

Is rainwater for outdoor taps only?

September 15 2015, by Robin Powell



Rainwater's image problem: clean enough for the garden but not the house.
Credit: Thinkstock

The water shortages and restrictions of the 2000s encouraged many people to install rainwater tanks. Joining those ranks of tanks are the ones included in new houses and renovations to meet the requirements of the Building Sustainability Index (BASIX).

The result is millions of dollars worth of rainwater tanks across the country, with a potential to slash mains water use.

But the reality is not matching the potential. Research suggests many tanks don't work and most of the rest have limited use.

Social researcher Candice Delaney has been investigating practices and habits in households with rainwater tanks and discovered that water use is complex.

For the past few decades, policy focus has been on the installation of tanks but Delaney's research has shown that installing a tank is only one step in reducing the strain on [mains water](#). We also need to ensure that the tanks function, and are integrated into water-use practices, inside the house as well as outside.

"If water saving is the point," she says, "we need to improve our approach to using rainwater tanks."

Delaney, a researcher at the Institute for Sustainable Futures at the University of Technology Sydney, has found that up to half of tanks are not functioning. The pump is busted, the pipes clogged, the first flush mechanism isn't working, or other problems have caused a malfunction that is yet to be addressed.

Christina Cleaver, who lives in Sydney's inner west, is familiar with the problems of tank functionality. Large underground tanks were installed when her house was renovated four years ago.

"They were linked to inside and we initially used the tank water for the washing machine as well as for the toilets. But the filter wasn't good enough, the first flush device never worked, and we had to get a new pump," says Cleaver. "We had a water engineer help us but I'm not

confident he knew what he was doing."

Getting the technology right in the first place is important, but so too is maintenance. Yet education and services about tank maintenance are non-existent.

The second factor Delaney has identified is linked to attitudes to tank water and the appropriate use of rainwater.

Research in the Illawarra region produced a paper, "The 'meaning' behind household rainwater use: An Australian case study", published in the journal *Technology in Society*. The study reveals the attitudinal barriers to more effective use of captured rainwater.

Sydney Water estimates a quarter of water consumption is outside. Such use was the focus of water restrictions in the last drought, and of the 7125 households with rainwater tanks that Delaney studied.

She found only 5 per cent of the households had connected their tanks to both toilet and [washing machine](#). Not using a tank for indoor consumption means its purpose is ignored for three-quarters of our water usage.

Delaney's study investigated some of the reasons for the low use of rainwater indoors by exploring the "meaning" of rainwater.

This includes historical, cultural and emotional factors and Delaney found people viewed rainwater differently. Some perceived rainwater and tank water as precious and pure – and, in one case, too good to waste in flushing the toilet.

Cleaver, who was brought up on a farm where water was scarce, says that even though getting her tanks operational has not been easy, she

feels much better having them there.

"I would put in a better system next time. I would love to use rainwater for showering. It feels like such a waste to use tap water."

For most of those Delaney interviewed, tank water is not precious but dirty, and not appropriate for use in the house.

We seem to live with a range of mutually exclusive ideas about rainwater. It's pure and natural, but only in the context of bottled water, country retreats, or the rain showers in luxury spas.

When it comes to urban rainwater stored in a tank, many of Delaney's interview subjects used terms such as "smelly" and "dirty".

"This fits with the concept of the modern house as a safe, clean space," she says.

Mains water is processed before it enters the house but rainwater threatens to bring the pollution of the city and the urban rooftop into the house. So it is too dirty to use, even to flush toilets, according to some of her respondents.

"The technology is constantly improving but perceptions are not keeping up," says Delaney adding that with climate change promising longer and more severe droughts, we can't afford simply to be reactive. "Rainwater tanks have enormous potential. Let's improve the technology to help people get the best out of their tanks – but let's also challenge ideas about the appropriate uses of rainwater."

More information: "The 'meaning' behind household rainwater use: An Australian case study," *Technology in Society*, Volume 42, August 2015, Pages 179-186, ISSN 0160-791X,

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