



Potable v preferred: balancing climate resilient supplies with safely managed drinking water in Australian First Nations communities

Cara Beal and Melissa Jackson



Cities Research Institute, Climate Action Beacon  
Griffith University, Australia

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FUTURES

Achieving SDG6 in a Changing Climate



#WaWF23





# Outline

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- Background
- Research approach
- Drinking water preferences – community feedback
- Implications for community water management – in practice



# Background - Pressures in delivering safe and reliable water

- ◆ High water demand on mainland and island communities
- ◆ Ageing infrastructure
- ◆ Variable skills and training for water operators
- ◆ Water storage capacity on islands is not good (shallow & poor quality ground water, lack of space)
- ◆ Diesel fuel dependent water systems
- ◆ Unsustainable water and energy demand





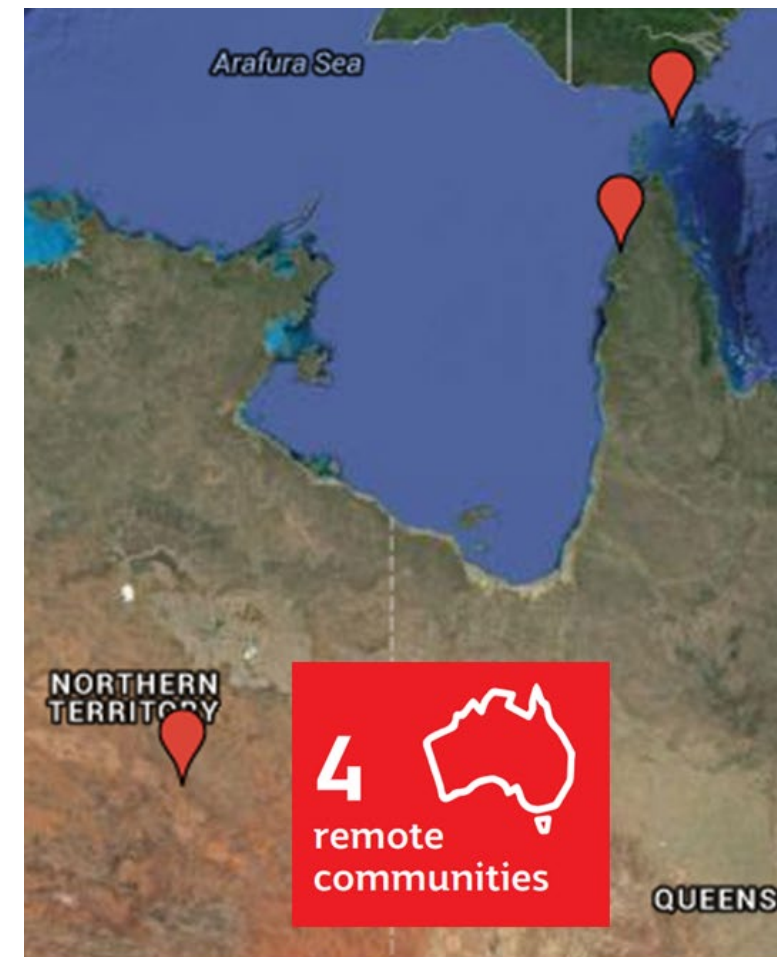
# Then....add climate change as a multiplier

- 💧 Increasingly unreliable rainfall
- 💧 Warmer wet and dry seasons
- 💧 Water & energy infrastructure damage
- 💧 Oil (diesel) prices
- 💧 Food security, health and wellbeing



# Project Summary for community-based water demand management

- Understanding residential water use in Aboriginal and Torres Strait Island communities
- Combined smart metering data with householder water audits and interviews
- Tested different messaging approaches to increase awareness, educate and motivate water savings actions
- Identified some community-based water management actions
- Monitoring and evaluated (by community and councils) the tested approaches



 **330**  
people

**77**   
households

**17**   
visits  
to community





# Drinking water preferences, attitudes and values

Specific objectives were to:

- understand the range and preferences of different DW sources;
- household drinking water treatment practices and attitudes); and
- the values people have on different drinking water sources.



# Drinking water preferences

Do you drink the  
treated town water?

- Dependent on availability of other water sources
- Seasonally variable
- 63% of town water for non-potable uses (HH with RWT)



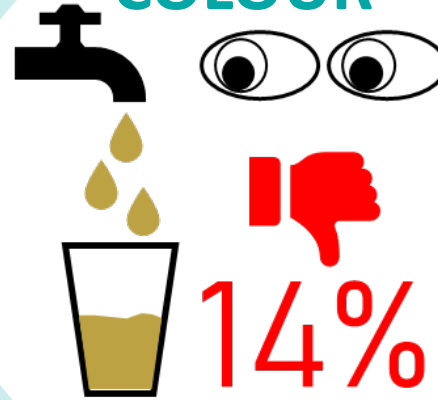
SAFE?



36%



COLOUR



14%



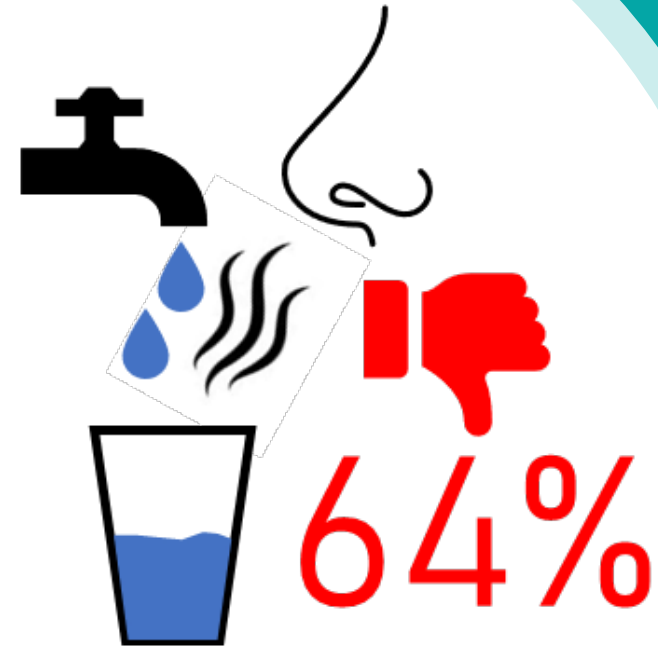
TASTE



57%



SMELL



64%



## Drinking water perceptions and attitudes

- ◆ Aesthetic aspects (colour, taste, odour) main reason across all households for preferring rainwater and/or bottled water
- ◆ Common perception that the treated water is full of chemicals that can make people sick (note – 69% didn't treat rainwater)
- ◆ Prolonged boil water alerts contributing to 'unsafe' perception

## Reasons for not drinking the treated mains water supply – from household participants

*“[Town water is] not really safe”*

*“I get upset stomach when drinking from tap water”*

*“Too much chemical in it”*

*“I drink water from Aunty’s house..fill up rainwater bottles..”*

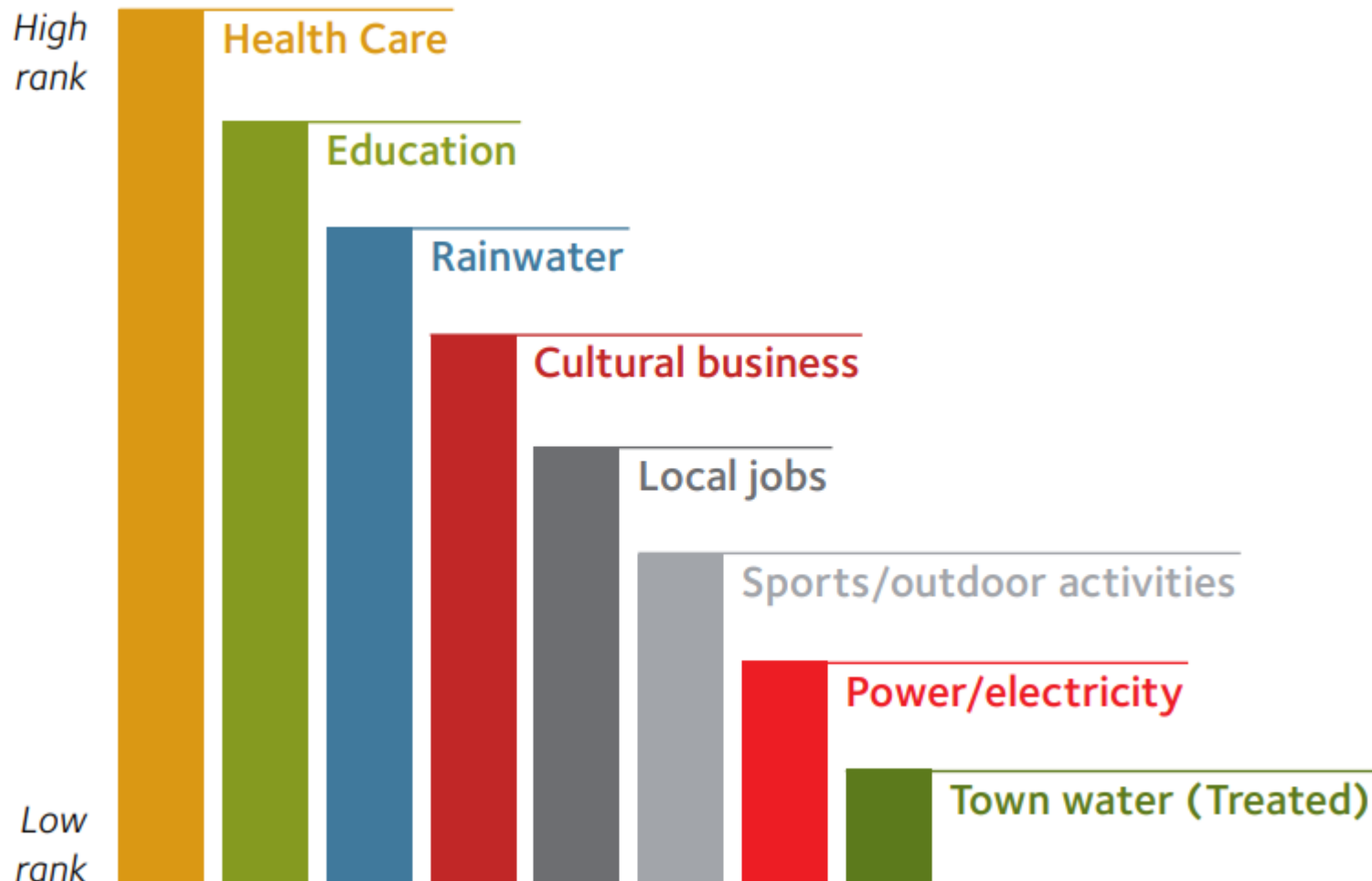
*“Sometimes boil it for the little ones - when doctor says to boil it”*

*“I don’t trust townwater – chlorine. It doesn’t taste like rainwater....rainwater tastes like freshwater”*

*“I feel sick when I drink town water....I worry about E. coli with all these boil water alerts”*

# Valuing drinking water

Rank what is important to you  
for community wellbeing:



- The preferred and trusted drinking water source is valued more highly
- Treated (more plentiful) water source is less valued
- Use of treated (expensive – energy & \$) water use for non-potable activities

Note: this data was collected in person with participants via a visual measure using photos and images to engage participants in discussion of priorities

# Implications for practice

- ◆ Trust (or lack of it) strongly impacts on how a community values (or doesn't) water → influences their motivations to conserve water
- ◆ Households are adept at conserving rainwater supplies well into dry season – increasing the value of treated water through education and community programs could lead to transferring of these water saving behaviours to mains water
- ◆ Foundational to building trust is consistently safe and reliable water supplies (frequent boil water alerts and poor communication erodes trust)
- ◆ The study reinforces the complexity of balancing climate-resilient water supplies with achieving SDG 6 goals – multiple water sources = ↑ resilience...but fit for purpose / safe?
- ◆ Criticality of community-based, co-design of any infrastructure programs in community around water (and other essential service) delivery
- ◆ Need to consider a community's drinking water preferences prior to design and implementation of drinking water systems. E.g. match \$ and resources into water sources that are likely to be preferred by community – esp with recent Aust Govt \$\$!



Thank you

Associate Professor Cara Beal: [c.beal@griffith.edu.au](mailto:c.beal@griffith.edu.au)

Dr Melissa Jackson: [melissa.jackson@griffith.edu.au](mailto:melissa.jackson@griffith.edu.au)

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