

Working together for better drinking water in the bush

A report summarising the outcomes of
a forum held in Mparntwe (Alice Springs)
27-29 June 2023

Specific acknowledgment from report's authors

The authors of this report would like to personally thank each of the First Nations community members who gave so willingly of their time to attend the forum and to contribute their knowledge and experiences to this important discussion. The authors were humbled by the generosity of spirit, dignity and resilience shown by each of these individuals as well as their patience in sharing their experiences with a broader group.

We recognise the importance of accurately reflecting the outcomes of the forum and it is our sincere hope that the work which this forum generates will create long-lasting change to improve drinking water in the bush. Echoing the words of one attendee, we need to “provide pride in supply recognising that clean water is for Indigenous people too”, and to support communities to plan a positive future for themselves and their future generations including engagement on their own Lands with safe and sustainable water supplies.

This report was prepared on Kurna Country.

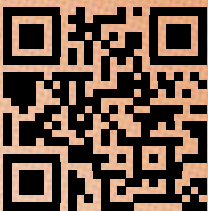
Goyder Institute for Water Research Technical Report Series ISSN: 1839-2725

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Citation

Cromar, N and Ross, K (2023) Working together for better drinking water in the bush: A report summarising the outcomes of a forum held in Mparntwe (Alice Springs) 27-29 June 2023. Goyder Institute for Water Research Technical Report Series No. 23/02.

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Aboriginal and Torres Strait Islanders are the First Peoples and Nations of Australia.

The Goyder Institute for Water Research acknowledges the range of Aboriginal and Torres Strait Islanders' rights, interests and obligations and the cultural connections that exist across the regions included in this *Working together for better drinking water in the bush* forum and seeks to support their equitable engagement.

First Nations spiritual, social, cultural and economic practices come from their lands and waters, and they continue to maintain their cultural heritage, economies, languages and laws which are of ongoing importance.

Warning:
First Nations readers should be aware that this report may contain names of people and quotes from people who have since passed away.



Thank you to everyone who took part in this important event and worked together to build shared understanding and relationships.

The outcomes from the forum will inform future policy and water infrastructure projects, which will help improve the lives of First Nations remote communities across Australia.



Australian Government
Department of Climate Change, Energy,
the Environment and Water

Acknowledgements

This project was funded by the Department of Climate Change, Energy, the Environment and Water (DCCEEW). The *Working together for better drinking water in the bush forum* was delivered in partnership with the Australian Government through the Department of Climate Change, Energy, the Environment and Water (DCCEEW) and Desert Knowledge Australia (DKA). The Goyder Institute acknowledges the important contributions of the forum Steering Committee members. The Goyder Institute also thanks Carol Grossman, Cassandra Johnson, Rebecca McPhee and Ben Mofardin from the Department of Climate Change, Energy, the Environment and Water (DCCEEW); and Jimmy Cocking, Karan Bhuta and Jeanette Elliott from Desert Knowledge Australia for their guidance and support in the design and delivery of the forum. Special thanks to Jimmy Cocking, CEO Desert Knowledge Australia and staff of the DCCEEW who reviewed the report and provided useful feedback which has been incorporated. The Goyder Institute also thanks Raymond Penangke, Nancy Cromar and Kirstin Ross for their assistance in the facilitation of the forum.

First Nations representatives shared their lived experience at the forum through knowledge sharing at the Desert Knowledge Precinct on the outskirts of Mparntwe (Alice Springs).

The location is of significant cultural importance as it occupies the space where, in the past, travelling Aboriginal groups or messengers would stop and light smoke signals as a way of requesting passage through Heavitree Gap (Ntaripe). At this location, Elders or other group members from Mparntwe would meet the travellers and share stories, song, information or ceremony.

The Desert Knowledge Precinct embodies the essence of the land on which it stands, promoting knowledge sharing in a place where everyone is welcome.

The authors of this report are conscious that the forum consulted a relatively small group of First Nations community members, largely from several Central Desert communities. We would thus recommend that governments and utilities test the findings of this forum with their communities to ascertain relevance for specific places and people and potentially to validate the recommendations more widely.

The forum was jointly delivered by:



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“Outside of Australia’s capital cities, it can be particularly challenging to deliver water services to remote areas of the country...these areas are, however, not empty, and to the members of many small First Nations communities, this is their Country, this is their home, it is not remote.”

Executive summary

A collaborative forum, held in Mparntwe (Alice Springs) from 27-29 June 2023, brought together First Nations community members, state and territory water utilities, state and territory policy makers and other service providers in First Nations communities, homelands and outstations, to discuss the problems of drinking water provision and to better understand the social and environmental considerations that are required to improve the quality and availability of water in the bush.

The forum highlighted the significance of working together to support safe and reliable access to drinking water for remote First Nations communities. A key aim of the forum was to prioritise First Nations voices to ensure they are incorporated in decision making going forward. The forum gathered knowledge through workshops encouraging small group interaction of attendees merging different backgrounds, individual informal interviews, and one-on-one sharing. The goal was to capture the challenges; solutions; information needed to respond; enabling actions required to achieve the solutions; and ultimately to determine key items which should be prioritised to address better drinking water in the bush.

Consensus was achieved on many challenges which need to be addressed, along with a list of 12 key focus items for action (see next page), which, if implemented in combination, could assist in achieving better water quality in the bush.

The key focus items prioritised:

- resolution of social challenges such as trust and empowerment;
- engagement in truly integrated partnership;
- governance, including a focus on self-determination for sustainability and building respect;
- education to build skills and capacities of local communities; and
- methods for information sharing to overcome perceived silos associated with multiple levels of government and challenges of remoteness from metropolitan centres.

The outcomes of the forum are presented in this report for consideration as areas for immediate and future action. While leadership to address various responses for each key action item is suggested, all of the key focus items are cross-jurisdictional in nature, and a shared, multi-jurisdictional approach to these items will create opportunity for partnership, cost-sharing, knowledge sharing and collaborative action for Working together for better drinking water in the bush.

“There are significant public health benefits from adequate water... services, yet progress towards eliminating the gap in health equity between Indigenous and non-Indigenous Australians has not been on track.”

Hall, et al., 2022

Outcomes: Recommendations made at the forum

Ranking of the 12 key items for action to assist in achieving better drinking water quality in the bush

- 1 National principles on safe drinking water**
National principles on safe drinking water for remote communities including to prioritise drinking water and source protection, and incorporating cultural knowledge, Indigenous-led and localised community engagement.
- 2 Prioritising health**
Addressing national health targets through better understanding of water quantity and quality issues.
- 3 Local First Nations water authority with First Nations voices**
Creating a body that provides expertise on water in remote communities.
- 4 Community education**
A coordinated education program to empower the whole community to understand their own water supply delivered through schools and community engagement processes.
- 5 Guidance on appropriate technology**
An option list of water treatment systems that includes information about the systems' suitability or reliability as an approach to de-risk the choice of technologies for communities.
- 6 Community water rangers**
Indigenous-led program for local community water rangers that act as the connection between governing agencies, utilities and the community.
- 7 Joined up planning approach to water**
Working together to integrate planning for water supply across all services such as health, housing and energy.
- 8 National standards for water security**
National standards for water security infrastructure and levels of service including water quality, quantity and supply.
- 9 Data dashboard**
A national data platform, with understandable, easily accessible, and up-to-date water quality information presented in culturally appropriate formats.
- 10 National commitment to action (national action plan)**
A national commitment to ongoing action on water issues in remote communities and homelands incorporating all states and territories.
- 11 Community workforce**
Building workforce to support operation and maintenance of water infrastructure in the community.
- 12 Community of practice**
A collective of water professionals, both industry and government, with input from water rangers, to share information and knowledge on a regular basis.

Summary outline



Culturally safe knowledge-sharing workshops were held across three days, empowering First Nations representatives to share their lived experiences and have their voices heard by Governments and service providers.

The forum aimed to:

- Bring together First Nations representatives and national stakeholders to understand and address remote water security.
- Discuss the challenges of water delivery to remote communities and share responsibility for identifying action to address these challenges.
- Listen to on-ground lived experiences and aspirations of First Nations remote communities.
- Hear about the current situations in different states and territories regarding water delivery to remote communities.
- Share responsibility for identifying high-level solutions to the challenges in providing clean, safe and secure drinking water and identify enabling actions and next steps to implement those solutions.

Context for the Forum

“It is not sufficient simply not to discriminate against certain groups... States must take positive measures to include everyone and to redress past disadvantage and reverse patterns of inequalities... policymakers (should) address the structural causes which have created disadvantage with comprehensive measures”

Vanweydeveld, 2022 p. 66

“91% of those surveyed said they were worried about water quality at some time in the last year...”

Tonkinl, et al., 2023 p. 3

“The vulnerability of small and remote Indigenous communities can also be reduced by building skills and capacity of local communities to manage and control water systems, and to take a whole cycle of water planning approach at the community level”

Jackson, et al., 2019 p. 2410

“Structural vulnerabilities are exacerbated by climate change for those living in... remote communities”

Beall, et al., 2023

“Progressive improvement...implies not just universal access but a deliberate prioritised targeting of the most disadvantaged groups and a focus on addressing the practical challenges facing their prioritisation”

Cromar & Willis, 2022 p. 41

“Partnership and collaboration are critical to enable...Indigenous people in resource governance”

Jackson, et al., 2019

“Some people reported sending \$30-\$50 on bottled water, each week which made it challenging to afford a healthy diet”

Tonkinl, et al., 2023 p. 4

“40% of all locations with recorded health exceedances were remote Indigenous communities”

Wyrwoll, et al., 2022 p. 5

“Despite global and Australian commitments to the Sustainable Development Goals, water... service levels have regularly been identified as unreliable, unsafe, and of a lower standard than non-Indigenous and non-remote settlements.”

Hall, et al., 2022

“ 4% of the (Walgett) community experienced water insecurity... worse than some communities in Bangladesh and Lebanon. The national average of the general population (is) 1%”

Tonkinl, et al., 2023 p. 7-8

“Consultations have highlighted a number of specific barriers to the provision of safe water in remote Aboriginal and Torres Strait Islander communities. Water sources can be of especially poor quality in remote areas...”

Productivity Commission, 2021 p. 176

“If Aboriginal and Torres Strait Islander people are engaged in design and delivery of programs that are targeting their communities, these programs work better”

The Hon Tanya Plibersek MP, 2023
<https://www.abc.net.au/radio/programs/am/governments-behind-on-closing-the-gap/102648452>

“Creating...sustainable changes in management inclusive of communities is not a simple and short-term process”

Beall, et al., 2023





Forum process

Intent of forum

The three-day forum was designed to identify solutions to water security challenges in First Nations remote communities, homelands and outstations nationally.

The forum was delivered by the Australian Government through the Department of Climate Change, Energy, the Environment and Water (DCCEEW) in partnership with the Goyder Institute for Water Research and Desert Knowledge Australia (DKA).

The forum represents the first collective conversation, bringing together representatives across jurisdictions to jointly identify pathways for action to address remote drinking water security.

At the forum, representatives from First Nations communities, Land Councils, local government organisations, water and health service providers and government agencies across Australia came together to build a shared understanding and identify challenges, solutions and enabling actions to improve water security in remote communities. There were representatives from Yuendumu, Yuelamu, Laramba, Ali Curung, Anmatjere/Ti Tree, Amoonguna, Atitjere/Harts Range, Scotdesco, Willowra, and Bonya Outstation, with staff from the Central Land Council and Northern Land Council.

The forum witnessed stories from Country and built relationships. The safe environment provided for the diverse group of attendees meant genuine solutions, actions and pathways for outcomes were discussed openly.

The goal was to capture the challenges, solutions, information needed to respond, enabling actions required to achieve the solutions, and ultimately to determine which key items should be prioritised to address better drinking water in the bush.

The location

The forum was held at the Desert Knowledge Precinct on the outskirts of Mparntwe (Alice Springs). The location is of significant cultural importance as it occupies the space where, in the past, travelling Aboriginal groups or messengers would stop and light smoke signals as a way of requesting passage through Heavitree Gap (Ntaripe).

At this location, Elders or other group members from Mparntwe would meet the travellers and hear their stories, exchange information, stories and song. The Desert Knowledge Precinct embodies the essence of the land on which it stands, promoting knowledge sharing in a place where everyone is welcome.

“Water management has been largely left out of the Closing the Gap framework.”

Vayveydeveld, 2022



An enabling opportunity

The forum created an opportunity to increase inter-jurisdictional connections, capability, and capacity to address shared challenges in the future. The forum was an information-gathering opportunity designed to engage First Nations representatives in decision-making and future actions that involve and affect their communities, their wellbeing, and cultural values, in a culturally safe environment.

The workshops enabled First Nations community members to participate in shaping actions that involve and affect their health, wellbeing, culture and future generations.

Generous symbolic gifts from Arrente kwertengerle (custodian) Marie Ellis were provided to the Australian Government staff attending and were subsequently presented to the Federal Minister for the Environment and Water, the Hon Tanya Plibersek MP, to signify the importance of the discussions which had taken place for the First Nations peoples. The items presented were a coolamon, clapsticks and a necklace.

The coolamon is traditionally used for scooping out sand when digging into water soakages or for carrying water or babies, symbolizing a link to both water and the next generation. Forum attendees filled the coolamon with important messages to be delivered to Canberra to serve as a reminder that we must all continue to work together to support safe drinking water in First Nations communities.

The clapsticks were given to help the messages from the forum to be heard and listened to, while the necklace was in a shape of a circle, symbolizing the connectedness to land and connections between people.

Forum process *continued*

Forum outline

- A panel discussion to hear directly from community attendees on ‘what does better drinking water look like and what does it mean for bush communities?’
- Presentations from each state and territory government on the current state of play and future plans for remote water services
- A presentation summarizing key aspects of the Water Services Association of Australia ‘Closing the Water for People and communities Gap’ report and case studies from communities
- Five workshop sessions sequentially identifying challenges, solutions, actions, information needs and priorities for better water in the bush driven by inputs from all forum attendees.

Forum outcomes

- Brought together First Nations representatives and national stakeholders involved in understanding and addressing remote water security
- Equitably discussed the challenges of water delivery to remote communities and jointly identified pathways and actions to address these challenges
- Listened to on-ground lived experiences and aspirations of First Nations remote communities
- Heard about the current situations of different states and territories regarding water delivery to remote communities
- Identified high-level solutions to drinking water challenges, enabling actions and next steps to implement solutions and working towards a shared vision.



Meetings prior to the forum

The development and organisation of the forum was guided by a Steering Committee consisting of representatives of the Australian Government, the Goyder Institute for Water Research, Desert Knowledge Australia, the Northern Territory Government, the Water Services Association of Australia (WSAA), the Central and Northern Land Councils, and the forum facilitators.

Steering Committee meetings were held weekly to determine the focus for the forum, the forum agenda, identification of organisations and attendees to invite, and to discuss the methodologies proposed to facilitate the forum workshops and discussions, including ensuring cultural sensitivity and culturally appropriate knowledge sharing activities.



Information sharing during forum

Multiple approaches were used during the forum to acquire information. This was a deliberate strategy to ensure all voices were heard and appreciated.

The approaches included:

- World Café style workshops consisting of small group discussions of self-selected attendees tackling a relevant question / discussion item with two group rounds for each workshop, followed by a “table host” reporting back to all attendees
- Formal presentations by various stakeholders
- Panel session highlighting descriptions of lived experiences from First Nations representatives
- One-on-one video interviews with key stakeholders
- Informal and impromptu side discussions between the facilitators and various stakeholders one-to-one and in small groups

Information was captured using a wide variety of different methods:

- Audio and video recording of the formal discussions with permission of attendees
- Handwritten and typed notes by facilitators
- Real time written recording of reflections on discussions and summaries and synthesis of content at the end of each day
- “Sticky notes” to allow additional anonymised information to be added to written records that were pinned up around the room throughout the forum
- Informal discussions captured through audio and written notes
- Post-discussion reflective notes

The workshop attendees were also encouraged to send hand-written messages directly to the Hon Tanya Plibersek MP by placing them in the coolamon gifted by the community. At the end of the forum representatives from DCCEEW accepted the coolamon from the First Nations representatives in a brief informal ceremony. The coolamon was subsequently presented to Minister Plibersek and Deputy Secretary Lyn O’Connell in Canberra.

Images: Coolamon with messages from attendees (bottom left)

Representative of DCCEEW holding Coolamon (above) with the Hon Tanya Plibersek MP Minister for Water & Environment and Lyn O’Connell Deputy Secretary of DCCEEW.

All images used with permission of DCCEEW

Forum process *continued*

Forum attendees

There were sixty-eight registered attendees. Of these, 47% were from government, 31% from remote communities or homelands, around 7% from utilities, and 15% from other service providers (not utilities). Some attendees were not able to attend for the entire forum, which resulted in the final composition on the last day, (when key items were being prioritised) of 39% government/policy makers, 16% community representatives, 16% from utilities, and 29% from other service providers. These numbers are based on self-identification within attendee groups. The facilitators and workshop support staff did not vote on any actions.

68 attendees

5 workshops

12 key actions



- Community members 31%
- Water utilities 7%
- Policy makers 47%
- Other service providers (e.g. health, housing) 15%





Policies are too often made for First Nations people, rather than with us.

Tom Calma – cited by Anthony Albanese, Lowitja O'Donoghue Oration, 2023

The workshops

Five workshops were held sequentially over the course of the forum. The focus of each workshop was designed to follow from the previous and to lead the attendees towards the identification of priorities for consideration for action. The workshops covered in order: 1. Challenges; 2. Solutions; 3. Actions; 4. Information required to deliver actions; and 5. Key items to prioritise.

Workshops 1-4 were conducted using the World Café discussion and reporting approach. This was chosen as a simple, flexible and effective method for hosting large group dialogue. Reflections from the themes and questions which emerged during the small group discussions were shared with all attendees at the end of each workshop by the table host and scribe. The approach was selected as it is known to assist in developing 4Rs within a group: Respect; Relevance; Reciprocity; and Responsibility (World Café community Foundation, 2023).

Workshops 1-3 and 5 allowed attendees to select their own table with an emphasis on ensuring a wide variety of contributions and experiences was represented at each table. In contrast, Workshop 4 encouraged individuals to self-select their groups according to their status as attendees (community; policy makers; utilities or other service providers). This attendee-affiliated approach to Workshop 4 was designed specifically to allow opportunities for meaningful sharing between the various professional groups, and to capture the responses coming from the lived experiences of the First Nations representatives talking as a group.

Reporting on workshop outcomes

Major outcomes from workshops 1-4 were summarised as dot points onto butcher's paper and posted around the room prior to the start of each subsequent workshop to allow additional written comments. The outcomes from the previous workshop then informed the discussions in later workshops. A verbal summary was also presented to the whole group by one of the facilitators at the end of each workshop, and, to ensure focus, this summary was then revisited at the start of the next workshop.

In workshop 5, attendees were asked to prioritise each of 12 key items for action. These had been developed by the facilitators from the comments provided by attendees and were presented on 'important vs urgent' 2x2 matrices also known as 'Eisenhower matrices'. Each attendee was given coloured dots representing the organisational grouping with which they had previously identified (red for community; green for water utility; orange for other service providers; and yellow for policy makers). Individuals were then invited to place a dot on each matrix in the quadrant that they thought best described the importance and urgency of each of the 12 actions.

The 12 actions were also separately prioritised by encouraging individuals to select 3 of the 12 actions to nominate their preferred priorities. The colour of the dots represented each organisational grouping and thus facilitators were able to determine the ranking of the actions that were considered as priorities by the different organisational groups.

Outcomes



High level summary of challenges, solutions, actions and information required to progress

Within the forum, many challenges were identified on improving drinking water in the bush. These are summarised under headings in alphabetical order in the table opposite.

The feedback from attendees was categorised and summarised within key areas to allow participants to explore these areas in subsequent discussions with other group members using a common language and to provide some scaffolding for linking ideas moving from challenges to solutions to actions and information required to progress actions in the subsequent workshops.

The detail provided by attendees has been captured in full in the Appendices (goyderinstitute.org/project/working-together-for-better-drinking-water-in-the-bush/) which expand on discussions held in each workshop and include summaries of content and verbatim quotes from attendees.

“...(almost) 25K people across 99 locations with populations <1000 reportedly accessed water services that did not comply with health-based guideline values.”

Wyrwoll, et al., 2022 p. 5

Categorisation of high level challenges identified (listed alphabetically)

High Level Challenges	Description / Explanation of Summarised Items	
EMPLOYMENT	<ul style="list-style-type: none">Regular and ongoingSkillsEducation and training	<ul style="list-style-type: none">Enabling broader economic opportunities, asset and wealth generation
GOVERNANCE	<ul style="list-style-type: none">ResponsibilityAccountabilityComplexity	<ul style="list-style-type: none">TransparencySilos (multiple jurisdictions – need for consistency)
INFRASTRUCTURE	<ul style="list-style-type: none">MaintenanceOwnershipReplacement	<ul style="list-style-type: none">Band-aid solutionsCapital vs operational expenditureAppropriate technologies
PLANNING	<ul style="list-style-type: none">Lack of integrationLack of engagement	<ul style="list-style-type: none">Funding allocationsShort-term ‘ism’
SOCIAL	<ul style="list-style-type: none">Determinants of healthInequityCost benefits	<ul style="list-style-type: none">Cultural challengesPrioritising liveability
TRUTH-TELLING	<ul style="list-style-type: none">Knowledge / information sharingCommunicationTransparency	<ul style="list-style-type: none">Localised dataTrustRespect
UNIQUENESS OF PLACE	<ul style="list-style-type: none">NeedsScale / size	<ul style="list-style-type: none">Type (homeland / community)Opportunities and aspirations
WATER-QUALITY	<ul style="list-style-type: none">HealthTaste	<ul style="list-style-type: none">Infrastructure impactSource protection
WATER SECURITY	<ul style="list-style-type: none">VolumeDemandCompeting uses	<ul style="list-style-type: none">Risks associated with climate change

Prioritising key items for action: overall results

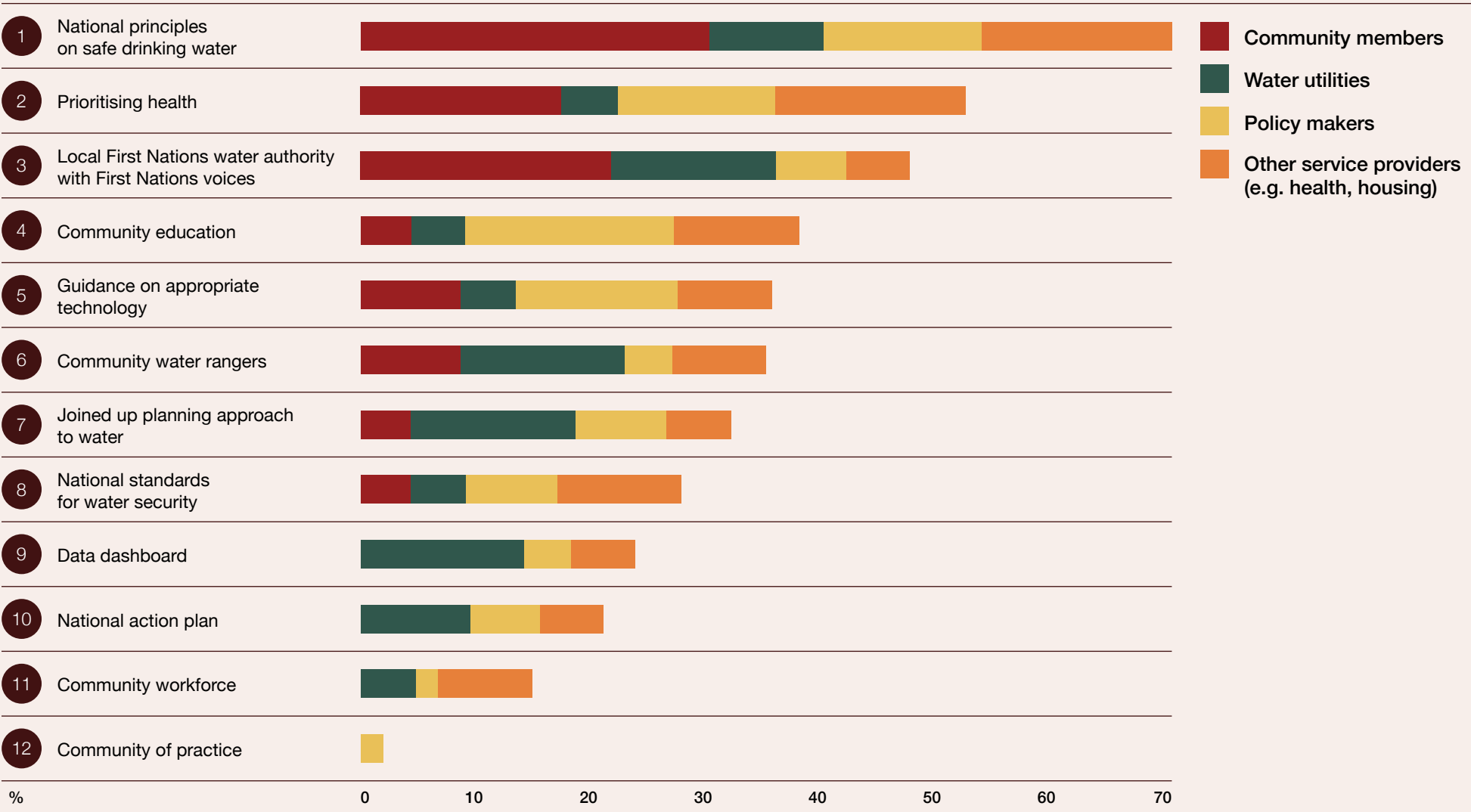
All of the information identified by attendees, including challenges and solutions; actions and information required to progress actions was synthesised by the facilitating team. Twelve key items for action were identified by extracting and matching up themes that arose throughout the workshops.

These 12 actions are highlighted in the box opposite, along with the explanations given to attendees by the facilitating team to expand on the key titles. The items were ranked by individual attendees responding as part of their wider affiliated group / organisation (community members; water utilities; policy makers; and other service providers (see figure below).

The attendees were also asked to determine where they would locate each key item on an Eisenhower Matrix (indicating urgency/importance) to indicate whether they felt each of the 12 items were important and/or urgent. Attendees were almost unanimous in determining that each of the 12 key items in the box were important and many of the items were seen as both important and urgent. The individual diagrams analysing these results are provided in the Appendices.

ATTENDEES RANKING OF KEY ITEMS LISTED

Proportion (approx. percentage of people prioritising each action)



Ranking of the 12 key items for action to assist in achieving better drinking water quality in the bush

- 1

National principles on safe drinking water

National principles on safe drinking water for remote communities including to prioritise drinking water and source protection, and incorporating cultural knowledge, Indigenous-led and localised community engagement.
- 2

Prioritising health

Addressing national health targets through better understanding of water quantity and quality issues.
- 3

Local First Nations water authority with First Nations voices

Creating a body that provides expertise on water in remote communities.
- 4

Community education

A coordinated education program to empower the whole community to understand their own water supply delivered through schools and community engagement processes.
- 5

Guidance on appropriate technology

An option list of water treatment systems that includes information about the systems' suitability or reliability as an approach to de-risk the choice of technologies for communities.
- 6

Community water rangers

Indigenous-led program for local community water rangers that act as the connection between governing agencies, utilities and the community.
- 7

Joined up planning approach to water

Working together to integrate planning for water supply across all services such as health, housing and energy.
- 8

National standards for water security

National standards for water security infrastructure and levels of service including water quality, quantity and supply.
- 9

Data dashboard

A national data platform, with understandable, easily accessible, and up-to-date water quality information presented in culturally appropriate formats.
- 10

National commitment to action (national action plan)

A national commitment to ongoing action on water issues in remote communities and homelands incorporating all states and territories.
- 11

Community workforce

Building workforce to support operation and maintenance of water infrastructure in the community.
- 12

Community of practice

A collective of water professionals, both industry and government, with input from water rangers, to share information and knowledge on a regular basis.

Exploring the extent to which key actions identified could resolve challenges

In this section, each of the nine challenges areas identified (p. 21) was examined to consider solutions and to identify which of the key actions subsequently prioritised by attendees might assist in resolving the challenges. Each key action is identified in this analysis with its ranking order by the majority of attendees.

Analysis of all the information provided by forum attendees, highlights a complex picture.

Three key actions were clearly selected as most important to prioritise by the majority of attendees:

- Setting national principles on safe drinking water which prioritise drinking water quality and source protection, and incorporating local cultural knowledge and Indigenous-led, localised community engagement (1)
- Prioritising health by addressing national health targets through better understanding of water quantity and quality issues (2)
- The creation of a localised First Nations water authority which includes First Nations voices and provides expertise on water in remote communities (3)

However, a more detailed analysis of the linkages provided by attendees' responses to the role of an action in solving challenges highlights all 12 key actions (p. 23) as having value, in different combinations to solve different challenges. This information is explored by challenge in the following pages.

Of the challenges, two generated most discussion among forum attendees. These were 'truth-telling' and 'governance'. Consequently, these have been ordered first, with the remainder of subject areas following in alphabetical order.



“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.”

Prime Minister Anthony Albanese, Garma Festival, 2022

oes better drinking water
and what does it mean for
bush communities?



Truth-telling

Challenges, solutions and linkage to key priority actions

The notion of ‘truth-telling’ as encompassing challenges around sharing of knowledge and information, specifically localised data; communication; transparency; and developing trust and respect was strongly advocated by all attendees, in particular the First Nations community members.

Challenges

“Currently there is no two-way sharing of the right information with the right people”

“Communities can see the water is being sampled but they don’t get the results – but they could jointly solve the problems”

“Knowledge sharing and capacity building and transparency is not two-way”

“Is the water really tested? – there are many trust issues – providers do daily checks on chlorine and *E.coli* but there is no communication”

Solutions

“Make sure all stakeholders are on the same page regarding knowledge and information – for example include teachers and nurses”

“Engage community when new assets are brought online to understand the basics of operation”

“Straight-talking about the safety of water for people who are worried – helps build trust”

“How about a chart in the (local) shop that communicates about water quality or an app for the phone?”

“Engaging Health Departments in water issues”

“Communicate complex ideas in a way that people understand – share the science”

“Connect in language and engage people who can develop fact sheets and talk to both communities and Health Departments”

“Engage specialists to convert complex data into digestible and understandable information for community fact sheets”

“Don’t just send out fact sheets but maintain open lines of communication”

“Communities would like to get information through meetings and a traffic light system online showing water quality and availability information”

“Need a clear investment strategy that is Polle-proof”

“Don’t put bores in sacred places”

“Government should attend local authority meetings as well as the general community”

“Everybody is connected when it comes to water from the top level of government to community”

“Provide pride in supply – recognition that clean water is for Indigenous people too”

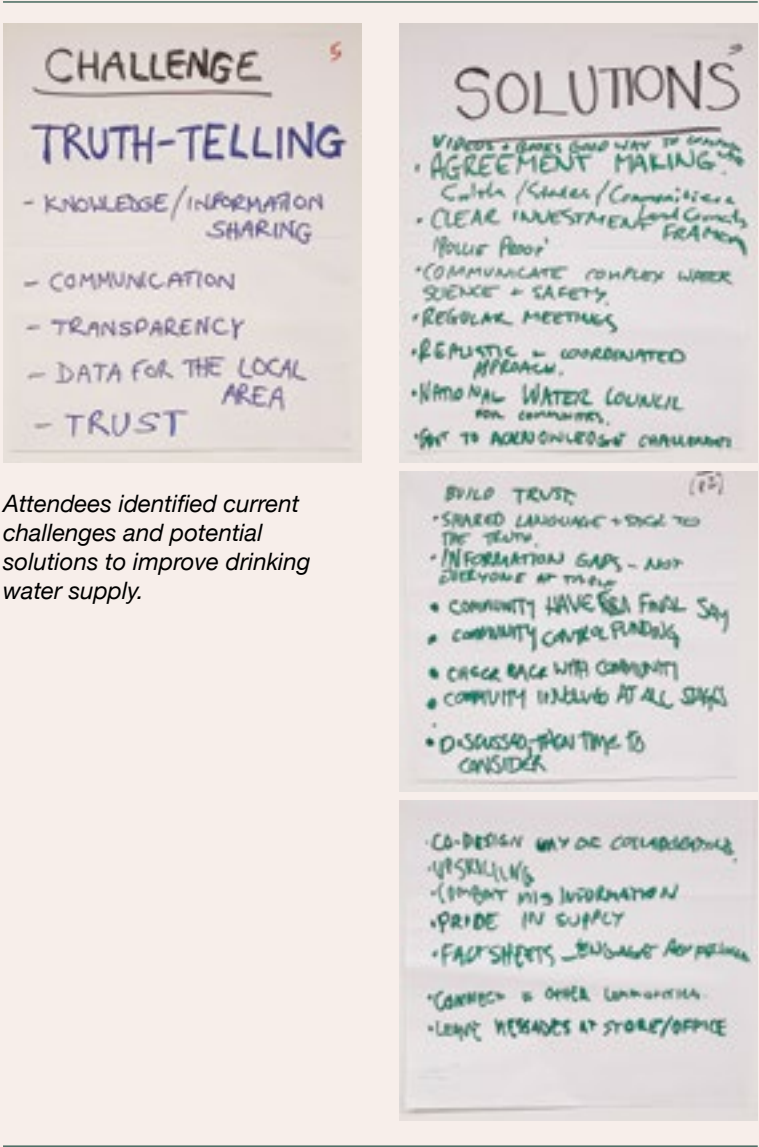
Linking challenges to priority actions

In response to this challenge, one key action stood out above all others as being integral in helping to resolve challenges of truth-telling:

- The creation of a localised First Nations water authority which includes First Nations voices and provides expertise on water in remote communities (3)

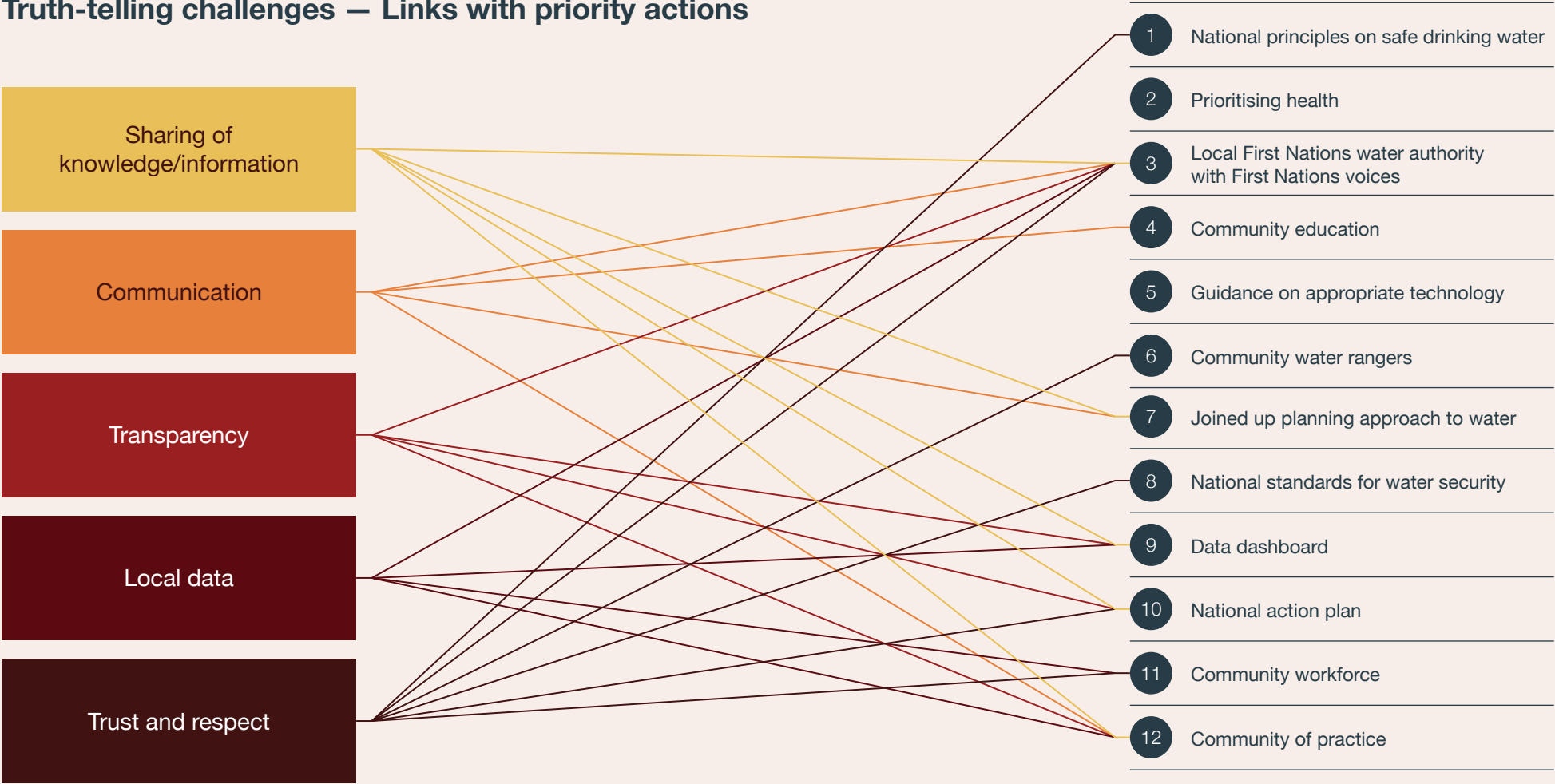
Other important aspects also highlighted as assisting with truth-telling challenges included (in order identified):

- Building a community of Practice – a collective of water professionals, both industry and government, with input from First Nations water rangers, to share information and knowledge on a regular basis (12)
- A national commitment to ongoing action on water issues in remote communities, homelands and outstations, incorporating all states and territories (10)
- Creating a data dashboard – a national data platform with understandable, easily accessible, up-to-date water quality information presented in culturally appropriate ways (9)
- Having a joined-up approach to planning for water including all relevant services in addition to water, such as health, housing and energy (7)
- Building a community workforce to support operation and maintenance of water infrastructure in the community (11)



Attendees identified current challenges and potential solutions to improve drinking water supply.

Truth-telling challenges – Links with priority actions



Governance

Challenges, solutions and linkage to key priority actions



Areas of challenge for governance identified in the forum included responsibility, accountability, complexity, transparency and lack of consistency across jurisdictions.

Challenges

- “We need someone to take responsibility for water quality – one point for contact for communities”
- “Chicken and egg problem – people have moved from outstations because of water but then Governments say there’s no-one living there – how does this get solved?”
- “Hold all parties to account”
- “A lot of communities have the data that Governments need but (are) not asked for it or about it”
- “Closing the Gap (9B) is Federal initiative – but relies for success on States and Territories”
- “Houses are being built without adequate water available”
- “Government systems exist for those on the list – but what about those not on the list?”
- “Housing is not located near water sources”

Solutions

- “Engagement of First Nations in all aspects of drinking water safety and security including the making of all agreements”
- “Need tri-partite agreement between all levels of government and communities – agreement needs to include First Nations voices”
- “Need to provide a seat at the table for everyone in discussions on baseline data to allow understanding of what the gaps are – data exchange needs to be two-way”
- “Need First Nations voices in development of all standards / codes”
- “All Government bodies and service providers should be accountable to First Nations communities with mandated responsibilities and obligations to ensure continuity”
- “Provide transparency about decision making in regard to water security to all, especially communities”
- “Need a national code for water but with provision for communities that initially don’t meet the standards to improve over time with goal to ultimately achieve the standard”
- “Need fit-for-purpose standards / regulations that are linked to operations. These need a grandfathered approach for implementation to ensure that ultimately all communities can meet the standards”
- “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 2-3 years”

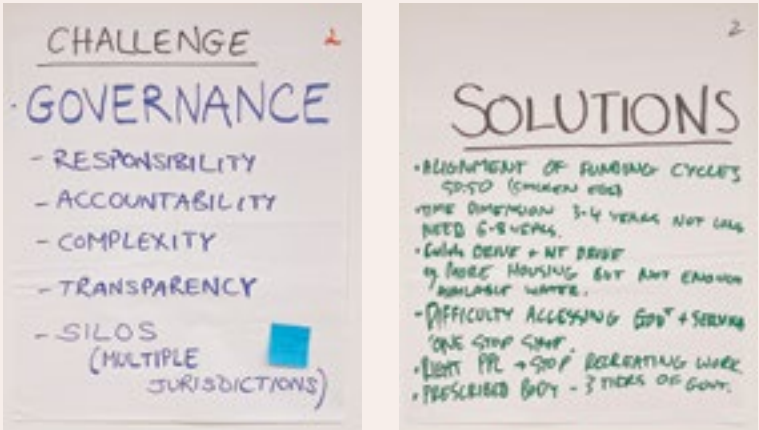
Linking challenges to priority actions

Four prioritised key actions were highlighted as providing an effective response to all these challenges:

- Setting national principles on safe drinking water which prioritise drinking water quality and source protection, and incorporating local cultural knowledge and Indigenous-led, localised community engagement (1)
- Having a joined up approach to planning for water including all relevant services in addition to water, such as health, housing and energy (7)
- Setting national standards for water security infrastructure and level of service including water quality, quantity and supply (8)
- Developing a national commitment to action on water issues in remote communities, homelands and outstations which incorporates all states and territories (10)

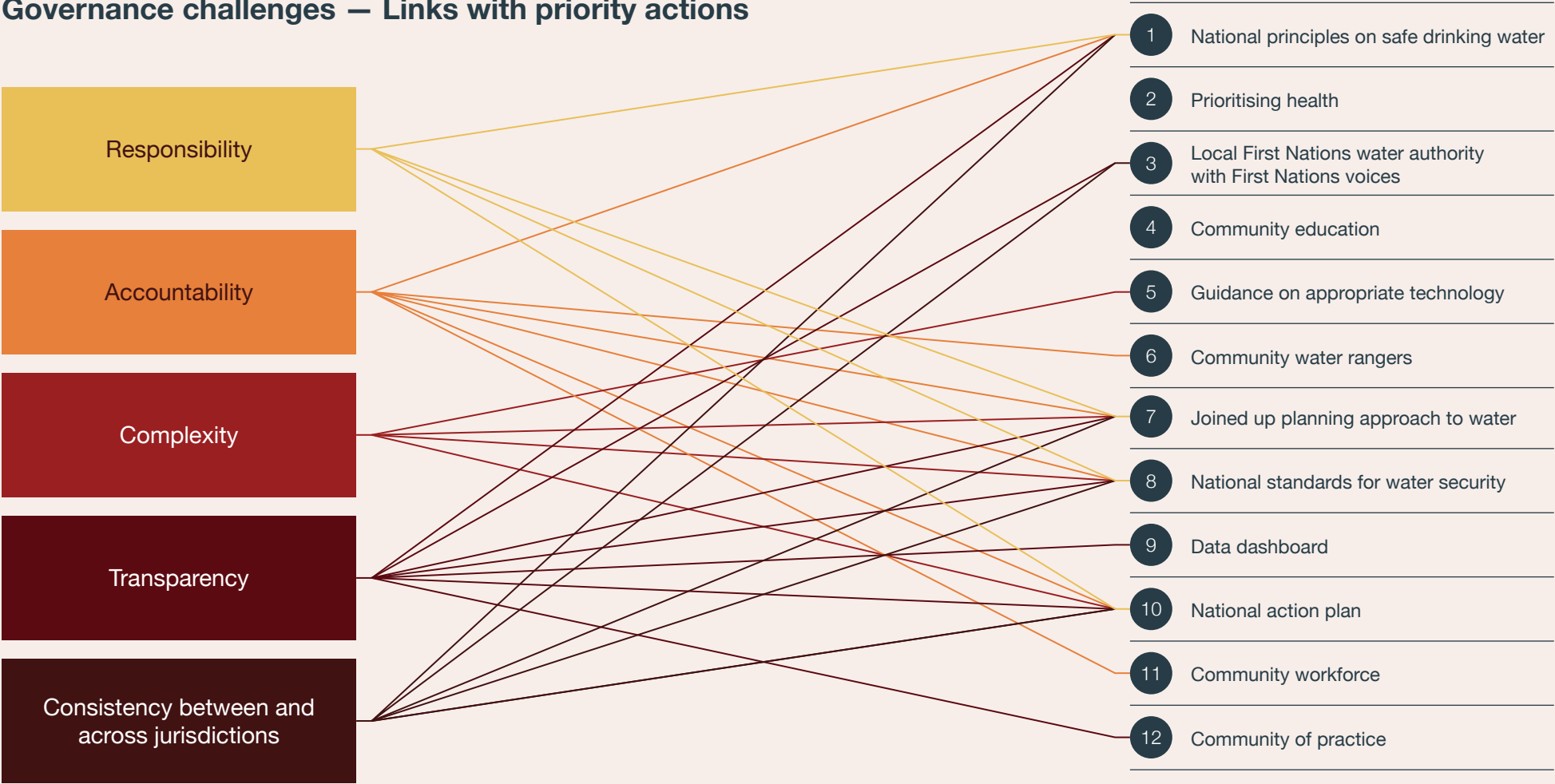
In addition, the challenges of transparency and consistency across jurisdictions were seen to be resolved by:

- The creation of a localised First Nations water authority which includes First Nations voices and provides expertise on water in remote communities (3).



Attendees identified current challenges and potential solutions to improve drinking water supply.

Governance challenges — Links with priority actions



Education, training and skills development for employment in communities

Challenges, solutions and linkage to key priority actions

The challenges of employment, skills, education and training for water management were identified under headings concerning: the need for regular, ongoing employment of water resource management staff in remote areas; skills; and education and training. Discussion was also had on the enabling opportunities for broader economic uplift of employing locals in community.

Challenges

“Not having sustained workforce – solutions and operations can’t continue”

“Essential Service Operators are needed – for example in Councils”

“No education on chemicals, pollutants or contamination sources”

“We don’t have key information like how many litres are being used by people or lost through old and damaged infrastructure”

“How do you test water correctly?”

Solutions

“Need to make this a sexy career path to be proud of”

“Link skills and training relevant to infrastructure so it is fit for purpose, place and people”

“Good training supports good decision making and allows good data to be generated”

“Training needs to include sharing of relevant traditional knowledge”

“All training needs to be in (local) language”

“Create career pathways allowing people to stay on country”

“Communities need to be empowered to ensure everything is running well”

“Celebrate when things are working – for example demand management at Yuendumu is working really well with community engagement and education”

Linking challenges to priority actions

The attendees identified four prioritised actions which would assist in resolving the challenges of education, training and employment across the board and in the generation of enabling opportunities by employing local community members.

These key actions were:

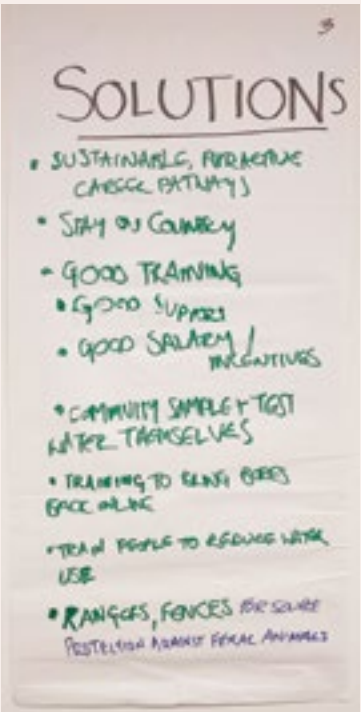
- The creation of a localised First Nations water authority which includes First Nations voices and provides expertise on water in remote communities (3)
- Community education through a coordinated education program to empower the whole community to understand their own water supply delivered through schools and community engagement processes (4)
- Community water rangers – an Indigenous-led program that acts as a connection between governing agencies, utilities and the community (6)
- Focussing on strengthening community workforce to support operation and maintenance of water infrastructure in the community (11)

These responses resonate with the findings of the WSAA report, namely, “by equipping residents...with information (they) become advocates for water efficiency and additional ‘eyes on the ground’ in the search for every last drop” WSAA, p.146.

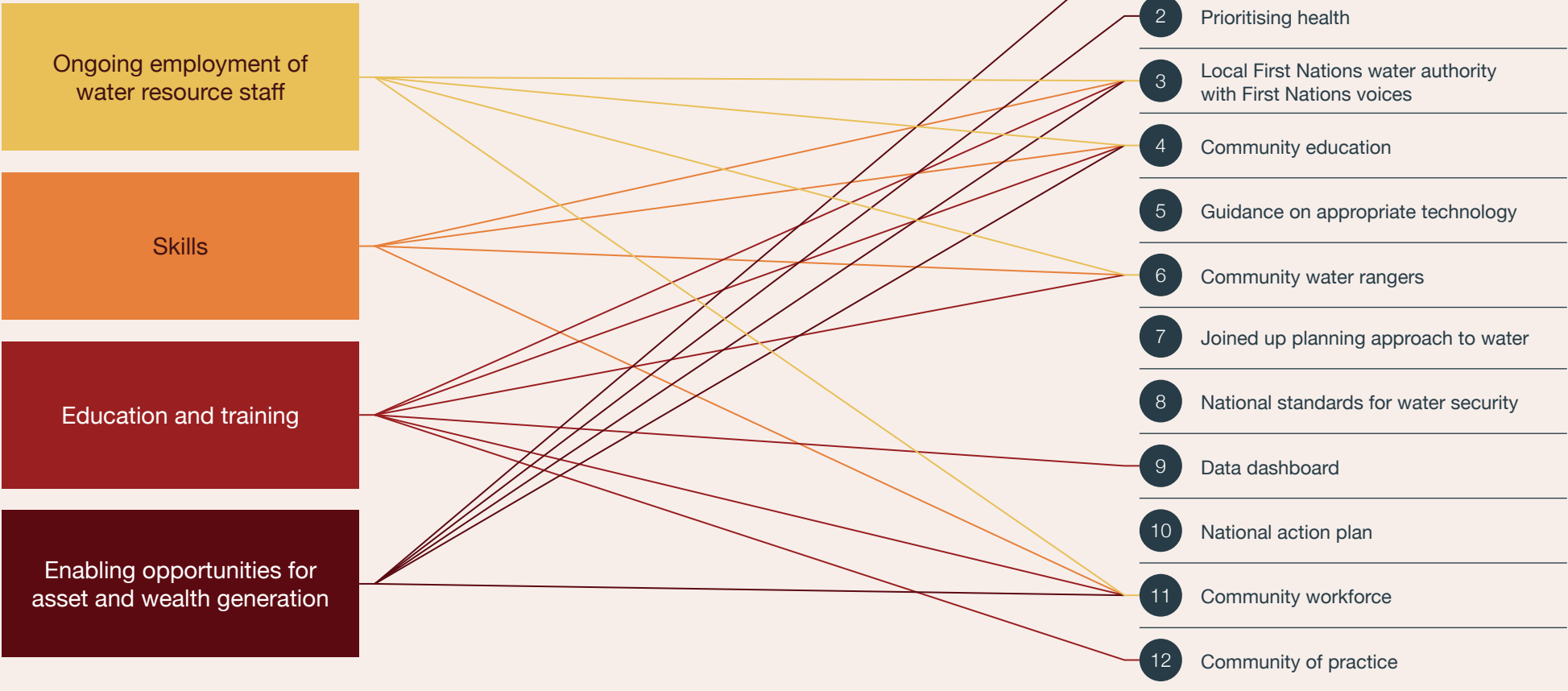
The responses also resonate with the desire of community members for self-determination in being responsible for aspects of their own water quality and security moving forward.



Attendees identified current challenges and potential solutions to improve drinking water supply.



Education, training and skills development for employment in communities challenges — Links with priority actions



Infrastructure

Challenges, solutions and linkage to key priority actions

Challenges around ongoing reliable provision of water infrastructure in remote communities “require complex interactions between physical resources...institutions and end-users, often across governance and cultural boundaries”
Jackson, 2019 p. 2414

The complexity of resolving infrastructure challenges was seen in attendees’ responses to key actions for prioritisation. Aspects of infrastructural challenge were identified as: maintenance; ownership; replacement of assets; reliance on band-aid solutions; funding capital as well as operational expenditure; and identifying appropriate technologies which were fit-for-purpose in the local environment.

Challenges

“On homelands, assets are owned by individuals – who fixes them when they break / as they age?”

“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”

Solutions

“Use ‘whole-of-life cost metrics’ covering CAPEX and OPEX in the funding process – designed to keep the monies flowing at the right time and with the right priority”

“Create a nationally recognised way of testing technology to prove it is fit for purpose and can be scaled appropriately”

“Innovation is not always the latest technology – may be simple and easy to maintain e.g.. fences for source protection against feral animals or rainwater tanks”

Previous research has identified that “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 and Willis, 2022 p. 47

Linking challenges to priority actions

In response to these challenges, two key actions were consistently identified to provide solutions:

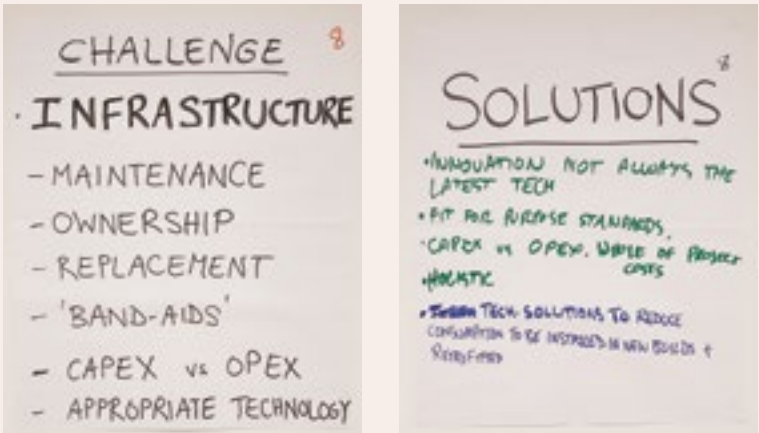
- Having a joined-up approach to planning for water including all relevant services in addition to water, such as health, housing and energy (7)
- A national commitment to ongoing action on water issues in remote communities, homelands and outstations, incorporating all states and territories (10)

Other priority actions consistently identified included:

- Setting national principles on safe drinking water which prioritise drinking water quality and source protection, and incorporating local cultural knowledge and Indigenous-led, localised community engagement (1)
- Setting national standards for water security infrastructure and level of service including water quality, quantity and supply (8)
- Community education through a coordinated education program to empower the whole community to understand their own water supply delivered through schools and community engagement processes (4)

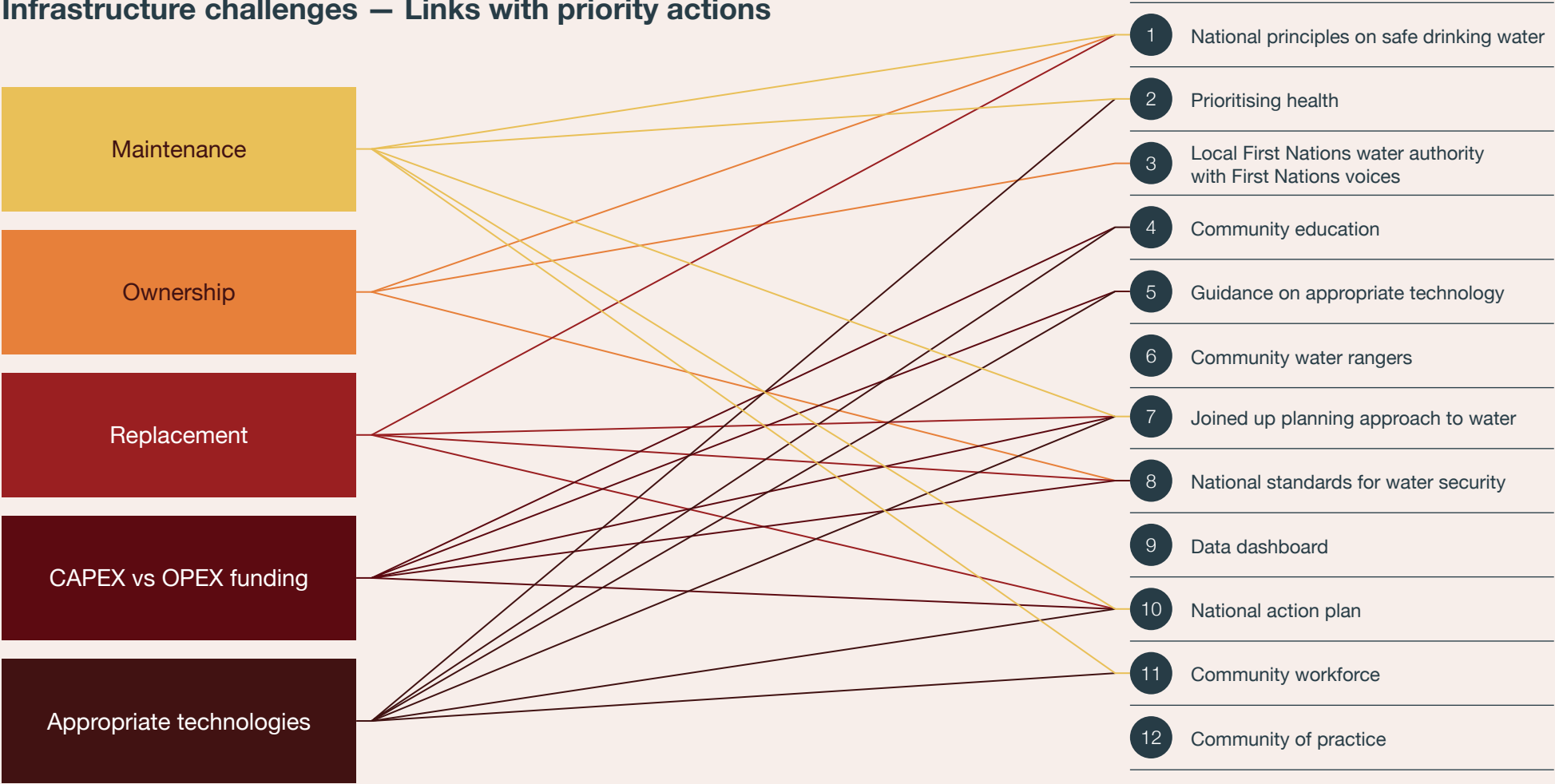
Two actions were identified as helping to resolve maintenance and technical issues specifically. These were:

- The building of community workforce to support operation and maintenance of water infrastructure in the community (11)
- Guidance on appropriate technologies – creating an option list of water treatment systems that includes information about the systems’ suitability or reliability as an approach to de-risk the choice of technologies for communities (5)



Attendees identified current challenges and potential solutions to improve drinking water supply.

Infrastructure challenges — Links with priority actions



Planning

Challenges, solutions and linkage to key priority actions

Challenges in planning for safe drinking water covered lack of integration, lack of engagement, funding allocations and an emphasis on ‘short-term’ solutions.

Challenges

- “Lack of integrated planning – especially long-term – this is a bigger challenge than lack of funding”
- “Priorities, framework and aesthetics should be considered”
- “No climate risk tool exists to measure / model impacts”
- “Indigenous knowledge could be incorporated and used to predict the future – but it is not currently used”
- “No future thinking – just in the now”
- “No re-investment strategy for the community”

Solutions

- “Planning is an ongoing process and requires agility”
- “Planning cycles should be embedded in project management”
- “Funding needs to be co-ordinated and standardised with clear points of responsibility”
- “Ideally planning should be connected and should prioritise engagement as the first step”
- “Planning needs to be embedded in all processes and be co-designed with communities and government”
- “Planning needs to consider future needs and requirements of communities and should consider impacts of climate change”
- “Training / skills and workforce development in planning would build longer-term sustainability for communities”

Linking challenges to priority actions

In response to these challenges, a number of actions were prioritised by forum attendees:

- The creation of a localised First Nations water authority which includes First Nations voices and provides expertise on water in remote communities (3)
- Having a joined-up approach to planning for water including all relevant services in addition to water, such as health, housing and energy (7)
- A national commitment to ongoing action on water issues in remote communities, homelands and outstations, incorporating all states and territories (10)

Regarding lack of integration and funding allocations specifically:

- Setting national principles on safe drinking water which prioritise drinking water quality and source protection, and incorporating local cultural knowledge and Indigenous-led, localised community engagement (1) was identified

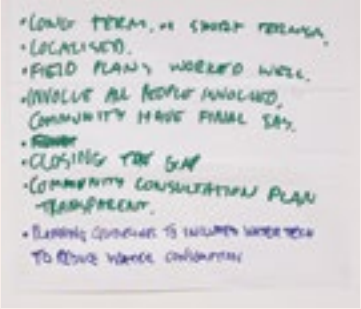
Regarding lack of community engagement in planning processes for water, attendees identified the need for:

- Community education through a coordinated education program to empower the whole community to understand their own water supply delivered through schools and community engagement processes
- Community water rangers – an Indigenous-led program that acts as a connection between governing agencies, utilities and the community
- Data dashboard – a national data platform with understandable, easily accessible, up-to-date water quality information presented in culturally appropriate ways
- Building a Community of Practice – a collective of water professionals, both industry and government, with input from First Nations water rangers, to share information and knowledge on a regular basis

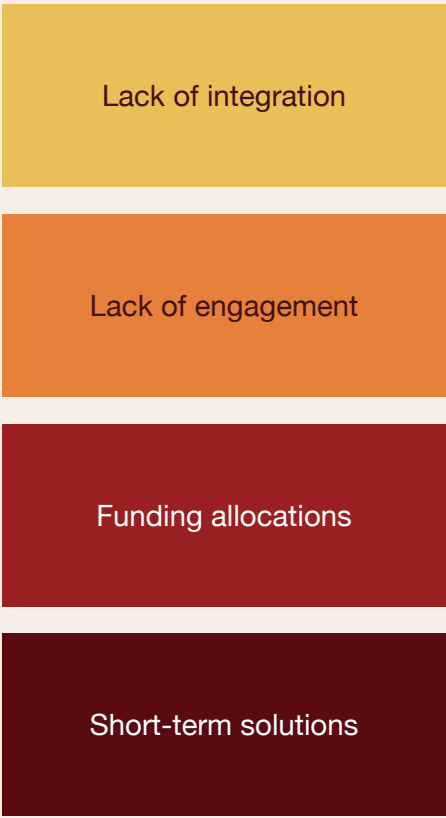
These last responses on the importance of engaging local communities in planning for water align with the findings of other research, which identifies that planning “the provision of safe drinking water... from a human rights perspective can help mobilise groups by informing and empowering them” Cromar & Willis, 2022 p. 41.



Attendees identified current challenges and potential solutions to improve drinking water supply.



Planning challenges – Links with priority actions



1	National principles on safe drinking water
2	Prioritising health
3	Local First Nations water authority with First Nations voices
4	Community education
5	Guidance on appropriate technology
6	Community water rangers
7	Joined up planning approach to water
8	National standards for water security
9	Data dashboard
10	National action plan
11	Community workforce
12	Community of practice

Social

Challenges, solutions and linkage to key priority actions

Social challenges and solutions were identified by forum attendees under broad headings of health-determining; inequity; cultural; cost-benefits provided and prioritisation of liveability.

Challenges

- “People get sick and there are no processes in place”
- “Important to access water for cleaning which leads to better health”
- “Dialysis for communities and out-stations takes 1500 litres for each person and needs to be done three times a week”
- “I grew up thinking that bad water was for the community and good water was for white people”
- “We have to contact the media before anyone will do anything about the problems – people need to listen”
- “Water management operates across borders but Aboriginal families span borders”
- “We want to grow veggies”
- “Liveability programs in communities get taken over by projects which are not what the community wants”

Solutions

- “Safe, reliable, affordable water so people can stay on country”
- “Remote water infrastructure is always seen as a cost but there are social benefits – people can stay in their community”
- “Investment in clean water helps to improve health”
- “We need Aboriginal people in leadership roles”
- “Need unity within Aboriginal communities working together with others for decision-making, planning and design of solutions”
- “Service providers should observe cultural protocols and work with traditional owners”

Linking challenges to priority actions

Given the breadth and complexity of this area, it is perhaps not surprising that no one key action stood out as being identified to resolve all these issues. Notwithstanding, a level of agreement was reached on the importance of two actions in resolving health, inequity, and cultural challenges and in prioritising liveability in communities:

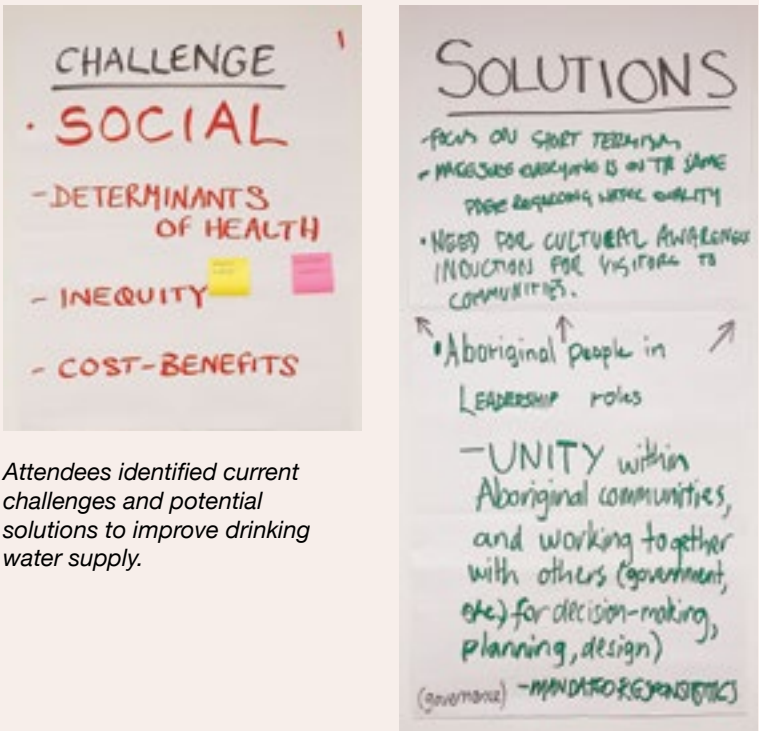
- Prioritising health by addressing national health targets through better understanding of water quantity and quality issues (2)
- The creation of a localised First Nations water authority which includes First Nations voices and provides expertise on water in remote communities (3)

Other actions which would assist in resolving social challenges included:

- Community education through a coordinated education program to empower the whole community to understand their own water supply delivered through schools and community engagement processes (4)
- Guidance on appropriate technologies – creating an option list of water treatment systems that includes information about the systems’ suitability or reliability as an approach to de-risk the choice of technologies for communities (5)
- A national commitment to ongoing action on water issues in remote communities, homelands and outstations, incorporating all states and territories (10)

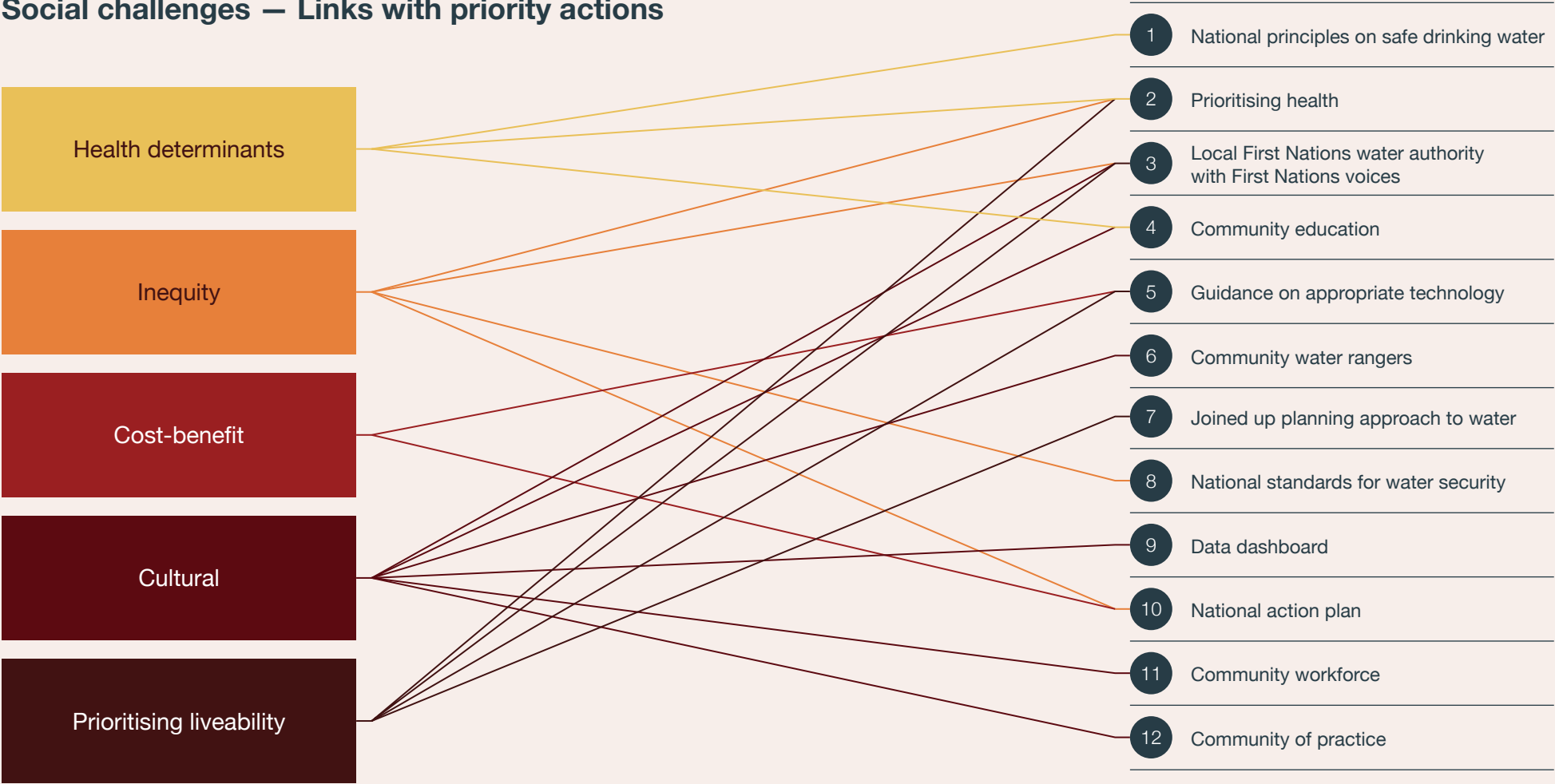
To resolve cultural challenges specifically, four other key actions were prioritised by many attendees:

- Community water rangers – an Indigenous-led program that acts as a connection between governing agencies, utilities and the community (6)
- Data dashboard – a national data platform with understandable, easily accessible, up-to-date water quality information presented in culturally appropriate ways (9)
- The building of community workforce to support operation and maintenance of water infrastructure in the community (11)
- Building a Community of Practice – a collective of water professionals, both industry and government, with input from First Nations water rangers, to share information and knowledge on a regular basis (12)



Attendees identified current challenges and potential solutions to improve drinking water supply.

Social challenges — Links with priority actions



Uniqueness of place and people (different communities)

Challenges, solutions and linkage to key priority actions

During the forum a range of challenges and solutions were identified, relating to the uniqueness of places and people across all states and territories of remote Australia. These were categorised under four headings: the type of community such as homeland, outstation, or remote community; the size of the population linked to the scale of solution required; the needs of specific communities; and the opportunities and aspirations of different communities.

“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

Challenges

- “ Supply for homelands and outstations is not a sustainable funding item – need to keep patching, applying and re-applying to different programs to keep things running”
- “Leave no-one behind: communities are currently not captured under utilities”
- “Since 1974 this has been called not important. Yuendumu is a large place and they can’t get it right here. There is water but it is expensive”
- “Stop talking and fix things. Yuendumu paved the way for others”

Solutions

- “Shire training on issues to provide locally relevant information – shires and councils need good knowledge and support”
- “Recognition of water holes and soakages as critical sources for water security”
- “Should use local cultural / Indigenous knowledge to find water sources – these need assessment and protecting”
- “Maintaining a community Water Planner and field guide – especially challenging in small organisations with lots of staff turnover”
- “Communication should be in local (relevant) language”
- “Celebrate local successes”

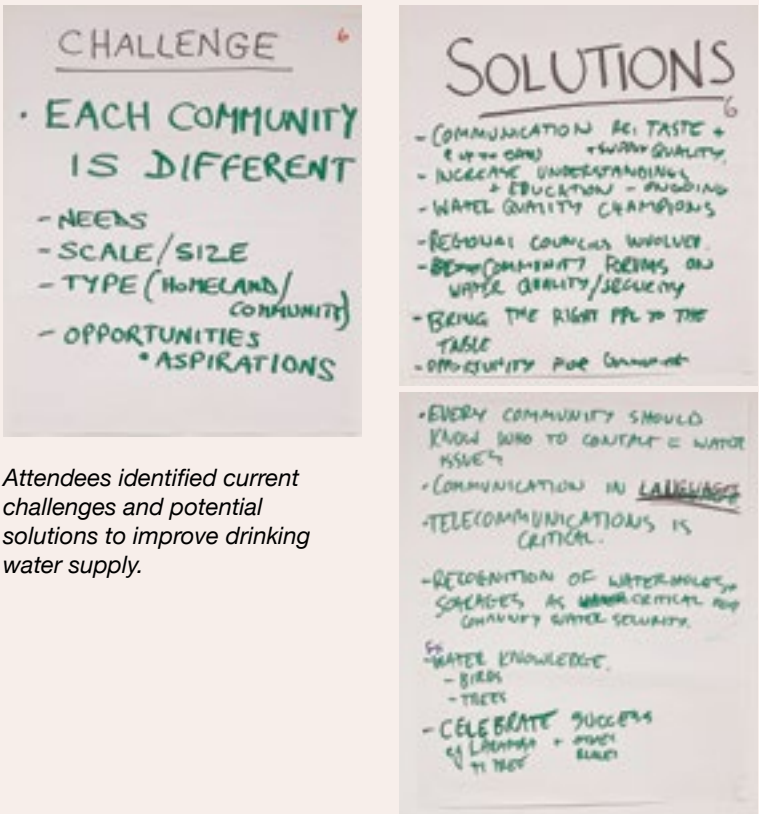
Linking challenges to priority actions

From the ‘place’ challenges, two key actions were prioritised across all headings:

- The creation of a localised First Nations water authority which includes First Nations voices and provides expertise on water in remote communities (3)
- Guidance on appropriate technologies – creating an option list of water treatment systems that includes information about the systems’ suitability or reliability as an approach to de-risk the choice of technologies for communities (5)

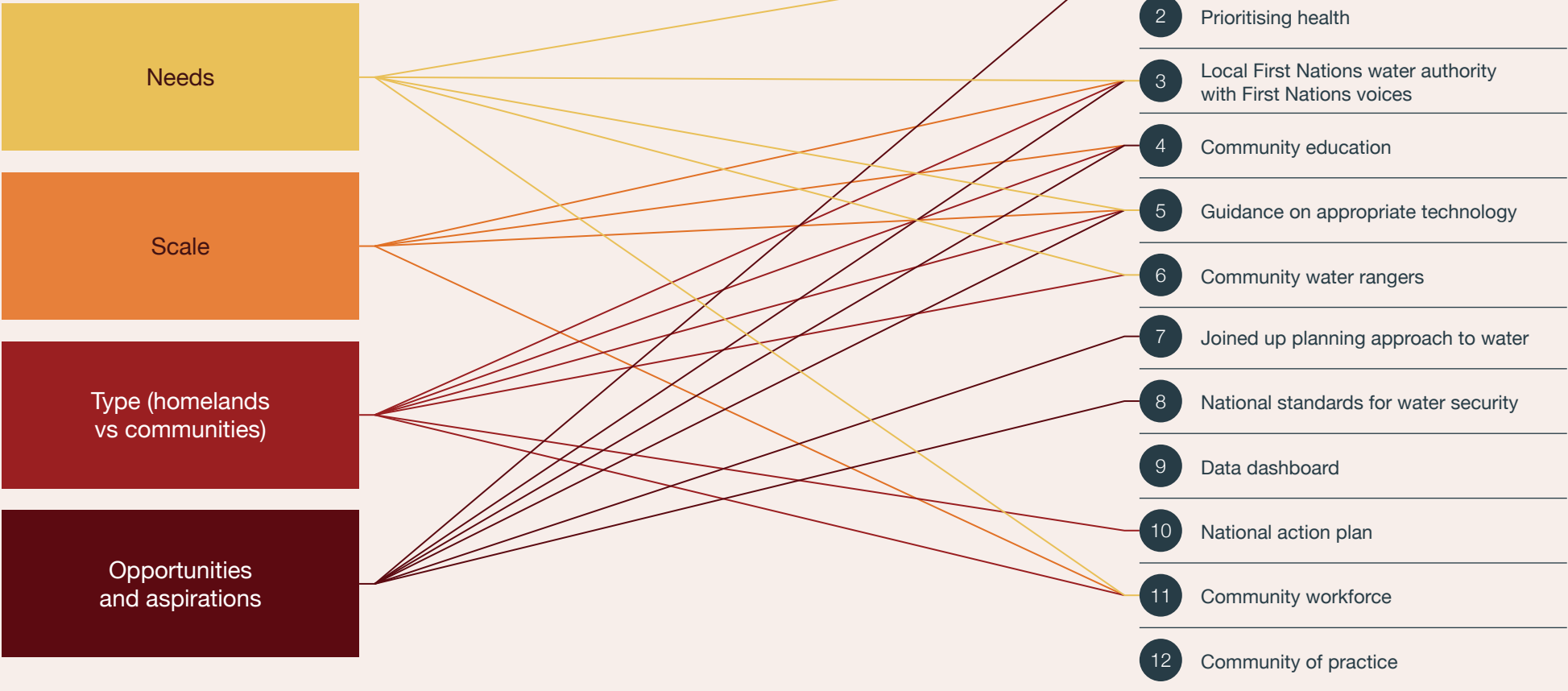
Of the remaining actions, the following were also seen as important in regard to specific aspects of ‘place’ challenge:

- The building of community workforce to support operation and maintenance of water infrastructure in the community (11)
- Community education – a coordinated program to empower the whole community to understand their own water supply delivered through schools and community engagement processes (4)
- An Indigenous-led program for local community water rangers that act as a connection between governing agencies, utilities and the community (6)
- A national commitment to ongoing action on water issues in remote communities, homelands and outstations, incorporating all states and territories (10)
- Setting national principles on safe drinking water which prioritise drinking water quality and source protection, and incorporating local cultural knowledge and Indigenous-led, localised community engagement (1)



Attendees identified current challenges and potential solutions to improve drinking water supply.

Uniqueness of place and people (different communities) challenges — Links with priority actions



Water quality

Challenges, solutions and linkage to key priority actions

Challenges and solutions to water quality in First Nations communities are clearly of critical importance as:

“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 & Willis, 2022 p. 42.

Issues raised by attendees were identified under headings of health; taste/aesthetics; and source protection.

Challenges

“Our grandparents grew up thinking it was safe to drink water and sharing that information – now we’re not sure”

“Water quality may overshadow water security – contaminated bore supplies are not safe to drink any longer”

“Sometimes water is safe BUT it tastes bad”

“Lack of sampling means we just don’t drink it”

“Preserving the water source from donkeys, cattle, mining etc – poor water quality has impacts on how people live – people need to listen to this”

“Poor water quality starts with poor catchment management – need to understand source to identify treatment required”

“Health is the top priority for kids and for communities”

Solutions

“Water should be the drink of choice”

“Investment in clean water helps to improve health”

“Need to create water literacy – taste vs safety”

“Need technologies to improve aesthetics so people will drink the water”

“Water quality reports should be related to health hardware - taps, clogging, air conditioning not working”

“Water is a basic human right – communities should come before pastoralists”

“Need to include traditional sources in water quality assessments and protection”

“Move tips and sewage treatment plants from water sources”

Wyrwoll et al. (2022) identified that “at least 24,245 people across 99 locations with populations <1000... accessed water that did not comply with health-based guideline values” and the same report also noted that “considering...ADWG definition of good aesthetic characteristics, the....gap rises further to at least 627,736 people across 408 locations. Forty percent of all (these) locations.....were remote Indigenous communities”.

Linking challenges to priority actions

Three key actions were prioritised by attendees to respond to all challenges relating to water quality:

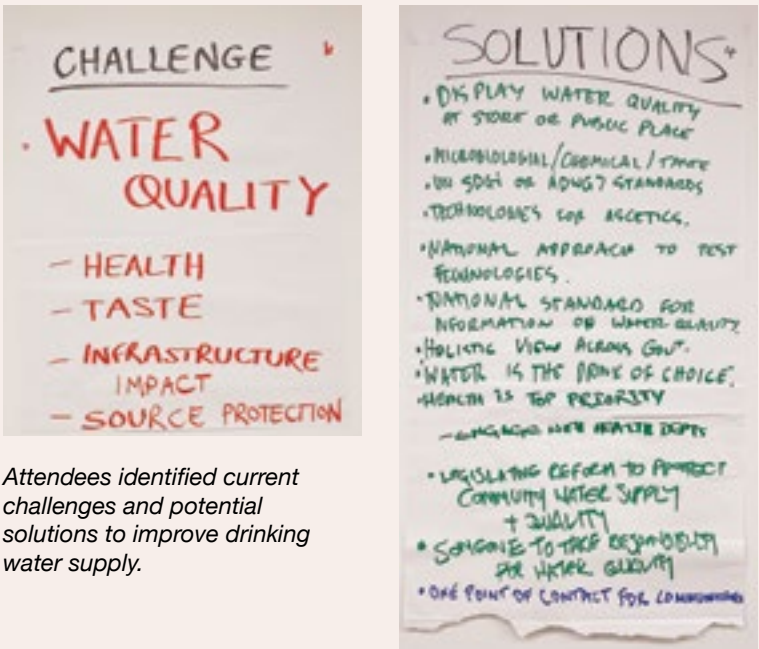
- Setting national principles on safe drinking water for remote communities which prioritise drinking water quality and source protection, and incorporating local cultural knowledge and Indigenous-led, localised community engagement (1)
- Prioritising health by addressing national health targets through better understanding of water quantity and quality issues (2)
- Building a ‘Community of Practice’ – a collection of water professionals, both industry and government, with input from First Nations water rangers, to share information and knowledge on a regular basis (12)

Concerning health and taste/aesthetic considerations specifically, two key actions were prioritised:

- Community education – a coordinated program to empower the whole community to understand their own water supply delivered through schools and community engagement processes (4)
- Data dashboard – a national data platform with understandable, easily accessible, up-to-date water quality information presented in culturally appropriate ways (9)

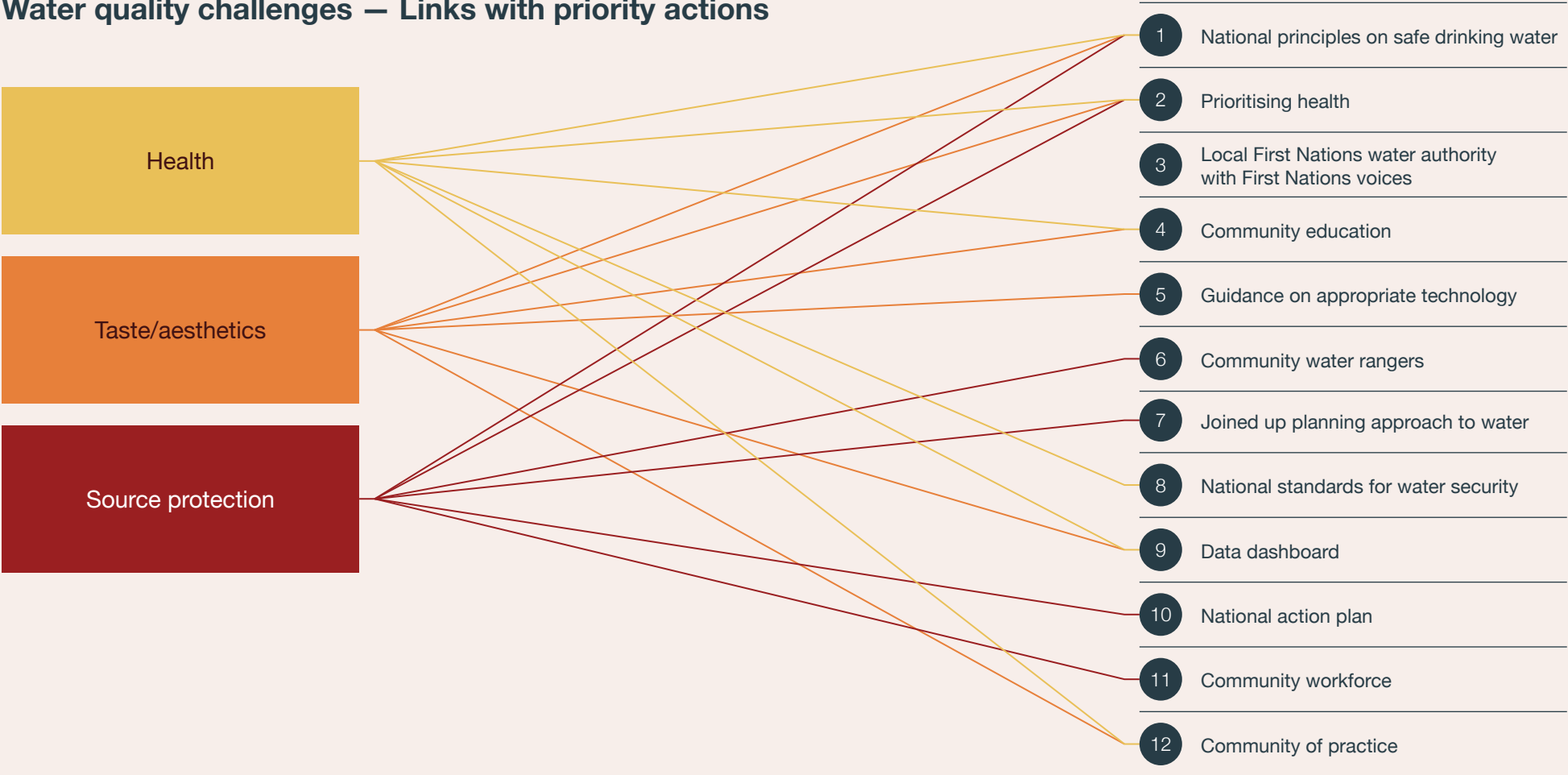
Regarding source protection, several additional key actions were highlighted:

- Having a joined-up approach to planning for water including all relevant services in addition to water, such as health, housing and energy (7)
- An Indigenous-led program for local community water rangers that act as a connection between governing agencies, utilities and the community (6)
- The building of community workforce to support operation and maintenance of water infrastructure in the community (11)
- A national commitment to ongoing action on water issues in remote communities, homelands and outstations, incorporating all states and territories (10)



Attendees identified current challenges and potential solutions to improve drinking water supply.

Water quality challenges – Links with priority actions



Water security

Challenges, solutions and linkage to key priority actions

Forum participants identified challenges and solutions around water security which were categorised under four headings: volume of water; demand for water; competing users; and risks associated with climate change.

Challenges

“Water shortage is an issue in some areas regardless of quality”

“There are knowledge gaps on both quantity available and demand”

“Sustainability of supply is linked to what is happening elsewhere in a region”

“Issues with competing users – aquifer goes down and we miss out on water”

“There are lots of bores on pastoral leases and the water is good – why can’t we tap into that?”

“What is the solution when there is no water available for communities?”

Solutions

“Should be multiple sources for each community – ability to switch supply as required”

“May need multiple supplies of same source (e.g. several bores) OR several sources (e.g. rainwater and groundwater)”

“Wells could be drilled outside community boundaries to access better water quality”

“Basic level of service – clearly define minimum level of quality and quantity standards for communities in easily accessible form – those that don’t meet the standard can start working towards this”

“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”

“Need to legislate community drinking water supply protection”

“Pastoralists need to share water and community needs have to be prioritised – community needs to be engaged in any changes to share leases”

“Everyone should have confidence in supply of appropriate quality and quantity of drinking water into the long term even in a changing climate”

“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 Office of the United Nations High Commissioner for Human Rights (OHCHR), 2010

Linking challenges to priority actions

Three key actions emerged to resolve water security challenges under all headings:

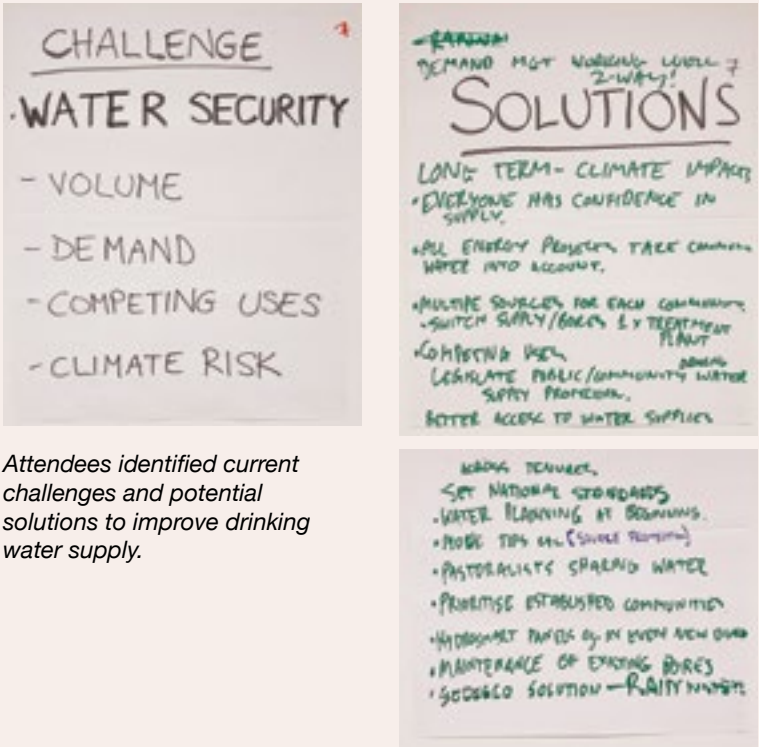
- The creation of a localised First Nations water authority which includes First Nations voices and provides expertise on water in remote communities (3)
- Having a joined up approach to planning for water including all relevant services in addition to water, such as health, housing and energy (7)
- Setting national standards for water security infrastructure and level of service including water quality, quantity and supply (8)

Other key items which were identified as solving the challenges associated with volume and demand (including competing users) were:

- A national commitment to ongoing action on water issues in remote communities, homelands and outstations, incorporating all states and territories (10)
- Data dashboard – a national data platform with understandable, easily accessible, up-to-date water quality information presented in culturally appropriate ways (9)
- Community education – a coordinated program to empower the whole community to understand their own water supply delivered through schools and community engagement processes (4)

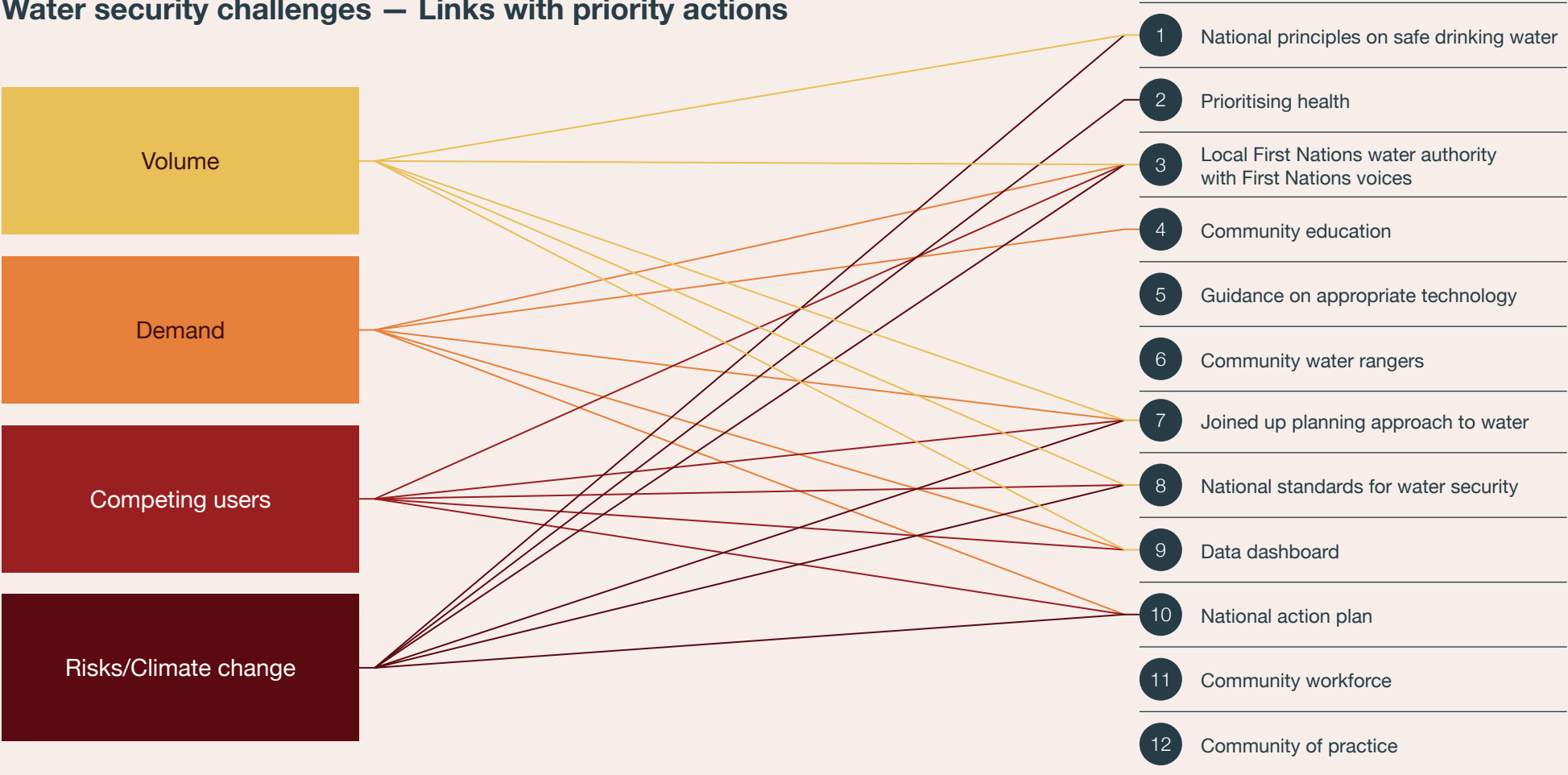
Meanwhile, key items prioritised specifically relating to the mitigating against the risks of climate change on water security were:

- Setting national principles on safe drinking water for remote communities which prioritise drinking water quality and source protection, and incorporating local cultural knowledge and Indigenous-led, localised community engagement (1)
- Prioritising health by addressing national health targets through better understanding of water quantity and quality issues (2).



Attendees identified current challenges and potential solutions to improve drinking water supply.

Water security challenges – Links with priority actions



Policy

INFORMATION

①

CONSISTENT DEF OF
WATER SECURITY

②

How TO BEST COMMUNICATE
ENGAGE

③

WATER RESOURCES

→ WHERE IS CURRENT
INFO?

COMMUNITY

INFORMATION

①

First Nations
Water Authority

②

Local Community
Water Rangers

③

Localised
Cultural Appropriate
Consultation/Orientation
2 ways In / 2 ways Out

Building Trust /

①

Utilit
Community W

②

Set a standard
a standard of
Supply/meet Ser
Homelands/communities

③

Future plan/mar
data. → Groundwater
→ climate change

④

Aim and achieve
targets @ remote

ies |
water plan - Review
rd of service and
quipment to
vice for Remote
s.
ual from historic
→ Demand Management
→ Growth Management
health based
communities' homelands

INFORMATION

- ① what information do communities want and what form do they want to receive it? to make informed decisions
- ② consulting with communities about priorities and acceptable levels of service
(ADWG Health Guidelines across all water supplies is baseline)
→ What are acceptable levels of service?
- ③ roadmap to get to the goal but
→ what is the shared goal?

INFORMATION

- ① Information hub - could be Bushf
- directory for funding sources
- technical information
- stored community/homeland WSP, data, history, core data
- ② DWC to share resources on water education for schools & comm
- ③ A list of appropriate water treatment technologies
(hint - these don't exist yet!)
(so please do some R&D for us)

Heat maps indicating perceived role of various key actions in resolving challenges by attendees

The ability of each key action to help resolve the challenges identified by attendees can be illustrated visually using a heat map, where colours indicates the frequency with which a particular key action was cited in conversations reported by the attendees in workshops.

The visual representation is not meant to be a quantitative measure but rather to provide a visual picture of the complexity and inter-relatedness of the various key items in assisting solve the problems of drinking water in the bush.

Heat map indicating perceived role of key actions in resolving challenges

	Truth-telling challenges	Governance challenges	Employment challenges	Infrastructure challenges	Planning challenges	Social challenges	Uniqueness challenges	Water quality challenges	Water security challenges
1 National principles on safe drinking water									
2 Prioritising health									
3 Local First Nations water authority with First Nations voices									
4 Community education									
5 Guidance on appropriate technology									
6 Community water rangers									
7 Joined up planning approach to water									
8 National standards for water security									
9 Data dashboard									
10 National action plan									
11 Community workforce									
12 Community of practice									

Darker shading = greater frequency that a key item was mentioned to assist in resolving a challenge.
(Data were normalised by dividing by the number of solution headings in each action list and raw data are included in the Appendices.)

Discussion and recommendations

In this section, we will discuss and make recommendations on how progress could be made to overcome the various challenges associated with improving drinking water in the bush, under headings combined from various proposals identified by forum attendees, and in the context of a much wider body of literature in the area.

Key findings from this forum for improved drinking water outcomes in the bush identified a very similar set of requirements to that identified by a range of researchers in the literature – for example Hall et al. (2021) identified the importance of five factors that were essential in the delivery of safe water to First Nations communities: ‘people factors; cross-agency collaboration; technology that is fit for place, purpose and local people; funding that is sufficient and sustainable; and taking a systems view of water’. More recently, Hall et al. (2022) added specific encouragement for capacity building, and training and support for local Indigenous service operators to the list. Each of these themes (see below) was highlighted at the forum and is discussed further.

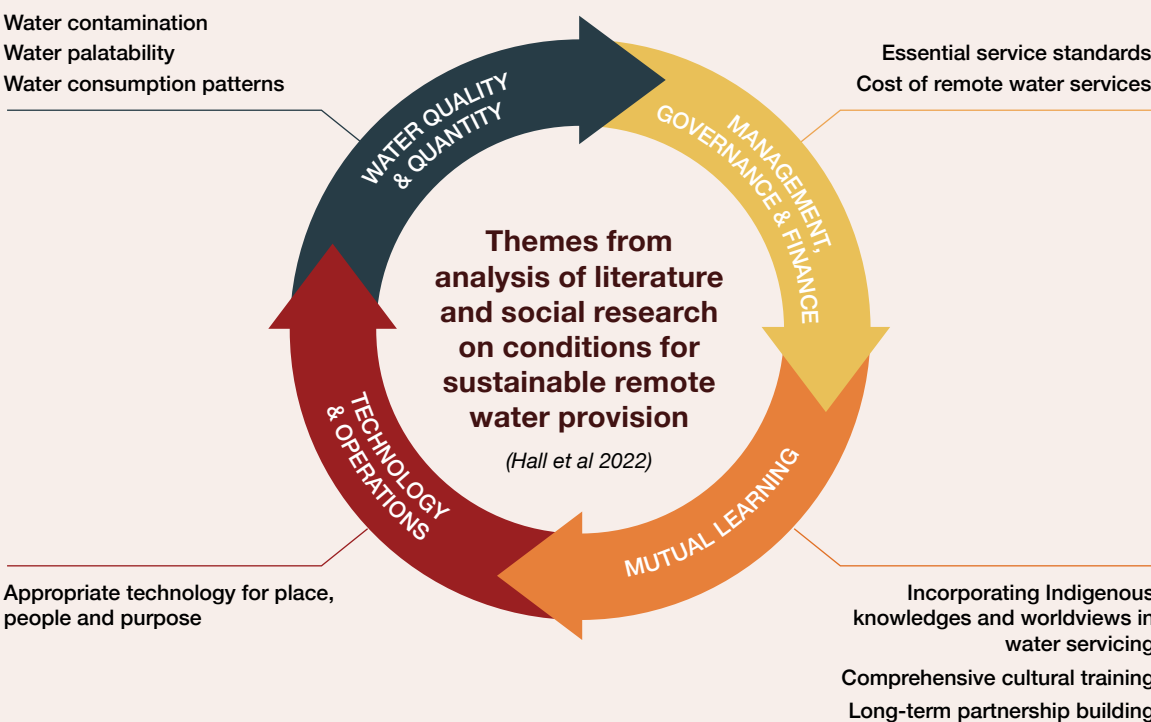
Greater autonomy through shared partnerships for decision making to improve governance challenges

Throughout the forum two key related threads emerged in discussion: these were the need for *truth-telling to build greater trust and relationships* between First Nations communities, service providers and government and the *desire for greater autonomy for communities* through localised culturally appropriate consultation and orientation on water supplies which involves two-way engagement both in and out by all parties.

The forum attendees reiterated comments made previously by First Nations peoples indicating that paternalism needs to be replaced by the giving of agency (Vanweydeveld, 2022 p. 73) with community input requested on all aspects of management of water, including on demand and supply, and with the potential to consider greater self-determination, ultimately through more community-led programs (Beal, et al., 2018).

Currently governance and funding arrangements for remote water supplies complexity are complex, cumbersome and lacking accountability to the extent that their convolution is in itself a barrier to success (Vanweydeveld, 2022, p. 7). There was widespread agreement among attendees of the forum with the desire of the First Nations communities in seeking a national commitment to action on relevant water issues incorporating all states and territories; with the development of national principles which prioritise health targets and source protection, including principles on water sharing covering rights, charging schedules and competing users.

These initiatives would be led nationally, to ensure cross-jurisdictional relevance and consistency, but with relevant input from states and territories and incorporating Indigenous knowledge and the engagement of communities potentially through a series of localised First Nations water authorities. Approaches supporting greater community control ‘stand out as an important aspect of Indigenous peoples’ self-determination and ... understanding of the role of trust and legitimacy in...water management’ (Jackson, 2019).



Discussion and recommendations *continued*

National standards incorporating infrastructure, levels of service and including codes on appropriate technologies with maintenance plans

The majority of attendees identified national standards for water security in the bush as important. Incorporating both infrastructure needs and basic levels of service with expansion to ensure health-based targets are met, these could be designed with Codes incorporating guidance on installation of appropriate technologies for supply and demand management at each location, along with a joined-up approach to planning, ensuring that water supply, energy and housing are all considered in any existing or new development. In this regard, attendees from utilities commented on the value of reinstating a revised community Water Planner (Grey-Gardner and Taylor, 2009). Recently, the Productivity Commission recommended that subsidies may be required to ensure safe, reliable and affordable access to a 'basic level of service' for water supplies in high-cost locations (Productivity Commission 2021). While funding was not identified as a key action per se during the forum, a number of attendees commented on the need for any funding allocation to drive desired outcomes such as ensuring sustainability of solutions by factoring in long-term maintenance plans in any operational costings and funding these alongside capital costs associated with any project. Funds were also requested to achieve specific goals such as for bigger community-led programs and for long-term support for 'champions', selected by communities to drive forward a change agenda.

Building the local workforce of the future through community education

Forum attendees raised the importance of providing culturally appropriate local education workshops on both demand and supply related matters including on tools for management of water supplies, and education on appropriate technologies for water efficiency improvements as well as on water quality parameters and health-related matters. Ultimately, scaffolding these educational tools could enable employment opportunities, including through 'community water rangers' programs which would build significant local capacity to create a more "equal and ongoing relationship between community and council/service provider(s) to ensure optimal engagement" (Beal et al. 2023). Further, these authors comment that creating an environment where communities can safely learn to 'fail and improve' will also assist in building trust and confidence within a community that over time they can transition from council/service provider-based demand approaches to those run by their own communities to provide 'a sustainable, resilient and ultimately independent water supply' Beal et al. (2023).

Relevant programs at all levels from communities, through schools, further education providers and higher education institutions could be run through existing state and territory education systems in partnership with utilities but should incorporate local culturally relevant expert knowledge. Communities would be tasked with identifying education officers to provide this knowledge in partnership with state/territory education providers. National standards for training could be used to ensure consistency of standards, but maintenance of local approaches.

“Safe drinking water... is essential for good health and wellbeing... It is an issue that demands immediate attention and action by all levels of government – without it, the health gap between Aboriginal and Torres Strait Islander people and their non-Indigenous peers will remain wide and intractable.”

Hall, et al., 2021

Data dashboard / hub for information sharing

An effective data dashboard could be developed with input from states and territories, in consultation with communities, but with maintenance through an organisation such as the Bureau of Meteorology, managed at the national level. To be most effective this data should be collated from regular, long-term monitoring programs which could be managed locally by trained community water rangers. The dashboard should be developed in a culturally appropriate way with the capability to interrogate key aspects in relevant local languages, plain English and pictorially.

The data should also be provided in the context of relevant information such as guidelines and standards and could be visualised in ‘traffic light’ format to inform communities when water is safe to drink or when alternatives should be sought. As well as helping to build trust (Jackson, 2019), this data could be used to: build local water management plans for each location; reinforce principles in community education programs; advocate source protection needs with other existing users; and as an effective tool for monitoring progress towards improvement goals from new smart water infrastructure or to provide evidence of ongoing maintenance of existing infrastructure and records of decisions made for specific communities, similar to the energy program Bushlight in Northern Territory (Centre for Appropriate Technology, 2021).

A nationally run dashboard would also ensure a nationally consistent approach to the collection and reporting of data and would assist in reporting locally against global Sustainable Development Goals, including on both water and health as well as providing baseline data from which to measure and model different climate scenarios. Another advantage from the perspective of the utilities would be the ability to future-plan from historic data, covering supply and demand changes and their management.

Community of Practice to build knowledge and trust

Communities of Practice (CoP) should be created, comprising a collective of water professionals, from industry and government and including health and planning officials; with input from community water rangers, including from homelands and outstations, and specialist engagement from nominated members of the academic community to share information and knowledge on a regular basis, including updates on overseas progress on resolving challenges and sharing best practices. As Hall et al. (2022) point out: “Remote Indigenous communities must be recognised and respected as key client partners with agency, and utilities and government agencies should approach initiatives with an orientation for mutual learning”. Further they comment that “the approaches to implement... could be through advocacy, research and knowledge support, and direct engagement for on-the-ground initiatives”. Creating CoPs could assist in ‘ensuring that national (cross-jurisdictional) decision makers are in the room’ (forum attendee feedback)

CoPs could be set up within each state and territory, reporting nationally, within 12 months. Plans could commence to hold the first national meeting by end of 2024 to: share progress on challenges; monitor data dashboard outputs; share examples of best practice from overseas; and to maintain the momentum created at the forum. Scheduling a regular progress workshop / forum would also respond to the National Commitment to Action identified an important priority by attendees.

The Commonwealth may wish to consider an early response to this report by developing the nucleus of a national CoP from among the members of the Steering Committee for this forum, which could then be augmented by attendance from representatives of each State and Territory entities.

Potential ownership of various proposed prioritised items

This table identifies recommendations regarding ‘ownership’ of the various key items across governments, service sectors and communities. While most of the items will involve all groups to some extent, those listed should have specific responsibilities to ensure ongoing success.

	NATIONAL LEADERSHIP	STATES & TERRITORIES / UTILITIES & SERVICES	COMMUNITIES
1 National principles on safe drinking water			
2 Prioritising health			
3 Local First Nations water authority with First Nations voices			
4 Community education			
5 Guidance on appropriate technology			
6 Community water rangers			
7 Joined up planning approach to water			
8 National standards for water security			
9 Data dashboard			
10 National action plan			
11 Community workforce			
12 Community of practice			

Action number (#) provided from attendees prioritised listing

Immediate priorities/ quick wins

Forum attendees were clear that the need for “actions are urgent and that they need to be done immediately”. While many items listed as priorities will require time and resources to be effective, there are some items where commitment to start could be immediate.

Examples of such initiatives are below:

- Creating infrastructure to allow a central repository of information for drinking water management in remote areas on availability and quality of various sources. This information could then be used to create a data dashboard as well as providing information about data needs where no data currently exists.
- Research and development needs to create list of appropriate and scalable water treatment technologies which could subsequently be incorporated into national codes on supply and demand infrastructure. Such research should include monitoring of effectiveness and safety of low-tech solutions such as rainwater tanks and other modular local drinking water solutions as well as smart technology options.
- Forecasting rainwater and groundwater availability for harvesting under a range of modelled climate and planning scenarios in remote regions.
- Agreement on consistent definitions relating to policy development such as ‘water security’ and ‘basic level of service’ should be made by all states and territories.
- Setting up communities of Practice in states and territories with the initial core group potentially formed by the steering group for the forum.
- Setting up culturally relevant local community education and workforce development programs leading to community water ranger qualifications.

“...States must take positive measures to include everyone and to redress past disadvantage and reverse patterns of inequalities”

Cromar & Willis, 2022 p. 41

Conclusions

This report has presented and discussed the findings of a forum on *Working together for better drinking water in the bush* held in Mparntwe (Alice Springs) in late June 2023.

The forum brought together representatives from Central Desert and other First Nations communities, service providers including utilities, and government representatives to share knowledge and to learn from the lived experiences of community members what needs to be prioritised to inform decision making and future actions towards ensuring better drinking water in the bush.

In addition to providing updates from various states and territories as well as nationally regarding progress to date, the forum used a series of World Café-style workshops sequentially to lead attendees to consider challenges, solutions, actions and information required to ultimately prioritise key items for action.

While recognising the small sample size of First Nations community members at the forum, it was clear that those present wanted to see national leadership on the development of principles to ensure source protection and prioritise safe drinking water for good health, which incorporate cultural knowledge and are driven by engagement and leadership from Indigenous peoples at the local level, ensuring ‘two-way in’ and ‘two-way out’ knowledge transfer.

From analysis of discussions, several headline items were identified as worthy of prioritisation, with many creating significant synergies in combination:

The desire for national principles, national standards, a national action plan, and national targets which all prioritise the health of First Nations people living in communities, outstations and homelands clearly resonates with a desire for reform of formal partnerships, to encourage shared decision making with much greater self-determination and to build the community-controlled sector for more efficient and effective remote water management.

Encouraging partnerships between different sectors such as health, water, energy, planning and development to plan collaboratively and to access data and information at the regional level, including relevant guidance on appropriate technology for local solutions in demand and supply, would support an interest in transforming government organisations to do things differently, in alignment with the National Agreement on Closing the Gap and the Priority Reforms (Department of the Prime Minister and Cabinet, 2020).

Finally, creating a First Nations water authority, building a data dashboard, and organising Communities of Practice would allow shared access to data and information and could create shared learnings for management of water supplies in a more climate challenged future. At the same, creating relevant community education programs, using culturally relevant knowledge to generate localised workforce development including community water rangers , would build the community-controlled sector, share decision making and allow governments to partner with First Nations communities to achieve better drinking water in the bush.





The forum represented the first national gathering of representatives from all sectors related to remote water supply to collaboratively address challenges, solutions and actions for addressing better drinking water in the bush.

This report, and the forum it summarises, are both timely and important signals for change in the way we provide access to drinking water in the bush. Taken together with the announcement by the Australian Government (Department of Climate Change, Energy, the Environment and Water, 2023) of initial funding of \$150 million over four years to support First Nations water infrastructure, significant strides should be possible towards providing safe and reliable water access for improved health and wellbeing in remote and regional First Nations communities.

The priorities identified in this report should be considered and recognised as having provided a clear indication of consensus among members of communities, utilities and other service providers and governments. It is hoped that those able to drive change will take on board the information and knowledge that was gathered and that the spirit and the momentum that characterised the forum will be maintained into the future to ensure better drinking water in the bush for all communities.

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