PaCWaM+
PACIFIC COMMUNITY WATER MANAGEMENT-PLUS

RESEARCH BRIEF

Localising Community Water Safety Planning in Pacific Island Countries

SEPTEMBER 2022

Key findings

The unique local contexts of rural communities in Pacific Islands influences the current, and potential, mechanisms to support community water management, including the applicability of Water Safety Planning (WSP) approaches. Several strategies were used to further localise the existing Drinking Water Safety and Security Planning approach of Fiji, in partnership with the Ministry of Health and Medical Services. In Solomon Islands, a new localised WSP approach was developed to complement government approaches to Water Committee capacity building; this was codesigned with Plan International and Live and Learn. In the course of codesigning, seeking feedback, and in the case of Solomon Islands deploying and monitoring these localised WSPs, key lessons have been identified. These are likely applicable to Water Safety Planning approaches in Melanesian populations, if not all Pacific Island Countries.

- Risk-based approaches, such as Water Safety Planning (WSP), are relevant and appropriate approaches to improve water security in rural communities in Pacific Islands such as Solomon Islands and Fiji. However, WSP must be localised in order to increase its effectiveness.

- In particular, because of the high level of responsibility that communities have for the operations, maintenance and management of community water systems, any WSP approaches must have capacity development as a priority outcome; they must build the capabilities of Water Committees in a sustainable way, and contribute to improved management and governance practices of those communities.

> **PaCWaM+ Research program**
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> **The Pacific Community Water Management Plus (PaCWaM+)** research objective was to investigate how governments and Civil Society Organisations (CSO) can better enable rural community water management to improve SDG6 outcomes: specifically WASH outcomes that are resilient to natural hazards and disasters, that are sustainable (exist for the long-term), and that are inclusive (meet the needs of everyone).
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> This research program sought to provide regionally appropriate evidence about what kinds of support are needed to complement and improve community capacities for water management across different village, island and country contexts in the Fiji and Solomon Islands.
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> The research involved two phases. PHASE 1 research sought to identify what the 'plus' factors might look like in two Pacific Island countries – what type of support is needed by communities, and how that support might be achieved. PHASE 2 activities focussed on further exploring and – where possible – piloting, some potential 'plus' approaches.
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> More recent action research has explored how some of the PaCWaM+ findings and approaches may be relevant in Vanuatu.
>
> Based on this 4-year research program, numerous findings and lessons have emerged that are relevant to practitioners and policymakers in Solomon Islands, Fiji and Vanuatu. This Research brief outlines some of the key lessons gleaned on water safety planning.
>
> More information about the research program can be found here www.watercentre.org/pacwam

- The prioritisation of capacity building as an outcome has implications for the way the WSP is implemented with communities. The research identified a preference by WSP participants and community members for WSP processes to be more hands-on, and less intensive, with ½ day training and activities spaced out over weeks to months. This aligns with effective learning practices.

- There may be benefits in clustering WSP training with groups of nearby communities. In addition to offering cost-efficiencies (especially if spaced implementation as recommended above is adopted), communities might respond positively to the opportunity of co-training alongside neighbouring communities – sharing similar experiences and forming informal social networks amongst Water Committees.

- Incorporating promotional (or social marketing-based information) in WSP can assist with the prioritisation of water in communities; this is especially important as individuals must manage competing demands for their time and energy, at the household and community level.

- Disaggregating the assessment, planning and community engagement aspects of WSP to spatial levels that exist within communities may improve the quality of the improvement plan, and the likelihood of its implementation by the community. In particular, the use of zones – clusters of nearby households – offers benefits to WSP assessment and planning tasks. Zones are often comprised of households with familial, tribe/clan, or faith-based social networks, which offers greater agency to individuals to voice needs and issues than they typically have at the whole-community level.

- Assessing water access and hazards at the zone level, and identifying actions that can be implemented at the zone, or household level, can therefore improve the social inclusion of marginalised people and enhance the likelihood of collective actions. The disaggregation does not need to flow through to separate action plans, rather a community improvement plan can comprise of community-level and zone-level actions.

- An emphasis within WSPs approaches on the importance of non-infrastructure-based improvements is appropriate given the context of community-managed water systems. Modifying the control identification and action planning steps to explicitly identify actions at the household level (in addition to zone and community-level actions described above), emphasises the importance of collective action and the need for the whole community to be responsible water users

- A reliance of multiple water sources and systems is commonplace and managed at the household level. Thus, WSP needs to accommodate assessment and management of multiple supplies, with multiple uses.

- WSP should not be seen as a standalone engagement with communities. Follow-up visits are a critical means of (i) creating accountability of WASH Committees to follow-through with their commitments to their communities, (ii) bestowing continued authority and agency to WASH Committees amongst other community leaders and members. One strategy to structure follow-up visits is to adopt the "Water/WASH Committee Backstopping" approach developed in the PaCWaM+ project.

CWSIP implementation – community mapping, Guadalcanal Province, Solomon Islands (C. Benjamin, SINU)

Water Safety Planning

Water Safety Planning (WSP) has a long history in supporting preventative actions to ensure drinking water safety, and has been widely adopted globally, and in the Pacific region. WSP is a risk-based approach that was adopted by many Pacific Island Countries in 2005.

WSP is a flexible approach that can be adapted to suit any scale of water system, including community-based water systems (e.g. WHO, 2012, 2014). More recently, with climate change exacerbating water availability in many communities, WSPs have evolved to address water safety and security, addressing the challenge of protecting water supplies to ensure sufficient quantities of safe drinking water (e.g. climate-resilient WSPs, WHO, 2017).

The localisation of Water Safety Planning is not a new practice – there are many examples of WSP processes that have been tailored to suit the local environment and water resources, local capacities and socio-cultural context. For example, localisation of Water Safety Planning to rural Nepal communities (Barrington et al, 2013), and localisation of integrated water and sanitation safety planning in Cambodia (Ockelford & Wright, 2021). Vanuatu have continued to adapt and contextualise their Drinking Water and Safety Security Planning (DWSSP) through the inclusion of climate change risks (Rand et al., 2022).

For the Pacific Islands, which are undergoing dynamic social and ecological changes, there are many unique characteristics that influence water management (Souter and Schuch, 2017W/TCs). WSP must be similarly dynamic and undergo ongoing critical reflection, knowledge sharing, and localisation. WHO and SOPAC developed *Drinking Water Safety Planning - A practical guide for Pacific Island countries* (WHO & SOPAC, undated) but this guide is more suited to urban-based systems, focuses on water quality and is not readily applicable to rural contexts.

The goal of village-scale water security improvement planning is to support **water users and managers in villages to become aware of, and think about, managing key risks to their local water security**. This type of risk-based approach involves assessing hazards, which are events, currently happening or that might happen, that could reduce the security of water. A basic risk assessment considers how likely a hazard is to occur, how many people could be affected**,** and how serious its consequences are. By conducting a risk assessment, water managers can focus on reducing hazards that can cause the most harm. By removing or managing high-risk hazards, communities can prevent water problems from occurring or reduce their impact, which means it is more likely they will have enough safe water for drinking and other household needs.

A community Water Safety/Security Improvement Plan will identify these risks, together with actions that will prevent or reduce these risks – it is a **plan of action** for the community. These actions should include improving the operation and maintenance of water facilities, awareness raising, behaviour change of water users, and promote good community water management.

Water security without discrimination is recognised as a human right by the United Nations and is central to the Sustainable Development Goal (SDG) target of achieving universal and equal access to safe and affordable drinking water for all. Good Water Security Improvement Planning can and must contribute to equality, regardless of social status, income, age, gender, ability or where a person lives (WHO, 2019).

Developing localised Water Safety Planning for rural commuities in Pacific Islands

There are many unique challenges facing Pacific Island Countries (PICs) in their efforts to achieve water security "for all". Many PICs have comparatively large populations living in dispersed and remote rural areas, and face the challenge of increasing exposure to climate variability and change, as well as socio-economic challenges. Community water users and managers need to think about changes to water availability as well as water quality: both are affected by climate change, disasters (cyclones, earthquakes, floods and drought), and human activities that can dramatically impact the environment (such as erosion and sediment run-off from logging) and impact human health and well-being.

The Water Safety Planning approach requires ongoing adjustment and contextualisation to be effective in rural PIC contexts. This is because:

- The reliance on Community Water Management, with communities having full responsibility for managing water systems, means WSP processes and outputs must be suited to community capacities
- Education and literacy levels, and learning traditions in many rural PIC contexts demand a more contextually appropriate learning pedagogy
- The remoteness of many communities affects their access to support, supply chains, and communications
- PICs demographic particulars – such as the "youth-bulge", "rural-urban drift", temporary and permanent migration overseas – pose particular challenges and opportunities to CWM and WSP.

As part of the PaCWaM+ research program, the research team worked with WSP implementers in Solomon Islands and Fiji to further localise WSP approaches, to improve community water management outcomes.

Solomon Islands - COMMUNITY-BASED WATER SECURITY IMPROVEMENT PLANNING (CWSIP) approach

Water Security Planning in Solomon Islands

Community-based Water Security Improvement Planning (CWSIP) is a water safety planning approach that was specifically developed for use with rural communities in Solomon Islands. CWSIP was developed in 2019 through a partnership between Plan International Australia and Pacific, Live and Learn Solomon Islands, International WaterCentre (Griffith University), and Solomon Islands National University.

The intention is for this approach to eventually be implemented by government and civil society community facilitators in rural communities in Solomon Islands. It was developed to fill a recognised gap in the Solomon Islands' rural WASH sector toolkit, to strengthen and support holistic management of rural water systems. It has been designed to complement the Solomon Islands Government's "Community Engagement (CE) Guidelines" which focus on the technical training of community members in water system design, maintenance and financial management. The Solomon Islands Government does not yet have an agreed WSP approach, but the national rural WASH policy states that they plan to have one in the future. The PaCWaM+ research program provided an opportunity to develop and test an evidence-based water safety planning approach that was designed, from the very outset, with the local context in front of mind.

For the purposes of CWSIP – which is focused on community water security - we define water security as follows:

Adequate Water Security is the ability of a village to safeguard the availability of, access to, and use of a safe, reliable, and resilient quantity and quality of water to sustain the health and well-being of everyone in the village[1].

Rather than including irrigation and other larger-scale uses of water in water security, the focus of CWSIP is on improving domestic water security for villages. This covers water for all domestic needs, including drinking, washing, bathing and cleaning.

The CWSIP approach

CWSIP uses existing Water Safety Planning and Water Security Improvement approaches and resources, as well as covering the additional stresses of environmental and climate change, natural disasters, demographic factors and social marginalisation.

The CWSIP process was developed by drawing upon a range of water security planning and water safety planning approaches, in particular UNICEF's Climate Resilient WASH Guidelines (UNICEF, 2018), WHO's Climate Resilient Water Safety Plans (WHO, 2017), WHO's Equitable Water Safety Planning (WHO, 2019), and Sustainable Water Partnership's Water Security Improvement Process (SWP, 2017). It was also informed by select community development and learning traditions, Pasifika research and learning approaches, and ethnography and applied anthropology.

In developing a localised water safety and security planning approach, the following design principles applied. The approach must:

- Use a **risk-based approach** to community-led water management
- Be **pragmatic and suited** to both the local water systems and the local capacity to manage water systems
- Be **strengths-based**, building on existing local water management knowledge and practices
- Support the **continual process of incremental improvements** that is standard practice for Water Safety Planning
- Be **adoptable for ongoing use** and implementation by the village
- Mainstream **GEDSI**[2] so that all users' water needs are met
- Identify and work-with-the-grain regarding **existing governance structures and norm**s, existing levels of social cohesion and action, and with the daily rhythm of community life.

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[1] Adapted from Sustainable Water Partnership, 2017
[2] GEDSI: Gender equality, disability and social inclusion

Modifications from conventional WSP

Several changes were made to conventional Water Safety Planning, to effectively localise the approach and align with the design principles above. These include:

- Using a pedagogy (learning approach) suited to the context of rural communities in Solomon Islands, where educational attainment and people's experience with structured learning activities is variable. Specifically, this involves:
  - Hands-on and place-based learning to develop new skills and use new knowledge more-effectively. Learning is more effective when based on people's experiences and situations, and involves them doing, with support, the required tasks (not just listening).
  - Scaffolded learning – adding more complexity and detail as steps proceed, and as cycles of the CWSIP process are repeated.
  - Non-intensive learning – similar to formalised education systems in which "lessons" are spread over periods of time to allow students to better absorb and make-sense of new information, such as through discussion with others.
  - Limited reliance on formal educational resources – such as text-heavy handouts/information sheets or slide shows – and a greater reliance on discussions (*tok stori*), on making notes on posters for communities to keep, and graphics (drawing) including drawing – and – explaining – as – you – talk, which helps to gradually build up complex pictures and ideas.
- Describing and assessing multiple water systems, recognising that they vary throughout the year and the security of drinking water supplies is influenced by the security of non-drinking water supplies. It is common practice for each household to rely on multiple sources to ensure sufficient qualities of water (Love et al., 2020), and these can vary at different times of the year, and between households in the same village.

- A larger and more diverse CWSIP team, to improve the social inclusiveness of water planning processes, as well as the inclusiveness of the resultant water services. In Solomon Islands, marginalisation resulting in unequal access to water can be based on gender or cognitive or physical disability and can affect the elderly, widows, single mothers, migrants and other vulnerable members of society. It can also include young people (of all genders) and minority or locally marginalised faith or ethnic groups.
- Planning activities that require community consultation and engagement by the CWSIP participants, and development of collective understanding, amongst the CWSIP Water Planning Group and village leaders of the existing water issues across their community. This was intended to ensure GEDSI needs and outcomes are understood, supported and achieved.
- Planning using smaller spatial units (for larger villages), such as zones, which often correlate with tribal, familial, faith or other socially-connected groups. This was intended to improve:
  - The accuracy of descriptions of water access and hazards, which can vary significantly within a community, even for those using the same water system.
  - The agency of marginalised people to raise awareness of their water access situation, and for clusters of socially-connected households to work together to identify and implement water management actions they can implement.
- An emphasis of the importance of self-reliance and collective actions – in particular actions that relate to management and maintenance by the WASH Committee, and on behaviours of all water users and community members. This is to complement the more conventional emphasis on WASH infrastructure.
- A structured follow-up cycle (CWSIP-II, Vol 4 of CWSIP) which reinforces knowledge and skills gained through the first cycle of CWSIP, and increases the attention on emerging and future hazards, particularly those associated with climate change and population changes.

CWISP design

The CWSIP activities are described in the CWSIP facilitators Guide (Vols 1-3).

The main concepts of Water Safety Planning and the Water Security Improvement Process have been adopted in this CWSIP process, in particular, describing the water systems, identifying risks, identifying and prioritising controls and actions, and preparing an incremental improvement plan (Figure 1).

The approach involves several visits spread over 2-3 months. This was intentional, designed to build the capacity of participants to undertake, with support, complex tasks such as hazard and risk assessments, and community water access assessments, which would not be possible with a shorter and more intensive single visit.

The implementation of the CWSIP approach requires a similar amount of time typically spent in communities as standard Water Safety Planning, but the visits are more spread-out over time. To assist with cost-effectiveness, the recommendation is to organise community visits as a cluster, conducting one step in one community (1-3 days) and then proceeding to conduct CWSIP steps in another 1 or 2 communities in the same field mission.

This is not very different from the sanitation implementation processes of CLTS in Solomon Islands, where multiple visits are made to each community, to allow the community time to discuss key messages and take action, and in each field mission more than one community is visited.

The CWSIP activities comprise a mix of training and hands-on tasks, both with a reliance on demonstration, hands-on tasks, and discussion. The sharing of technical information is achieved through Facilitators making use of self-made posters – mostly progressively created as discussions proceed, layering more information gradually rather than starting with detailed, finished posters. Facilitators also have access to the "Water is Everyone's Business" videos – a supplementary suite of resources designed to trigger interest and collective action in managing community water systems.

Figure 1: Community-based Water Security Improvement Planning

Pilots of CWSIP

Throughout 2020-2021, CWSIP-I was implemented in communities by Live and Learn, as part of the New Times, New Targets program. Live and Learn identified 4 communities in which they intended to implement CWSIP-I, which IWC and SINU could utilise as pilot communities and assess the CWSIP process and outcomes. Implementation was more protracted than recommended in the CWSIP approach, occurring over a period of 8-12 months rather than 2 months, mostly as a consequence of unforeseen interruptions due to travel restrictions relating to COVID-19. Researchers conducted baseline monitoring, process monitoring and endline monitoring, using mixed methods approach to generate qualitative and quantitative data and assess what worked well and what needs improving/changing. Monitoring and evaluation were impacted by the disrupted implementation timeline, which dramatically closed the gap between Step 6 and 7 implementation and endline monitoring designed to be conducted 3-6 months following the final step in the CWSIP cycle. However, the delayed implementation resulted in a lag of only 1-2 weeks between Step 5 or 6 and the endline monitoring, across the 5 communities (2 of the communities had not completed the CWSIP process).

Key findings

- All communities **positively responded to the spread of visits and activities over a more than one visit, rather than a single, longer and more intensive visit**. Communities described the difficulty in their being able to commit longer than 3 whole days, given their regular commitments to community and household life. There was a strong preference for activities not to consume whole days – half day schedules allowed people to manage other responsibilities and still engage – it is important to work-with-the-grain of the daily rhythms of community life.

- However, communities also noted **that each visit should not involve so many activities that they don't have sufficient time to properly engage**, **understand and think** about the purpose and ideas of each activity.

- In addition, communities commented on the **lack of momentum and waning of interest when visits were more than a few weeks apart**. In addition, sufficient time between visits needs to be given for communities to progress their agreed tasks. Extended visits to complete multiple steps was requested by a small number of communities, and was agreed to because the facilitator was confident this would not lead to engagement-fatigue, overload of new information, or social conflict due to time away from other responsibilities.

- Although the protracted implementation schedule was preferred – deemed necessary by community CWSIP teams – **Facilitators noted some challenges with multiple visits**. A key challenge was being able to coordinate visits to multiple communities during the same field mission – this is necessary to ensure cost-effectiveness of implementation. This is an essential project management capability – being able to secure cooperation amongst clusters of villages to facilitate coordinated implementation. In addition, poor phone coverage meant future visits needed to be agreed with communities during prior visits, which was effective other than when unexpected community situations and events caused changes to their availability (and this could not be communicated in a timely manner).

- The **hands-on CWSIP activities, video-stories and facilitated discussions were popular and triggered vigorous discussion and, in some cases, action**. The Water is Everyone's Business video stimulated discussion about a lack of cooperation, and the desire to be more self-reliant. These are not technical skills or knowledge, but rather attitudinal – which was the intention of these social-marketing style resources. The water quality testing activity and results also stimulated much discussion and interest in learning and understanding water quality and causes of contamination, and prompted communities to take action.

- **The action plans that were prepared by CWSIP teams included a mix of infrastructure improvements, with improved maintenance regimes, and collective actions for adoption at the zone, household or individual level**. Even though the baseline assessment was, in most cases, conducted only 2 weeks following step 6, some actions had been further discussed and, in some cases, implemented. These included the adoption of "strong rules", including keeping animals away from water sources, cleaning of dams, and repairs to piped systems.

- As with other water safety planning approaches, the CWSIP process is cyclical, following a continuous cycle of assessment, planning, acting, and monitoring. As such, there is no definitive end point at which to make an absolute evaluation and it is expected that more significant action (e.g., expansion or upgrade of the piped water system) will require some time, possibly years, to achieve.

- A key objective of CWSIP is to **build technical capacity to undertake risk assessments and implement control actions** or improvements. Following the pilot implementation, participants noted they had greater knowledge on "*how to look after the water*" including maintenance, repairs and clean-up, and how to "*prevent water hazards*". Their ability to use this skill again in the future, unsupported, is not yet known. A second cycle of CWSIP is recommended to further enhance confidence and competency with this new skill set.

- The modification to **support CWSIP teams to undertake community water access assessments** was noted by participants as useful in identifying common water problems, including where there were differences across the village. This supported the objective of developing a collective understanding of different water situations and different water needs. However, in some communities more detailed training and support was required in the conduct of household surveys and the collection of qualitative "stories" of water access. This required additional time in communities by facilitators.
- The modification to **devolve hazard assessments to the level of zones, for larger villages, was a well-received concept**, and in most cases successfully implemented. In some communities, one or more zones had difficulty accessing, assessing and influencing actions to the source of their water supplies when that source is located on land owned by other tribes.

As expected, following earlier PaCWaM+ research, **there are structural factors which can influence the success of approaches such as CWSIP.** These are factors that are unchangeable, or very slow to change. In the case of these pilots, the influential structural factors included seasonal migration affecting membership of the CWSIP team and Water Committee, land (and water source) ownership disputes, and dependency on external support. Awareness of the nature of specific structural issues, prior to commencing any water management interventions including CWSIP, is critical and should influence the way in which implementation processed. This information can be determined during pre-engagement community assessments or diagnostics, such as outlined in the *PaCWaM Guidance of Water Community diagnostic assessments*

Inspecting a village water access point, Guadalcanal, Solomon Islands (J. Hagabore, SINU)

Fiji: Localising the Drinking Water Safety and Security Planning approach

The research team partnered with the Fiji Government Ministry of Health and Medical Services (MHMS) to consider in what ways the existing Drinking Water Safety & Security Planning (DWSSP) approach, adopted by the Government of Fiji, could be further localised.

An action research approach could not be adopted due to COVID-19 travel restrictions. Rather, a series of workshops and consultations were conducted with MHMS staff – officers who are regularly implementing DWSSP. The workshops were designed to explore the issues, challenges and opportunities to strengthen the outcomes of the existing DWSSP implementation approach.

Consultation took the form of interviews undertaken by The University of the South Pacific and the International WaterCentre, with follow-up questions via email. The qualitative data was transcribed and coded in NVivo™ for analysis.

Through these activities a range of challenges with the existing DWSSP approach was identified by MHMS officers; the key ones are summarised here.

Challenges with DWSSP identified by MHMS

Need for community buy-in

Every community has many development priorities and water or WASH may not be the most pressing one at the time DWSSP is proposed for implementation. In this situation, gaining effective engagement of the community members is very difficult and the DWSSP is less likely to bring about sustained improvements.

Training and capacity building is too intense and not learner-led

In the context of Fiji, where the DWSSP is intended to equip Water committee members with sufficient understanding about risks to water quality and quantity, DWSSP is very much about building capacity – not only producing an improvement/action plan.

> " … the longer the training the more participants start to lose interest in joining the training. So, we figured, it's better to keep it short and simple (MHMS Officer)

> " Other reasons would have to do with time as we're asking so much of their time and to them, they would be in the training but thinking about all the time they are losing that they could be in their farms (MHMS Officer)

Intensive, costly training for individual communities

Maintaining momentum in training over many consecutive days runs the risk of disengaged participants or absences from the final days of training. It also requires significant investment of time and travel by facilitators as they conduct training in each individual community.

> " … running DWSSP for one community takes time and most of the time it's in our business plan for us to do 2 or 3 in a year. Rather, I would say because we're using much of our resources in terms of time, it is better to cluster the communities together and run one training. Bringing 2 or 3 communities together. Because if we do one community at a time and have to do 5 communities in a year, that's like 5 weeks of your time or even more than that. Also, it makes the training interesting when you get people from different communities together, and they get to exchange ideas when they're doing group work. They get to ask each other how things are done in their villages (MHMS Officer)

Further localising the DWSSP – developing supplementary activities

The research conducted with DWSSP facilitators indicated a need for further localisation of the approach to suit the local context. Additionally, PaCWaM+ PHASE 1 research in six *iTaukei* villages [*koros*] and two settlements (see Love et al. 2021), provided further insights into the needs of communities undergoing DWSSP training. In response, the research team worked with the MHMS staff to codesign a supplementary guide to support more effective implementation of DWSSP.

The purpose of the Guide is to:

1. Deliver a suite of modifications to the existing DWSSP framework that better contextualises Water Safety and Security Planning to the Fijian context, and to the needs of Fijian water committees and communities
2. Improve the sustainability, inclusivity, and resilience of rural water supplies in Fiji.

The supplementary activities draw on participatory, dialogic and Pasifika community development approaches and aims to better contextualise Water Safety and Security Planning to the Fijian context, and to the needs of Fijian Water Committees and communities.

The Supplementary Guide is intended to be used in conjunction with the DWSSP Facilitators Guide and

materials produced and maintained by MHMS. This guide contains recommendations to modify or replace existing activities, and add new activities, to the DWSSP activities.
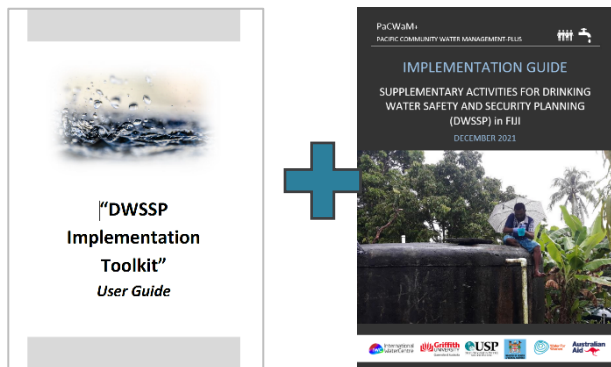
Modifications described in the Supplementary Guide

The capacity, effectiveness and engagement of community Water Committees are frequently mentioned by facilitators and community members as one of the most difficult things to maintain over the long-term. Implementation effectiveness of the DWSSP process naturally varies across rural Fiji from community to community, and region to region. There are also resource and engagement considerations that influence that effectiveness. The following strategies, to further localise DWSSP are designed to support implementation effectiveness.

Don't progress wihtout community buy-in

As already noted, every community has multiple development priorities, and water or WASH may not be the highest at the time DWSSP is proposed for implementation. In this situation, gaining community buy-in can be difficult and the DWSSP is less likely to bring about the desired improvements. In such cases, it would be wiser to defer implementation until the community readily identifies water and/or WASH as a priority.

The practice of some MHMS DWSSP facilitators to not proceed from "Day Zero" (i.e., the first community engagement day where interest in the DWSSP process is established and assessed) to "Day One" of the DWSSP process unless clear and enthusiastic interest is presented by the community, has been incorporated into the Supplementary Guide as recommended practice.

Strengthening the Water Committee and collective actions

The National Water and Sanitation Policy includes some recommendations about the membership of Committees. However, research has demonstrated that membership is still not very diverse and representative of the broader community. Moreover, Water Committees are not always engaging well with other groups in the community, or the community as a whole. Where Water Committees are not very active or functional, or diverse in their membership,

an additional activity called "Strong Water Committees, Strong WASH Communities" can be conducted.

If communities are struggling to gain the support of their communities to either participate in the Water Committee or to support its actions and meet their responsibilities as water users, the Supplementary Guide includes an optional "Water is Everyone's Business" activity.

Many communities have existing experience and expertise that may not always be incorporated into the WASH Committee or their activities. Such expertise might include plumbers, village nurses, or visitors from other communities. These individuals are well-placed to facilitate group discussions or present a session during the DWSSP training. Local experts should be identified and engaged with early in the process and encouraged to participate.

Working with existing social networks using zones

Managing a community water system requires: understanding what access everyone has; what problems they experience; and, actions from everyone in the community. However, engaging and communicating with the whole community can be difficult – it can be easier if existing social networks are involved. For example, a group of households that share the same tap, or a few taps from one part of the water system, have similar experiences and are (ideally) working together to look after the taps. It is also more likely that in this small group individuals are closely related and feel that they can speak-up about problems more easily than at a whole-of-community meeting.

For water planning and management, it can be helpful to divide the community into 'water zones' (unless the community is very small, and the water system and access is similar throughout). These 'water zones' don't necessarily need to be newly defined areas – they could relate to existing areas or zones or social groupings within a community. For example, they might relate to a cluster of households dominated by a single extended family (*mataqali/tokatoka)* who reside near each other. Whatever the 'zones/groupings' are, they should relate to groups of households in the same location within the community and accessing the same part of the water system. The goal is for as much information and views about the status and problems of the water and waste systems to be captured. Then, actions that are suited to different parts of the water system can be agreed and more easily communicated.

Non-intensive and hands-on training for effective capacity building

If an objective of the DWSSP process is to develop skills and knowledge amongst community members that can continue to be used after the DWSSP training is completed, it is important to consider the overall training approach. It is well-known that it is difficult to absorb a lot of new information and skills during training that is intensive – full days for several days in a row. It is more effective to allow

time in- between sessions for participants to digest their updated knowledge and skills, discuss it with others, and try to use what they have learned. It is also difficult to ensure engagement of community members for 3-5 days consecutively, as they have busy lives with many competing priorities.

For these reasons, it is recommended that implementation timetables be spread out over several weeks, with sufficient time for reflection and embedding of updated knowledge and skills. In addition, this allows for a second effective method of learning; that is, to task participants with "homework" – action-based learning activities they can progress individually or in small groups. This allows gradual and hands-on learning. This less intensive approach could be aligned with the following 'Cluster training' arrangement to minimise the logistical difficulties associated with a staggered implementation timetable.

Clustered training approach

As noted above, maintaining momentum in training over many consecutive days runs the risk of disengaged participants or absences from the final days of training. It also requires significant investment of time and travel by facilitators as they conduct training in each individual community.

As an alternative, a clustered approach (refer to Fig 2) presents opportunities to implement less intensive training in a more manageable way, as well as adding another effective learning strategy - bringing members of different communities together to share experiences enables peer-to-peer learning, can build a catchment scale awareness, and also support the creation of informal WASH networks.

Format of Training activities and resources

Relying on PowerPoint presentations and electronic communications in rural communities can be difficult and unreliable (given variable access to electricity). Much of the existing DWSSP documentation is provided in PowerPoint format. Some of this useful information could be printed in large format in advance or created "on-the-fly" during a session – which may in fact encourage greater engagement with participants and therefore improved learning outcomes. Images, flipcharts, and videos are powerful communication methods.

Regarding training of technical knowledge, such as identifying hazards, the Supplementary Guide includes additional activities, and modifications to existing activities, to ensure DWSSP team members have the basic knowledge about water cycles and how contaminants and other hazards can flow through these systems to affect water supplies.

Figure 2: Clustered training (some training activities conducted with several nearby communities together), compared with conventional community-by-community-training
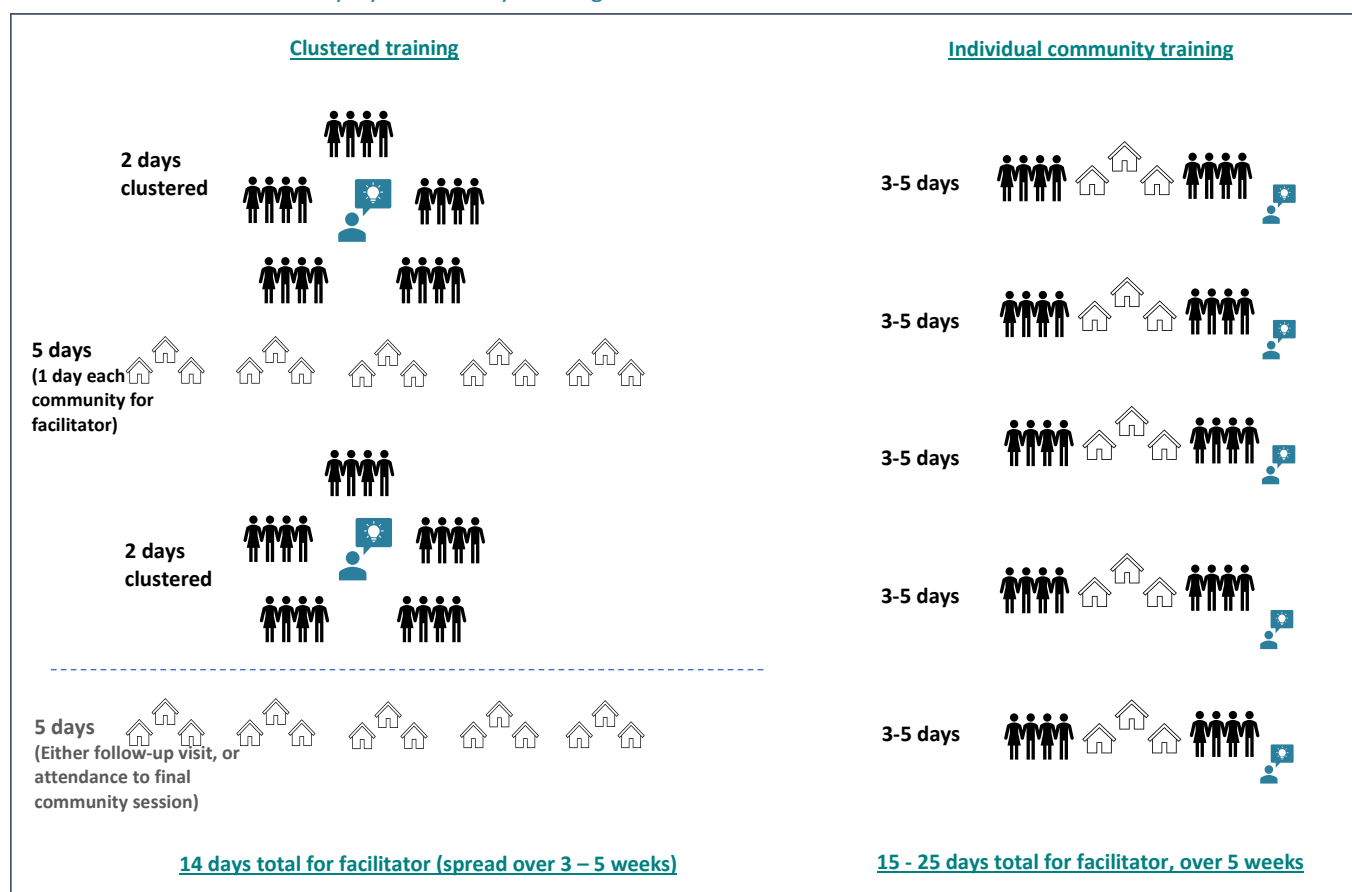
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ACKNOWLEDGEMENTS

The PaCWaM+ research project has produced a range of implementation guides and resources to support Pacific Community Water Management Plus, these include:
- Pacific Community Water Management Plus Compendium of Tools, and associated video
- Pacific Community Water Management Plus – Community Water Diagnostic
- Strong Water Committees – Strong WASH Communities in Fiji – Implementation Guide
- Strong Water Committees – Strong WASH Communities in Solomon Islands – Implementation Guide. Including associated resources:
    o Video "Strong Water Committees – Strong WASH Communities - standalone copies can obtained from iwc@griffithedu.au (with or without English subtitles).
- Water is Everyone's Business – Community workshop in Solomon Islands – Implementation Guide, and associated resources
    o Video: Water is everyone's business
    o Video: Youth and Water
    o Video: Women and Water
    o Water is Everyone's Business poster – Fiji (Fijian and English versions)
- Water is Everyone's Business – Promoting water conservation in Fijian Communities - Guide and associated video resource:
    o Video: Water Conservation is Everyone's Business (for stakeholders)
    o Video: Water Conservation is Everyone's Business (for use in implementation programs)
- Water Committee Backstopping in Solomon Islands and Fiji – Implementation Guide
- Supplementary activities for Drinking Water and Security Planning (DWSSP) in Fiji - Implementation guide
- Community-based Water Security Improvement Planning – Solomon islands – implementation guide (Volume 1, Volume 2, Volume 3)

In addition to the CWM+ tools and resources), the following research outputs were generated during the project:
1 Pacific Community Water Management Plus – Final Research Brief
2 Localising Water Security – Research Brief
3 Policy Brief – Improving water management in rural communities – Key findings for Policy in Fiji
4 Policy Brief – Improving water management in rural communities - Key findings for Policy in Solomon Islands
5 Research Brief – The Potential Role of Social Networks in improving Rural Community Water Management: Insights from Solomon Islands
6 Backstopping Rural Community Water Management – Lessons From Solomon Islands and Fiji – A Research and Practice Brief
7 Fiji Synthesis Report Phase 1 Research
8 Solomon Islands Synthesis Report Phase 1 Research
9 PacWaM Research Brief – Phase 1 Key Findings
10 Water Conservation and Water-Saving Sanitation in Fiji
11 Learning Brief on "The benefits of strong Gender and Social Inclusion in the management of village water systems in Melanesia"
12 Policy Brief on "Governance to support Integrated Water Management in the Solomon Islands"
13 Challenges and opportunities with social inclusion and community-based water management in Solomon Islands
14 Challenges and opportunities with social inclusion and community-based water management in Solomon Islands
15 Video: Community-based Water Security Improvement Planning in Solomon Islands

These resources, together with other research outputs, including forthcoming publications are available at:
https://watercentre.org/pacwam/