

**Centre for
Appropriate
Technology**

**Evaluation of the Community Water Planner and
Community Water Planner Field Guide:
Workshop Report**

March 2012

Alice Springs



© Centre for Appropriate Technology Inc

HEAD OFFICE:

Desert Peoples Centre,
Desert Knowledge Precinct,
South Stuart Highway,
Alice Springs NT 0870

The Centre for Appropriate Technology (CAT) is the national Indigenous science and technology organisation. CAT's vision is Happy and Safe communities of Indigenous peoples and its purpose is to secure sustainable livelihoods through appropriate technology. CAT is currently funded from a variety of sources including the Commonwealth and State and Territory governments and private sources.

CAT papers document the research, planning and engagement and technical advisory services undertaken by the organisation. Apart from any use permitted under the Copyright Act 1968, no part may be reproduced by any means without prior permission.

The views and opinions expressed in this document are those of the author/project team and do not necessarily reflect the views of the Centre for Appropriate Technology.

www.icat.org.au

Acknowledgement

This project was funded by the Australian Government through the National Water Commission's Raising National Water Standards Program.



Australian Government

National Water Commission

CENTRE FOR APPROPRIATE TECHNOLOGY OFFICES

Central Australia

HEAD OFFICE

Desert Peoples Centre
Desert Knowledge Precinct
South Stuart Highway
Alice Springs NT 0870
Tel: (08) 8959 6100
Fax: (08) 8959 6111
info@icat.org.au

7/330 Sheridan Street
PO Box 6182
CAIRNS QLD 4870
Tel: (07) 4031 0505
Fax: (07) 4031 0431
nq@icat.org.au

GPO Box 2875
DARWIN NT 0801
Tel: (08) 8981 7599
Fax: (08) 8981 7233
darwin@icat.org.au

3/68 Clarendon Street
PO Box 1304
DERBY WA 6728
Tel: (08) 9191 2585
Fax: (08) 9191 2598
derby@icat.org.au

www.icat.org.au

Contents

Introduction	4
Background	5
Key points arising from the workshop	8
1. Implementation	8
NWC Knowledge adoption program	8
Policy and legislative mechanisms	10
2. Successes and challenges	11
Field Guide design	11
Enablers	11
Barriers	12
3. Strategic actions & recommendations	13
Strategic Actions	13
Recommendations	13
Conclusion	14
References	15

Introduction

A workshop to evaluate the implementation of the Community Water Planner and the Field Guide tools was held by the Centre for Appropriate Technology (CAT) in Alice Springs, NT on 16 and 17 February 2012. CAT had developed the Field Guide in 2008-2009 for the National Water Commission through Water Quality Research Australia, and has continued to be instrumental in the Guide's cross-jurisdictional implementation. The evaluation workshop, held just over two years after the launch of the Guide, was commissioned by the National Water Commission.

Workshop participants were from the Northern Territory, New South Wales, Queensland and the Australian Capital Territory. The participants came with either practical experience of using the tools in programs or from institutions with an interest or accountability for water supply and management services. The workshop was facilitated by Robyn Grey-Gardner, consultant and leader in the field of water management in remote communities. The workshop itself involved reflective and strategic discussions, planning and mapping exercises. These activities established the extent of the use of the tools and provided feedback on the resources. Some participants brought along examples of the resources they use, lists of the communities where the resources have been adopted, and comments and criticisms of the tools.

The workshop had three purposes:

1. Establish the extent to which the Field Guide has been implemented in the various jurisdictions and circumstances
2. To provide feedback on the successes and challenges of using the Field Guide, in combination with other tools to develop water management plans
3. Develop a framework for integrating water management planning (using the tools) in small Indigenous communities into jurisdictional policy and programs.

The three purposes of the workshop are outlined in this report under the abbreviated headings of:

1. Implementation
2. Successes and challenges
3. Strategic actions and recommendations.

This report was prepared by the facilitator, Robyn Grey-Gardner, and provides details of the comments received during the workshop and a set of recommendations and actions derived from the discussion. In addition to the workshop proceedings, information was gathered from discussions with key stakeholders in Australia who were unable to attend the workshop, and their reflections are incorporated in the discussion.

Background

Drinking water supplies in remote and rural Indigenous communities in Australia have been the focus of attention for decades. There have been numerous reports and initiatives to locate, measure, assess and classify drinking water sources and their compliance with the Australian Drinking Water Guidelines (ADWG) (NHMRC 2004) and connection to the health and wellbeing of Indigenous people (FRDC 1994, HREOC 2001, Willis et al 2009).

Table 1 shows the type of water source for Indigenous communities in Australia, based on population size. Bore water is the most common source of water. Table 2 shows the water sources for small Indigenous communities in each jurisdiction. Bore supplies provide safe and reliable water to a small community, especially if the water is of good quality, the system is secure and has appropriate or low technology.

TABLE 1 MAIN WATER SOURCE FOR SIZE OF INDIGENOUS COMMUNITIES (ABS 2007)

	Communities with a population of						All communities	Reported usual population
	Less than 50	50–99	100–199	200–499	500–999	1,000 or more		
Main source of water								
Connected to town supply	81	53	46	19	4	6	209	28084
Bore water	541	57	38	38	12	8	694	48511
Rain water tank(s)	31	4	1	5	0	0	41	2378
River/reservoir	37	3	4	7	3	3	57	11667
Well or spring	37	0	1	1	0	0	39	887
Carted water	26	0	0	1	0	0	27	637
Other organised water supply	2	1	0	0	0	0	3	104
No organised water supply	9	0	0	0	0	0	9	20

TABLE 2 MAIN SOURCE OF DRINKING WATER FOR INDIGENOUS COMMUNITIES WITH A POPULATION LESS THAN 50 (ABS 2001)¹

	Connected to town supply	Bore Water	Rain water tanks	River or reservoir	Well or spring	Other organised supply	No organised water supply	Total
New South Wales	8	2	-	1	-	-	-	11
Queensland	2	27	12	28	24	4	1	98
South Australia	3	53	14	-	-	-	-	70
Western Australia	13	152	2	7	6	9	13	202
Northern Territory	49	380	9	37	17	9	7	508
Australia	75	614	37	73	47	22	21	889

There has been significant investment in water supply infrastructure over previous decades. Improving the management of small water supplies presents the greatest opportunity to reduce water-related disease (WHO 2010) and improve livelihood outcomes (Nichol 2000).

¹ More recent data for source of water supply for communities in each State and Territory is not available

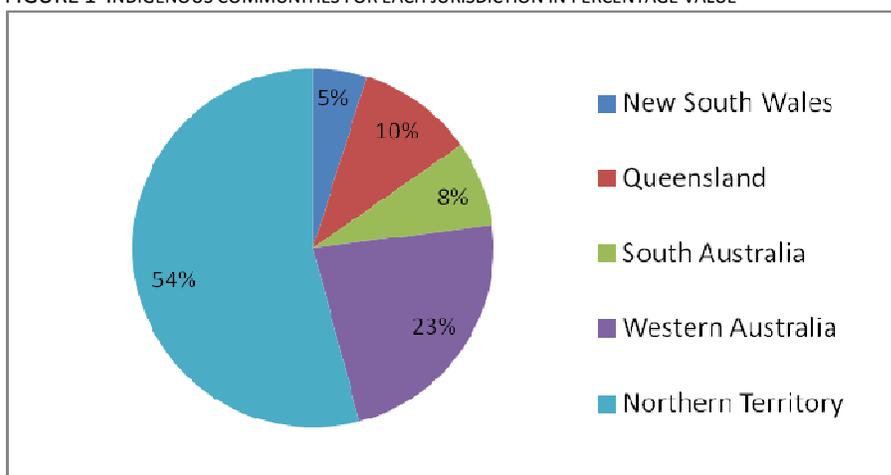
The turn of this century saw the emergence of water management planning as a key principle for preventive and risk management approaches to water quality and supply. In Australia and internationally, water management planning processes were developed (NZ MOH 2005, AusAID 2005, Bartram et al 2005, Davison et al 2005). The National Health and Medical Research Council (NHMRC) developed the first version of the Community Water Planner in 2005, which was an electronic tool to create a water management plan based on microbiological factors. This risk management and preventive approach to water quality is now well established and is now the foundation of other guidelines such as recycled water and environmental water management.

The NWC identified gaps in the water planning process and commissioned the further development of tools to assist with the creation of water plans. From 2007 to 2010, two tools to assist small Indigenous communities to develop drinking water management were developed:

- The Community Water Planner – an electronic tool that further enhanced the microbiological Community Water Planner tool with physical, chemical and radiological factors
- The Community Water Planner Field Guide – a paper-based set of posters, worksheets and materials to create water plans in regions where cross-cultural processes are required and access to IT and other services are limited.

Following the comprehensive trialling and testing of the tools, the Community Water Planner Field Guide was launched in October 2009 and the electronic Community Water Planner was launched under the auspice of the NHMRC in November 2011. The tools are available free-of-charge for people who work with small communities on water supply management, including water utilities, service providers, health agencies, natural resource managers and Indigenous community support and resource agencies.

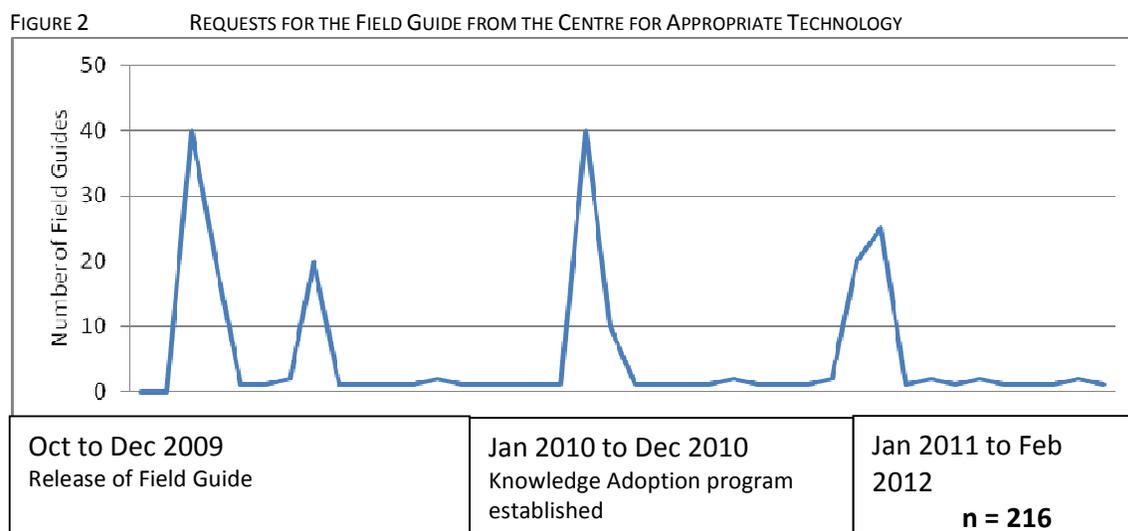
FIGURE 1 INDIGENOUS COMMUNITIES FOR EACH JURISDICTION IN PERCENTAGE VALUE



The focus for the Community Water Planner and the Field Guide has been in the States and Territories that have the highest number of Indigenous communities and water supplies:

namely, Western Australia, South Australia, Northern Territory, Queensland and New South Wales (see figure 1). In 2010, the NWC released funding to assist with the knowledge dissemination and adoption of the tools. The States and Territories where the majority of Indigenous communities are located were invited to develop programs to assist with running workshops and practical sessions on using the tools.

Data collected on the requests received by CAT for the Field Guide provide some indication of the interest in the tools and how this is reflected by the stages of knowledge adoption and program development. Figure 2 shows a time line for the number of Field Guides requested. There was much interest at the release of the tool (October 2009) and then subsequently when the knowledge adoption program was initiated (July 2010). From mid-2010 to early 2012, there has been a stable but low interest in requests for the Field Guide. It is noted that this information only represents the requests for the Field Guides from CAT and each jurisdiction holds further copies that have also been distributed.



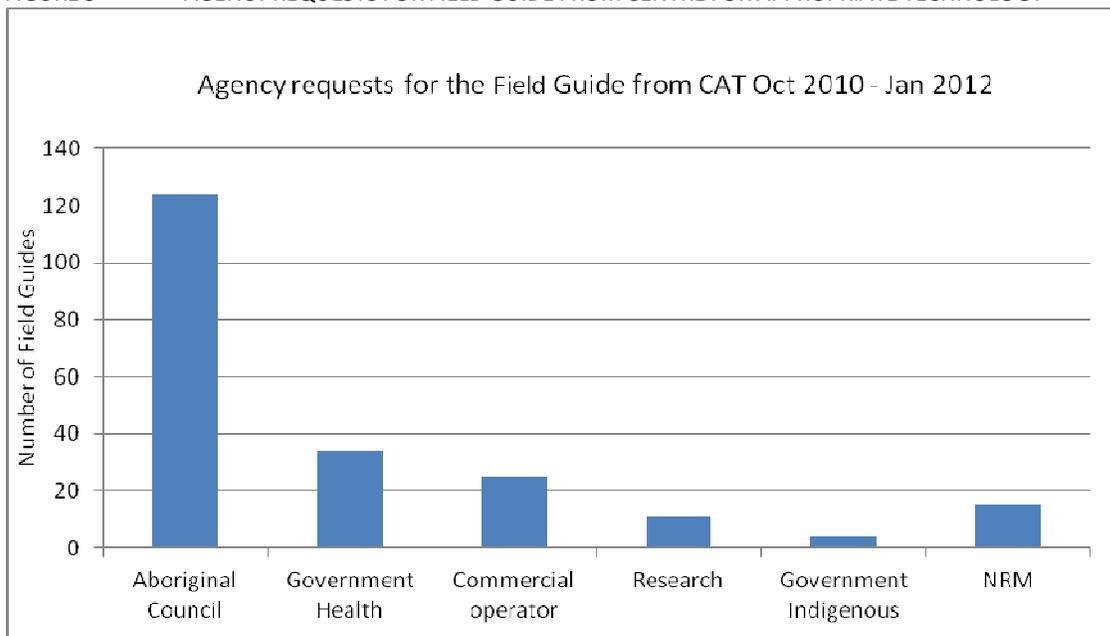
The trend depicted in Figure 2 indicates low rates of uptake in the resources without promotion, since interest in the tools was at the times of initial release and then at the initiation of the knowledge adoption program initiation.

Figure 3 presents a graph of which agencies have requested copies of the Field Guides. The y axis represents the number of Field Guides and the x axis indicates the agencies which have been grouped into six broad representative areas:

- Aboriginal Councils – land councils, resource agencies, outstation communities, Indigenous Community Water Facilitator Network members
- Government Health – State government health departments
- Commercial operator – commercial service providers, businesses working in Aboriginal areas
- Research – universities, cooperative research centres
- Government Indigenous – state and national Indigenous government departments
- NRM – natural resource managers, environment community groups.

The graph shows that Aboriginal Councils made the highest number of requests for the Field Guide. The additional Field Guides in each jurisdiction are housed in the State health department, and it is likely that their clientele would be similarly proportioned.

FIGURE 3 AGENCY REQUESTS FOR FIELD GUIDE FROM CENTRE FOR APPROPRIATE TECHNOLOGY



Key points arising from the workshop

1. Implementation

NWC Knowledge adoption program

The roll out of the Community Water Planner tools has been a mix of activities aimed at the regional and local levels. Regional workshops facilitated by ARUP and CAT have formed the core of the knowledge adoption strategy and can be categorised as train-the-trainer workshops. Workshops have been held with the following formats:

- One-day workshop on the Field Guide and one day on the Community Water Planner (Fitzroy Crossing WA, Cooktown and Weipa Qld)
- Two-day workshop on the Field Guide (Alice Springs, Tennant Creek, Jabiru, Katherine, Nhulunbuy, NT)
- One-day workshop on the Field Guide (Melbourne, Vic).

These workshops introduce Indigenous people and water managers working in Indigenous communities to the main concepts of water risk management and the application of the ADWG principles in practical hands-on training and capacity building activities. The workshops enhance water planning skills and knowledge for water managers to then develop their own site specific plans in their community. Workshops on the Community Water Planner and the Field Guide will commence in South Australia and New South Wales before mid- 2012.

In the Northern Territory a full community-based water planning program supporting local residents and water managers to create water management plans has been implemented. This program builds skills at the local level and provides on-going structured support of advice and

review for the program participants. This format enables the workshop participants to address local issues with on-site expertise provided by the facilitator and actually initiate the management planning process. Workshops additional to those mentioned above have been conducted in regions in the Northern Territory. To a much lesser extent a similar local program has occurred in Western Australia.



PHOTO 1 FIELD VISIT IN NHULUNBUY AS PART OF THE NORTHERN TERRITORY PROGRAM

The Department of Health in Victoria held a workshop on the Field Guide in June 2010. The Department also saw an opportunity to modify the tool for use in a state-wide program to implement water management planning in schools. Although background research was conducted, funding was not provided to print and implement the program.

The train-the-trainer workshops were described as an important initiator for broader water management programs. There was support for the regional workshops and in some areas, such as northern Queensland, water management planning processes are under way. For example, local support in Mapoon has seen the tools and process absorbed into the Environmental Health program.

There has been support for the workshops across the regions in the Northern Territory and Kimberley (WA), and the broader implementation of on-site management planning has had some impact; however, the ongoing nature of these programs is uncertain. Both the West Australian and Northern Territory programs rely on the NWC knowledge adoption funding (although in the Northern Territory funding is matched by the Department of Local Government), and the future for ongoing programs is uncertain. A map displaying the water planning projects undertaken since the release of the Community Water Planner and the Field Guide in Indigenous communities is shown in Figure 4. This map was populated at the workshop by the participants, and there are additional programs in north Queensland that are not represented here.

FIGURE 4 MAP OF WATER PLANNING PROJECTS



Policy and legislative mechanisms

In Australia, the Australian Drinking Water Guidelines (ADWG) are based on risk management strategies that are the foundation for a holistic water management planning process (NHMRC 2004, AusAID 2005). The benefits of this approach include an emphasis on surveillance that maximises the skills of local residents, reduces the response times for action to risk events, lowers the cost of contracting service providers and places water quality testing in the verification role for water management. These principles have been adopted very effectively in the larger, urban and centralised water supply systems. It is no longer considered best practice for risk management in urban supplies – rather it is standard practice. This approach is internationally recognised, efficient and provides the best level of security for water quality management (WHO in press).

Under the Australian Constitution, regulation of water quality is predominantly a State or Territory issue. The regulation of large urban water supplies and larger Indigenous communities' water supplies is set at the State level and a variety of arrangements and instruments exist for service providers to meet the ADWG. Victoria, South Australia and Queensland have legislation that requires water management plans to be developed for regulated water supplies. The South Australian regulations will name the CWP as the template to be used for the planning process. The other jurisdictions have requirements that are not considered to be met by the CWP template. New South Wales, for example, has a water and sewerage program that developed templates for water management planning based on the 2005 CWP.

The greatest opportunity for the use of the tools and potential for improvement of small water supplies in Indigenous communities remains in the small outstations and communities with a population of less than 100 that do not have a service provider. On the whole, health departments recognise the benefits of water management planning; however, a reduction in available funds and resources has limited the potential for independent program implementation (in addition to the knowledge adoption program by NWC). As a general observation, water service providers see the benefits of the tools but usually have their own processes for planning and reporting.

2. Successes and challenges

Field Guide design

The Field Guide and the Community Water Planner are generic tools that rely on a facilitator, or the user, to adapt to fit to local circumstances. The general design, layout and practicality of the Field Guide for the small Indigenous communities are generally accepted. Feedback was sought on the local requirements or elements missing in the design of the Field Guide.

The point of highest priority was that the 'roles and responsibilities' component has already become redundant for some jurisdictions. This observation led to one of the key recommendations of the workshop (see p 15).

Practitioners raised the following points that the Field Guide does not cover:

- Local water quality testing and monitoring procedures
- Jurisdictional private water supply guidelines
- Risk matrix
- Step-wise improvement scheduling
- Boil water notices
- Condensed plans
- Occupational Health and Safety requirements
- Stickers are not comprehensive – for example a sticker for 'manhole' is missing.

Enablers

For program implementation, the workshop participants identified the following points from their experience that assist with successful implementation:

- Workshops have been a successful way to introduce people to the tools
- Following the workshop, water management planning is accelerated when a person is able to be on-site and provide information, identify issues with the water supply and provide assistance in what to look for and discuss
- A sound knowledge of infrastructure suited to small, remote communities can reduce many of the management issues and make the infrastructure more affordable to operate when help is far away and expensive
- An in-principle commitment to funding, prior to doing the management plan, ensures improvements are addressed in a timely manner
- A systematic approach to funding which requires applications for system upgrades to be linked to a management plan
- Water quality interpretation and guidance from professionals
- Time to allow for developing engagement at the local level and for the word to spread about workshops
- A strengths-based approach to work with communities that have a livelihood

- The capacity to build local and regional networks (eg traditional owners discussing with other communities)
- A bottom-up approach with high local involvement for smaller communities.

Barriers

The following barriers to successful water management planning programs were identified:

- Residents (without a service provider) feel they cannot initiate small improvements independently
- Recruitment of Indigenous people is challenging both due to the small pool of candidates and the appeal of work in other sectors (eg, mining)
- Requirements for contractors are often too high for local Indigenous people to be contracted (eg OH&S, ABN)
- Household maintenance has an impact on water supply use, but usually household issues are beyond the conventional boundary for water services and thus not considered
- State and local politics can make it difficult to realise practical options for local communities that also meet higher level objectives
- A backlog of competing demands makes it difficult to get beyond 'reactive' to 'proactive' options
- Practitioners without an introduction to the tools (via a facilitator or train-the-trainer workshop) don't seek opportunities for using the tools, or sections of the tools
- Ownership of the assets and land tenure
- Each jurisdictional service provision arrangement is unique and clarifying responsibilities with different layers of government can be difficult to navigate for the practitioner. Roles and responsibilities are often unclear, especially for the communities without a service provider.



PHOTO 2

WORKSHOP ACTIVITY AS PART OF THE WEST AUSTRALIAN PROGRAM

3. Strategic actions & recommendations

There has been considerable progress in developing the tools, resources and theoretical approaches for improving management for small water supplies. Despite this foundation, further effort at the mainstream policy institutional level is needed to adopt effective and sustaining approaches to the management of small drinking water systems in Australia. The need for institutions and agencies supporting remote Indigenous communities to formally recognise and integrate water management planning in structured programs is pressing.

Strategic Actions

This list comprises actions that policy makers and practitioners can integrate into current systems to assist with promoting water management planning:

- Integrate system upgrades and step-wise improvement plans with funding allocations, and phase in criteria for incorporating management plans for funding
- Include housing management and waste water in water planning programs to better understand and address water use and the impacts of whole of water system management
- Promote the installation and use of water meters to gather evidence and better manage the water supply
- Promote negotiated levels of service with communities, eg community contributions that have a 50:50 funding top up between Commonwealth and State funding
- Capacity building programs for local communities
- Endorse and promote running of regional workshops on the CWP and Field Guide – possibly on an annual basis
- Prioritise a demand-responsive approach to work with small communities.

Recommendations

The key message from the workshop is:

Water management is a continuum: whole of supply management is the focus for our work, and it involves continual investment in capacity-building, step-wise improvements and reviews.

Four recommendations and possible pathways for implementation emerged from the workshop:

1. Identify and enhance current investments in Indigenous community water supplies with water management planning processes

Examples of opportunities for enhancing current programs with a water planning component include:

- The Torres Strait Regional Authority have completed a water system upgrade program with a focus on infrastructure that could incorporate water management planning
- Infrastructure Australia will be working in remote communities with a development focus that would be enriched with water management planning

2. Seek dedicated resources for a national program that contains identified water planning positions and funding to support implementation

- A national coordinator to network and lobby to: generate interest and support for a national program; scope and implement a program to gather evidence on the impacts of water management planning in small communities. Examples of national organisations that could be approached to support program implementation include: Australian Water Association (AWA), Water Quality Research Australia (WQRA) and Government Skills Australia.
- State-based coordinators to provide assistance with water planning implementation at regional and local levels. State coordinators to help local government with additional resources to apply to on-ground activities.

3. Maintain currency for the roles and responsibilities component of the Field Guide

- Develop a plan to regularly update the roles and responsibilities for each jurisdiction
- Make current information available to users on a website (eg, WQRA for Field Guide, NHMRC for CWP).

4. Develop a communication plan to promote the tools

- Develop a communication plan that includes a series of documents that outline the benefits of using the tools that are appropriate to different audiences including government and institutional level and the local and community level
- Make the documents available for users (eg websites such as AWA, WQRA, NHMRC).

Conclusion

The adoption of the water management planning approach to Indigenous communities has been well resourced with the development of appropriate tools. The adoption of the tools remains patchy and unstructured despite the sound evidence and foundation of the approach and the free access to tools. There are opportunities to embed the use of the tools within regional water management programs if sources for continued promotion and investment are found. Interim strategies to communicate and make relevant information available to those who need it can be an inexpensive and valuable means to maintain momentum.

References

Australian Bureau of Statistics (2001) *Housing and Infrastructure in Aboriginal and Torres Strait Islander Communities*, Australia 4710.0, Australian Bureau of Statistics, Australian Government, Canberra

ABS (2007) *Housing & Infrastructure in Aboriginal & Torres Strait Islander Communities: Australia, 2006 (Reissue)*, Publication No. 4710.0, Australian Bureau of Statistics, Australian Government, Canberra

AusAID (2005) *Safe water guide for the Australian Aid Program, A framework and guidance for managing drinking water quality*, Australian Agency for International Development, Canberra.

Bartram J et al. (2009) *Water safety plan manual: step-by-step risk management for drinking-water suppliers*. Geneva, World Health Organization
(http://www.who.int/water_sanitation_health/publication_9789241562638/en/index.html).

Davison A et al. (2005) *Water safety plans. Managing drinking-water quality from catchment to consumer*. Geneva, World Health Organization
(http://www.who.int/water_sanitation_health/dwq/wsp170805.pdf).

Federal Race Discrimination Commissioner (1994) *Water: A Report on the Provision of Water and Sanitation in remote Aboriginal and Torres Strait Islander communities*, AGPS, Canberra.

HREOC (2001) *Review of the Water Report*, Human Rights and Equal Opportunity Commission, Race Discrimination Unit, Sydney, Australia.

NHMRC (2004) *Australian Drinking Water Guidelines*, National Health and Medical Research Council, Canberra, ACT.

NHMRC (2005) *Australian Drinking Water Guidelines Community Water Planner – A tool for small communities to develop drinking water management plans*, National Health and Medical Research Council, Canberra.

New Zealand Ministry of Health (2005) *Small drinking-water supplies: preparing a public health risk management plan*. Wellington, New Zealand Ministry of Health
(<http://www.health.govt.nz/publication/small-drinking-water-supplies>).

Nicol A (2000) *Adopting a Sustainable Livelihoods Approach to Water projects: Implications for Policy and Practice*, Working Paper 133, Overseas Development Group, London.

World Health Organization (in press) *Water Safety Planning for small water supplies, Step by step guidance for the development and implementation of water safety plans for small communities*. Geneva, World Health Organization

Willis E, Pearce M, McCarthy C, Ryan F and Wadham B (2009) *The provision of water infrastructure in Aboriginal communities in South Australia, Aboriginal History*, Volume 33 ANU E Press.
<http://epress.anu.edu.au/apps/bookworm/view/Aboriginal+History+Volume+33/141/ch07.xhtml>