

**Working together  
for better drinking  
water in the bush**

# Appendices

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A report by Cromar N. and Ross K. (2023) for the  
Australian Government Department of Climate Change,  
Energy, the Environment and Water



# Appendix 1

## Detailed summary of challenges and solutions identified

Outcomes from the exploration of both challenges (Workshop 1) and solutions (Workshop 2) are reported in the following pages. The threads items listed under governance and truth-telling generated the most detailed discussion – this has been reflected in the reporting of comments.

The following tables were created to link the challenges identified with potential solutions suggested by delegates in workshops 1 and 2. The various headings were determined by the facilitators but were used consistently to allow delegates to engage fully with the threads of each conversation as it evolved and progressed. Verbatim comments are identified by quotation marks and in **bold**.

“Respect works...When a government listens to people with experience, with earned knowledge of kinship and Country and culture and community...when we trust in the value of self-determination and empowerment...then the policies and programs are always more effective.”

Anthony Albanese, Garma Festival, 2022



# Employment, skills, education and training

ONGOING (REGULAR) EMPLOYMENT OF WATER RESOURCE MANAGEMENT STAFF	SKILLS	EDUCATION AND TRAINING	ENABLING OPPORTUNITIES FOR ASSET AND WEALTH GENERATION
<b>CHALLENGES</b>			
<ul style="list-style-type: none"> <li>• “Not having sustained workforce – solutions and operations can’t continue”</li> <li>• Need to build capability and capacity</li> <li>• Lack of operators &amp; pressure on existing operators</li> <li>• Not enough full-time work for operators</li> <li>• “Essential service operators are needed – for example in councils”</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of accountability – skills not being passed on</li> <li>• Shortage of skills</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of education</li> <li>• “No education on chemicals, pollutants or contamination sources”</li> <li>• Appropriate communication on safety</li> <li>• Interpretation of drinking water guidelines is needed</li> <li>• “People don’t have key information like how many litres are being used by people or lost through old and damaged infrastructure”</li> <li>• Simple solution ‘code of conduct’ is required</li> <li>• “How do you test water correctly?”</li> </ul>	<ul style="list-style-type: none"> <li>• “Communication needs to go two-ways – community needs to tell what they need and also get reliable information”</li> <li>• “Everybody is connected when it comes to water from top level of government to community”</li> </ul>
<b>SOLUTIONS</b>			
<ul style="list-style-type: none"> <li>• Sustainable / attractive career pathways allowing people to stay on Country</li> <li>• “Need to make this a sexy career path to be proud of”</li> <li>• Good salary incentives</li> <li>• Important roles should have incentives such as housing included</li> <li>• Need to support succession planning</li> <li>• Well-resourced employment for longevity</li> <li>• Roles need to sit in correct structure to ensure pathway</li> </ul>	<ul style="list-style-type: none"> <li>• Rangers (and fences) for source protection against feral animals</li> <li>• “Link skills and training relevant to infrastructure so they are fit for purpose, place and people”</li> </ul>	<ul style="list-style-type: none"> <li>• “Good training supporting good decision making and allowing good data to be generated”</li> <li>• Training required to bring failing bores back online</li> <li>• Educate people to reduce water use</li> <li>• Water planner and field guide has been used in past – needs to be kept up to date – resourcing required to ensure longevity</li> <li>• Ongoing funding and support required</li> <li>• Training needs to be supported by data and good decision making</li> <li>• “Training needs to include sharing of relevant Traditional Knowledge”</li> <li>• Training modules could be standardised – such as collection of samples for economies of scale</li> <li>• Shared resources could be located in regions e.g. shared housing, essential services and municipal) to allow economics of scale</li> <li>• Education is critical e.g. what chemicals are used</li> <li>• “All training needs to be in language”</li> </ul>	<ul style="list-style-type: none"> <li>• “Create career pathways allowing people to stay on Country”</li> <li>• Community sample and test the water themselves</li> <li>• “Community needs to be empowered to ensure everything is running well”</li> <li>• Well trained locals are sustainable</li> <li>• Self-determination and passing on of knowledge to next generation</li> <li>• Sharing of relevant information between groups allows economies of scale</li> <li>• “Celebrate when things are working – for example demand management at Yuendumu is working really well with community engagement and education”</li> <li>• Engagement with communities encourages demand for better management of water</li> </ul>

# Governance

RESPONSIBILITY	ACCOUNTABILITY	COMPLEXITY	TRANSPARENCY	SILOS (BETWEEN AND ACROSS JURISDICTIONS)
<b>CHALLENGES</b>				
<ul style="list-style-type: none"> <li>Limited or no processes around community-led decision making</li> <li>Where do responsibilities lie for localising national government priorities?</li> <li>Legacy issues are not clearly owned</li> <li>Who should create standards?</li> <li>Who is responsible in remote areas when access is restricted?</li> <li>Tension between different levels of government and their responsibilities</li> <li><b>“Need someone to take responsibility for water quality – one point of contact for communities”</b></li> </ul>	<ul style="list-style-type: none"> <li>Transfer of ageing infrastructure</li> <li>Reliance on service providers but contractor accountability is poor</li> <li>Communities want autonomy but need to be supported to manage risk</li> <li><b>“Chicken and egg – people have moved from outstations because of water but then governments say there’s no-one living there – how does this get solved?”</b></li> <li>Accountability of homeland service providers is poor</li> <li><b>“Hold all parties to account”</b></li> </ul>	<ul style="list-style-type: none"> <li>Changing government priorities</li> <li>Different Ministers are responsible for different aspects of same problem</li> <li>Government frameworks are complicated and structures not clear (e.g. Closing the Gap Target 9B)</li> <li>Capital expenditure and operational expenditure (CAPEX and OPEX) challenges – e.g. public housing subsidies occur but no funding for ongoing maintenance</li> <li>There are so many actors in the water space</li> </ul>	<ul style="list-style-type: none"> <li>Clarity within and between governments in funding and reinvestment programs</li> <li>Accessing reports / data is problematic</li> <li>Consultants’ findings are not often shared – community are not advised of problems which have been reported to councils</li> <li><b>“A lot of communities have the data that governments need but [are] not asked for it or about it”</b></li> </ul>	<ul style="list-style-type: none"> <li>Changing government priorities and cycles – not aligned with greatest issues</li> <li>Lack of shared learnings</li> <li><b>“Closing the Gap (9B) is federal initiative – but relies for success on States and Territories”</b></li> <li>Clarity within and between governments in funding and reinvestment programs</li> <li>Departments don’t interact</li> <li><b>“Houses are being built without adequate water available”</b></li> <li><b>“Housing is not located near water sources”</b></li> <li>States and Territories have different infrastructure funding priorities</li> <li><b>“Government systems exist for those on the list – but what about those not on the list”</b></li> <li>Communities have differing access to funds such as royalties on leases</li> </ul>



“Considering water service provision from a human rights perspective ...highlights that individuals and communities should have access to information and the ability to participate in decision-making to ensure that...services are relevant, appropriate and ultimately sustainable”

Cromar and Willis, 2022 p.41

## Governance (continued)

RESPONSIBILITY	ACCOUNTABILITY	COMPLEXITY	TRANSPARENCY	SILOS (BETWEEN AND ACROSS JURISDICTIONS)
<b>SOLUTIONS</b>				
<ul style="list-style-type: none"> <li>• <b>“Someone needs to take responsibility for water quality”</b></li> <li>• Fit-for-purpose regulations / codes / standards that are agreed by all parties (including First Nations) with grandfathered options to assist those furthest behind to achieve in time</li> <li>• Data gaps need to be filled to set baseline standards for infrastructure delivery, maintenance and health outcomes – all available data needs to be shared between all parties including First Nations</li> <li>• <b>“Need to provide a seat the table for everyone in discussions on baseline data to allow understanding of what the gaps are – currently data exists that is not shared between governments and communities, so data exchange needs to be two-way!”</b></li> <li>• Long term strategic planning is required – including support for programs rather than projects and providing adequate time to complete – e.g. 6-8 years rather than current 3-4 years</li> </ul>	<ul style="list-style-type: none"> <li>• Co-design is imperative to consider and agree on priorities</li> <li>• Legislative reform to protect community water supply and quality</li> <li>• <b>“Someone needs to take responsibility for water quality”</b></li> <li>• <b>“Accountability of all government bodies and service providers to First Nations communities with mandated responsibilities and obligations to ensure continuity”</b></li> <li>• One-stop shop for community to access government services inc. water provision</li> <li>• Fit-for-purpose regulations / codes / standards that are agreed by all parties (including First Nations) with grandfathered options to assist those furthest behind to achieve in time</li> <li>• Need First Nations voices in development of all standards/codes/regulations – need national code for water but with provision for communities that initially don't meet standards to improve over time with goal to ultimately achieve standard</li> <li>• All parties need to be held to account</li> </ul>	<ul style="list-style-type: none"> <li>• Alignment of priorities (e.g. housing / water provision / health) across all levels of government</li> <li>• Alignment of funding cycles across all levels of government to ensure sustained and continuous support of long-term priorities for provision of water security – e.g. 50/50 funding on programs</li> <li>• <b>“Use ‘Whole of life cost metrics’ covering CAPEX and OPEX in the funding process – designed to help keep monies flowing at the right time and with right priority”</b></li> <li>• Prescribed body including all tiers of govt which can engage directly with health dept (engagement)</li> <li>• <b>“Need First Nations voices in development of all standards/codes/regulations – need national code for water but with provision for communities that initially don't meet standards to improve over time with goal to ultimately achieve standard”</b></li> <li>• <b>“Need ‘fit for purpose’ standards/ regulations that are linked to operations. These standards / regulations need to be agreed by all parties with a grandfathered approach for implementation to ensure that ultimately all communities can meet standards”</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>“Engagement of First Nations in all aspects of drinking water safety and security including the making of all agreements”</b></li> <li>• Transparency re decision making in infrastructure investment and maintenance; funding for projects etc</li> <li>• Make investment framework clear</li> <li>• <b>“Provide transparency about decision making in regard to water security to all especially communities”</b></li> <li>• Clear lines of communication – ideally one-stop shop for community to access government services inc. water provision</li> <li>• Need First Nations voices in development of all standards/codes/regulations – need national code for water but with provision for communities that initially don't meet standards to improve over time with goal to ultimately achieve standard</li> </ul>	<ul style="list-style-type: none"> <li>• Engagement of First Nations in all aspects of drinking water safety and security including the making of all agreements</li> <li>• <b>“Need tri-partite agreement between all levels of government and communities – agreement needs to include First Nations voices”</b></li> <li>• Water Council – providing the opportunity for community representatives to come together – not just talk – leads to action</li> <li>• Alignment of priorities (e.g. housing / water provision / health) across all levels of government</li> <li>• Alignment of funding cycles across all levels of government to ensure sustained and continuous support of long-term priorities for provision of water security – e.g. 50/50 funding on programs</li> <li>• Prescribed body including all tiers of govt which can engage directly with health dept</li> <li>• Data gaps need to be filled to set baseline standards for infrastructure delivery, maintenance and health outcomes – all available data needs to be shared between all parties including First Nations</li> <li>• <b>“Long term strategic planning is required – including support for programs rather than projects and providing adequate time to complete – e.g. 6-8 years rather than current 3-4 years”</b></li> <li>• Use ‘Whole of life cost metrics’ covering CAPEX and OPEX in the funding process – designed to help keep monies flowing at the right time and with right priority</li> </ul>

## Infrastructure

MAINTENANCE	OWNERSHIP	REPLACEMENT	CAPEX VS OPEX FUNDING	APPROPRIATE TECHNOLOGIES	BAND-AID SOLUTIONS
CHALLENGES					
<ul style="list-style-type: none"> <li>• “On homelands assets are owned by individuals – who fixes them when they break / as they age?”</li> <li>• Time lags in fixing problems</li> <li>• Unsure about who to report issues to</li> <li>• Maintenance is not being carried out</li> <li>• No accountability from contractors to fix infrastructure when it fails</li> </ul>	<ul style="list-style-type: none"> <li>• On homelands assets are owned by individuals – who fixes them when they break?</li> </ul>	<ul style="list-style-type: none"> <li>• Who is responsible for replacement of assets on homelands / outstations?</li> </ul>	<ul style="list-style-type: none"> <li>• Small communities don't receive funding – it's only for equipment and not maintenance</li> <li>• Communities don't have funding or skills to operate and maintain</li> </ul>	<ul style="list-style-type: none"> <li>• Simple solutions are best and less likely to break down / more practical</li> <li>• Current technologies are often not appropriate / suitable in homelands</li> <li>• Innovative solutions are required</li> <li>• “Current technologies are not managed by the community and knowledge needs to stay within communities – current operators don't report back to communities if there is a problem”</li> </ul>	<ul style="list-style-type: none"> <li>• Legacy issues – ageing infrastructure causes high losses</li> </ul>
SOLUTIONS					
<ul style="list-style-type: none"> <li>• Maintenance of existing bores needs to be done better – could provide training programs for local communities to do maintenance</li> <li>• Infrastructure targets need clear baseline</li> <li>• Need fit for purpose standards</li> </ul>	<ul style="list-style-type: none"> <li>• Organisations in communities have a role in conserving water and improving water efficiency</li> <li>• Smart meters exist in some areas but people don't know how to access them</li> </ul>	<ul style="list-style-type: none"> <li>• “Tech solutions to reduce consumption through improved efficiency should be installed in new builds and retrofitted”</li> </ul>	<ul style="list-style-type: none"> <li>• Should integrate water efficiency in housing design</li> <li>• “Need holistic whole of project costs which include CAPEX and OPEX costs in each project”</li> </ul>	<ul style="list-style-type: none"> <li>• “Create a nationally recognised way of testing technology to prove it is fit for purpose and can be scaled appropriately”</li> <li>• Rainwater storage in bladders as a solution needs investigating for viability and safety</li> <li>• Innovation is not always the latest technology – may be simple and easy to maintain</li> </ul>	

“Unlike simple problems where engineering or technical solutions can be implemented at a single site, managing for sustainable, secure, and safe supplies of water over the long term is multi-faceted, requiring consideration of complex interactions between the physical resources, infrastructure, institutions, and end users, often across governance and cultural boundaries”

Jackson, et al., 2019 p. 2414

# Planning

LACK OF INTEGRATION	LACK OF ENGAGEMENT	FUNDING ALLOCATIONS	SHORT-TERM SOLUTIONS
CHALLENGES			
<ul style="list-style-type: none"> <li>• “Lack of integrated planning – especially long term – this is a bigger challenge than lack of funding”</li> <li>• No consideration of sewerage and sanitation</li> <li>• “Priorities, framework and aesthetics should be a consideration”</li> <li>• “No climate risk tool to measure / model impacts”</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of consultation with communities on planning</li> <li>• “Indigenous knowledge could be incorporated and used to predict the future - but not currently used”</li> <li>• No planning for outstations to create open space in communities</li> <li>• Trusted partnerships need to be created</li> </ul>	<ul style="list-style-type: none"> <li>• No re-investment strategy for the community</li> <li>• Prioritisation is where there is biggest bang for buck</li> </ul>	<ul style="list-style-type: none"> <li>• “No future thinking – just in the now”</li> </ul>
SOLUTIONS			
<ul style="list-style-type: none"> <li>• “Planning is an ongoing process and requires agility”</li> <li>• “Planning cycles should be embedded in project management”</li> <li>• Planning should be informed by data requirements – not just what the community wants</li> <li>• “Ideally planning should be connected and should prioritise engagement as the first step”</li> <li>• Planning guidelines to include water technology to reduce water consumption</li> <li>• Housing and water planning needs to be integrated</li> <li>• “Planning needs to be embedded in all processes and be co-designed with community and government”</li> </ul>	<ul style="list-style-type: none"> <li>• Everyone should be involved but community should have final say</li> <li>• Community consultation plans need to be transparent</li> </ul>	<ul style="list-style-type: none"> <li>• Funding needs to go to right place – effort isn’t duplicated – coordinated and standardised with clear points of responsibility</li> <li>• Hydrosmart panels in every new building</li> </ul>	<ul style="list-style-type: none"> <li>• “Planning needs to consider future needs and requirements and should consider impacts of climate change”</li> <li>• Long-term approaches need to be used</li> <li>• Localised plans are required</li> <li>• Field plans worked well</li> <li>• Need program of work rather than projects</li> <li>• “Training / skills and workforce development in planning would build longer term sustainability for communities”</li> </ul>



Planning “the provision of safe drinking water...from a human rights’ perspective can help mobilise groups by informing and empowering them”

Cromar and Willis, 2022 p. 41

## Social

HEALTH DETERMINANTS	INEQUITY	COST-BENEFIT	CULTURAL	PRIORITISING LIVEABILITY
CHALLENGES				
<ul style="list-style-type: none"> <li>Poor health – infections; heart disease</li> <li>Lack of information on health – not knowing the full story</li> <li>Importance of access to water for cleaning leading to better health</li> <li>Dialysis for communities &amp; outstations “takes 1500 litres for each person and dialysis is done 3 times a week”</li> <li>Gaps in understanding of long-term health issues inc. systemic issues and links to water</li> <li>“People get sick and there are no processes in place”</li> <li>Prioritising aesthetics over health – people won’t drink water because of taste</li> </ul>	<ul style="list-style-type: none"> <li>Aspirational – not setting the bar too low</li> <li>“I grew up thinking that bad water was for the community and good water was for white people”</li> <li>Cost of water in remote communities</li> <li>Varying ability to pay for alternative water sources</li> <li>Fear of not having water and anxiety for the next generation</li> <li>“We have to contact the media before anyone will do anything about the problems – people need to listen”</li> </ul>	<ul style="list-style-type: none"> <li>Vibrant communities and ambitions</li> <li>People can’t achieve full potential – water is a limiting factor for communities</li> <li>Cost of consultants to solve problems rather than locals</li> <li>“Remote water infrastructure is always seen as a cost but there are social benefits – people can stay in community”</li> </ul>	<ul style="list-style-type: none"> <li>Not being able to return to Country or live on outstations can create disempowerment and take away opportunities</li> <li>“Water (management) operates across borders but aboriginal families span across borders”</li> <li>Not able to fulfil cultural obligations</li> <li>Losing connection to Country from lack of access to water</li> </ul>	<ul style="list-style-type: none"> <li>Understanding priority for use of water, animals and liveability</li> <li>“Want to grow veggies”</li> <li>“Liveability programs in communities get taken over by projects but not what the community wants”</li> <li>Communities want to understand how climate change will impact on their water supplies</li> </ul>
SOLUTIONS				
<ul style="list-style-type: none"> <li>Safe, reliable and affordable water so people can stay on Country</li> <li>“Investment in clean water helps to improve health”</li> </ul>	<ul style="list-style-type: none"> <li>Safe, reliable and affordable water so people can stay on Country</li> <li>Make sure everyone is on the same page regarding water quality</li> <li>“Need Aboriginal people in leadership roles”</li> </ul>	<ul style="list-style-type: none"> <li>Safe, reliable and affordable water so people can stay on Country</li> </ul>	<ul style="list-style-type: none"> <li>Safe, reliable and affordable water so people can stay on Country</li> <li>Need for cultural awareness induction for all those engaging with communities</li> <li>“Need unity within Aboriginal communities and working together with others (government etc) for decision-making, planning and design of solutions”</li> <li>“Service providers should observe cultural protocols and work with Traditional owners”</li> </ul>	<ul style="list-style-type: none"> <li>Safe, reliable and affordable water so people can stay on Country</li> <li>Better understanding priority for use of water, animals and liveability by all</li> <li>Recycled water on ovals to create green spaces for recreation</li> </ul>



# Truth-telling

SHARING OF KNOWLEDGE / INFORMATION	COMMUNICATION	TRANSPARENCY	LOCAL DATA	TRUST AND RESPECT
<b>CHALLENGES</b>				
<ul style="list-style-type: none"> <li>Sharing knowledge and having the right information shared with the right people – currently not two-way</li> <li>Knowledge and data gaps</li> <li>Understanding the risks associated with climate change (and water safety and security) – are the risks known? – if so by who and how do we make that information available?</li> </ul>	<ul style="list-style-type: none"> <li>Collaboration and coordination is required</li> <li>Communities can see water is being sampled but they don't get the results – but they could jointly solve the problems</li> <li>Knowledge sharing and capacity building and transparency is not two-way</li> </ul>	<ul style="list-style-type: none"> <li>Lack of transparency on water quality data <b>“knowing what's in the water and how to fix the problem”</b></li> <li>Knowledge sharing and capacity building and transparency is not two-way</li> </ul>	<ul style="list-style-type: none"> <li>Need surveys to identify relevant local data</li> </ul>	<ul style="list-style-type: none"> <li>Is the water really tested? Many trust issues</li> <li>Knowledge sharing and capacity building and transparency is not two-way</li> </ul>
<b>SOLUTIONS</b>				
<ul style="list-style-type: none"> <li>Community control funding</li> <li><b>“Make sure all stakeholders in communities are on the same page regarding knowledge and info e.g. inc teachers and nurses”</b></li> <li>Community should have confidence in their water supply and know of any limitations for its use</li> <li>Community consultation should be first stage in any project around water quality and should continue throughout the project to build trust through transparency</li> <li><b>“Two-way conversation needed between government and community”</b></li> <li><b>“Engage community when new assets are brought online to understand basics of operation”</b></li> <li><b>“Straight talking about the safety of water for people who are worried – helps build trust”</b></li> <li><b>“How about a chart in the shop that communicates about water quality or an app for the phone?”</b></li> <li>Websites do exist but people don't know how to access them</li> <li><b>“Engaging health departments in water issues”</b></li> </ul>	<ul style="list-style-type: none"> <li>Use shared language and stick to the truth</li> <li>Simple effective communication undertaken regularly</li> <li><b>“Communicate complex ideas in a way people understand – share the science”</b></li> <li>Collaboratively develop an appropriate way to information</li> <li>Discuss everything openly – then time to consider</li> <li><b>“Providers do daily checks on chlorine, e.Coli and chemicals but there is no communication”</b></li> <li><b>“Should engage specialists to convert complex data into digestible and understandable information for community fact sheets”</b></li> <li><b>“Don't just send out factsheets but maintain open lines of regular communication”</b></li> <li><b>“Communities would like to get information through meetings and a traffic light system online (showing water quality / availability information)”</b></li> <li>Videos and books are good way to communicate</li> <li>Building relationships through consistency of contact</li> </ul>	<ul style="list-style-type: none"> <li>Information gaps – not everyone is at the table</li> <li>Involve the community in testing</li> <li>Transparent decision- making is critical</li> <li>Need overarching agreement on how investment will be prioritised</li> <li><b>“Need clear investment framework which is Polle-proof”</b></li> <li>Combat misinformation and build trust</li> </ul>	<ul style="list-style-type: none"> <li>People should be shire trained on issues to provide locally relevant information</li> <li>Combat misinformation – need to understand why communities think their water is not acceptable to drink</li> <li><b>“Don't just send out factsheets but maintain open lines of regular communication”</b></li> </ul>	<ul style="list-style-type: none"> <li>Community have final say in decision-making; Community involved at all stages; Communities control funding</li> <li>Utilities need to work with communities on design of infrastructure solutions</li> <li><b>“Don't put bores in sacred places”</b></li> <li><b>“Government should attend local authority meetings as well as the general community”</b></li> <li>Service providers should observe cultural protocols and work with Traditional owners</li> <li>Need water champions – community members with more training / understanding of water quality</li> <li>Agreement making between commonwealth, states and territories and land councils and including communities</li> <li>National Water Council for communities</li> <li>Co-design as way of collaborating</li> <li><b>“Provide pride in supply – recognition that clean water is for Indigenous people too”</b></li> <li>Connect in language and engage people who can develop fact sheets; talk to both communities and health departments</li> <li>Communities want to understand how climate change will impact on their water supplies</li> </ul>

## Uniqueness of place and people (different communities)

SHARING OF KNOWLEDGE / INFORMATION	COMMUNICATION	TRANSPARENCY	LOCAL DATA
<b>CHALLENGES</b>			
<ul style="list-style-type: none"> <li>Communities require dialysis locally but water quality is not good enough for dialysis</li> <li>No sustainable funding for small supplies</li> <li><b>“Supply for homelands and outstations is not a sustainable funding item – need to keep patching, applying and reapplying to different programs to keep things running”</b></li> <li>Camels and feral animals are problem</li> </ul>	<ul style="list-style-type: none"> <li>Need to get ‘best bang for buck’ – small guys don’t attract funding</li> <li>Challenges of homelands and communities are different in scale</li> <li>Larger community issues tend to exclude smaller community issues</li> <li>Need to survey to see what is actually available in each homeland</li> </ul>	<ul style="list-style-type: none"> <li>How do we look after our homelands in regard to better water?</li> <li>Outstations may have different funding they can access</li> <li>Homelands are particularly critical – less dollars to spend; quality of water unknown; challenges with service providers</li> <li>Problems with definition and resulting support / funding</li> </ul>	<ul style="list-style-type: none"> <li><b>“Leave no-one behind – communities are currently not captured under utilities”</b></li> <li>If outstations have better water then not so many people will need to move into community</li> <li>If something is done in one community it could pave the way for other communities</li> <li><b>“Since 1974 this has been called not important. Yuendumu is a large place and they can’t get it right there. There is water but it is expensive”</b></li> <li><b>“Stop talking and fix things. Yuendumu paved the way for others”</b></li> </ul>
<b>SOLUTIONS</b>			
<ul style="list-style-type: none"> <li><b>“Shire training on issues to provide locally relevant information – shires and councils need good knowledge and support”</b></li> <li>Every community is different</li> <li>Need rangers and strong fences to keep feral animals away from water supplies</li> <li>Communication re taste, quality and supply</li> <li>Increase understanding and education on water quality</li> <li>Telecommunications is critical</li> <li>Need local water quality champions to provide more information in communities</li> </ul>	<ul style="list-style-type: none"> <li>Every community should know who to contact regarding water issues</li> <li><b>“Recognition of water holes and soakages as critical sources for water security”</b></li> </ul>	<ul style="list-style-type: none"> <li>Differences between all types of communities (homelands &amp; outstations) need to be understood by all</li> </ul>	<ul style="list-style-type: none"> <li><b>“Should use local cultural / Indigenous knowledge to find water sources – these need assessment and protecting”</b></li> <li>Maintaining community water planner and field guide – especially challenging in small organisation with lots of turnover</li> <li>Community forums on water quality and security – bringing the right people to the table</li> <li><b>“Communication should be in relevant language”</b></li> <li><b>“Celebrate local successes”</b></li> </ul>



“Water is central to the traditions and culture of Indigenous peoples and thus plays a critical role in their lives, however the right to access safe drinking water addresses only a small dimension of this relationship.”

Cromar and Willis, 2022 p.41



# Water quality

HEALTH	TASTE / AESTHETICS	SOURCE PROTECTION
CHALLENGES		
<ul style="list-style-type: none"> <li>Water quality may overshadow water security</li> <li>Contaminated bore water supplies are not safe to drink any longer</li> <li>Water needs to be available for drinking and health applications</li> <li>“Our grandparents grew up thinking it was safe to drink water and sharing that information – now we’re not sure”</li> </ul>	<ul style="list-style-type: none"> <li>Water is safe BUT it tastes bad</li> <li>“Lack of sampling means we just don’t drink it”</li> </ul>	<ul style="list-style-type: none"> <li>Poor water quality starts with catchment management</li> <li>Need to understand source to identify treatment required</li> <li>Pastoralists dipping into springs and cattle polluting them</li> <li>“Preserving the water source from donkeys, cattle, mining etc - poor water quality has impacts on how people live – people need to listen to this”</li> <li>Water quality is a site-specific challenge</li> </ul>
SOLUTIONS		
<ul style="list-style-type: none"> <li>Display water quality information in public place</li> <li>WQ information needs to be provided to communities directly – could be through a phone app</li> <li>Which guidelines should we be using – SDGs or ADWG</li> <li>“Health is the top priority for kids and for communities”</li> <li>“Investment in clean water helps to improve health”</li> <li>Potable water needs to be provided</li> <li>Need standards linked to what we want to target – microbial or taste requirements - as potential solutions are different</li> </ul>	<ul style="list-style-type: none"> <li>Need technologies to improve aesthetics so people will drink the water</li> <li>Need to educate to create water literacy (taste vs safety)</li> <li>Need national approach to testing technologies for appropriateness and ongoing reliability</li> <li>Need national std for information on water quality with definitions and data</li> <li>“Water should be the drink of choice”</li> <li>Clean water is for Indigenous people as well</li> <li>“Water quality reports should be related to health hardware – taps clogging, air conditioning not working”</li> <li>Need community consultation to determine WQ values and priorities</li> </ul>	<ul style="list-style-type: none"> <li>Need to include traditional sources in water quality assessments and protection</li> <li>Move tips and sewage treatment plants</li> <li>Water for community is basic human right – should come before pastoralists</li> </ul>



“Safe and reliable water supplies will be integral to achievement of many of the health targets in the National Agreement on Closing the Gap”

Cromar and Willis, 2022 p. 42

## Water security

VOLUME	DEMAND	COMPETING USERS	RISK / CLIMATE CHANGE
<b>CHALLENGES</b>			
<ul style="list-style-type: none"> <li>Water shortage is issue in some areas regardless of quality</li> <li>Need to survey to see what is actually available</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge and data gaps on quantity and demand</li> <li>Data on quantity required is largely unknown</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability of supply is linked to what's happening elsewhere in a region</li> <li>"Issues with competing users – aquifer goes down and we miss out on water"</li> <li>"There are lots of bores on pastoral leases and the water is good – why can't we tap into that?"</li> </ul>	<ul style="list-style-type: none"> <li>"What is the solution when there is no water available for communities?"</li> </ul>
<b>SOLUTIONS</b>			
<ul style="list-style-type: none"> <li>"Should be multiple sources for each community – ability to switch supply as required"</li> <li>Could be multiple supplies of same source e.g. several bores or several sources e.g. rainwater and groundwater</li> </ul>	<ul style="list-style-type: none"> <li>Demand management works well when it is two-way</li> <li>Basic level of service – clearly define minimum level of water quality and quantity standards for communities in easily accessible form – those that don't meet the standard can work towards delivering this</li> <li>"Wells could be drilled outside community boundaries to access better water quality"</li> <li>Any transition to net zero needs to consider impacts on water and that demand is managed</li> </ul>	<ul style="list-style-type: none"> <li>"Human requirements first – legislate that wells can be drilled outside of community lands to provide drinking water – priority should be great drinking water over pastoralists needs – basic human right"</li> <li>All energy projects should take community water into account</li> <li>Water planning before housing planning to ensure rubbish and sewage are not placed too close to water bores</li> <li>"Need to legislate community drinking water supply protection"</li> <li>Need better access to water supplies across tenures</li> <li>Need water planning at the beginning of projects</li> <li>"Pastoralists need to share water and community needs have to be prioritised – limiting volumes of water which can be taken for pastoral use – communities need to be engaged in any changes to share leases"</li> <li>Prioritise established communities</li> </ul>	<ul style="list-style-type: none"> <li>Need to know more about long-term climate impacts</li> <li>"Everyone should have confidence in supply of appropriate quality and quantity into the long term even in a changing climate"</li> </ul>

"When water resources are scarce, the 'right to water' carries a clear obligation for States...to prioritise personal and domestic uses in their water management and allocation. In doing so...those who do not have access, especially vulnerable and marginalised groups (should) have priority over those who already have access."

United Nations Human Rights Council, World Health Organisation and UN-HABITAT (United Nations Human Settlements Programme), 2010



## Appendix 2

# Actions identified by delegates

Workshop 3 asked delegates in small, self-selected table groups to consider the challenges and solutions generated in Workshops 1 and 2 and to generate a list of actions that they believed would assist in providing solutions to the challenges. Feedback generated 31 action items (listed in table overleaf).

Groups were also asked to identify those responsible for each action – where this information was provided it has been noted against the relevant action (in bold and capitalised).



## Actions identified by delegates

ACTIONS	
Create community champions	Funding for bigger community-led projects
Create homelands Community of Practice	Jobs for communities (especially youth) rather than contractors
Develop national database	Analysis / modelling of rainwater under different climate scenarios (CSIRO)
Identify education officers	Create national standards & national water security framework with codes for infrastructure
Generate long term maintenance plans	Develop transferable technology national codes
Provide demand reduction incentives	Include climate change considerations in all scenarios
Provide water quality education on kidney health	Provide water tanks for homelands (DCCEEW/NATIONAL WATER GRID)
Create central repository of information on water	Get pastoralists sharing bores with communities
Create training / local workforce development program	Require outback water program of regular maintenance (similar to energy program Bushlight in NT)
Advocate source protection (need to educate pastoralists)	Long term water planning (STATES/TERRITORIES)
Create national report card / dashboard (DCCEEW; WATER PROVIDERS; HEALTH)	National principles on water sharing – rights/charging/competing uses (DCCEEW/NATIONAL WATER GRID)
Ensure national decision makers are in the room (cross-jurisdictions)	Implementation of smart water use (DCCEEW/NATIONAL WATER GRID)
Generate water management plans for every location	Culturally appropriate water education – linked to land, energy, quality, demand management – to be developed and implemented (WATER PROVIDERS / HEALTH)
Look at comparable international responses to drinking water challenges	Long-term funding for champions
Actions are urgent and need to be done immediately	National approach to training – agreed by local/states & territories / federal government
CDRC Hydrasmart tech exploration – small modular local drinking water solution	



## Appendix 3

# Knowledge and information gaps identified and prioritised

Workshop 4 encouraged delegates to self-select within one of four categories (Community members; Utilities; Other Service Providers e.g. health or housing; and Policy Makers) and to join World Café session groups using these categorisations.

This was done to provide an opportunity for delegates to have discussions focussed on their affiliated interest and allowed the report's authors to consider whether the outcomes of each group was in part determined by their affiliation. Delegates were asked to discuss within the groups what information would be required to progress the actions discussed in Workshop 3. To generate a workable list, each group was then asked to prioritise the list of information items they generated and to present their 'top 3 items'.

Several of the responses from delegates in this workshop did not correspond directly to 'information' required but reflected a desire to further progress action items such as specific resources, including human resources.



## Knowledge and information gaps identified and prioritised

STAKEHOLDER GROUP	INFORMATION ITEM #1	INFORMATION ITEM #2	INFORMATION ITEM #3	INFORMATION ITEM #4
COMMUNITY	First Nations Water Authority	Local community water rangers	Localised culturally appropriate consultation / orientation – 2 ways in and 2 ways out to build trust / relationships	
UTILITIES	Revise and reinstate the Community Water Planner	Standard of service and standard of equipment to supply/meet needs for remote communities	Future plan/manual from historic data (covering supply and demand changes and their management.)	Aim to achieve health-based targets for remote communities
OTHER SERVICE PROVIDERS	Information Hub – could be Bushtel (funding sources / tech info/data on infrastructure and decisions)	Power & Water to share resources on water education for schools and communities	List of appropriate water treatment technologies (research and development required to develop this first)	
POLICY MAKERS (GROUP 1)*	Consistent definition of water security	How to best engage communities	Water resources (where is current info)	
POLICY MAKERS (GROUP 2)*	What info do communities want and how delivered?	What are acceptable levels of service (consult with communities on this and on their priorities)	What is the shared goal (and what is the roadmap to get there?)	

\*The policy makers group self-divided into two groups as numbers were too large to facilitate meaningful group discussion. Their scores were not combined as the two groups worked independently and generated different priorities. The group of water utility staff chose to provide a 4th information item and this has been included within the table.



## Appendix 4

# Analysis of outcomes

This analysis of outcomes is a categorisation of the primary data obtained from the delegates responses which was carried out by the report's authors to test the extent to which the 12 key items prioritised as the final output of the forum might assist in resolving the various challenges through providing solutions.

To allow ease of comparison the same headers and sub-headers have been used to 'match up' the key priorities with the original challenges and solutions in section 4. The various items: employment, governance, infrastructure, planning, social, truth-telling, uniqueness of place, water quality and water security are the nine challenges / solutions headers generated by the delegates.

It is clear from the tables in the following pages that each of the 12 key items plays a different but important role in addressing the challenges and solutions identified during the forum.



# Role of Prioritised Key Actions in Solving Challenges / Creating Solutions

## Employment, skills, education and training

ONGOING EMPLOYMENT OF WATER RESOURCE MANAGEMENT STAFF		SKILLS		EDUCATION AND TRAINING		ENABLING OPPORTUNITIES FOR ASSET AND WEALTH GENERATION	
PRIORITISED KEY ACTIONS							
3	Local First Nations water authority with First Nations voices	3	Local First Nations water authority with First Nations voices	3	Local First Nations water authority with First Nations voices	1	National principles on safe drinking water
4	Community education	4	Community education	4	Community education	2	Prioritising health
6	Community water rangers	6	Community water rangers	6	Community water rangers	3	Local First Nations water authority with First Nations voices
11	Community workforce	11	Community workforce	9	Data dashboard	4	Community education
				11	Community workforce	11	Community workforce
				12	Community of practice		

“By equipping residents ...with information (they) become advocates for water efficiency and additional ‘eyes on the ground’ in the search for every last drop”

Water Services Association of Australia  
Closing the Water for People and Communities Gap report, 2022 p. 146

## Governance

RESPONSIBILITY		ACCOUNTABILITY		COMPLEXITY		TRANSPARENCY		CONSISTENCY BETWEEN AND ACROSS JURISDICTIONS	
PRIORITISED KEY ACTIONS									
1	National principles on safe drinking water	1	National principles on safe drinking water	5	Guidance on appropriate technology	1	National principles on safe drinking water	1	National principles on safe drinking water
7	Joined up planning approach to water	6	Community water rangers	7	Joined up planning approach to water	3	Local First Nations water authority with First Nations voices	3	Local First Nations water authority with First Nations voices
8	National standards for water security	7	Joined up planning approach to water	8	National standards for water security	7	Joined up planning approach to water	7	Joined up planning approach to water
10	National action plan	8	National standards for water security	10	National action plan	8	National standards for water security	8	National standards for water security
		10	National action plan			9	Data dashboard	10	National action plan
		11	Community workforce			10	National action plan		
						12	Community of practice		



# Role of Prioritised Key Actions in Solving Challenges / Creating Solutions

## Infrastructure

MAINTENANCE	OWNERSHIP	REPLACEMENT	CAPEX VS OPEX FUNDING	APPROPRIATE TECHNOLOGIES
PRIORITISED KEY ACTIONS				
1 National principles on safe drinking water	1 National principles on safe drinking water	1 National principles on safe drinking water	4 Community education	4 Community education
4 Community education	3 Local First Nations water authority with First Nations voices	7 Joined up planning approach to water	5 Guidance on appropriate technology	5 Guidance on appropriate technology
7 Joined up planning approach to water	8 National standards for water security	8 National standards for water security	7 Joined up planning approach to water	7 Joined up planning approach to water
10 National action plan		10 National action plan	8 National standards for water security	10 National action plan
11 Community workforce			10 National action plan	11 Community workforce

## Planning

LACK OF INTEGRATION	LACK OF ENGAGEMENT	FUNDING ALLOCATIONS	SHORT-TERM SOLUTIONS
PRIORITISED KEY ACTIONS			
1 National principles on safe drinking water	3 Local First Nations water authority with First Nations voices	1 National principles on safe drinking water	3 Local First Nations water authority with First Nations voices
3 Local First Nations water authority with First Nations voices	4 Community education	3 Local First Nations water authority with First Nations voices	7 Joined up planning approach to water
6 Community water rangers	6 Community water rangers	7 Joined up planning approach to water	10 National action plan
7 Joined up planning approach to water	9 Data dashboard	10 National action plan	
10 National action plan	12 Community of practice		

“The notion of progressive improvement could be achieved through a tiered approach to service standards, which could also highlight the need to lift up those most disadvantaged first”

Cromar & Willis, 2022 p. 41

# Role of Prioritised Key Actions in Solving Challenges / Creating Solutions

## Social challenges and solutions

HEALTH DETERMINANTS	INEQUITY	COST-BENEFIT	CULTURAL	PRIORITISING LIVEABILITY
PRIORITISED KEY ACTIONS				
1 National principles on safe drinking water	2 Prioritising health	5 Guidance on appropriate technology	3 Local First Nations water authority with First Nations voices	2 Prioritising health
2 Prioritising health	3 Local First Nations water authority with First Nations voices	10 National action plan	4 Community education	3 Local First Nations water authority with First Nations voices
4 Community education	8 National standards for water security		6 Community water rangers	5 Guidance on appropriate technology
	10 National action plan		9 Data dashboard	7 Joined up planning approach to water
			11 Community workforce	
			12 Community of practice	

## Truth-telling

SHARING OF KNOWLEDGE / INFORMATION	COMMUNICATION	TRANSPARENCY	LOCAL DATA	TRUST AND RESPECT
PRIORITISED KEY ACTIONS				
3 Local First Nations water authority with First Nations voices	3 Local First Nations water authority with First Nations voices	3 Local First Nations water authority with First Nations voices	3 Local First Nations water authority with First Nations voices	1 National principles on safe drinking water
7 Joined up planning approach to water	4 Community education	9 Data dashboard	9 Data dashboard	3 Local First Nations water authority with First Nations voices
9 Data dashboard	7 Joined up planning approach to water	10 National action plan	11 Community workforce	6 Community water rangers
10 National action plan	12 Community of practice	12 Community of practice	12 Community of practice	8 National standards for water security
12 Community of practice				10 National action plan
				11 Community workforce



# Role of Prioritised Key Actions in Solving Challenges / Creating Solutions

## Uniqueness of place and people (different communities)

NEEDS	SCALE	TYPE (HOMELAND VS COMMUNITY)	OPPORTUNITIES AND ASPIRATIONS
PRIORITISED KEY ACTIONS			
1 National principles on safe drinking water	3 Local First Nations water authority with First Nations voices	3 Local First Nations water authority with First Nations voices	1 National principles on safe drinking water
3 Local First Nations water authority with First Nations voices	4 Community education	4 Community education	3 Local First Nations water authority with First Nations voices
5 Guidance on appropriate technology	5 Guidance on appropriate technology	5 Guidance on appropriate technology	5 Guidance on appropriate technology
6 Community water rangers	11 Community workforce	6 Community water rangers	7 Joined up planning approach to water
11 Community workforce		10 National action plan	8 National standards for water security
		11 Community workforce	10 National action plan

## Water quality

HEALTH	TASTE / AESTHETICS	SOURCE PROTECTION
PRIORITISED KEY ACTIONS		
1 National principles on safe drinking water	1 National principles on safe drinking water	1 National principles on safe drinking water
2 Prioritising health	2 Prioritising health	6 Community water rangers
4 Community education	4 Community education	7 Joined up planning approach to water
8 National standards for water security	5 Guidance on appropriate technology	10 National action plan
9 Data dashboard	9 Data dashboard	11 Community workforce
12 Community of practice	12 Community of practice	12 Community of practice

# Role of Prioritised Key Actions in Solving Challenges / Creating Solutions

## Water security

VOLUME	DEMAND	COMPETING USERS	RISK / CLIMATE CHANGE
PRIORITISED KEY ACTIONS			
1 National principles on safe drinking water	3 Local First Nations water authority with First Nations voices	3 Local First Nations water authority with First Nations voices	1 National principles on safe drinking water
3 Local First Nations water authority with First Nations voices	4 Community education	7 Joined up planning approach to water	2 Prioritising health
7 Joined up planning approach to water	7 Joined up planning approach to water	8 National standards for water security	3 Local First Nations water authority with First Nations voices
8 National standards for water security	9 Data dashboard	9 Data dashboard	7 Joined up planning approach to water
9 Data dashboard	10 National action plan	10 National action plan	8 National standards for water security
			10 National action plan



# Appendix 5

## Ranked priority items analysed from importance/urgency (Eisenhower) matrices

Appendix 5 describes pictorially the analysis of items ranked by attendees.

Each of the 12 priority items is described in a separate series of graphs and tables, including by identification of the various organisational groups or community preferences.

Attendees were asked to select their top 3 of the 12 priorities and to separately determine whether they believed each priority was important and/or urgent.



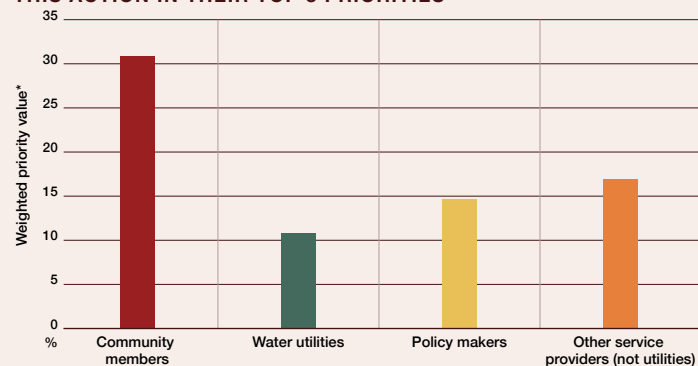
1

## National principles on safe drinking water

(was item #9 on original list of key items before prioritisation)

Of the 12 priorities, the development of national principles on safe drinking water was ranked highest overall (#1) when delegates were asked to prioritise actions. Notably community members ranked this action as priority in greater numbers compared with the other delegates.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES

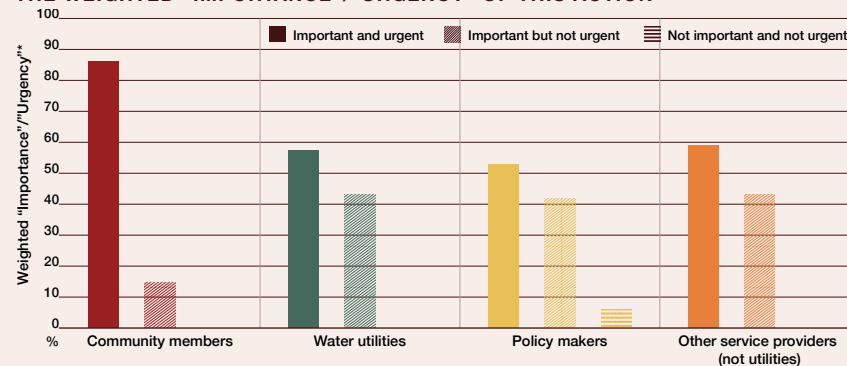


\*Proportion of people prioritising this action, normalised against the number of people in each group

The delegates were asked to determine where they would locate each key item on an urgency/importance matrix (see images opposite).

On the urgency/importance matrix, developing national principles on safe drinking water was seen as important and urgent by almost all community members, and important and urgent, or important, but not urgent, by all other delegates.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
● Community members	6	1	0	0
● Water utilities	4	3	0	0
● Policy makers	9	7	0	1
● Other service providers (not utilities)	7	5	0	0



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).

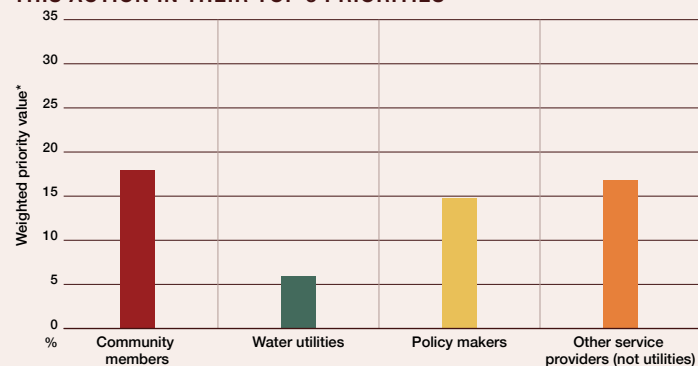


## 2 Prioritising health

(was item #11 on original list of key items before prioritisation)

Of the 12 priorities, prioritising health impacts associated with drinking water was ranked #2 overall when delegates were asked to prioritise actions. Notably community members ranked this action as priority in greater numbers compared with the other delegates.

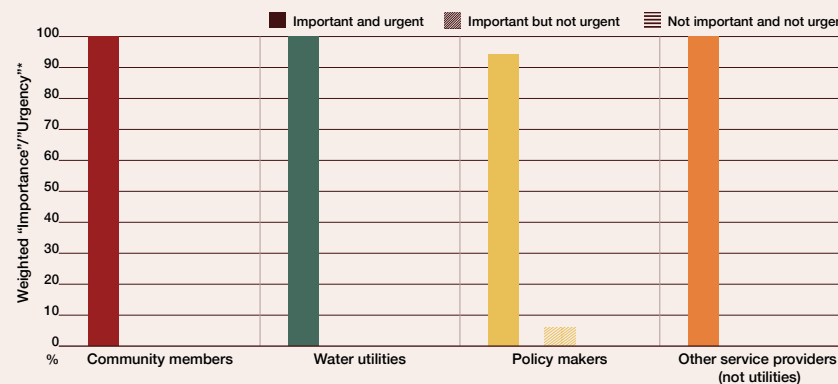
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

On the urgency/importance matrix, prioritising health was seen as important and urgent by all but one delegate. This was the only matrix where there was such almost unanimous agreement among all delegates.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



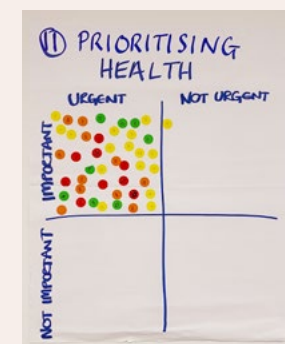
\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
Community members	9	0	0	0
Water utilities	8	0	0	0
Policy makers	16	1	0	0
Other service providers (not utilities)	11	0	0	0



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



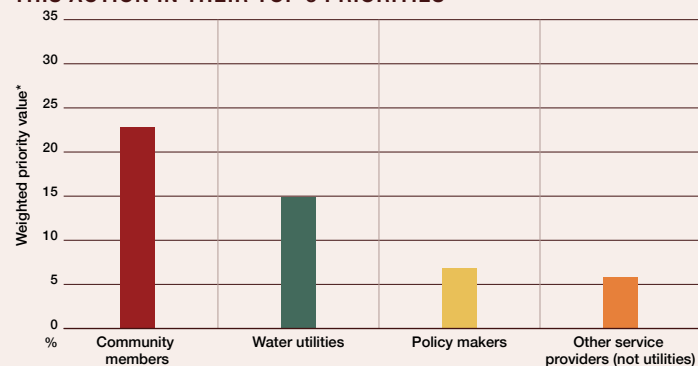
Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).

### 3 Local First Nations water authority with First Nations voices

(was item #7 on original list of key items before prioritisation)

Of the 12 priorities, the creation of a local First Nations water authority with First Nations voices was ranked #3 when delegates were asked to prioritise actions. Once again community members ranked this item more highly than other stakeholder groups.

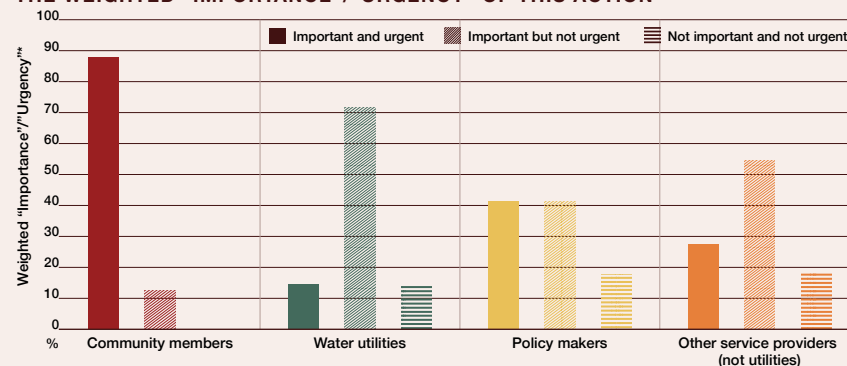
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

On the urgency/importance matrix, the creation of a local First Nations water authority with First Nations voices seen as important and urgent by most community members, and important and urgent, or (more often) important but not urgent, by other delegates.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



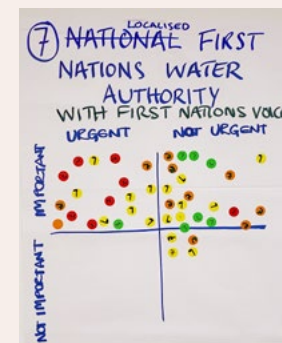
\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
● Community members	7	1	0	0
● Water utilities	1	5	0	1
● Policy makers	7	7	0	3
● Other service providers (not utilities)	3	6	0	2



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).



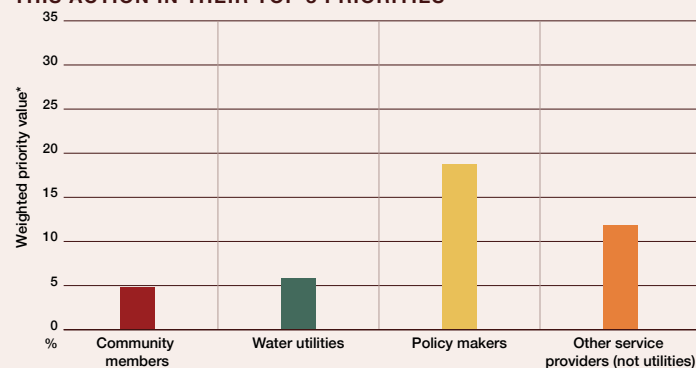
## 4

## Community education

(was item #5 on original list of key items before prioritisation)

Of the 12 priorities, community education was ranked #4 when delegates were asked to prioritise actions, with policy makers considering it a high priority but community members placing relatively less importance on this action.

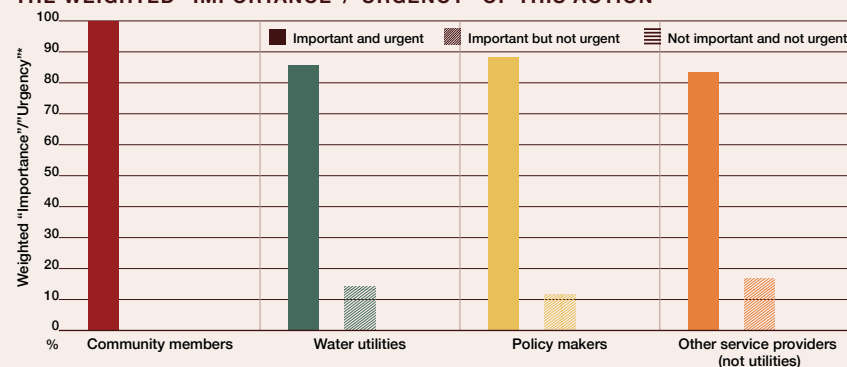
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

Community education was seen as important and urgent by all community members, and by the majority of other delegates as important and urgent, with a view identifying it as important but not urgent.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



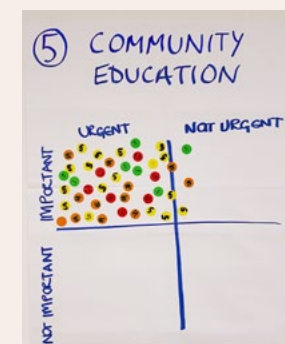
\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
Community members	7	0	0	0
Water utilities	6	1	0	0
Policy makers	15	2	0	0
Other service providers (not utilities)	10	2	0	0



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



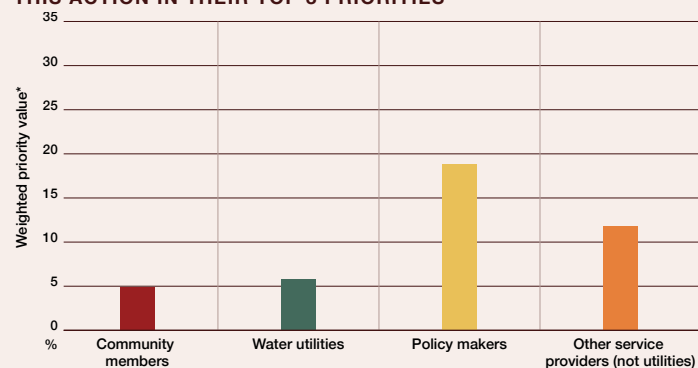
Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).

## 5 Guidance on appropriate technology

(was item #10 on original list of key items before prioritisation)

Of the 12 priorities, guidance on appropriate technologies for drinking water was ranked #5 when delegates were asked to prioritise, with policy makers considering it a very high priority but water utilities, community members and other service providers placing less importance on this action.

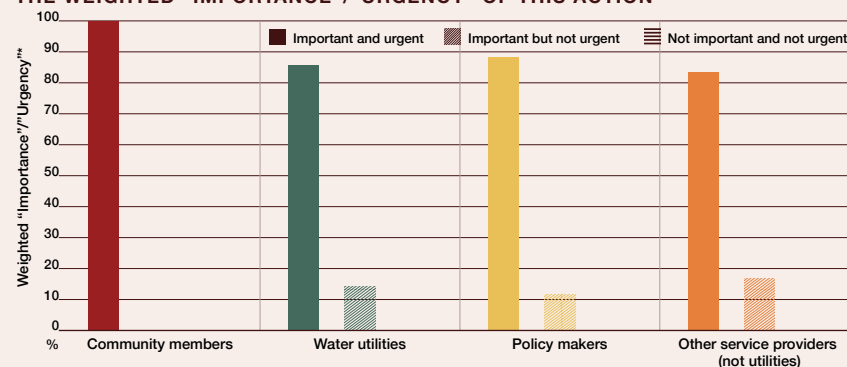
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

Guidance on appropriate technology was seen as important and urgent by all community members, and varyingly either important and urgent, or important but not urgent, by almost all other delegates.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



\*\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
● Community members	9	0	0	0
● Water utilities	1	5	0	0
● Policy makers	10	7	0	0
● Other service providers (not utilities)	3	4	0	1



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).

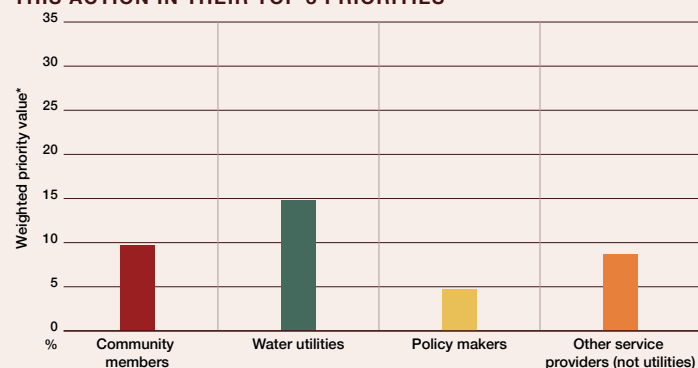


## 6 Community water rangers

(was item #3 on original list of key items before prioritisation)

Of the 12 priorities, community water rangers were ranked #6 when delegates were asked to prioritise actions, with policy makers placing less importance on this action.

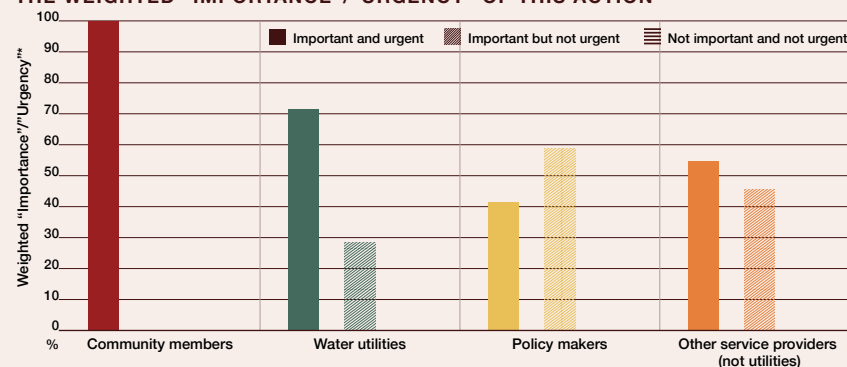
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

Community water rangers was seen as important and urgent by all community members, and important and urgent, or important but not urgent, by all other delegates.

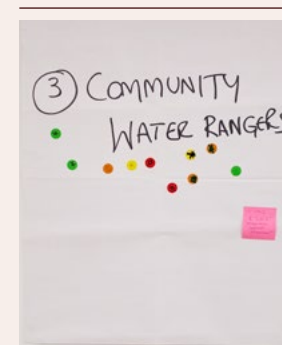
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



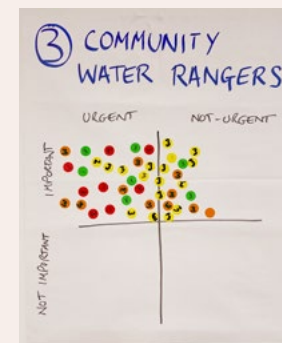
\*\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
Community members	8	0	0	0
Water utilities	5	2	0	0
Policy makers	7	10	0	0
Other service providers (not utilities)	6	5	0	0



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).

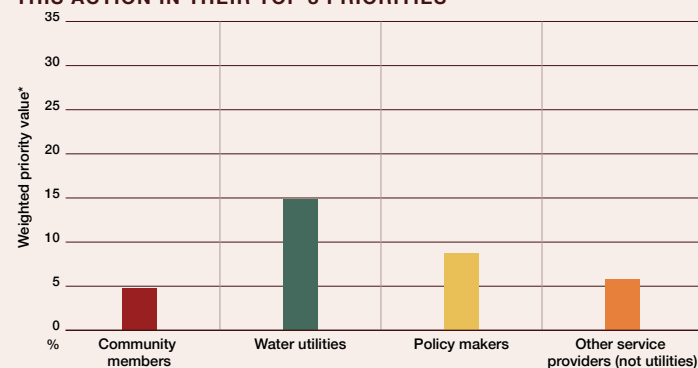
7

## A joined up planning approach

(was item #12 on original list of key items before prioritisation)

Of the 12 priorities, a joined-up planning approach to drinking water was ranked #7 when delegates were asked to prioritise actions, with utilities representatives considering it a high priority but community members, policy makers and other service providers placing less importance on this action.

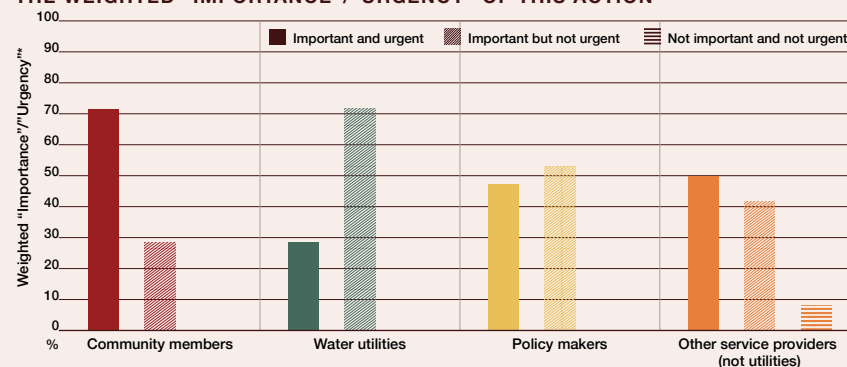
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

A joined-up planning approach to water was seen as either important and urgent, or important but not urgent, by all delegates except one, who saw it was not important, but urgent.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



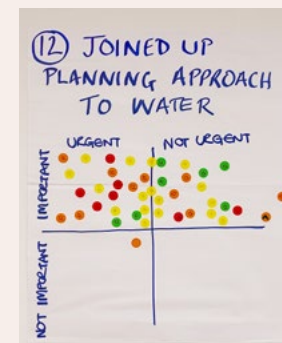
\*\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
● Community members	5	2	0	0
● Water utilities	2	5	0	0
● Policy makers	8	9	0	0
● Other service providers (not utilities)	6	5	1	0



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).

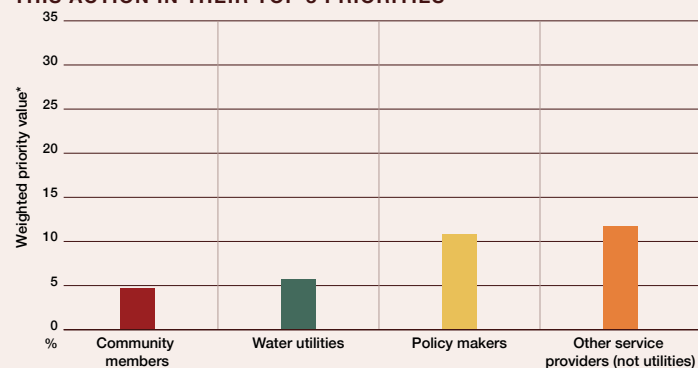


## 8 National standards for water security

(was item #8 on original list of key items before prioritisation)

Of the 12 priorities, the development of national standards was ranked #8 when delegates were asked to prioritise actions, with other service providers considering it a high priority but community members placing less importance on this action.

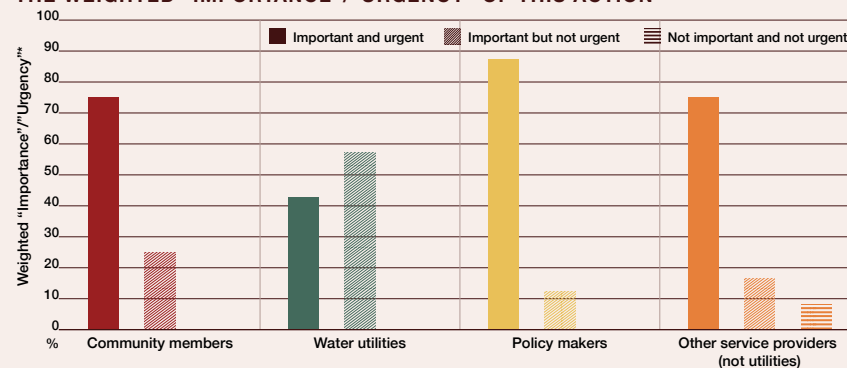
**PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES**



\*Proportion of people prioritising this action, normalised against the number of people in each group

Creation of national standards for drinking water was seen as important and urgent, or important but not urgent, by all delegates, except one.

**PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION**



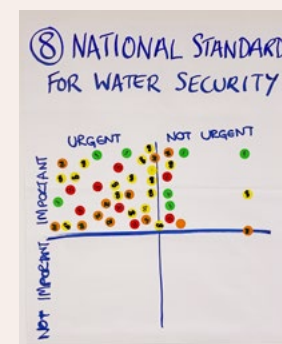
\*Percent of people, normalised against the number of people in each group

**NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION**

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
Community members	6	2	0	0
Water utilities	3	4	0	0
Policy makers	14	2	0	0
Other service providers (not utilities)	9	2	0	1



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).

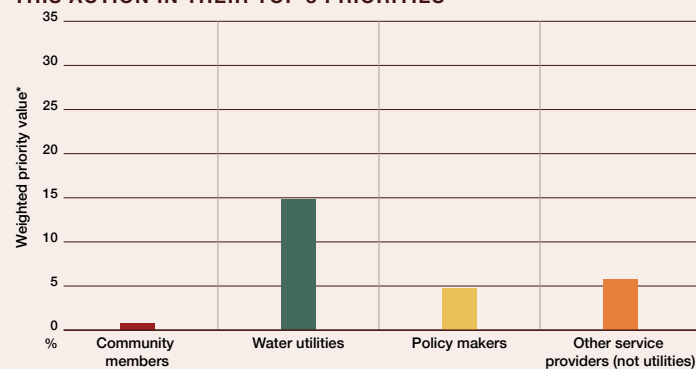
## 9

## Data dashboard

(was item #2 on original list of key items before prioritisation)

Of the 12 priorities, the creation of a data dashboard was ranked #9 when delegates were asked to prioritise actions, with utilities representatives considering it a high priority, and policy makers and other service providers placing less importance on this. No community members placed importance on this action when asked to choose only 3 of 12 key items.

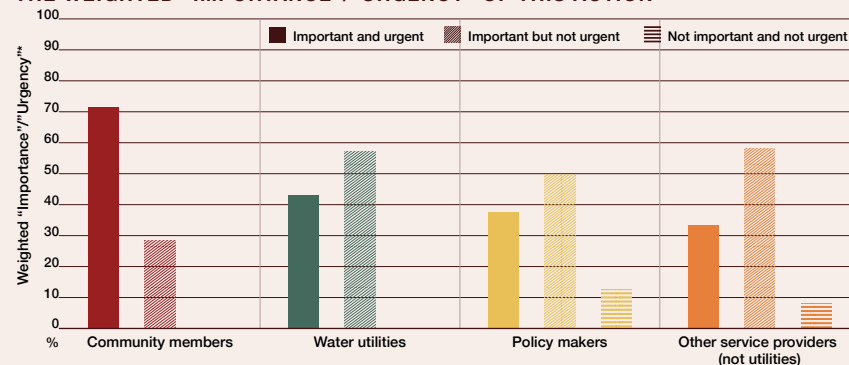
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

Creation of a data dashboard was seen as important and urgent, or important but not urgent, by most delegates, except a few policy makers and other service providers (not utilities).

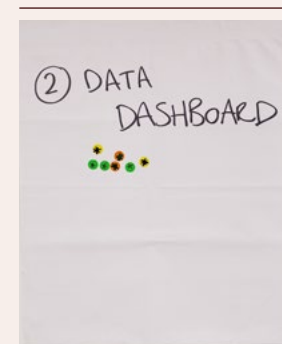
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



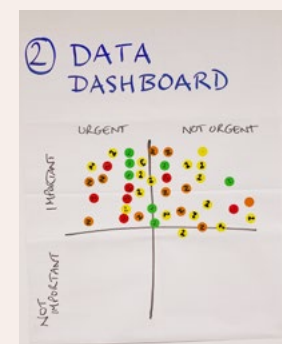
\*\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
● Community members	5	2	0	0
● Water utilities	3	4	0	0
● Policy makers	6	8	0	2
● Other service providers (not utilities)	4	7	0	1



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).



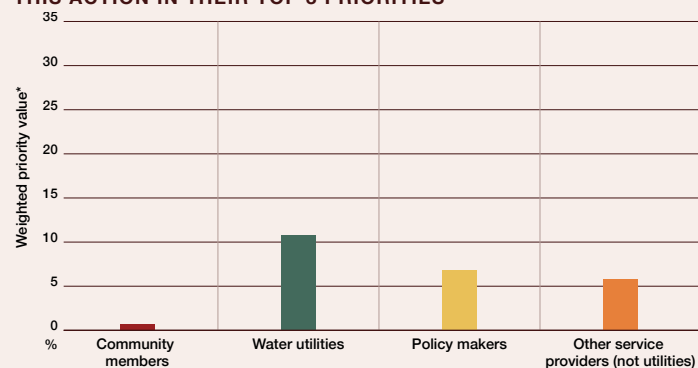
10

## National commitment to action

(was item #1 on original list of key items before prioritisation)

Of the 12 priorities, a national commitment to action ranked #10 when delegates were asked to prioritise actions, with utilities representatives considering it a high priority but policy makers and other service providers placing less importance on this, and community members not placing this in their three chosen priorities.

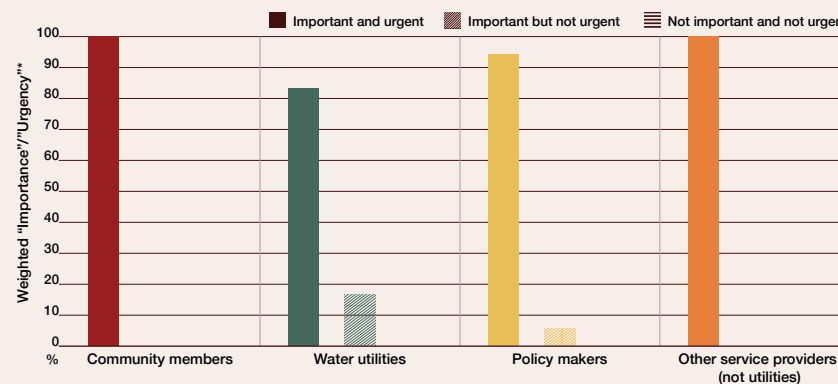
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

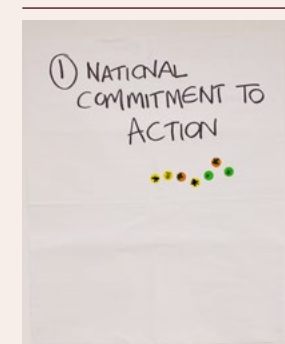
A national commitment to action was seen as important and urgent by all community members and the vast majority of all other delegates; with only two other delegates designating it important but not urgent.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
Community members	6	0	0	0
Water utilities	5	1	0	0
Policy makers	16	1	0	0
Other service providers (not utilities)	11	0	0	0



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).

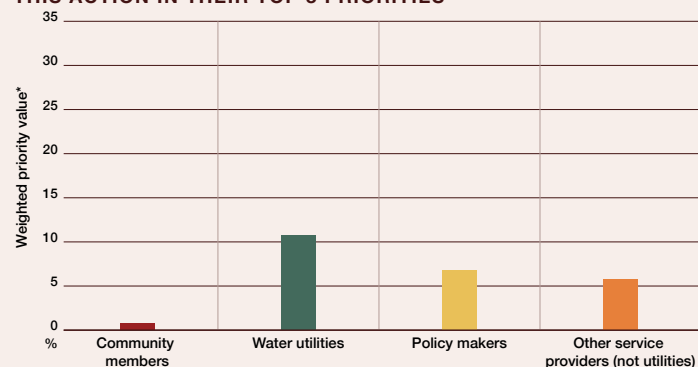
11

## Community workforce

(was item #6 on original list of key items before prioritisation)

Developing a community workforce was ranked #11 when delegates were asked to prioritise actions, with other service providers (not utilities) representatives considering it a high priority, but policy makers and utilities placing less importance on this and no community members placing importance on this action.

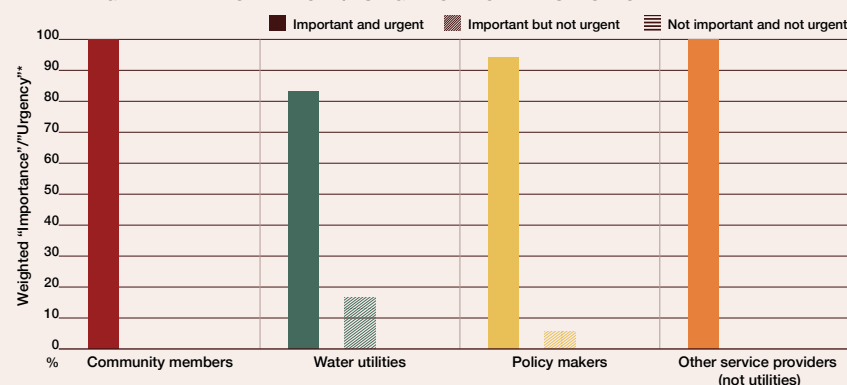
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

Developing a community workforce was seen as important and urgent by all community members, and important and urgent, or important but not urgent, by other service providers. More than half of the policy makers and utilities considered this to be important but not an urgent action.

PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
Community members	8	0	0	0
Water utilities	2	5	0	0
Policy makers	7	10	0	0
Other service providers (not utilities)	7	4	0	0



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).



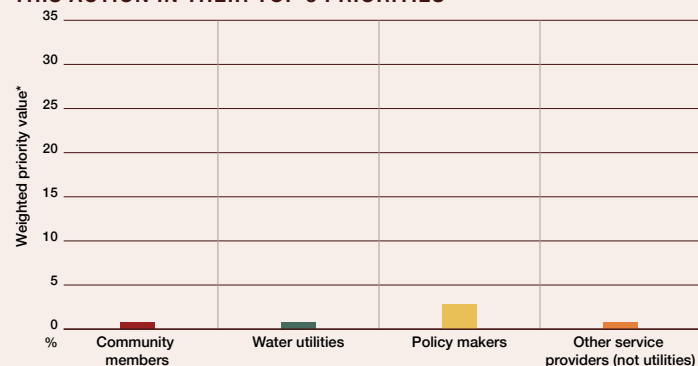
## 12

## Community of practice

(was item #4 on original list of key items before prioritisation)

Of the 12 priorities, the creation of a Community of Practice for water was ranked #12 (or least important of the items considered) when delegates were asked to prioritise actions, with utilities representatives considering it a high priority but community members, policy makers and other service providers placing less importance on this.

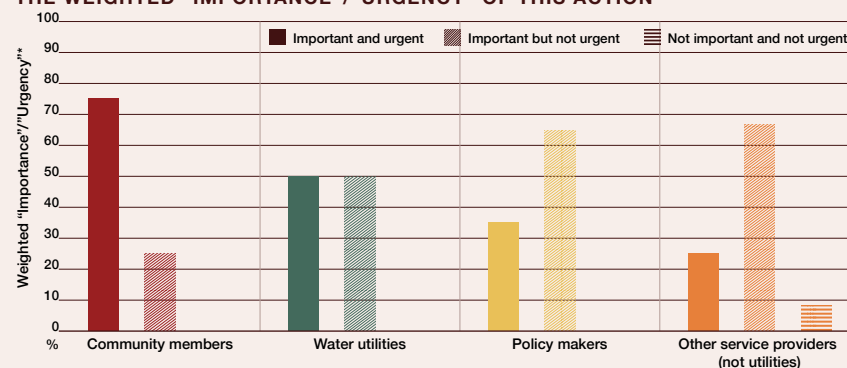
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THIS ACTION IN THEIR TOP 3 PRIORITIES



\*Proportion of people prioritising this action, normalised against the number of people in each group

Developing a Community of Practice was seen as important and urgent or important but not urgent by community members, and as important and urgent, or important but not urgent, by other service providers. More than half of the policy makers and utilities considered this to be important but not an urgent action.

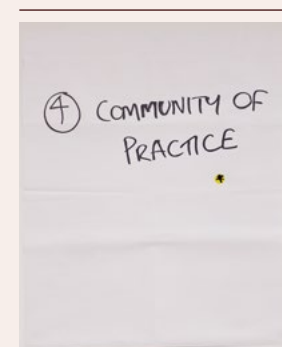
PERCENTAGE (%) OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION



\*\*Percent of people, normalised against the number of people in each group

NUMBER OF PEOPLE FROM EACH GROUP SELECTING THE WEIGHTED "IMPORTANCE"/"URGENCY" OF THIS ACTION

	Important and urgent	Not urgent, but important	Not important, but urgent	Not important and not urgent
Community members	6	2	0	0
Water utilities	3	3	0	0
Policy makers	6	11	0	0
Other service providers (not utilities)	3	8	0	1



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted on their top 3 of the 12 priority actions (chart on left).



Community members (red), policy makers (yellow), water utilities (green), and other service providers (orange) voted to determine where they would locate these actions on an urgency/importance matrix (chart and table on right).



