CRC for
Water Sensitive Cities

Program A: Society | Project A4.1 | Project duration: July 2010 - December 2014

Cities as water supply catchments – Society and institutions

Overview

Despite broad agreement on the need for a transition toward more sustainable urban water systems, there remain significant social and institutional barriers to such a change. These include insufficient skills and knowledge about sustainable urban water management (SUWM), organisational resistance, lack of political will and limited regulatory incentives to implement SUWM.

This project aims to address these barriers by identifying the key social and institutional structures and processes needed to actively advance the mainstream application of SUWM, in particular decentralised urban water systems such as stormwater harvesting and treatment. The practical focus of this research project is to understand how to facilitate widespread application of stormwater systems and improve the industry's and community's receptivity or willingness to accept such an approach.

Key outcomes

The project will deliver tools and guidelines to help Australian cities transform their water management. These tools are specifically targeted at water practitioners, including policy-makers, urban designers and engineers. This project will provide stakeholders with:

- an understanding of the structures and processes of effective urban water governance for urban water systems
- guidance to enable co-governance of combined centralised and decentralised water systems operating at different scales and with different sources
- risk profiles of different water systems as viewed by Australian urban water practitioners
- design and management guidelines for green infrastructure to enhance its appreciation and acceptance by Australian communities.

Early insights into peer pressure around households' water consumption

In a water sensitive city, a hybrid mix of centralised and decentralised water systems and water sources will operate at a range of scales to provide fit-for-purpose water that will provide environmental quality, intergenerational equity, and certain landscape features of use or value to the public such as parks. Governance of these systems is likely to differ from traditional arrangements by involving multiple stakeholders who must work together to manage risk. Trust will be essential for the effective governance of those systems.

A survey and focus group discussions have unearthed interesting findings regarding the community's perception of governance of green infrastructure such as rain gardens. This project explored the attitudes of Australian urban water practitioners toward ownership and management of different water systems likely to exist in a water sensitive city, including who they would trust to manage the associated risk. Some insights are summarised below:

- It was found that Australian urban water practitioners supported the idea of different stakeholders owning and managing different urban water systems depending on the scale of the system and the water source, but restricted their trust to government-related entities to manage the risks. Homeowners were only trusted to manage risks associated with rainwater tanks.
- Shared knowledge and social values are likely to enhance this trust and facilitate the management of risk involving all stakeholders. These might be developed through sharing technical information for non-experts and enhanced communication between experts and local stakeholders.
- There are several different perceptual lenses through which people might view a landscape, affecting the way in which they perceive it. For example, people can view landscapes as providing visual or aesthetic benefit, or as habitat for different life forms. Others may look at landscapes from the perspective of working with the land and looking after it or feeling attached to it because it gives them a sense of place and identity.
- Appreciation and acceptance of rain gardens are likely to be influenced by the perceptual lens through which they are viewed thereby affecting their adoption and implementation.
- It is suggested that dominant community perceptions should inform the design of landscapes intended to function as green infrastructure.

An Australian Government Initiative

CRC AUSTRALIA

Project design

This project consists of four independent, but highly interrelated sub-projects which:

- describe the range and significance of different perceived risks or risk perceptions which urban water practitioners associate with a diverse range of water technologies, including stormwater harvesting and treatment systems
- assess the relative strengths and weaknesses of existing urban water governance strategies to determine whether they are fulfilling their intended purpose
- examine the emergence and operation of co-governed decentralised urban water systems
- identify community perceptions of green stormwater infrastructure.

A multitude of different methods will be used, including literature reviews, case studies, focus groups, workshops, online surveys and interviews with urban water practitioners, land developers, local governments and community members.

Outlook

Next steps include the continued analysis of survey data of how the community perceives green infrastructure. This will provide useful insights and recommendations on how to build community appreciation and acceptance of green infrastructure built into water sensitive urban design projects. Design guidelines for stormwater harvesting infrastructure that are likely to be in line with community perceptions, together with industry guidelines on facilitating co-design and co-management of stormwater harvesting technologies, are scheduled for release by the end of 2014.

← *These rain gardens located in two different contexts can be expected to be viewed or perceived differently through a perceptual lens of care and understanding. © M. Dobbie*

About the Cooperative Research Centre for Water Sensitive Cities

The Cooperative Research Centre for Water Sensitive Cities (CRCWSC) brings together interdisciplinary research expertise and thought-leadership from Australia and the world to address current urban water management challenges facing our cities and regions. In collaboration with over 80 research, government and industry partners, it develops and synthesises knowledge into powerful tools and influences key players aiming to achieve sustainable, resilient and liveable water sensitive cities.

Further information

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