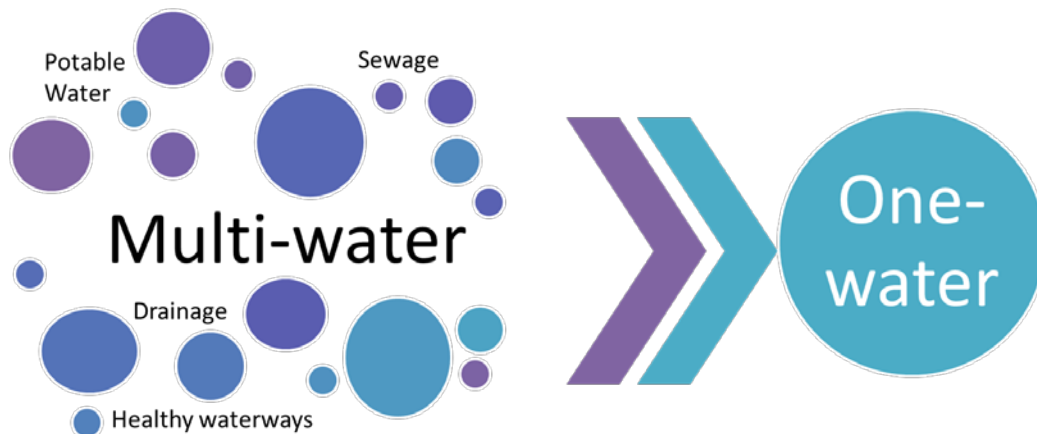


Integrated “One Water” Management

Institutional Issues for Green-Grey Infrastructure

One Water Background: Urban water managers and policy makers around the world are struggling with the challenge of transitioning to a sustainable integrated urban water management approach, or “One Water” paradigm.



The water services sector is facing a number of challenges in delivering a quality service to its customers, which includes potable, waste and stormwater services. The looming capital investment required to refurbish aging infrastructure, upsizing and upgrading existing infrastructure, as well as building new infrastructure to meet growing demands is putting financial strain on utilities and local government institutions. This together with the impending impact of climate change and increased resource insecurity and variability will mean that planners and decision makers will need to adopt a new way of thinking and pooling resources. Customers are also demanding a whole society approach where water sensitive urban design and sustainable urban water management addresses all the needs of the urban landscape.

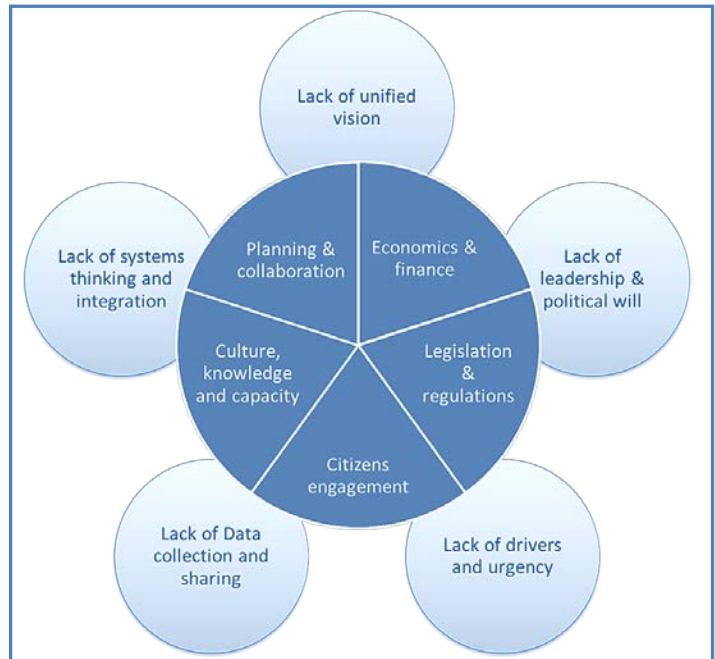
Changing Institutions and Cultures: Part of this new way of thinking will involve changes to our institutional systems and our way of thinking. Managing this transition requires water utilities and local government to actively support and build the capacity of a broader water sector and in doing so adapt their roles to suit this new complexity. To achieve this, water utilities will also go beyond their core function in recognition of the influence they have on urban communities and urban form. The industry will also expand the range of products provided to include a range of “hard and soft” services.

Traditional deterministic approaches to infrastructure planning will need to give way to more flexible adaptive management approaches, which focus more on integrated resource planning, incremental implementation, and the collaboration of traditional urban planners with water resource managers. The urban water cycle should be managed as a single system in which all urban water flows are recognized as a potential resource and where the interconnectedness of water supply, groundwater, stormwater, wastewater, flooding, water quality, wetlands, watercourses, estuaries and coastal waters is recognised. A One Water approach is expected to bring together all these water streams through workable institutional arrangements and management.

Special thanks to our project funders:



Overcoming One Water Barriers: A range of factors remain as challenges that prevent the development of institutional changes, which would allow a shift to “One Water” systems. Foremost of these is the inertia associated with the dominant paradigm of centralized and siloed systems. This dominant paradigm results in a lack of engineering and public community understanding of the benefits of integrated systems (such as lower costs, more localized availability of water for reuse, etc.). Another significant obstacle to a fully integrated approach is the complex structure of regulations that currently exist for water supply, wastewater and stormwater management. The scale (size) of a utility and whether it is publicly or privately owned also adds to variations in institutional regulation, which increases the level of fragmentation. This regulatory patchwork environment, with overlapping responsibilities and jurisdictions, particularly with respect to the need for management of both public health and environmental risks, currently hinders system integration.



Intention & Methods of Project: This project aims to understand what institutional challenges have faced organisations engaged in the One Water approach, and more importantly what strategies and actions were adopted to overcome them. This includes decisions taken at different scales of government and institutional structures. Following are four areas of work product for this project.

Literature Review
Summary literature review on the current state of institutional barriers or opportunities for a more integrated planning and management approach to water services.

Case Studies
In-depth as well as snapshot summary case studies to illustrate the institutional issues identified, with further discussion about how barriers might have been overcome.

Framework Creation
A final “framework” will be developed that captures key institutional challenges and associated solutions confronting the development of a One Water approach.

Peer Alliance and Workshop Engagement
Leading thinkers will guide and review the study. In addition, a series of interactive workshops that explore current thinking and approaches to One Water will be take place. These workshops are designed to engage international experts in this topic to ensure a rich perspective of the issues are addressed.

For more information, or to get involved please feel free to contact the project team:

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