



Sanitation Options for Pacific Island Countries

Vanuatu and Republic of Marshall Islands





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Preface

Poor access to safe drinking water and sanitation is a severe health risk and a fundamental development constraint for Pacific nations, which have among the world's lowest access to basic water supply and sanitation.

To improve public health and hygiene in the Pacific, this study aims to increase knowledge and awareness among policymakers and designers of sanitation options, programs, and projects. The study covers the feasibility, risks, and opportunities of the various technological options for improving on-site sanitation and targets peri-urban and remote locations. It also investigates peri-urban and remote communities of Vanuatu and the remote communities of the Republic of Marshall Islands in-depth.

The findings confirm the considerable challenges in improving sanitation in peri-urban and remote environments in the region's countries. Traditional infrastructure project investments at the community level are usually too small to be economically viable in those environments, and isolated technical assistance initiatives rarely lead to sustainable changes.

The document was completed with the generous support and the extensive inputs of the governments of the Republic of the Marshall Islands and Vanuatu, and the United Nation's Children's Education Fund office in Vanuatu. The authors gratefully acknowledge and thank the many people from the Republic of the Marshall Islands and Vanuatu and elsewhere who contributed time, information guidance, and expertise to the report.

Abbreviations

EPA	Environmental Protection Authority
FSM	Fecal Sludge Management
NGO	Non Government Organization
PRIF	Pacific Region Infrastructure Facility
RMI	Republic of Marshall Islands
SDG	Sustainable Development Goals
RWASH	Rural, Water, Sanitation and Hygiene
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization



Executive Summary

The Pacific Region Infrastructure Facility (PRIF) supports infrastructure development and maintenance in Pacific island countries through coordination, research, and technical assistance.

Based on the overall aim to improve public health and hygiene in the Pacific, the study aims to increase knowledge and awareness among policymakers and designers of sanitation options, programs, and projects. The investigations cover the feasibility, risks, and opportunities of the technological options for improving on-site sanitation. It targets peri-urban and remote locations.

The study also investigates peri-urban and remote communities in Vanuatu and of remote communities of the Republic of the Marshall Islands (RMI).

Pacific island countries, as a region, have the highest percentage of households using unimproved facilities in the world. Open defecation figures are also high and sit only behind sub-Saharan Africa.

According to the World Health Organization (WHO) Joint Monitoring Program data, Solomon Islands and Kiribati have the highest levels of open defecation, followed by Papua New Guinea and RMI. The numbers of people using unimproved facilities in Papua New Guinea and Vanuatu are very high.

Key findings are summarized below, with sanitation framework assessments provided for Vanuatu and the RMI and are followed by the main recommendations in bullet points. The framework assessments utilize a simple traffic light system that evaluates six areas of investigation through a simple dashboard. Green boxes indicate that the area is not currently a constraint to sector growth and effectiveness. Yellow boxes show that the area is not a major constraint but that some improvements are needed. Red boxes warn that the status of that area is a constraint to sector growth and effectiveness.



Vanuatu Findings and Recommendations

Leadership: Green

In Vanuatu there is broad recognition and acceptance that the Ministry of Health is responsible for sanitation and hygiene. Several bodies, including the Ministry of Health Sanitation Board and the Ministry of Health Sanitation and Hygiene Working Group, also show leadership and are developing tools and strategies to support better access to toilets and improve hygiene behavior and build provincial capacity to deliver services

We recommend to:

- Broaden the role of the Sanitation Board to include an explicit focus on rural sanitation and hygiene coverage.
- Fill environment health officer and sanitarian positions.

Figure 1: Vanuatu Current Status of the Sanitation and Hygiene Sector



Source: Author provided

Policy and legislation: Green

Current planning documents include the National Strategic Development Plan 2016 to 2030 and the National Sanitation and Hygiene Policy. These documents support the development of the sector and recognize its importance. The National Strategic Development Plan includes broad targets of sanitation for all by 2030. The National Sanitation and Hygiene Policy also supports the Sustainable Development Goal (SDG) targets of adequate and equitable sanitation and hygiene for all by 2030.

Strategy/action plan: Red

While the policy environment supports the sector, no practical and realistic strategy exists to achieve the targets of sanitation for all or to reformulate those targets to be more realistic within the current sector context. A practical strategy is needed that defines the status of accessibility to improved facilities for each province and that sets out achievable targets for 2030.

We recommend to:

- Develop a sanitation and hygiene overview statement that includes status and agreed targets and principles.
- Develop a pilot provincial sanitation and hygiene strategy and action plan.

Technology/tools: Yellow

Led by the Ministry of Health, stakeholders in Vanuatu have gained considerable understanding and have documented appropriate technology in recent years. The recent National Sanitation and Hygiene Guidelines are a great step forward, not only in providing information, but also in bringing together stakeholders and interested parties. While improvements are suggested in tools and technologies, this is not considered a constraint to sector effectiveness.

We recommend to:

- Develop a series of simple “technical notes” that describe how to construct toilets that are effectively bar disease transmission.
- Conduct a pilot “model village” that will allow development and trialing of local technologies and for perfection of construction techniques that almost exclusively use local materials.
- Develop a localized sanitation ladder tool as part of the Sanitation and Hygiene Guidelines. The tool will allow classification and monitoring of toilet quality and make future assessments more effective and meaningful, including for the Joint Monitoring Program.
- Conduct a limited fecal sludge management (FSM) trial focused on developing cost-effective desludging technologies and processes. The trial should include development of manual or small vehicle mounted systems cheaper than conventional desludging trucks and more suitable for scaling up in new locations where conventional trucks are too expensive.

Learning/pilots: Yellow

A coordinated knowledge management and learning culture in the sector is a key to the achievement of targets. Several pilots are proposed and a number of activities are ongoing in Vanuatu, all needing scrutiny for sharable lessons and information. The Sanitation Working Group, which is already coordinating the sector nationally, is an effective forum for sharing lessons and information.

We recommend to:

- Develop a provincial sanitation and hygiene strategy and area council action plan.
- Develop a limited FSM trial focused on developing cost-effective desludging technology and management models.
- Develop a sanitation model village.
- Develop a menstrual hygiene pilot.
- Evaluate the recent Communal Toilet Block Project.

Implementation: Red

Varying levels of oversight and coordination exist in Vanuatu and a coordinated approach to implementing sanitation activities and projects at all levels is needed. The country would benefit from a National Sanitation and Hygiene Program or Action Plan, funded by government and external funders, to achieve targets set out in a national sanitation and hygiene strategy. The role of provincial stakeholders in delivering services is still being developed and support is needed to ensure effective provincial coordination.

We recommend to:

- Establish provincial sanitation taskforces chaired at the highest level to oversee development of provincial sanitation and hygiene strategies and associated area council action plans.
- Develop a high-level management information system to monitor national and provincial progress and share progress and lessons and ensure effective tools are available for all.
- Conduct an mWater (open source data management software) trial to map the status of each village and household within a specific area. This should be closely linked to the development of a localized sanitation ladder.

Republic of Marshall Islands Findings and Recommendations

Leadership: Red

Leadership in the sanitation and hygiene sector in the RMI is unclear. While existing legislation suggests that the Environmental Protection Authority (EPA) are responsible for overseeing the sector, this is not happening. The Ministry of Health Human Services is clearly responsible for hygiene promotion but not for delivering sanitation services or for the construction of toilets. More clarity is needed for progress and a high-level taskforce is recommended to lead the push to reduce open defecation.

We recommend to:

- Establish a sanitation and hygiene taskforce chaired by the Chief Secretary's Office.

Policy and legislation: Green

The current policy environment includes the National Strategic Plan 2015 to 2018 (National Strategic Plan), and the Water and Sanitation Policy and Proposed Action Plan 2014. The mission statement for the Water and Sanitation Policy is "enabling all citizens to access clean and adequate water supplies and a level of hygiene and sanitation comparable to world standards." While these statements are broad and the National Strategic Plan refers mostly to urban settings, these documents constitute support for the sector and do not constrain effectiveness.

Strategy/action plan: Red

A clear sanitation and hygiene strategy is needed in the RMI. Current policy documents and institutional arrangements refer to sanitation but are not explicit about how to improve coverage and to decrease open defecation in remote locations. The development of a national sanitation and hygiene strategy would be an opportunity to review institutional arrangements and responsibilities at all levels, and to develop meaningful targets that prioritize areas of high open defecation.

We recommend to:

- Develop a national sanitation and hygiene strategy that includes a clear presentation of the existing situation and agreed strategies to achieve agreed targets.

Figure 2: RMI Current Status of the Sanitation and Hygiene Sector



Source: Author provided

Technology/tools: Red

Few documents exist in the RMI that define sanitation standards or technologies. The Ministry of Works Infrastructure and Utilities has some septic tank standards, but these are seldom adhered to beyond the urban setting. The poor quality of the many septic tanks in the country and the lack of knowledge of how a septic tank works constrains improvements to sanitary conditions and minimizing freshwater contamination. The lack of effective desludging and treatment of septic waste is a pressing challenge given the high number of septic tanks and the fragility of the environment.

We recommend to:

- Develop Sanitation and Hygiene Guidelines building on work done in other countries, including Kiribati, Solomon Islands, and Vanuatu.
- Develop a localized sanitation ladder tool as part of the guidelines to allow classification and monitoring of the quality of toilets and make future assessments more effective and meaningful, including for the Joint Monitoring Program.
- Include a series of “technical notes” to the guidelines to describe how to construct toilets that effectively bar disease transmission.
- Maximize use of local materials and expertise in toilet designs given the remoteness of many locations in the RMI and the challenges and costs of shipping.

- Conduct an FSM trial as part of an island-wide sanitation pilot. The trial will be an opportunity to develop low-cost local toilet solutions, including appropriate septic tanks that properly treat waste and improve effluent quality. The FSM Trial would include piloting of appropriate treatment and storage facilities that may include drying beds or wetlands.

Learning/pilots: Red

Given the lack of coordination in the sector and the very few organizations working in sanitation and hygiene, no active learning culture exists to ensure lessons are shared. There have been one or two pilots in toilet technologies, but these have not been successful, and lessons not shared.

We recommend to:

- Conduct an island-wide sanitation and hygiene pilot.
- Conduct an FSM trial.
- Conduct a menstrual hygiene pilot.

Implementation: Red

There is little activity in the sector in the RMI and few nongovernment organizations (NGOs) working in sanitation and with only some island governments prioritizing it. The RMI would benefit from development of a national sanitation and hygiene program or action plan, funded by government and external funders that aims to achieve targets set out in a national sanitation and hygiene strategy.

We recommend to:

- Establish a sanitation and hygiene taskforce led by the Chief Secretary's Office.
- Establish an island sanitation steering committee that includes representatives from the island government, the Ministry of Health and Human Services, the EPA, the Ministry of Works Infrastructure and Utilities, and technical advisers with sanitation and hygiene expertise.
- Use mWater for documenting existing sanitary conditions (location of facilities and water quality) and hygiene knowledge and practices on the chosen pilot island.

Cultural Challenge of Menstrual Hygiene

Menstrual hygiene is a big challenge for women and girls in several Pacific countries, as found in Vanuatu and the RMI, and is closely linked to sanitation facilities and hygiene practices, as well as to a complex array of cultural and custom beliefs.

Neither appropriate facilities nor products are generally found at homes or in schools, and accurate, sensitive advice is often unavailable. In the RMI, many stores on remote islands do not stock sanitary products and in Vanuatu many villages do not have access to local stores.

We recommend to:

- Conduct research to explore the impact of custom and culture to develop suitable education packages for school curriculums and to prioritize the design and construction of appropriate toilets/washing facilities for homes, schools, and clinics, and to develop local affordable and effective re-useable alternatives to costly disposable sanitary products.

Toward a More Effective Assistance Approach

The report findings confirm the huge challenges in improving sanitation in peri-urban and remote environments in Pacific island countries. Traditional infrastructure project investments in communities are usually too small to be economically viable in those environments and isolated technical assistance initiatives rarely lead to sustainable changes.

Thus, opportunity is huge for development organizations to support or replicate successful government programs rather than in initiating standalone projects. Such a program was found in Vanuatu in water supply—as described in these sanitation options reports—where a comprehensive and demand-driven water infrastructure and service delivery system was developed by the government to assist communities. It uses a common fund in which donors are invited to contribute, provides a well-designed management framework to ensure transparency and accountability, informs on strategies and action plans, and has the added potential to integrate the government efforts by aligning with and building on other public services initiatives.

Source: PRIF Coordination Office team.



1. Introduction

The Pacific Region Infrastructure Facility (PRIF) is a multi-partner coordination mechanism and technical assistance facility which supports infrastructure development in the Pacific through coordination and technical assistance.

Most Pacific island country governments recognize the need for greater access to better sanitation. However, in most cases, more information is needed for investment decisions on appropriate technical solutions and appropriate institutional arrangements for small island nations is necessary. Technical solutions should address potential negative public health and environmental impacts of poor sanitation while being economically feasible (to governments and consumers), be culturally acceptable, meet consumer sanitation aspirations, and be technically sustainable throughout the process from household, to treatment plant, to reuse.

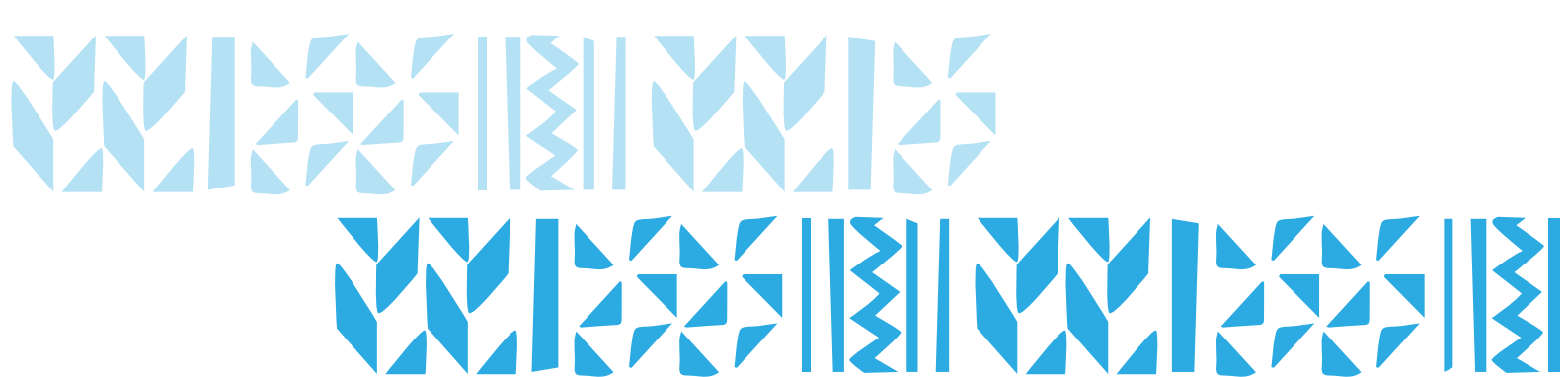
This technical assistance supports the PRIF through input to the work of the PRIF Coordination Office.

A previous PRIF Sanitations Options technical assistance (TA) (2016) investigated sanitation conditions in Fiji, Kiribati, Solomon Islands, and Tonga. It found significant differences in the severity of sanitation problems between the consultant on-site approach assessment and previous World Health Organization/UNICEF joint investigations (using self-evaluations by local authorities). The overall results show that despite improvements reported by local authorities, many of the “improved” sanitary installations investigated were still unsafe. The 2016 TA also provided a range of low-cost and simple solutions adapted to conditions, resources, and capacity observed in the Pacific islands. A decision-making tool was developed to guide local leaders and managers in identifying the most appropriate technologies to be used in their communities based on the availability of resources and site conditions.

This new TA will pursue the sanitation investigations in other Pacific countries and disseminate the practical solutions developed.

Based on the overall aim to improve public health and hygiene in the Pacific, this study aims to expand knowledge and awareness among policymakers and designers of sanitation programs and projects of the feasibility, risks, and opportunities of various options for improved on-site sanitation and to examine key sector challenges and to recommend ways to support greater coverage throughout the region.

This study specifically investigated the situation of remote communities in the RMI and of peri-urban and remote areas of Vanuatu.



2. Overview of Status in the Pacific

2.1 Sustainable Development Goals

The study is closely linked to the Sustainable Development Goals (SDGs) and contributes to the achievement of sanitation sector targets. Table 2-1 shows targets and indicators for sanitation, which are headlined by target 6.2: achieve universal access to improved (adequate and equitable) sanitation facilities.

Improved sanitation facilities are those designed to hygienically separate excreta from human contact. They include flush/pour toilets into a piped sewer system, septic tanks or pit, ventilated improved pit latrines, composting toilets, or pit latrines with slabs.

Table 2-1: Targets and Indicators for Sanitation, Sustainable Development Goals

Targets	Indicators
6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
6.A By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	6.A.1 Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan
6.B Support and strengthen the participation of local communities in improving water and sanitation management	6.B.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

Source: United Nations, Sustainable Development Goals, 2015

The definitions used for classifying sanitation facilities present challenges. The use of the term “slab” has led to perceptions that a slab must be made from concrete, or that it must be able to be kept clean, again inferring it should be smooth and so made of concrete or tiles.

In some instances, a toilet facility has been classed as “improved” because it has a slab even though it has many holes around the sides making it unsafe due to the entry and exit of flies, or as “unimproved” because the slab is made of logs and mud, not recognizing that the slab is complete and does not allow flies in and out.

In addition, the effectiveness of many local varieties of toilets, often referred to as bush toilets, is difficult to judge unless the observer is experienced and or well trained.

The development of a “localized sanitation ladder” tool would be useful in ensuring greater consistency in classifying toilets, making national statistics far more meaningful.

In the joint monitoring program and SDG language, the key to judging a toilet is whether “it is designed to hygienically separate excreta from human contact”. This can cause confusion given the use of the word “designed”. Meaning that if a toilet appears to be modern then it is generally considered to be designed to separate excreta from human contact. However well designed a toilet is, it may still be unsafe if not correctly and safely installed, if there are holes around the edge of the slab, or it does not have an elevated floor in flood prone areas, a modern toilet may not be safe.

The key to judging a toilet may be better phrased “is it a barrier to the transmission of disease?” This would allow the type of toilet to be less critical, and instead focus on the effectiveness of chosen critical functional criteria to decide the classification.

If such an approach were taken, then the development of fully localized effective toilets would be based on their functional effectiveness rather than the presence of a slab or platform.

2.2 Joint Monitoring Program Data

Figure 2-1 shows how the Pacific ranks among other regions of the world on sanitation and access to improved facilities. By percentage of households using unimproved facilities, the Pacific is by far the worst. Open defecation is also high and sits only behind sub-Saharan Africa.

The experience of this technical assistance mission and similar missions would also suggest that the percentage classified as using “basic” facilities (improved and not shared) may be much lower than is shown here, given that toilets are often wrongly classified by inexperienced observers/enumerators who have insufficient training in judging toilet effectiveness as a barrier to transmission of disease.

Figure 2-3 also shows how each Pacific country ranks against other countries in the region. As can be seen, Solomon Islands and Kiribati have the highest open defecation, followed by Papua New Guinea and the RMI. Both Papua New Guinea and Vanuatu have very high numbers of people using unimproved facilities.

Figure 2-1: Joint Monitoring Program Global Service Levels, Pacific

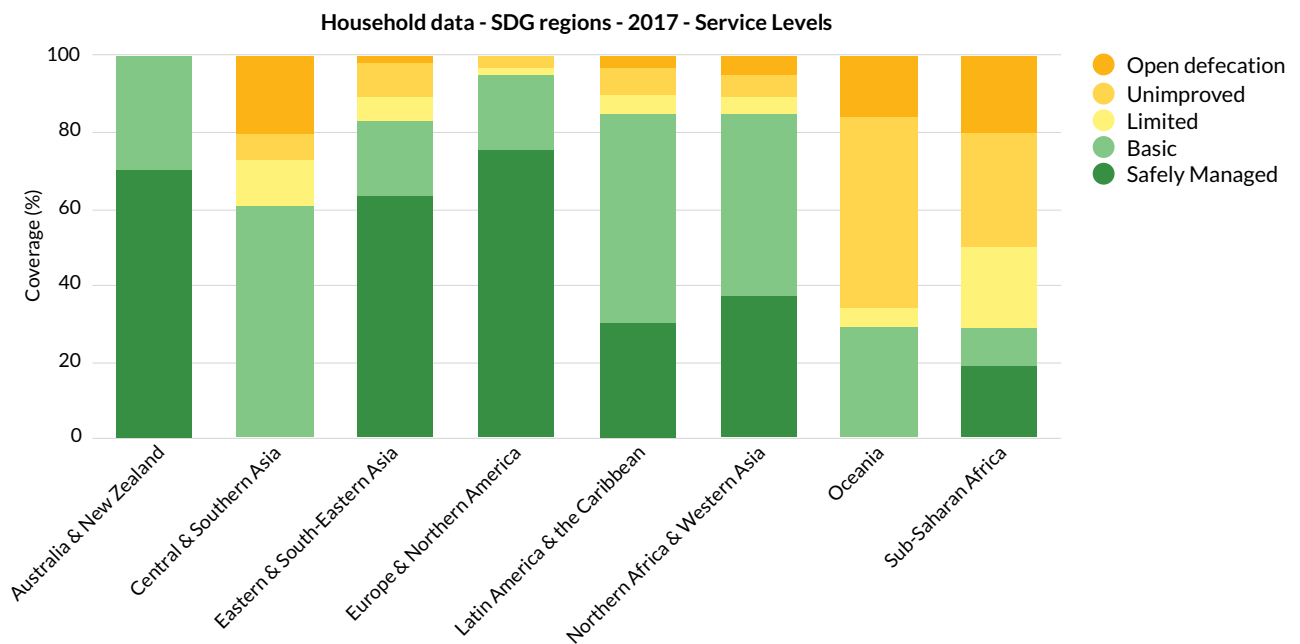
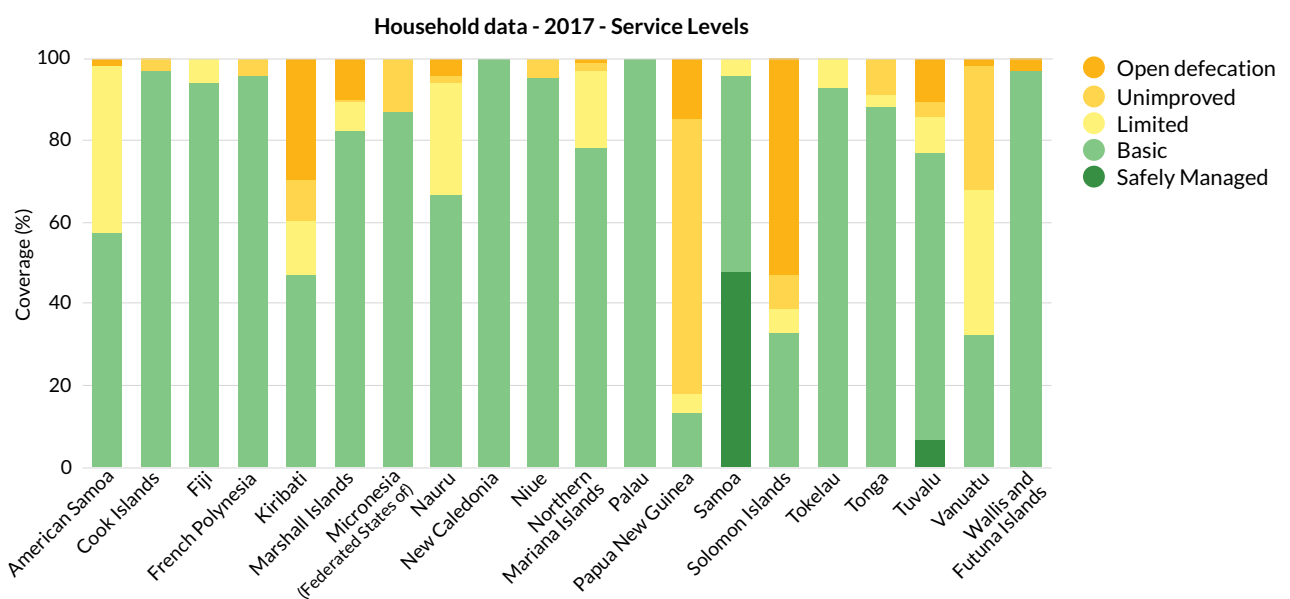


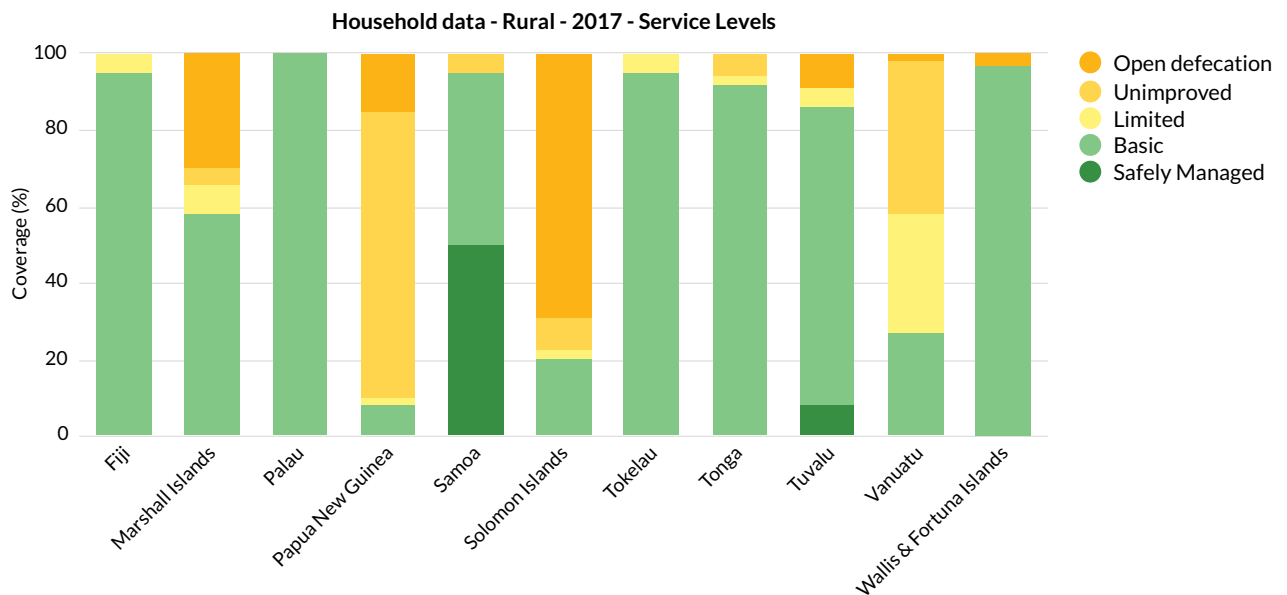
Figure 2-2: Pacific Countries Sanitation Status Service Levels, Households, 2017



Source (Figure 2-1 and 2-2): WHO Joint Monitoring Program. 2017. A Snapshot of Water and Sanitation in the Pacific. https://www.unicef.org/EAPRO_Pacific_Snapshot_Final_2017_27_10_2017.pdf

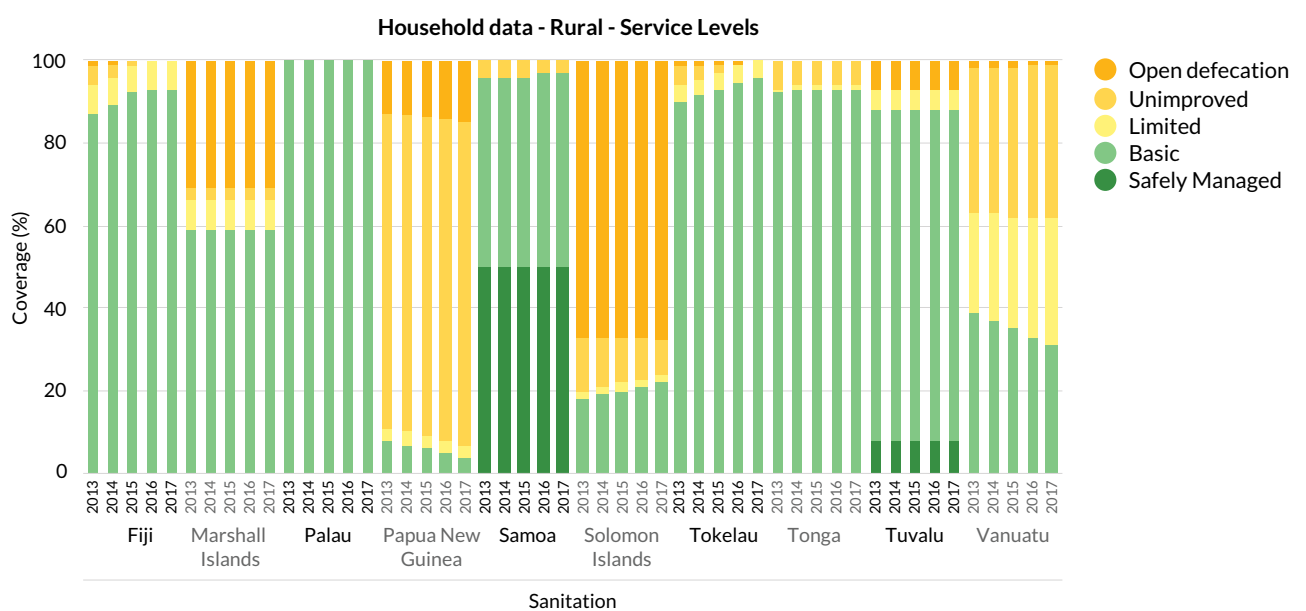
Data is not available for all countries to allow a comparison of coverage when considering only rural populations. Figure 2-3 shows countries where “rural only” data is available. The figure shows that Papua New Guinea, Solomon Islands, and Vanuatu (all in Melanesia) and the Marshall Islands have the least coverage in terms of rural people using basic and/or safely managed facilities and have very high percentages of people who either defecate in the open or are using unimproved facilities.

Figure 2-3: Rural Service Levels, Households, 2017



In Figure 2-5, while detailed and thus difficult to read, just consider whether the amount of green for each country is going up, down, or staying the same. Papua New Guinea and Vanuatu show a clear decline in access to safely managed and basic facilities. In Vanuatu the increase in the percentage of people sharing facilities is pronounced. Solomon Islands shows a very slight increase in access, although an EU-funded Rural Water, Sanitation and Hygiene (RWASH) Program is implementing an intensive Community Led Total Sanitation project that can be expected to improve access to better toilets. In most of the other countries, including the RMI, access is either staying the same or improving slowly.

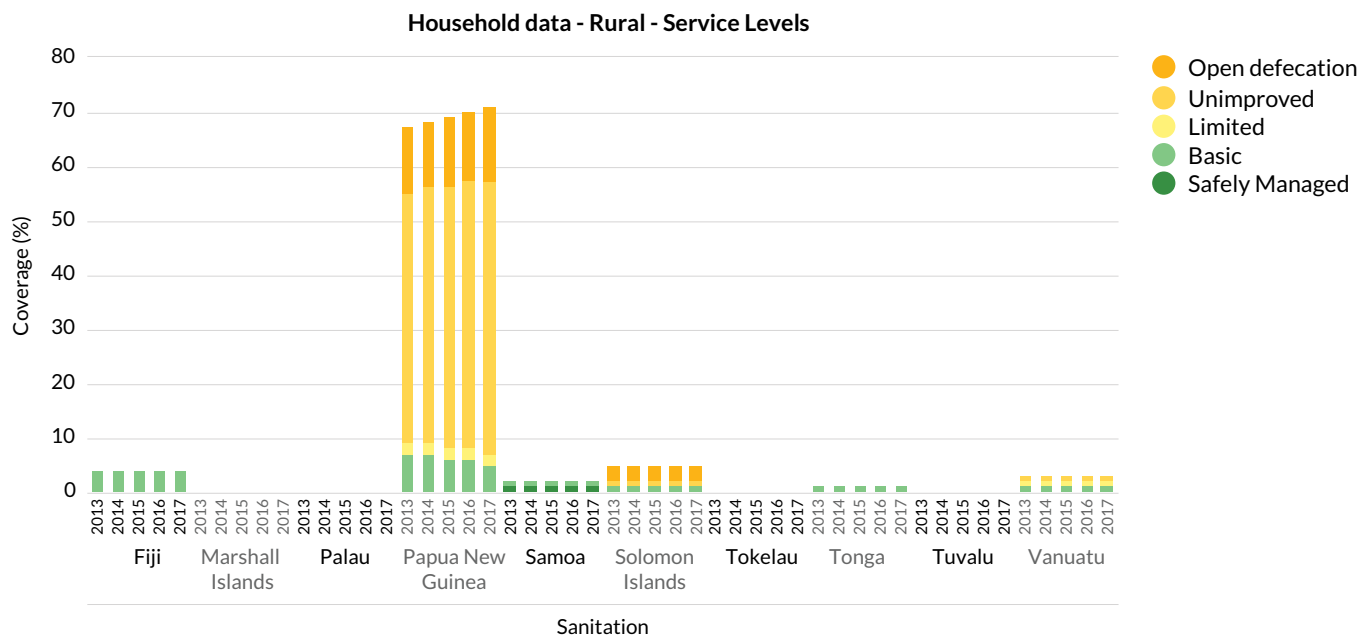
Figure 2-4 Trend in Rural Service Levels, Households



Source (Figure 2-3 and 2-4): WHO Joint Monitoring Program. 2017. A Snapshot of Water and Sanitation in the Pacific. https://www.unicef.org/EAPRO_Pacific_Snapshot_Final_2017_27_10_2017.pdf

It is also interesting to consider population rather than percentage of population when looking at current access. Figure 2-5 is a stark reminder of Papua New Guinea's large population and the impact this has on access to improved sanitation facilities in the Pacific. If a region is to improve access, then Papua New Guinea must make significant progress.

Figure 2-5: Service Levels by Population



Source: WHO Joint Monitoring Program. 2017. A Snapshot of Water and Sanitation in the Pacific. https://www.unicef.org/EAPRO_Pacific_Snapshot_Final_2017_27_10_2017.pdf



3. Findings in Vanuatu and the Republic of the Marshall Islands

This section presents key findings from site visits to peri-urban and remote areas in Vanuatu and in the RMI as well as local survey results. Separate country reports detail the findings and analyses.¹

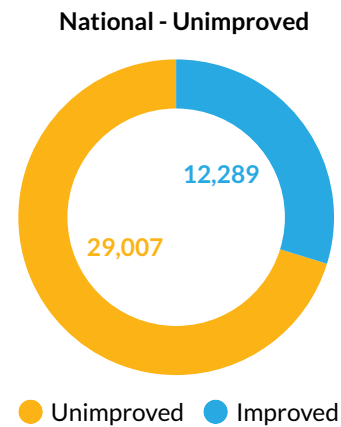
3.1 Vanuatu

Status

A “mini” census was conducted after Tropical Cyclone Pam in 2015. Sanitation access was included in the mini census and figures show a decline in coverage. It is unclear whether this resulted from damage caused by the Ambae Volcano and the cyclone or of a different methodology for data gathering and classification.

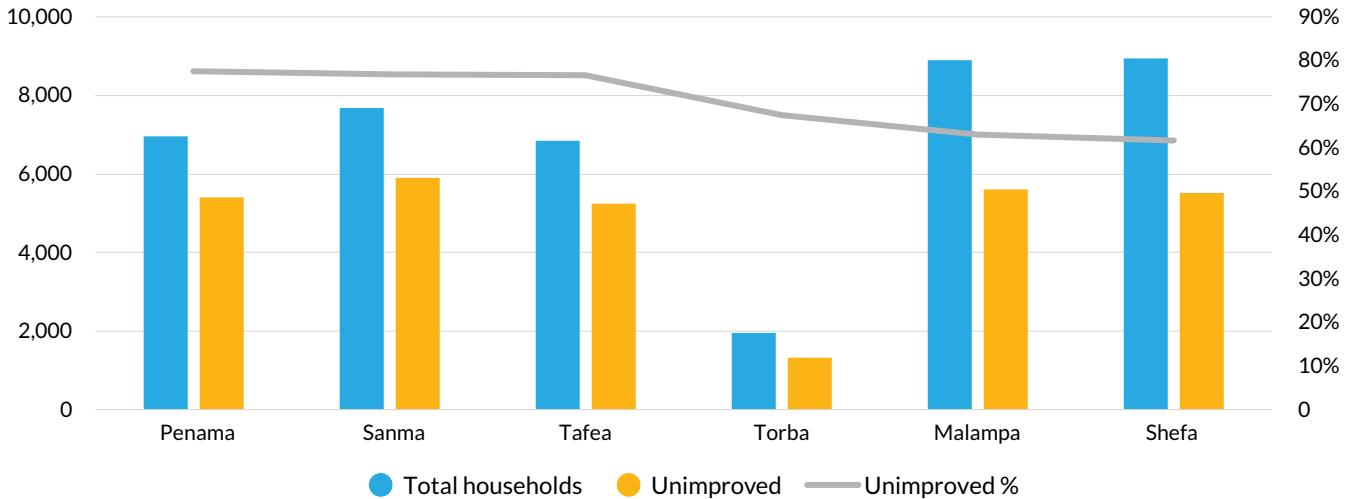
The mini census showed that, nationally, 70.2% of households used unimproved sanitation facilities (Figure 3-1). While some provinces are better than others, all have very high rates of people using unimproved toilets. Figure 8 indicates that Penama has the highest percentage of households using unimproved toilets (77.5%), but Sanma has the most households using unimproved toilets (5,901). This is shown in Figure 3-2.

Figure 3-1: Households Using Unimproved



Source: Vanuatu National Statistics Office, 2016 Post TC Pam, Mini Census Report

Figure 3-2: Rural Households with Unimproved Sanitation



Source: Vanuatu National Statistics Office, 2016 Post TC Pam, Mini Census Report

The big challenge for Vanuatu is increasing sanitation coverage enough that SDG indicators show considerable improvement. High population compounded by rapid population growth makes this difficult without significant effort.

Vanuatu includes many people living in peri-urban settlements, particularly around the capital Port Vila and in and around Luganville in Santo.

¹ For details contact PRIF CO: enquiries@theprif.org

It is difficult to find data on sanitation access for people in peri-urban settlements. Indeed, it is difficult to get data populations in peri-urban settlements. From the results of this study and discussions with planning officers in each location, it is estimated that in and around Port Vila at least 33,000 people live in settlements and in and around Luganville at least 7,500 people.

Many sanitation challenges afflict peri-urban locations and include a lack of reliable data, a lack of secure land tenure, crowded conditions, lack of knowledge of effective sanitation, lack of money, and complications of diverse cultures living close together with different customs and practices relating to defecation and in their recognition of different leaders. In addition, technical challenges stem from the fact that the land is often marginal and prone to flooding. Finding affordable, safe, and culturally acceptable technical solutions is a challenge.

Policy environment

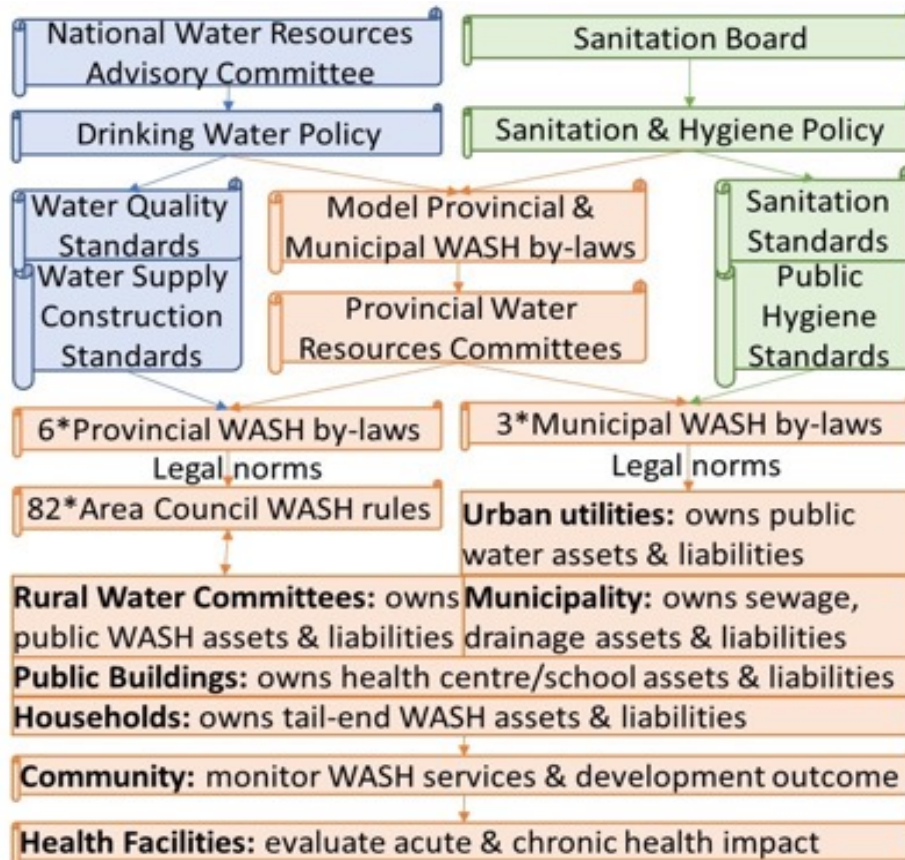
A range of policy documents and local acts define how the sanitation sector operates in Vanuatu. Key policies and regulations include:

- National Strategic Development Plan 2016 to 2030
- The National Sanitation and Hygiene Policy
- Public Health Act (CAP 234)
- Sanitation and Hygiene Guidelines and Standards - Draft 2020
- Water Resources Management Act 2002
- Environmental Management and Conservation Act 2002
- The Building Act 2013
- Decentralisation Act
- Environmental Impact Assessment Regulations
- National Policy and Strategy for Healthy Islands 2011-2015
- Pollution Control Act No. 10 of 2013
- Physical Planning Act (CAP 193)
- Utilities Regulatory Authority Act (No 11 of 2007)
- Waste Management Act No. 24 of 2014
- National Water Strategy 2018-2030
- Vanuatu National Implementation Plan for Safe and Secure Community Drinking Water

Figure 3-3 illustrates key elements of the water and sanitation sector and how they are governed.



Figure 3-3: Sanitation (and Water) Framework



Note: WASH = water, sanitation, and hygiene.

Source: Author provided.

Figure 3-4: Full Toilet Pit



Source: Author provided.

Site visits

To assess local capacity and activity in the sanitation sector, seven site visits were conducted to remote and peri-urban locations. Details of these visits can be found in the country papers associated with this technical assistance.

On the island of Efate, site visits included Erakor Bridge, Seaside, and Erakor Village. These can all be considered “settlement” locations and are characterized by poor services, households of generally low income, diverse ethnicity, and insecure land tenure.

In Sanma province, site visits included two peri-urban locations, Pepsi and Banban, and two rural/remote locations, Kororo and Tutuba.

In most locations, visited toilet conditions were poor, with overflowing pits (Figure 3-4), poorly fitting slabs and toilet houses (superstructures) that were not lockable from either the inside or the outside. Many of the full pits were still being used and liquid sludge could be seen flowing from the edges of the pit.

Many of the ventilated improved pit toilets inspected had poorly constructed superstructures with neither correctly fitted ventilation pipes nor sufficient elimination of external light, which is essential to a properly functioning ventilated improved pit toilet. Several pits inspected had been constructed in areas where the soil was prone to collapsing but had no supports lining the pit.

Local (bush) toilets were constructed from leaf materials and logs. In inland mountainous areas these tended to be very small and low to the ground (Figure 3-5). In small island settings they were constructed close to the sea to avoid contaminating fragile hand dug wells in the middle of the island and often included a wooden riser.

Figure 3-5: Typical Inland Toilet



Source: Author provided.

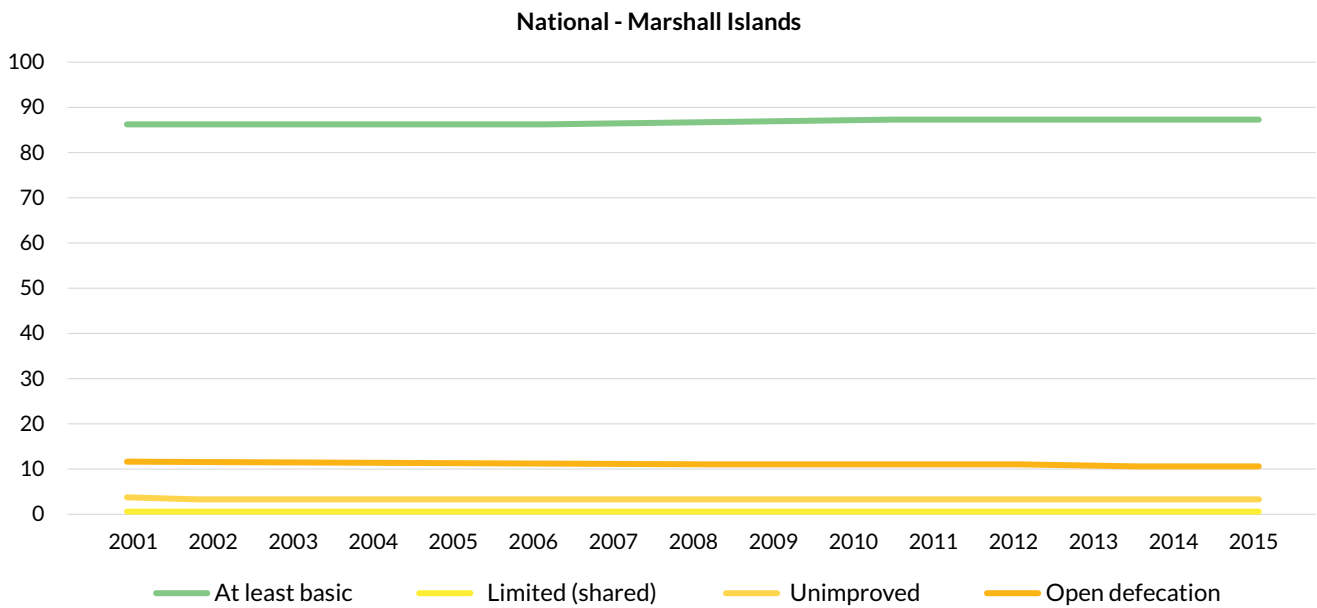
3.2 Marshall Islands

Status

The RMI, spread over two major island chains, the Ratak and the Ralik, has 53,000 (2015) with very slow if any population growth. While 87% of the national population has access to improved sanitation facilities, 2% uses unimproved facilities, and 11% have no facilities at all. The sharing of sanitation facilities, according to Joint Monitoring Program data, appears to be zero, meaning nobody has to share a toilet with people outside of their own household.

Figure 3-6 indicates that the status of sanitation coverage has changed very little over the last 15 years and that while some people use unimproved facilities, the greater challenge is the number of people defecating in the open.

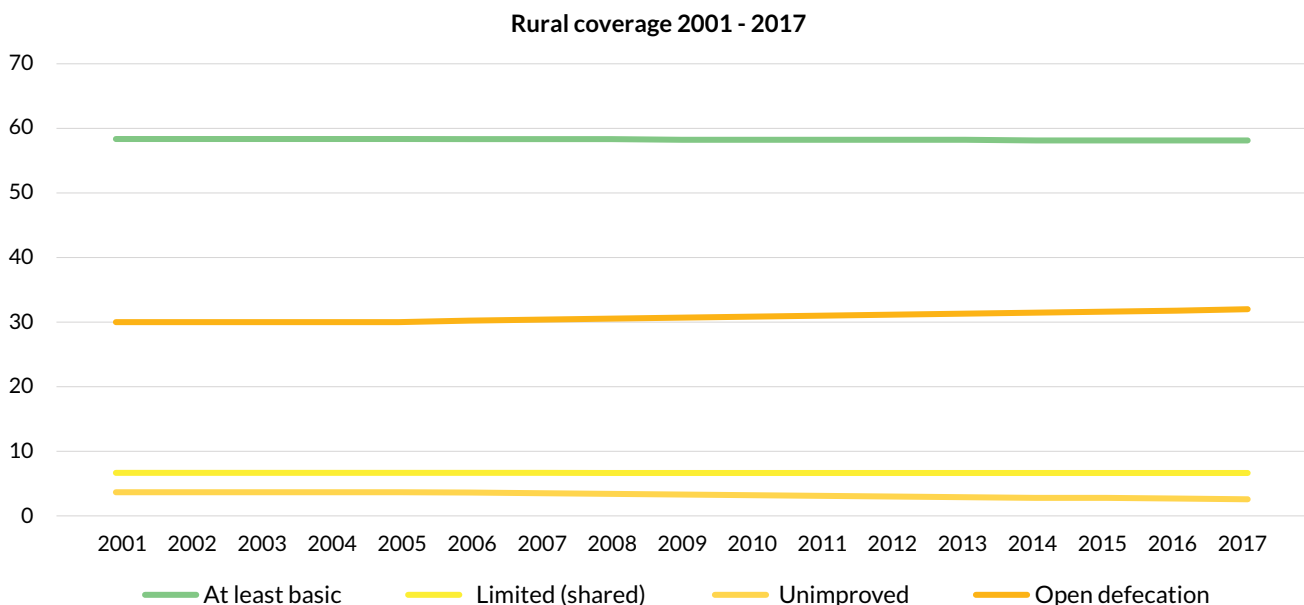
Figure 3-6: Republic of Marshall Islands National Sanitation Coverage



Source: WHO Joint Monitoring Program. 2017. A Snapshot of Water and Sanitation in the Pacific
https://www.unicef.org/EAPRO_Pacific_Snapshot_Final_2017_27_10_2017.pdf

This sanitation challenge in the RMI is in remote or rural areas. In 2017, 31.8% of the rural population was defecating in the open (Figure 3-7). Joint Monitoring Program data does not break these figures down to community and village level and it may be that most of the shares comes from specific locations or islands where open defecation is very high.

Figure 3-7: Rural Sanitation Coverage, 2001 to 2017



Source: WHO Joint Monitoring Program. 2017. A Snapshot of Water and Sanitation in the Pacific
https://www.unicef.org/EAPRO_Pacific_Snapshot_Final_2017_27_10_2017.pdf

Policy environment

A range of policy documents and local acts define how the sanitation sector operates in the RMI. Key policies and regulations include:

- National Strategic Plan 2015 to 2018
- Water and Sanitation Policy and Proposed Action Plan 2014
- Environmental Protection Act 1984 and Amendment 2016
- Public Health, Safety and Welfare Act 2003

A range of policy documents and local acts define how the sanitation sector operates in the RMI.

The key development planning document in the RMI is the National Strategic Plan 2015 to 2018. The plan is based on the 1-5-3 concept of 1 clear objective, 5 key sectors, and a 3-year rolling plan.

The National Strategic Plan Vision is “In Our Hands Is Our Future”. The one clear objective is “sustainable, equitable and measurable development reflecting the priorities and culture of the Marshallese people”.

The five key sectors are social development; environment, climate change, and resiliency; infrastructure; sustainable economic development; and good governance.

Sanitation, with its obvious links to health, economic activity, and climate change, can be linked with all five of the National Strategic Plan sectors. However, it is included specifically under the infrastructure sector and listed as “strategic area” 3C.

Under sector 3 – infrastructure, the National Strategic Plan includes the five strategic areas: transportation, energy, water and sanitation, solid and hazardous waste management, and information communications technology.

The National Strategic Plan includes the following objectives for water and sanitation:

Ensure access to safe water through implementation of the national water and sanitation policy:

- Reduce the occurrence of waterborne illness through water quality and sanitation improvements and monitoring and social marketing.
- Protect groundwater and ensure water resource sustainability through collective and effective management.
- Ensure water and sanitation utilities are financially solvent through implementation of fair and transparent tariffs RMI National Strategic Plan 2015–2017.
- Prioritize service improvements to those areas where service is unavailable or of low quality.
- Ensure water and sanitation provision through proactive risk reduction and comprehensive monitoring.

Improve water service delivery through Majuro Water and Sewer Company Reforms

- Improve performance and provision of services.
- Improve asset efficiency and minimize system losses.
- Overall, Majuro Water and Sewer Company organizational performance improved through capacity development and institutional improvement.

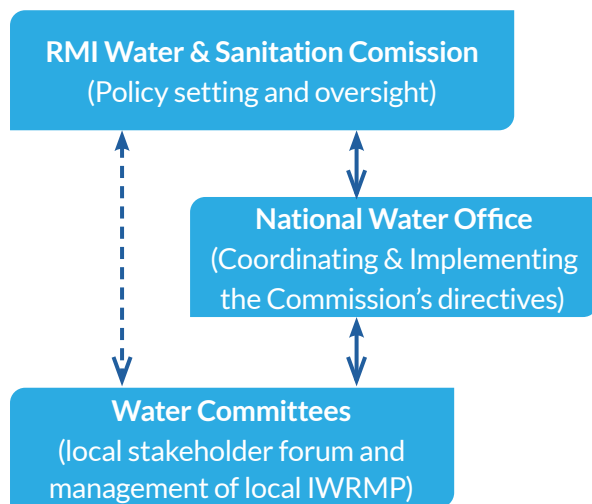
The mission statement for the National Water and Sanitation Policy 2014 is: “Enabling all citizens to access clean and adequate water supplies” and a “level of hygiene and sanitation comparable to world standards”.

The five strategic goals of the policy are:

- reduce the occurrence of waterborne illness;
- ensure water resource sustainability;
- ensure water and sanitation utilities are financially solvent;
- target service improvements at the disadvantaged; and
- be resilient to climate variability and extreme events.

The policy calls for a new institutional framework to address water and sanitation challenges (Figure 3-8).

Figure 3-8: Proposed Water and Sanitation Framework



From recent studies and the field work of this TA, it is apparent that the commission was not established, and the National Water Office does not exist. Interestingly the word “sanitation” has been omitted from the National Water Office and the Water Committees.

The Environmental Protection Act was amended (see below) to give the responsibility to oversee implementation of the Water and Sanitation Policy to the Environmental Protection and Conservation Agency, rather than to establish the Water and Sanitation Office Commission.

The National Water and Sanitation Policy states that it will:

- provide broad guidelines and support the state organ, including its central and local governments, in the formulation of water and sanitation laws, guidelines, strategies, investment plans, programs, and projects;
- provide guidance and define rules and responsibilities for water and sanitation investment and activities for all sector stakeholders;
- provide a framework for the management of freshwater resources, water supply, safe disposal of excreta and wastewater; and the promotion of hygienic behaviors; and
- cover all people, organizations, and areas throughout the RMI.

A major restructuring of institutional responsibilities in sanitation is clearly needed, and that sanitation has been neglected and coverage has gone down.

The policy includes the following statements on the roles and responsibilities of key institutions:

Ministry of Health

The ministry will promote reduction of waterborne illness and target programs at disadvantaged people:

- social marketing campaigns to improve water and sanitation behavior;
- behavior change and subsidy programs for the disadvantaged; and
- data on occurrence of waterborne illness for monitoring.

Ministry of Public Works

The ministry will ensure governance of water and sanitation service provision, including:

- construction of water and sanitation facilities for the disadvantaged;
- establish and promote minimum standards for water and sanitation infrastructure including those for the disadvantaged;
- regulation of all municipal water and sanitation tariffs; and
- governance of municipal water supply and sanitation service provision.

Chief Secretary's Office

The office will be responsible for targeting the disadvantaged and promoting actions for drought and extreme weather resistance including:

- monitoring and selection of the disadvantaged; and
- programs to promote drought and extreme weather resistance.

Environmental Protection Agency

The agency will resource the Water and Sanitation Office, including:

- drafting enabling instruments for the water and sanitation commission;
- drafting enabling instruments for the water and sanitation office;
- day-to-day management of the water and sanitation office;
- monitoring and reporting of water quality at all levels;
- facilitating the establishment and ongoing operation of water committees;
- ensuring the ongoing operation of the water and sanitation commission;
- monitoring the quantity, quality, and contamination of ground and surface water resources; and
- development and management of the national water safety plan (Majuro has been drafted).

Households

Households are responsible for the construction/provision and maintenance of their own water supply and sanitation facilities that:

- meet the minimum criteria of an improved and hygienic facility;
- endeavor to maximize their resilience to drought and extreme weather events;
- are designed to prevent damage or contamination of groundwater when over a freshwater lens; and
- prevent back siphonage of contaminated water into municipal water supplies.

Public, commercial, and institutions

All public, commercial, and Institutional facilities will ensure their facilities are:

- accessible to improved water supply, sanitation, including safe drinking water, toilets, and hand washing accessories, (running water and soap);
- gender segregated and disabled accessible; and
- available for use for customers and visitors.

Site visits

A range of site visits was conducted to explore existing sanitation and hygiene facilities, behavior, and knowledge.

Given the lack of recent data available and how few local organizations are working in sanitation improvements for remote areas, a household consultation was conducted to investigate status in RMI communities and how it compares with key coverage data used.²

Communities were chosen that were logistically feasible given the short time available, and that could be considered in some way remote. A short, structured interview and observation was conducted in 75 households in the four communities of Laura and Rongrong on Majuro Atoll, and Arno and Ine on Arno Atoll.

The sample size for the survey is small in terms of national findings, but high in three of the communities surveyed: Rongrong, Arno, and Ine, where most households where an adult was present were surveyed (Table 3-1). Data refers to the full sample size of 75 households across all four locations.

Table 3-1: Survey Size

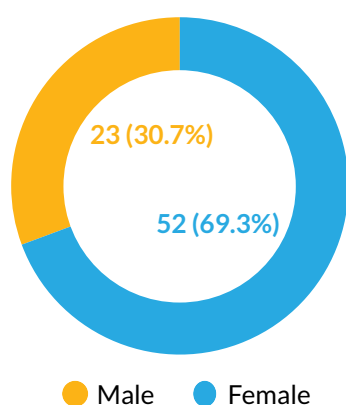
Location	Estimated No. of People	Number of Households	Households Interviewed	% of Households Interviewed
Arno	160	26	19	74
Ine	130	21	16	76
Rongrong	130	21	20	95
Laura	1800	290	20	7

Source: Author provided

Figure 3-9 shows how many women and men were included in the consultation.

The household consultation included a range of questions exploring household size, facilities, hygiene knowledge, and behaviors and infant feces and menstrual hygiene management.

Figure 3-9: Female and Male Respondents



Approximately half of respondents answered that their house had a toilet, with 8 saying that they used a neighbor’s facility. This contrasts with RMI Joint Monitoring Program data that shows no sharing of facilities. Ten said they used the ocean and 6 used the lagoon. Of the 8 that answered “other”, most responses said that they had a useable toilet in the past but that it was now full and or blocked.

Of the 53% of respondents who said they had a toilet, the vast majority said that they had a flushing toilet with a septic tank, and two said they had a flushing toilet with a pit.

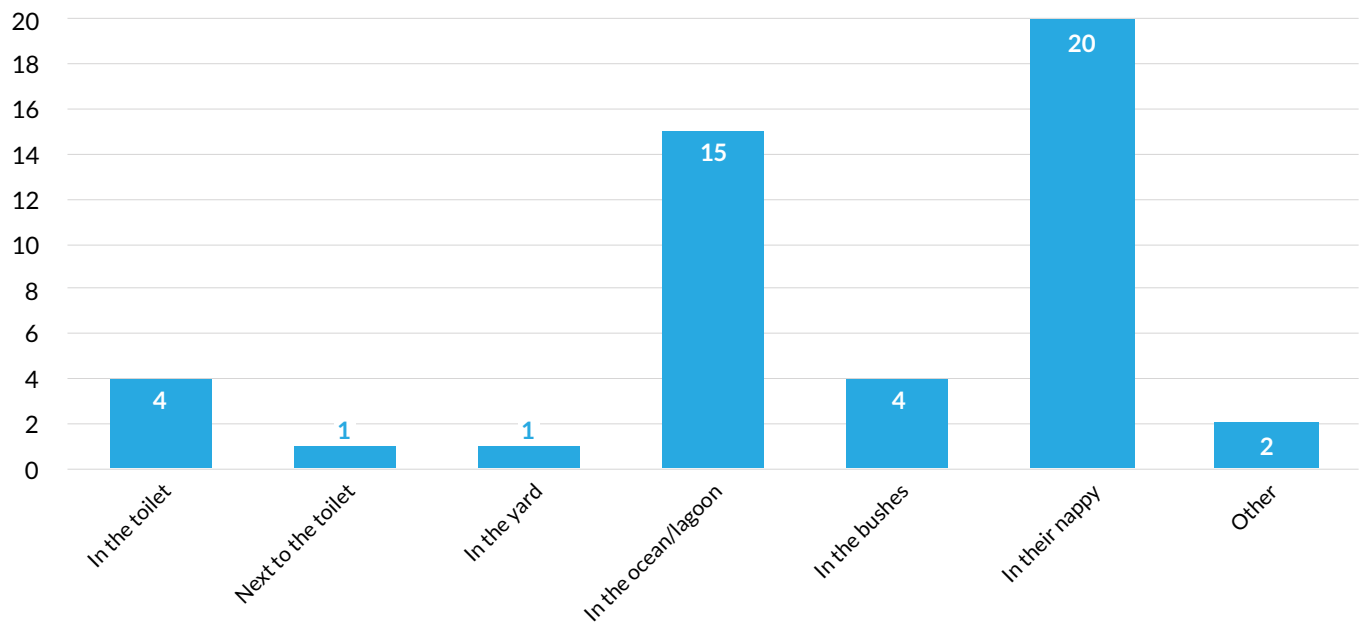
Of the 75 people asked if they would like to have a toilet or to have a better toilet than the one they currently had, 70 said they would. A range of reasons were given, with “convenience” being the most common.

The interviewer also asked respondents: “What would help you to have a better toilet?” Most respondents said that they needed money for a better toilet, with most of the “other” responses saying that they needed tools and equipment (tantamount to saying they needed money).

² Government of Vanuatu. 2011 National Population and Housing Census, World Health Organization. Joint Monitoring Program data, <https://washdata.org>

People with young children were asked where children went to the toilet: of those with children, most answered that they used disposable diapers (nappies), and evidence existed of diapers left on the ground, possibly to be dried. Young children also used the ocean/lagoon, bushes, the yard, as well as next to the toilet (Figure 3-10).

Figure 3-10: Where Do Young Children Defecate?

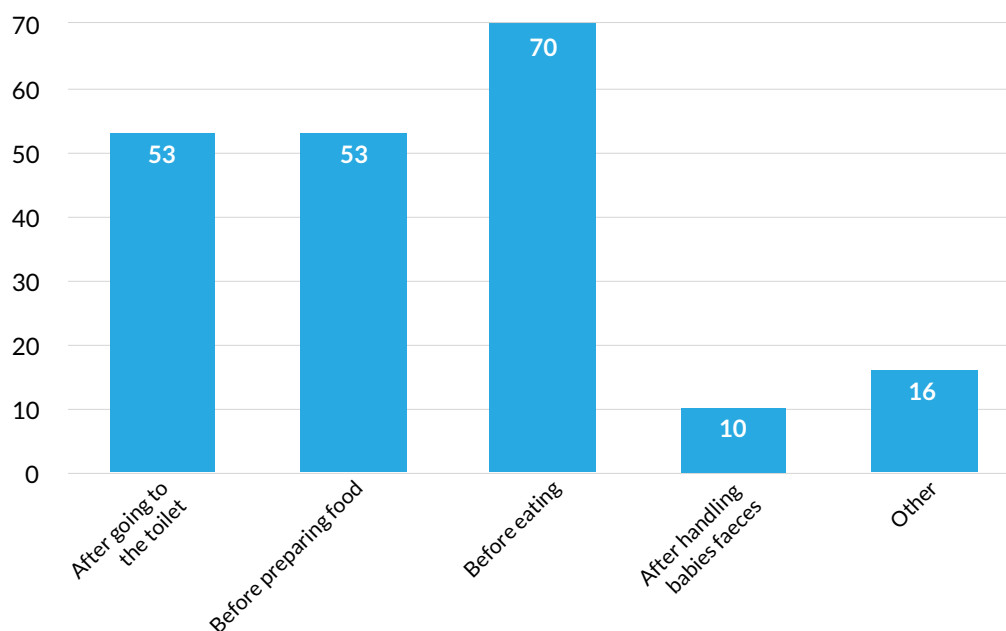


Source: Survey data collected by author for the purpose of this report

Asked how they disposed of babies' feces, most said they would bury it or cover it with soil. Many answered that they did nothing because the children would go to the bush or the ocean/lagoon.

When people were asked "at what times did they wash their hands", the most common answer was "before eating". Other answers included "before preparing food" and "after going to the toilet" (Figure 3-11).

Figure 3-11: When Do You Wash Your Hands?



Source: Survey data collected by author for the purpose of this report

Of toilets inspected, 19 of 26 appeared to have handwashing facilities and only 10 had soap. Hand soap is visibly available in most local stores (Figure 3-12). Many would claim they used soap when washing their hands, observation would suggest this was sometimes overstated.

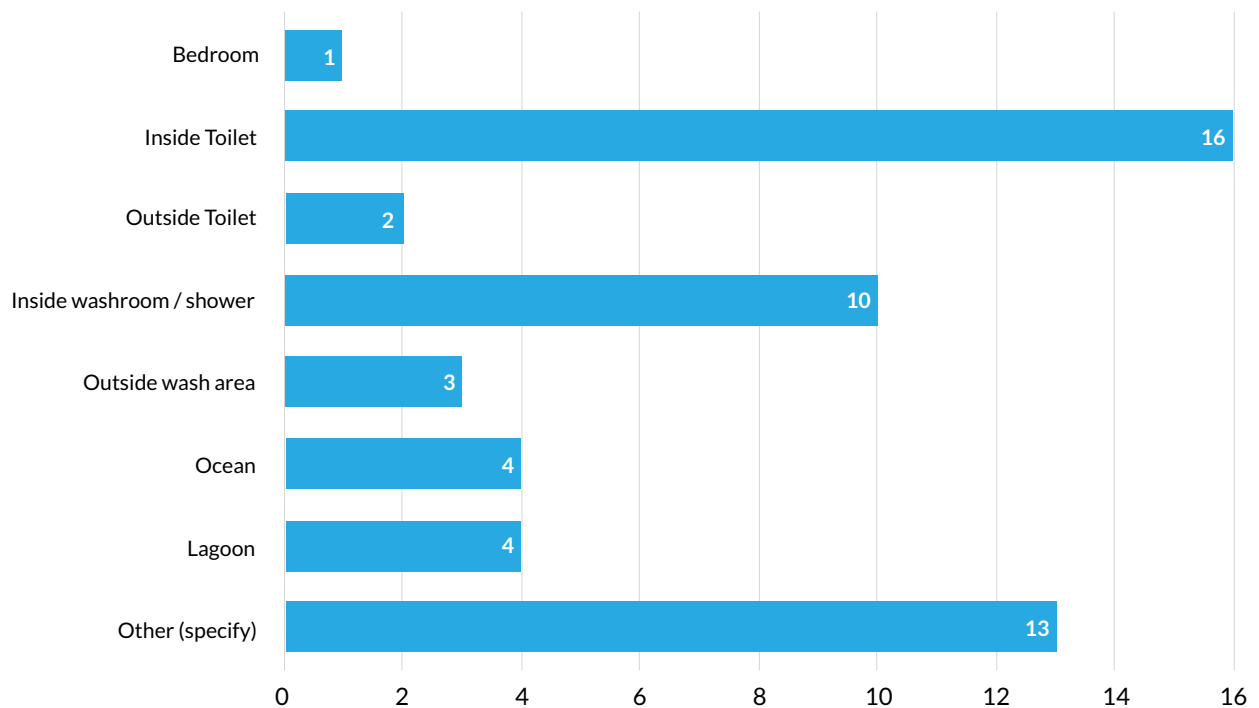
Figure 3-12: Hand soap at local stores



Source: Author provided

The final section of the interview related to menstrual hygiene and included asking: “Where do women/girls go to clean themselves when they have their period?”

Figure 3-13: Where do Women/Girls go to Wash When They Have Their Period?



Source: Survey data collected by author for the purpose of this report

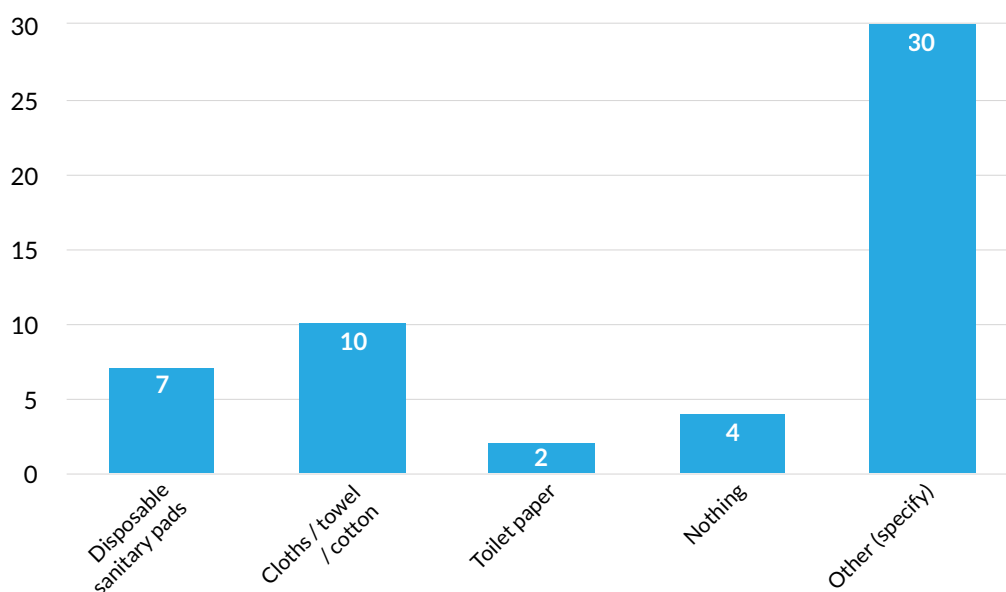
Figure 3-13 shows that most use an inside toilet when it is available or an inside washroom/shower. The second highest score was for the response “other”. Other responses included the following:

- No longer menstruating
- Use girl’s bathroom
- Grandmother’s bathroom at different house
- Use bucket and go far from house
- Use inside room and the ocean
- Anywhere far for privacy, even if toilet is available
- Areas that are private and discrete
- Separate washroom about 20 meters from house
- Outside in the open but during the night

A significant number said they used the ocean and the lagoon.

Respondents were asked what they use when they have their period (Figure 3-14). While some used disposable sanitary pads or clothes/towels/cotton, the largest response was “other”.

Figure 3-14: What do Women/Girls in Your House use When They Have Their Period



Source: Survey data collected by author for the purpose of this report

Of 25 women who answered “other”, 23 said that they used babies’ disposable diapers when they had their period, the diapers cut into several strips and used as disposable pads.



When women and girls were asked if they can purchase sanitary products when they need them, 74% said that they could. It appears that these people mostly buy sanitary products in Majuro (Figure 3-15).

Of those who said they could not, they answered that “sanitary products were not available in the stores around here”.

Of the respondents, 50% said that they would not be prepared to share a toilet with people not from their own family. Many respondents said that men and women should not share a toilet and even if they had a toilet it would only be used by the women in the house, with the men going elsewhere.

The household survey was invaluable in getting an accurate and first-hand account of sanitation conditions, knowledge, and behavior in the RMI. While the locations chosen were reasonably isolated, by RMI standards, far more isolated locations could be considered. Further sanitation survey work should be conducted and would require proper advance planning and allocation of time, especially time flexibility to deal with unexpected weather, transport changes, and delays.

In the survey, 26 of 75 respondents (34%) were defecating in the open, be it the ocean, the lagoon, or the bush.

Of the respondents, 70 (93%) of 75 answered that they would like to have a better toilet for reasons including convenience, improved health, and dignity and shame at not having one.

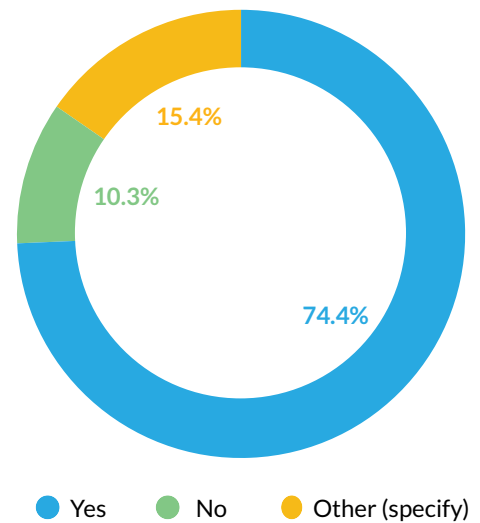
Generally, people felt that they needed money and training to help them improve their toilet status. Given that most people believe that they need to have a flush toilet with a septic tank, this is understandable.

People do not appear to manage infant feces well or understand how important it is to properly dispose of it and to wash their hands afterwards. The use of soap when handwashing appears rare, as does washing hands at critical times.

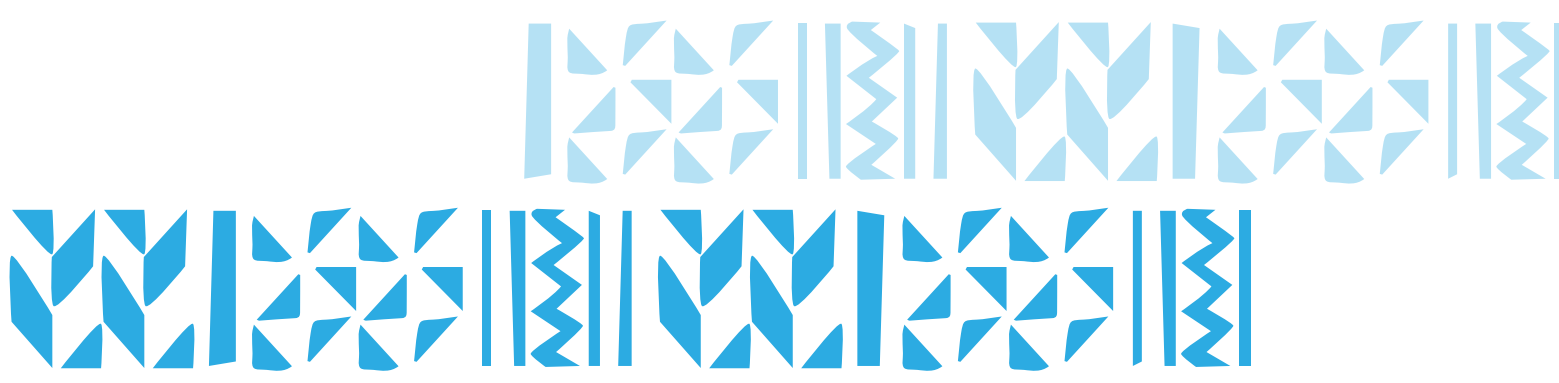
A range of practical and cultural challenges exist for women when managing their periods. Many wash in the ocean or lagoon or find a private place at night to wash, which can be some distance from the house.

Most stores do not stock sanitary products, claiming that it is culturally unacceptable for them to do so. They do however stock children’s diapers, which many women use as disposable pads.

Figure 3-15: Can You Get Sanitary Products When You Need Them?



Source: Vanuatu National Statistics Office, 2016 Post TC Pam, Mini Census Report



4. Roadmap to Building an Effective Sanitation and Hygiene Sector

While the development of effective sanitation and hygiene is complex, with many different stakeholders, it should have key elements that can be identified and explicitly developed.

The traffic-light style diagram (Figure 4-1) may not be comprehensive, it can help picture sanitation sector status in each country.

The sector has been broken down into the six key components shown in green (leadership, policy/legislation, strategy/action plan, technology/tools, learning/pilots, and implementation). Traffic light colors of green, yellow, and red are used to indicate status of each component in a given country. Red means the component is not complete and needs improvement and constrains success in the sector. Yellow means that while the component has necessary elements, it needs improvement. Green means the component is strong and does not constrain sector effectiveness.

Figure 4-1: Roadmap to Building an Effective Sanitation and Hygiene Sector



Source: Author provided

4.1 Leadership and Coordination

Leadership and coordination are critical components of developing and sustaining an effective sanitation sector (Table 4-1). Without high-level commitment to improvements in access to better sanitation, institutional arrangements and improvements will be irrelevant.

Table 4-1: Leadership and Coordination Recommendations

Vanuatu	Republic of the Marshall Islands
<p>All stakeholders accept that the sanitation and hygiene sector is led by the Ministry of Health through the Department of Public Health. The current structure of the Ministry of Health includes environmental health officers and sanitarians, most of these positions are unfilled, although there are plans to fill them progressively over the next 5 years.</p> <p>The role of the Sanitation Board should be broadened to include an explicit focus on rural sanitation and hygiene coverage and to oversee the development of a national sanitation and hygiene strategy.</p> <p>The Sanitation Working Group is producing the Sanitation and Hygiene Guidelines and from this exercise a range of technical notes should be developed that have clear target audiences.</p> <p>The Technical Notes series should include simple to understand and use descriptions of relevant technology options that focus on ensuring a toilet is a barrier to the transmission of disease and respond to different audiences; technical staff at provincial level and nongovernment organizations, and for community craftsman.</p>	<p>Currently there is a gap in the sector in the RMI although the country has been able to develop an effective waste management system on Majuro with the commitment of the Ministry of Health and Human Services.</p> <p>Whist existing policies indicate that the EPA should be responsible for overseeing the Water and Sanitation Policy and Action Plan, they do not currently have the resources, the expertise, or the authority to do this task well.</p> <p>Open defecation and fecal sludge management are the two biggest challenges facing the RMI and a multi-sectoral Sanitation and Hygiene Taskforce should be established and chaired by the Chief Secretary's Office.</p> <p>The taskforce would oversee the development of a national sanitation and hygiene strategy that includes a clear analysis of existing baseline data, and a prioritization strategy that ensures logistical and cost challenges are minimized.</p>

Historically, water, sanitation, and hygiene (WASH) as a sector has been difficult to define and allocate in who in government is responsible. WASH generally has been aligned with the Ministry of Water Resources, Ministry of Environment, the Ministry of Public Works, or the Ministry of Health. Water has normally taken precedence in getting more attention and funding over and above sanitation. As such a multisectoral challenge it is not surprising that WASH tends to cross into many ministries, often meaning a multi-ministry taskforce is needed to harness the skills and capacities of all major stakeholders.

To secure significant support for sanitation it is important to present data to high-level government representatives that clearly show the existing situation in terms of the impact it has on people's lives, rather than simply as a percentage of population. Contextual stories are many and are powerful when seeking support from key government positions if the stories focus on human dignity, human rights, and support for the most vulnerable.

A range of approaches to institutional leadership exists throughout the Pacific that varies in effectiveness. While Papua New Guinea and Solomon Islands are among the lowest countries in share of the population with access to improved sanitation facilities, they are focused on developing models that will be effective and are receiving support for these efforts.

In Papua New Guinea, the WASH sector has developed rapidly over the last 3 years through the creation of a WASH Project Management Unit as a part of the Department of National Planning and Monitoring. In the 12 months, the unit will transform into the Papua New Guinea National Water and Sanitation Authority, a state-owned enterprise tasked with developing and monitoring the WASH sector.

The WASH Project Management Unit coordinates and monitors the WASH sector and chairs a range of key taskforces and committees that include urban WASH, rural WASH, peri-urban WASH, and WASH in institutions (schools and clinics).

The unit has overseen the development of the Papua New Guinea WASH Policy and is now crucial in coordinating the activities of funders including the Asian Development Bank, the World Bank, the EU, and the Australian Department of Foreign Affairs and Trade.

While access to WASH in Papua New Guinea has not yet shown significant growth, there are now many programs/projects in the preparation phase working closely with selected district governments to develop WASH plans. These plans will begin implementation next year and will likely result in significant increases in coverage of access to both water and sanitation facilities.

In Solomon Islands, the rural WASH Project coordinates the WASH sector, the project funded by the EU and the government of Solomon Islands. The rural WASH Project exists within the Ministry of Health and includes several senior government-funded officers who manage the program, with technical support from the EU-funded contractor.

The RWASH Project, and its predecessor the National Rural Water Supply and Sanitation Program (RWSS) Project, has been running for more than 20 years and has a chequered history of effectiveness. In the early years, the project was very much a central government initiative that supported provincial annual construction programs based on distributing materials for projects to the nine provinces.

In more recent years, the project has recognized the importance of building provincial capacity for the delivery of water and sanitation services and is implementing a large Community Led Total Sanitation program in several provinces. While results of this program are still inconclusive, it is an important “pilot” and one that other Melanesian countries should watch and learn from. Several villages have been “triggered” and declared as open defecation free, but the ongoing quality of facilities constructed is yet to be fully assessed.

4.2 Policy and Strategy

Vanuatu and the RMI would benefit from a clear and explicit approach to improving sanitation coverage and hygiene behavior and knowledge. Coverage rates have barely changed over the past decade and existing institutional and policy environments are unlikely to initiate a shift to greater emphasis and improved access.

While both countries do have policies that include sanitation and hygiene, a clear strategy or action plan is lacking that includes a pathway to reach the SDG targets and clear prioritization of their own targets. The development of a national sanitation and hygiene strategy in each country will allow discussion of many key sector constraints with a broad range of stakeholders and solutions developed (see Table 4-2).

A sanitation and hygiene strategy should be practical and flexible and allow a learning cycle during the first years of implementation. The strategy should clearly describe the starting point, the key targets, coordination arrangements, and responsibilities.

Policy and Strategy Recommendations

Summarized in Table 4-2, the proposed sanitation and hygiene strategy would accomplish the following:

- Clearly present the current situation:
 - > leveraging existing information and health data,
 - > existing population and population growth data.

- Ensure planned census activities would include questions that align with Joint Monitoring Program definitions as shown in the sanitation ladder.
- Clearly define the role of all key organizations and in particular coordination arrangements at the national/provincial/Island government levels, particularly the proposed links or otherwise with committees overseeing progress in the water sector.
- Develop a targeting and prioritizing strategy that will maximize the effectiveness of future sanitation interventions, considering how to best impact the high current open defecation and unimproved figures, and mitigate transport and capacity logistics.
- Support the rollout and ongoing development of Sanitation and Hygiene Guidelines to all stakeholders. This is to include a strong focus on the development of simple to use checklists to ensure the quality of all facilities constructed, and a localized sanitation ladder classification tool.
- Consider the impact of schools, health centers, and aid posts having improved and good quality sanitation and hygiene facilities, and how this will influence young users, in particular.
- Identify funding requirements and advocate for increased government and donor funding for the sector. Include realistic estimates for all locations to achieve 100% access to improved facilities and advocate for donors to fund work in each location.
- Identify a pilot island/province and facilitate development of a sanitation and hygiene action plan.
- Develop and implement a capacity building plan for sanitation and hygiene skills, knowledge, and availability of expertise and materials/equipment.



Table 4-2: Policy and Strategy Recommendations

Vanuatu	Republic of the Marshall Islands
<p>The development and implementation of a national sanitation and hygiene strategy should build on lessons learned from the Department of Water Resources approach to engaging and mobilizing communities for their own water improvements. Specifically, a similar approach to that taken to promote drinking water safety and security planning nationally and encouraging communities to engage would be beneficial.</p> <p>Development of a sanitation and hygiene strategy takes time and includes engagement and empowerment of a range of stakeholders.</p> <p>A bottom-up approach should be considered that includes the following:</p> <p>Develop a sanitation and hygiene overview statement that includes status and agreed targets and principles. This is not a full strategy but a high-level statement of intent.</p> <p>Develop a pilot provincial sanitation and hygiene strategy and action plan, this will:</p> <ul style="list-style-type: none"> • Test the impact of leadership – High level management/ coordination and commitment, the Secretary General should oversee the provincial pilot through existing provincial mechanisms. • Trial coordination mechanisms and responsibilities (rural/ peri-urban). • Collate/collect data on existing access, using new guidelines checklist. • Using/adapting drinking water safety and security planning assessments/using existing WV Survey information. • Build capacity of area administrators, sanitation officers/ environment officers/health officers/NGO officers • Identify matching funds—health department/province/area council/other funding sources • Impact women and girls—menstrual hygiene management trial/research • Develop approach to peri-urban/informal settlements (depends on province selected) • Design and trial decentralized fecal sludge management in a peri-urban area—cost of water/health status/security of tenure (depends on province selected) • Develop a Sanitation and Hygiene Action Plan for one (or more) Area Councils, selection criteria to include: <ul style="list-style-type: none"> > Clearly committed—Development priorities (Santo 3 of 11) > Have new Administrator (Santo 6 of 11) > Start with public goods—schools/health centers/aid posts • Co-fund Area Council Sanitation Officers 	<p>Building on the National Water and Sanitation Policy and Action Plan 2014 and the Environmental Protection Act 2016 a national sanitation and hygiene strategy should be developed.</p> <p>This should be overseen by the Sanitation and Hygiene Taskforce chaired by the Chief Secretary’s Office and include consultation and engagement with all key stakeholders including the Department of Health and Human Services, the Ministry of Works, Infrastructure and Utilities, the Ministry of Culture and Internal Affairs, the Association of Majors, and other key organizations including nongovernment organizations (NGO), Faith Based Organizations, and the private sector. The strategy should include:</p> <ul style="list-style-type: none"> • Clearly present current situation • Previous and planned census, including adjusting census questions to align with Joint Monitoring Program definitions as shown on the sanitation ladder. • The Sanitation Household Survey (from this study), as a way of contextualizing the data. • Clearly define the role of all key organizations, particularly coordination arrangements at the national and island government levels. • Develop a targeting and prioritizing strategy that will maximize the effectiveness of future sanitation interventions, considering how to best impact the high current open defecation figures, and the transport and capacity logistics of the Republic of the Marshall Islands (RMI). • Develop RMI sanitation guidelines that include key technical information for all types of RMI locations, this should focus strongly on simple-to-use checklists to ensure the quality of all facilities constructed • Consider the impact of schools/health centers/aid posts having improved and good quality sanitation facilities, and how this will influence young users in particular • Identify funding requirements and advocate for increased government and donor funding for the sector. Include realistic estimates for all Islands to achieve 100% access to improved facilities and advocate for donors to fund work in each location • Develop and implement a capacity building plan for sanitation and hygiene

Source: Author provided

4.3 Technology and Tools

Community preferences

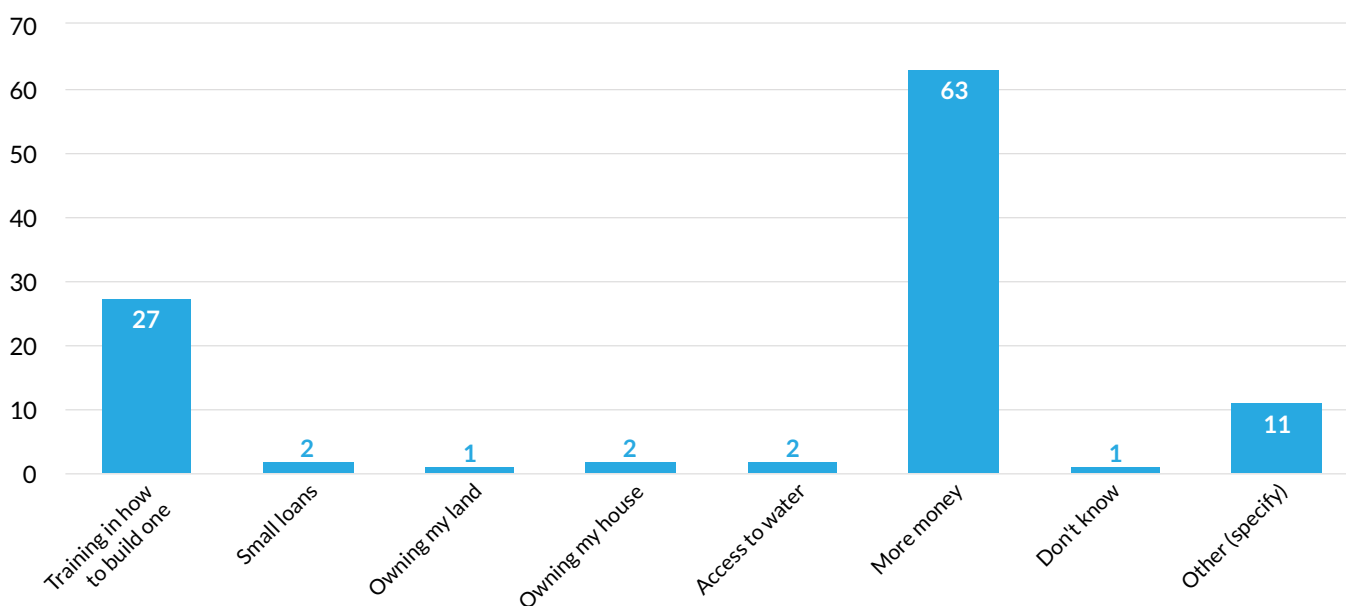
It is clear from the site visits and consultations in both countries that different communities have different approaches and preferences for sanitation facilities. These differing preferences reflect a combination of cultural, historical, and practical considerations and experience.

For example, most remote communities in Vanuatu are used to using dry pit toilets. This has been their traditional preference and it means that they do not need water for flushing. In RMI, most households visited strongly preferred water-based toilets, including pour flush/flushing toilets using a nearby water well or rainwater for flushing.

It is critical to integrate community preferences with technology options when assessing household sanitation needs, rather than simply using technical considerations.

Another mission finding is that most households would like a better toilet system but feel they cannot access it due to a lack of finance (Figure 4-2). If users were more aware of options and low-cost local options were further developed, finance might not be the major constraint. It might be that a lack of knowledge and skills constrains most people, and simple support and training could help to overcome this.

Figure 4-2: What Would Help You to Have a Better Toilet?



Source: Survey data collected by author for the purpose of this report

The implementation of works in communities also often poses logistical and maintenance challenges. It is highly advisable to develop simple community agreements that spell out the details of the projects, explain the regulatory environment, and state the responsibilities for maintaining quality. Appendix 1 provides guidance to develop community-level agreements. Appendix 2 provides a guide on the approval process for a community sanitation project in Vanuatu.

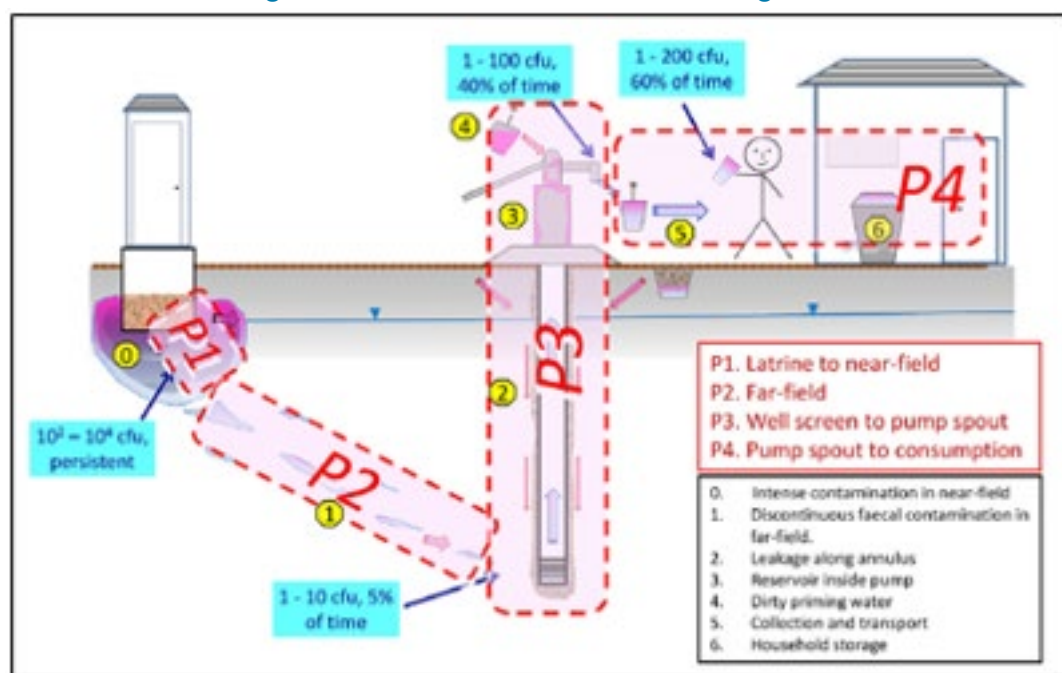
Flood-prone areas

As described in the two country reports, many communities are contaminating their domestic water wells due to the proximity of their toilets. In each case, the family has built the toilet and the well close to the house for convenience and easy access.

A recent report from UNICEF (Kiritimati sanitation design details – 06/2019) based on research in Bangladesh has demonstrated that pollution can travel horizontally from the toilet pit to the well quickly and contaminate the water (Figure 4-3) (Ravenscroft et al. 2017). Suitable conditions for this phenomenon to happen are:

- short distance (< 12 meters) from the toilet to the well;
- sandy or fractured coral rock soil;
- unsealed toilet pit or septic tank; and
- toilet excavation reaching the water table.

Figure 4-3: Fecal Contamination Diagram



Source: Ravenscroft³, P, et al, 2017. The Public Health Significance of Latrines Discharging to Groundwater Used for Drinking. Water Research. 124 (1)

These conditions were frequently observed in Vanuatu (Pepsi, Erakor) and in the RMI (Rongrong, Arno, Laura).

The contamination risk could be considerably limited through construction of toilets using standards including:

- waterproof septic tank (internal lining, mortar) with leach drain;
- excavation avoiding the water table by a minimum 50 centimeters; and
- a minimum 8 days to travel from the toilet to the water well.

Risk of contamination is greater during heavy rains. Pacific islands are often subject to tropical rains (> 100 millimeters per day) for several days, for example during cyclones. This exposes people to contamination by flooding of the saturated soil when:

- stormwater runoff is introduced into the toilet system, which can overflow and enter the water well; and
- the flooded toilet can no longer be used, and people have to defecate in the open.

To mitigate these problems, appropriate toilets should be designed and constructed to not flood, by using elevated ground or elevated platforms (Figure 4-4).

³ P Ravenscroft, Z H Mahmud, M Shafiqul Islam, A K Z Hossain, A Zahid, G C Saha, A Zulfiguar Ali, Khairul Islam, S Cairncross, J D Clemens, M Sirajul Islam.

Figure 4-4: Sanitation Options, Solomon Islands Red Cross



Source: Author provided

These solutions may trigger additional costs and it is critical to develop low-cost and safe technical solutions. In Vanuatu and the RMI, appropriate low-cost solutions are not yet included in sanitation guidelines. Use of local materials such as timber platforms, bamboo pit linings, handmade risers, pandanus, or natangura roof cover are generally not recommended. Official documents and building codes always refer to concrete and plywood frames.

Management models

The building and use of an environmentally safe toilet are a household responsibility generally defined in local public health acts. However, many families lack the knowledge and skills to build an effective toilet. In areas where floods are common, or where people choose to build septic tank systems, technology challenges and considerable costs are involved in construction and in maintenance and emptying/cleaning.

In locations where costs are high and a shared responsibility or use of resources exists, a potential solution may be the payment of sanitation fees through a sanitation management system or committee. The development of a sanitation management model and the payment of fees could support a sanitation organization to improve sanitary conditions in rural and peri-urban areas where costs are high, or where facilities are shared.

One example is the water committees in Vanuatu. These committees comprise village representatives, including customary chiefs, women, and youth representatives. Many water committees are well organized and collect money from families to pay for equipment, fuel, and/or contractors, etc. An extension of the water committee model to include sanitation is only a short step and may be useful where households share responsibility for paying fees, for instance, for emptying shared septic tanks.

As described further in the Vanuatu country report, there is a communal sanitation trial at the Seaside community in Port Vila (Figure 4-5). This system has been operating for 3 years and provides services for a population of about 1,000. Lessons from this pilot can help shape sanitation interventions, particularly in peri-urban areas.

Figure 4-5: Seaside Community Sanitation Project



Source: Author provided

Desludging

Site visits in Vanuatu and the RMI make clear that septic tank systems are commonly used. Due to remote locations of many facilities, equipment such as vacuum trucks are unavailable and are unlikely to become so given the high cost of the truck and the shipping or transport involved.

FSM approaches are needed for each country based on low-cost and low-technology solutions. Managing fecal sludge should be developed through a staged approach including the following steps:

- pilot community selected (Vanuatu, RMI);
- existing situation mapped with island/community fecal flow diagrams;
- facilities mapped and water quality baseline data obtained from all wells;
- liquid and solid sludge handling system design;
- liquid and solid sludge drying and disposal system design;
- construction and establishment of pilot facilities and processes;
- training and capacity building;
- performance monitoring (6 months);
- evaluation and recommendations; and
- scale up and out of FSM.

Several pilots could be selected to represent a range of environments such as remote islands or peri-urban areas, large or small communities.

Sanitation and hygiene guidelines

Sanitation and hygiene guidelines were found to be limited and generally not targeted for community use in Vanuatu and the RMI. Guidance to contractors and NGOs is important when organizing major work programs

in communities in dense urban areas, however simple work sheets in local languages may also be needed to support households and community artisans in remote locations. Rural guidelines should target households and communities with limited skills and access to finance. Use of local materials and simple improvements to existing systems may more effectively improve sanitary conditions in remote locations.

Key stakeholders are already discussing the issues in Vanuatu through the WASH cluster and Sanitation Working Group. Rural sanitation guidelines are being developed with the contribution of these stakeholders. It is suggested that demonstration examples using low-cost and low-skill solutions should be constructed so that a series of appropriate technical notes can be developed for local communities.

In addition, the guidelines should include a detailed and localized sanitation ladder tool that makes it easy for observers to classify each toilet. This would include photographs of all toilets that are used locally with more detailed photographs of the key components of each, and how they should impact the classification.

Decision making tools

Selecting a toilet system is challenging as there are many different conditions and constraints associated with each case. A decision-making tool can guide the decision maker and support the selection of the best option for each location. A summary of recommended tools for sanitation options for Vanuatu and RMI is provided in Table 4-3.

The PRIF Sanitation Options TA: 2016 focused on water supply in high to medium density (urban areas). Since this study looks at rural and peri-urban areas with low density population and generally low incomes, the PRIF decision-making tool is not ideal. It does not account for communities with water but no access to desludging and ends with an “alternative solution is needed” upwards arrow. It suggests that without water (most Vanuatu conditions) then only the composting toilet solution is applicable, with no reference to any other form of dry pit toilet.

The Draft Vanuatu Rural Sanitation Guidelines, still under development and review, focus more on remote conditions and low affordability. While it has been developed for use in Vanuatu, this decision-making tool could be adapted for use in the RMI. Moreover, it includes two selection trees based on site conditions and on user preference.

Comments on the site conditions diagram include:

- The lack of FSM. Only a pump-out service is included with no sludge disposal/recycle (Figure 4-6);
- For locations prone to flooding, only dry solutions are indicated (raised ventilated improved pit, above ground compost) which is not suitable for most households in the RMI or collective buildings such as schools or resorts (Figure 4-7). A septic tank with above ground drainage (indicated in the PRIF diagram) could be selected here.

Comments on the user preference diagram include:

- The selection tree asks “Can I afford a composting toilet?” (Figure 4-7) although composting toilets have not been widely accepted in Vanuatu (or RMI). An initial preference driven question could focus on cultural preference of dry or wet toilet, or on whether the user can afford to have a flushing toilet, then technical questions around water access, septic tank emptying, flooding issues could follow.
- The question/answer about women having access to water in the toilet does not seem to be correct (Figure 4-7). In answering the question - Would women in my household benefit from access to water inside the toilet? - the answer “yes” should lead to the solution of “ventilated improved pit with water inside” and not the opposite.

Figure 4-6: Vanuatu Draft Rural Sanitation Decision Making Tool—Site Conditions

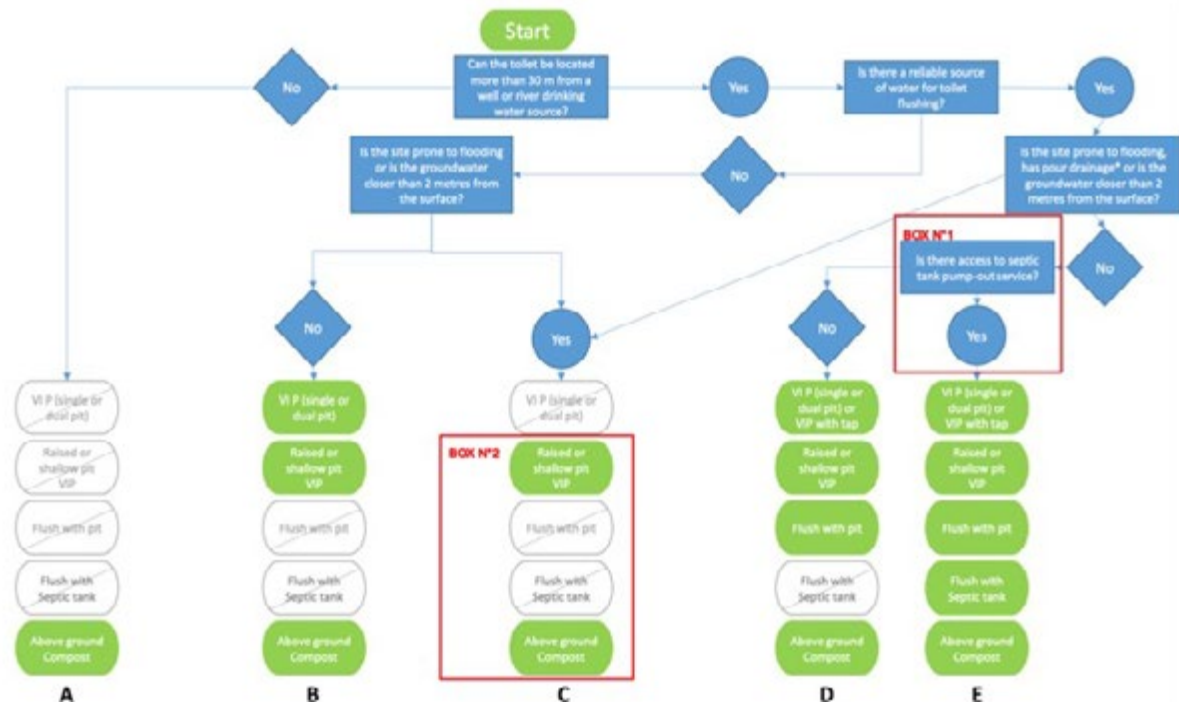
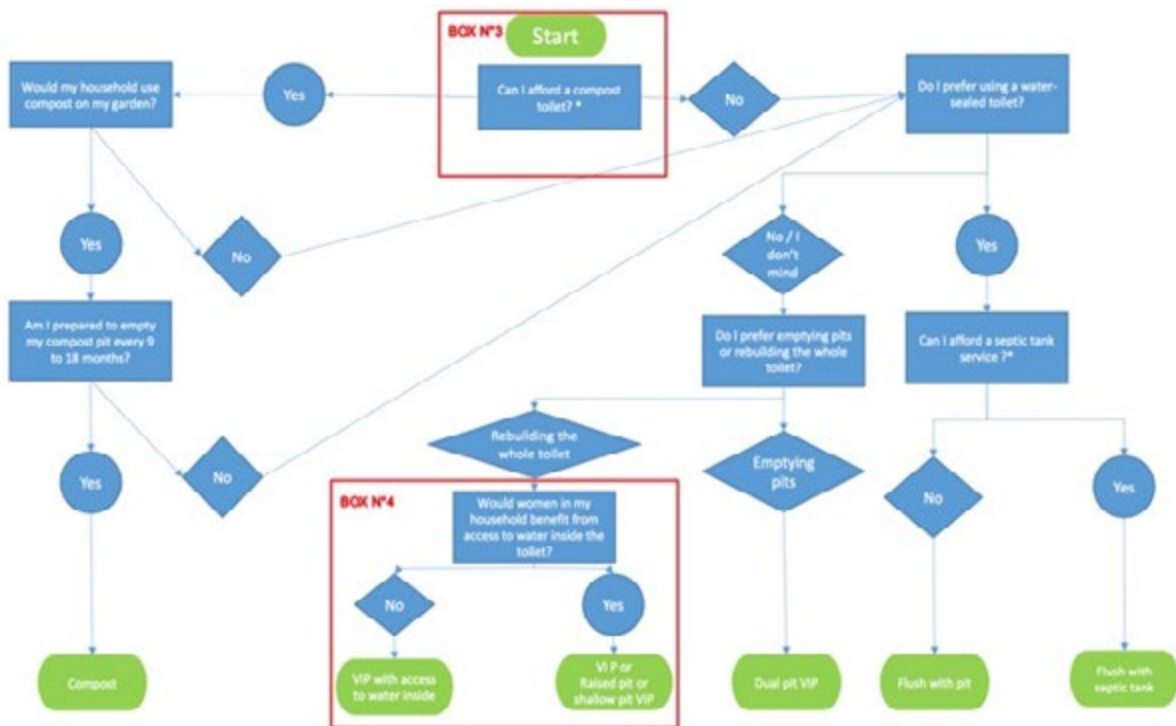


Figure 4-7: Vanuatu Draft Sanitation Decision Making Tool—User Preference and Affordability



Source: (Figures 4-6 and 4-7), Vanuatu Sanitation and Hygiene Guidelines.

Table 4-3: Technology and Tools Recommendations

Vanuatu	Republic of the Marshall Islands
<p>While open defecation appears to be low, the number of people either sharing a toilet or using an unimproved toilet is high.</p> <p>By Pacific standards Vanuatu has a high and fast-growing population. This means that the construction of new facilities or improvements to existing facilities must keep pace just to maintain current access levels.</p> <p>If an increase in access is to be sustainably achieved, then new approaches to rural sanitation are needed.</p> <p>The Vanuatu Sanitation and Hygiene Guidelines have recently been developed and are being tailored to include specific guidelines for rural communities.</p> <p>A series of simple “technical notes” is recommended that describes how to construct toilets that effectively bar the transmission of disease. Given the size of the country and the isolation of many locations, the use of local materials must be maximized, this will keep prices very low and reduce constraints such as accessing materials, shipping and transport.</p> <p>A pilot “model village” approach is recommended that will allow local technologies to be developed and trialed and construction techniques perfected. The use of this model will allow the development of appropriate technologies, adapted guidelines and technical notes, and training packages to ensure local communities have the skills to develop their own solutions.</p> <p>A localized sanitation ladder tool should also be developed as part of the guidelines. This tool will allow classification and monitoring of toilet and more effective and meaningful assessments, including for Joint Monitoring Program.</p> <p>While the use of septic tanks is less common in rural Vanuatu compared with the RMI, they are found in large numbers in both urban and peri-urban areas.</p> <p>A limited FSM trial is recommended that focuses on developing cost-effective desludging technologies and processes. This would likely either be in Luganville or Port Vila, where many septic tanks and some facilities exist to receive waste from desludging operations. The trial should focus on affordability and include development of manual or small vehicle mounted systems, that are both cheaper than conventional desludging trucks and more suitable for scaling up into new locations where conventional trucks would be far too expensive.</p>	<p>According to Joint Monitoring Program data and the Household Survey conducted by this mission, 30% of people living in rural/remote parts of the RMI defecate in the open. In reality, this figure is likely to be higher but already constitutes one of the major sanitation challenges facing the RMI.</p> <p>In addition, for many people living on remote islands with a fragile water lens, septic tanks have become the norm in sanitation technology.</p> <p>Many of the septic tanks are either poorly constructed and perform only as containment tanks or are full and have little chance of being desludged.</p> <p>The RMI does not have a set of national sanitation guidelines to support work in the sector. It is recommended that the RMI Sanitation and Hygiene Guidelines are developed and can build on work done in other countries including Kiribati, Vanuatu, and the Solomon Islands.</p> <p>A localized sanitation ladder tool should also be developed as part of the guidelines. This tool will allow classification and monitoring of the quality of toilets and will make assessments, including for Joint Monitoring Program, more effective and meaningful.</p> <p>The guidelines should include a series of “Technical Notes” to describe how to construct toilets that are an effective barrier to the transmission of disease.</p> <p>Given the remoteness of many locations in the RMI and the challenges and costs of shipping, toilet designs should maximize use of local materials and expertise.</p> <p>The high number of full septic tanks in the RMI is a ticking timebomb. Many septic tanks have been built in locations with no process for desludging and no treatment facilities for sludge when it is removed from septic tanks.</p> <p>An FSM Trial is recommended and should be implemented as part of an island wide sanitation pilot. The trial will be an opportunity to develop low-cost local toilet solutions, including appropriate septic tanks that properly treat waste and improve effluent quality. In areas where effluent quality is a critical criteria, other technologies may be trialed, including solar septic or anaerobic baffled reactors.</p> <p>The FSM Trial would also include piloting of appropriate treatment and storage facilities that may include drying beds or wetlands.</p>



4.4 Pilots

Recommendations in this report range from the development of a national sanitation and hygiene strategy to development of a localized sanitation ladder tool. It also presents pilot concepts that could be further developed. As summarized in Table 4-4, pilots can effectively develop or improve approaches and technologies without incurring the larger cost of national implementation.

Further information on proposed pilots is given in the relevant recommendation boxes throughout the report. Menstrual hygiene is a critical area that must be addressed in both Vanuatu and the RMI, and this section includes further information, and in both country reports.

As noted, menstrual hygiene is a big challenge for women and girls in both Vanuatu and the RMI and is closely linked to sanitation facilities and hygiene practices, as well as to a complex array of cultural and custom beliefs. Facilities are poor in allowing a secure and appropriate place to wash, and sanitary products are often not available.

Girls are particularly disadvantaged and are often told to not attend school when they have their periods. This, in some cases, means that girls are attending school for up to 20% less time than boys and are having to try and catch up when they do attend.

Neither appropriate facilities nor products are generally found at homes or in schools and accurate, sensitive advice often not available. In the RMI many of the stores on remote islands do not stock sanitary products and in Vanuatu many villages do not have access to local stores.

A pilot should include further research on the impact of custom and culture; developing suitable education packages for school curriculums; prioritizing the design and construction of appropriate toilets/washing facilities for homes, schools, and clinics; developing local affordable and effective re-useable alternatives to costly disposable sanitary products; understanding the impact of poor sanitary hygiene on education, infection rates, and productivity.

Key considerations for appropriate toilet facilities should include:

- toilet house size—big enough to be used for washing;
- availability of water and soap inside the toilet building;
- able to properly lock from the inside;
- availability of light;
- location—private and discrete; and
- affordability.

In addition, for schools and clinics:

- Are sanitary products available within the institution?
- Is there appropriate menstrual hygiene management support staff to support girls/women?
- Is there evidence of a disposal system for sanitary products; discrete bins, plastic bags for wrapping pads, incinerator/drum for weekly burning of waste?
- Teacher/nurse assigned to supervise toilet cleaning and burning of pads?

Given that 16% of people (at least 40,000 people) live in settlements either within or outside town boundaries, SDG targets and access for all will not be reached without a clear plan to support these areas, particularly in Port Vila and Luganville.

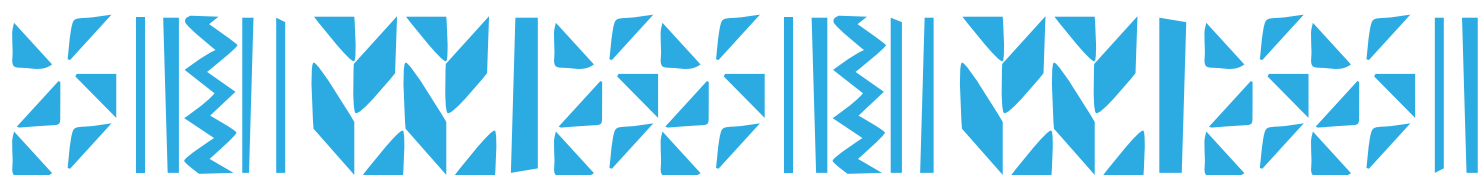
A pilot has already been implemented with the construction of the communal toilet blocks at the community of Seaside in Port Vila. This is an ideal opportunity to quickly understand lessons of the past and to strengthen approaches to peri-urban and settlement sanitation.

A review/evaluation of the project is recommended (depending on whether existing documentation for the project exists). Such a review should include:

- documenting the management model;
- reviewing performance of the project;
- reporting on payment/non-payment;
- investigating the role of the Department of Environmental Protection and Conservation, the municipal government, and the health department;
- a survey of users including (gender disaggregated):
 - > How often do you use it?
 - > Why do you use it/not use it?
 - > Who in the house uses it? When?
 - > Where do children defecate?
 - > Do you pee and defecate there?
 - > Distance from toilet and likelihood to use?
 - > Alternatives during night?
 - > Do you pay monthly bill? If not, why not?
 - > How can you stop non-payers from using the toilet?

Table 4-4: Recommended Pilots

Vanuatu	Republic of Marshall Islands
<ul style="list-style-type: none"> • A provincial sanitation and hygiene strategy and area council action plan. • A limited fecal sludge management trial focused on developing cost-effective desludging technology and management models. • A sanitation model village. • A menstrual hygiene pilot. • Evaluation of the Seaside Communal Toilet Block Project • mWater Trial 	<ul style="list-style-type: none"> • An Island wide sanitation and hygiene pilot • An FSM Trial • A menstrual hygiene pilot • mWater trial



4.5 Implementation

Successful sanitation projects/programs can be implemented in several ways, and each country has a specific set of capacities and strengths that will dictate how this can be most effective (Table 4-5).

Table 4-5: Implementation Recommendations

Vanuatu	Republic of Marshall Islands
<p>The establishment of provincial sanitation taskforces is recommended. These should be chaired at the highest level (SG) and oversee the development of provincial sanitation and hygiene strategies and associated area council action plans.</p> <p>The role of central government is to support provinces by developing a high-level management information system to monitor national and provincial progress and to share progress and lessons and ensure that effective tools are available for all.</p> <p>One of the key tools for this process is mWater. An mWater trial is recommended to map the status of each village and household within a trial area. This should be closely linked to the development of a localized sanitation ladder.</p> <p>By improving data quality and reliability the central government, through the Ministry of Health/Public Health Department can better advocate for further investment from both government and outside donors. The design of a National Sanitation and Hygiene Program is recommended and should engage all key stakeholders, especially key funding organizations.</p>	<p>High-level leadership is an essential component of implementing effective programs. It is proposed that the RMI establish a sanitation and hygiene taskforce led by the Chief Secretary's Office.</p> <p>If the recommendation of implementing an island-wide sanitation pilot is accepted, then island-level governance and oversight will need to be established. An island sanitation steering committee is proposed that includes representatives from the island government, the Ministry of Health and Human Services, the Environmental Protection Authority, the Ministry of Works Infrastructure and Utilities, and technical advisers with sanitation and hygiene expertise.</p> <p>The use of mWater for documenting existing sanitary conditions (location of facilities and water quality) and hygiene knowledge and practices on the chosen pilot island is recommended.</p> <p>If the Republic of the Marshall Islands key stakeholders are committed to decreasing open defecation from the current high level of at least 30%, then support to design a National Sanitation and Hygiene Program is recommended.</p>

Some countries have a significant government cadre of skilled WASH staff with a history of identifying and building water and sanitation facilities. Solomon Islands has staff specifically employed by each province to support the national WASH program. These staff are generally employed casually, although they have been in service for more than 20 years. They are managed by environmental health staff employed by the Ministry of Health.

The Solomon Islands government has recognized that existing WASH capacity has not been able to keep pace with a growing population and coverage has slowly declined. Moves are now being made to develop annual WASH projects that can be contracted out to NGOs. This approach will complement the existing construction program of provincial government workers and support the drive to improve national coverage.

As part of the decentralization agenda in Papua New Guinea WASH work is now being carried out by NGOs who support selected districts to develop their own WASH plans. This support will include development of baseline data and annual WASH projects, and capacity building of staff to be employed by the district level WASH Technical Working Group.

Whatever implementation mode is selected it is critical that government systems are used where they exist or are developed within government organizations if they do not. This is particularly important for establishing national monitoring and coordination mechanisms that allow progress to be both tracked and directed, and for strategic choices to be made in terms of prioritizing to maximize effect on national indicators.

4.6 Vanuatu—Summary of Recommendations

Using the traffic light system, Figure 4-8 shows sector status in Vanuatu.

- Green boxes indicate that the component is not currently a constraint to the growth and effectiveness of the sector
- Yellow boxes indicate that the component is not a major constraint but that some improvements are needed
- Red boxes indicate that the status of that component is a constraint to the growth and effectiveness of the sector.

Leadership: Green

In Vanuatu there is broad recognition and acceptance that the Ministry of Health is responsible for sanitation and hygiene. Several bodies, including the Sanitation Board and the Sanitation Working Group, are showing leadership and developing tools and strategies to support improved access to toilets and improve hygiene behavior.

Figure 4-8: Vanuatu Current Status of the Sanitation and Hygiene Sector



Source: Author provided

Policy and Legislation: Green

Current planning documents include the National Strategic Plan 2016 to 2030 and the National Sanitation and Hygiene Policy. These documents support the development of the sector and recognize its importance.

The National Strategic Development Plan includes broad targets of sanitation for all by 2030. In addition, the National Sanitation and Hygiene Policy seeks to support the SDG targets of adequate and equitable sanitation and hygiene for all by 2030. Several acts, including the Public Health Act and the Environmental Management and Conservation Act, in theory, dictate how sanitation should be monitored and regulated in urban and rural settings. While these acts are not yet specific enough in rural household responsibilities and regulatory functions of local government, they are not currently considered a constraint to the sector.

Strategy/action plan: Red

While the policy environment supports the sector there is not a practical and realistic strategy to achieve the targets of sanitation for all. A practical strategy is needed that defines the status of access to improved facilities for each province and that sets out meaningful targets that will allow the achievement of access for all by 2030. Such a strategy should be based on past and existing resources and progress, and on anticipated investment in the sector. In doing this work it may be clear that the “access for all target of 2030” is overly ambitious, and locally agreed targets should be developed that are owned by local stakeholders.

Technology/tools: Yellow

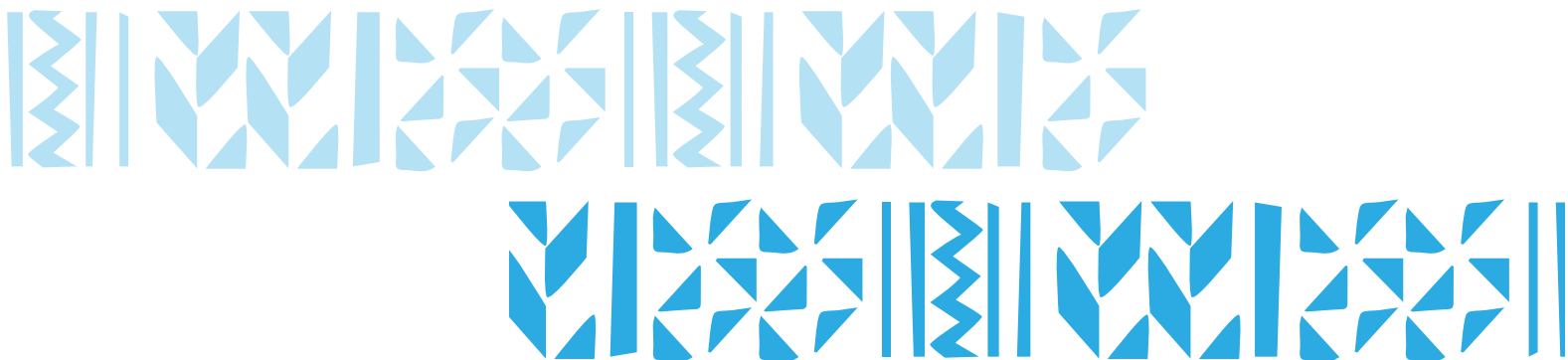
Stakeholders in Vanuatu have made a lot of progress over recent years in understanding and documenting appropriate technology. The recent National Sanitation and Hygiene Standards is a great step forward, not only in providing information but also in bringing together stakeholders and interested parties. While improvements are suggested in tools and technologies, this is not considered a constraint to the effectiveness of the sector.

Learning/pilots: Yellow

Developing a knowledge management and learning culture in the sector is a key to the achievement of targets. This challenge is great, and for real progress, a coordinated and sharing approach is needed. Several pilots are suggested in this document and a number of activities are ongoing in Vanuatu, all of which need scrutinizing for lessons and information that can be shared.

Implementation: Red

Differing levels of oversight and coordination exist in Vanuatu and the RMI, a coordinated approach to implementing a national sanitation program is not yet evident. Both countries would benefit from a national sanitation and hygiene program, funded by both government and external funders, that aims to implement the National Sanitation and Hygiene Strategies. Such a program would need to choose a single implementing modality but could benefit from funding to both improve local capacity in government staff at all levels, but to leverage the expertise and experience of national NGOs.



4.7 Republic of Marshall Islands—Summary of Recommendations

Leadership: Red

Leadership in the sanitation and hygiene sector in the RMI is currently unclear. While existing legislation suggests that the EPA is responsible for overseeing the sector, this is not happening (Figure 4-9). The Ministry of Health and Human Services is clearly responsible for hygiene promotion but neither for sanitation nor the construction of toilets. Clarity and leadership are needed for progress and a high-level taskforce is recommended to lead the push to reduce open defecation.

Figure 4-9: Republic of the Marshall Islands Status of the Sanitation and Hygiene Sector



Source: Author provided

Policy and Legislation: Green

The current policy environment includes the National Strategic Plan 2015 to 2018, the Water and Sanitation Policy, and the proposed action plan of 2014. The mission statement for the Water and Sanitation Policy is “enabling all citizens to access clean and adequate water supplies and a level of hygiene and sanitation comparable to world standards.” While these statements are broad and the National Strategic Plan refers mostly to urban settings, these documents constitute support for the sector and are not considered a constraint to effectiveness.

Strategy/action plan: Red

A clear sanitation and hygiene strategy is needed in the RMI. Current policy documents and institutional arrangements refer to sanitation but are not explicit in how to improve coverage and to decrease open defecation in remote locations. The development of a national sanitation and hygiene strategy would be an opportunity to review institutional arrangements and responsibilities and to develop meaningful targets that prioritize areas of high open defecation.

Technology/tools: Red

Few documents in the RMI define sanitation standards or technologies. The Ministry of Works Infrastructure and Utilities has some septic tank standards but these are seldom adhered to beyond the urban setting. Given the poor quality of the many septic tanks in the country and the lack of knowledge of how a septic tank works, these should be constructed, and this constrains improvements in sanitary conditions and minimizing freshwater contamination. A set of RMI National Sanitation and Hygiene Guidelines and appropriate and low-cost septic tank solutions are needed.

Learning/pilots: Red

Given the lack of coordination in the sector and the very low number of organizations working in sanitation and hygiene, no active learning culture exists that ensures lessons are shared. One or two pilots in toilet technologies have occurred, but these have not been successful, and lessons not shared. The development of the RMI National Sanitation and Hygiene Guidelines can bring together stakeholders and pool ideas and current practices. It can begin a collaboration that can support the development of a strong sector with innovative approaches to sanitation in fragile environments.

Implementation: Red

While levels of oversight and coordination differ in Vanuatu and the RMI, a coordinated approach to implementing national sanitation programs is not yet evident. Both countries would benefit from the development of a National Sanitation and Hygiene Program, funded by both government and external funders that would aim to implement the National Sanitation and Hygiene Strategies. Such a program would need to choose a single implementing modality and could benefit from funding to improve local capacity in government staff at all levels and to leverage the expertise and experience of national NGOs.



5. Proposed Next Steps

5.1 Communicating Findings and Recommendations

To continue to build relationships within the sanitation and hygiene sector in Vanuatu and the RMI the findings and recommendations of the TA should be shared with key stakeholders.

Ideally this should be through face-to-face presentations with selected stakeholders in each country and would include an opportunity to workshop recommendations and possible ways forward. These presentations/workshops should be convened locally by the appropriate organization to ensure local ownership and strengthen engagement. The reports should be made available in hard and electronic copy and distributed before the workshops.

A significant number of reports and publications have been consulted and reviewed in preparing this report. A website/online location should be established and used as a resource base. Such a location should allow users to freely download resources and add further resources where applicable. Additional guidance as well as communication tools, especially for outreach to communities, are provided in Appendix 2.

If, after detailed discussion on recommendations, some/all are supported, then working groups should be developed to further detail each recommendation, including choice of locations (where applicable) and indicative costings. This would be particularly important for key strategic recommendations, including the development of sanitation and hygiene strategies and complex action plans and island level pilots.

5.2 Immediate Opportunities

Recommendations that could be implemented quickly, provided they are supported by the relevant organizations in-country, include:

RMI National Sanitation and Hygiene Guidelines

There would appear to be a clear need for the RMI National Sanitation and Hygiene Guidelines. These could be developed quite quickly and would support all future work including other recommendations within this report. There are a number of existing guidelines that can be used as a starting point and adapted to be suited specifically to conditions in the RMI. These would include the Vanuatu Sanitation and Hygiene Guidelines (Vanuatu Department of Public Health); Solomon Islands Rural WASH Community Engagement Guide (SI Government Rural WASH Project); the Introduction to Environmental Sanitation Trainer Manual (Centre for Affordable Water and Sanitation Technology); and the WASH and Health Practitioners Menstrual Hygiene Management Training Manual (Water Supply and Sanitation Collaborative Council).

Localized sanitation ladder tool

This tool should be developed as part of the Sanitation and Hygiene Guidelines but can also be developed separately. This may be particularly useful if new surveys/censuses are being planned, as they are in the RMI, and would ensure an accurate and meaningful classification of toilet systems that aligns with the Joint Monitoring Program approach.

Technology trials

Trials could be mobilized quickly to test a range of appropriate technologies. In Vanuatu cost effective desludging of septic tanks is needed, particularly in Luganville. The two private desludging trucks in Luganville are expensive and not always available. The municipal government has shown interest in increasing their own desludging ability and are willing to champion trials. Low-cost low technology approaches could be trialed that could subsequently be rolled in other appropriate locations.

In the RMI, desludging capacity is a gap in current island fecal sludge managing practices. While many households have septic tanks, generally, no desludging capacity exists. This is a critical area if septic tanks are to continue to be chosen and recommended for locations with a fragile water lens.

In the RMI, traditional septic tank alternatives are essential and work could begin quickly to trial improved septic systems, including solar septic tanks that produce higher quality effluent and have a longer desludging interval.

Some of the technology components for an effective management information system could be trialed in a defined and limited area. The use of the mWater application to conduct an audit of sanitation facilities and water wells and the associated water quality of those wells would be relatively easy to design and implement. This would produce a detailed sanitation audit of a whole island with a clear record of the impact of location of toilets compared with wells, and of the quality of water both at the point of collection and the point of use.



Appendix 1: Sample Cooperation Agreements

This short appendix contains guidance on the structure and content of cooperation agreements.

The Republic of the Marshall Islands do not yet have National Sanitation and Hygiene Guidelines, and this is one of the key recommendations in this report. The development of the guidelines would include producing templates for community agreements and requests. Lessons exist from work carried out in Vanuatu and other countries.

Considerable detailed work was done in Vanuatu in developing the Vanuatu Sanitation and Hygiene Guidelines. The guidelines include lots of information on technology options and critical design criteria. They also include guidance on approval processes. A useful further addition to the guidelines would be a template for sanitation agreements between communities and key players. This is likely to include village councils, area councils, and provincial government, particularly the health department. Such an agreement would detail the role and responsibilities of all key stakeholders and would refer to key policy and strategy documents.

Key considerations for effective community cooperation agreements are:

- A clear statement of the challenge to be addressed and the expected post activity situation. What are the expected outcomes?
- Evidence of community engagement and participation. This should show the participation of both women and men and include a statement on how the project will be gender and poverty inclusive, including a strategy to ensure access by all to proposed facilities.
- A clear description of responsibilities. This should include funding requests and description of counterpart contributions, be they in cash or kind.
- A commitment to sustainability. How will any proposed project activities or interventions be sustained in the long term?

The following three appendixes give examples of agreements and processes that can be adapted for use in other environments/countries.

Appendix 2 comes from the Vanuatu Sanitation and Hygiene Guidelines and documents the approval process for a community sanitation project. As the diagram shows, several levels have to be negotiated to gain approval for a community sanitation project.

Households and village volunteers develop a proposal and discuss it with the village council and chief. Provided sufficient support exists, then the proposal should be forwarded through the village aid post, if one exists, and to the health center.

The health center should be able to include data relating to sanitation and water-related illness and forward the proposal to the provincial health manager.

The proposal should also be forwarded from the village council to the area council secretary. The area council secretary identifies funding from within area council development funds or from elsewhere. Once the proposal is approved and funded it will be included in reporting to the provincial council and ultimately to the department of local authorities.

While the area council is responsible for approving and funding the proposal, technical support should come from the various staff within the health system, this may include the village aid post worker or staff at the health center or provincial health department, most likely the environmental health officer.

If a proposal is approved, then a range of cooperation agreements will be needed. This will likely include agreement between the village council and the area council, and with the health department. The agreement should document all parties' roles and responsibilities and should include a memorandum of understanding that shows all parties are willing and ready to participate and to make the project effective.

Appendix 4 is a template developed by the Solomon Islands RWASH Project for communities to propose a sanitation project. While the template includes the community led total sanitation approach and the call for nominations for community led total sanitation facilitators, it can easily be adapted to fit the context in Vanuatu and the RMI.

Appendix 5 is the current Department of Water Resources in Vanuatu template that forms part of the drinking water safety and security planning approach. The form is loaded onto the Department of Water Resources website and available to the public.

The drinking water safety and security planning approach is comprehensive and quite technical in nature. In addition, communities need quite intensive technical support to go through the process. This is expensive and a constraint given the limited number of facilitators.

To initially access materials communities and households need to have internet access, which for the majority of the population is a major constraint.

The drinking water safety and security planning approach does include a review of sanitation status (see section 3c) which allows estimates of the number of toilets that may need to be constructed or repaired.

It does not include an assessment of hygiene behavior, particularly handwashing facilities and practice, and management of infant feces.

The drinking water safety and security planning approach certainly offers lessons, and a similar approach could be effective in sanitation. It would need to be simplified and structured to allow an initial self-assessment by communities to support their request for assistance.

Environmental health officers and other local government staff could be trained to support communities to complete such an application. The application would be the first step in deeper engagement and analysis of local sanitation challenges, including hygiene knowledge and behavior, toilet technology preferences, and options, and local level management and regulation of sanitary practices at the community level.

Appendix 2: Vanuatu Sanitation and Hygiene Guidelines

Tool 9: External Assistance and Approval Process

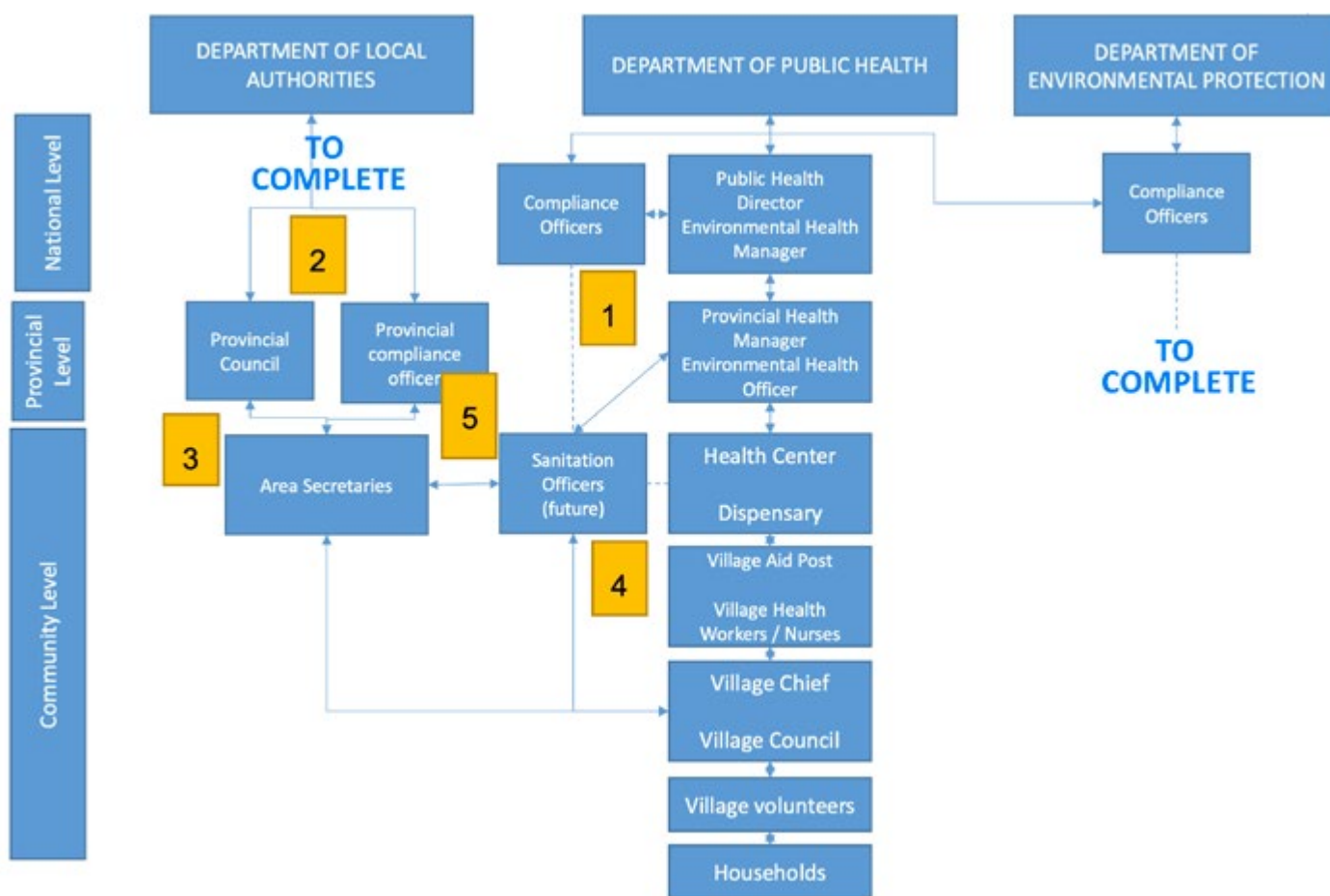
Indicator 6: Design approval

Sanitation implementers shall get approval of their design from an appropriate provincial or community representative.

The figure below illustrates the appropriate provincial or community level representatives to contact for any assistance and approval process. Depending on which province, they may be:

1. Environmental health officer
2. Provincial compliance officers
3. Area secretaries
4. Village health workers/nurses
5. Sanitation officers (future)

Figure: Structure and Coordination for the Implementation of the Rural Sanitation Programme



Source: Author provided

Appendix 3: Solomon Islands RWASH Project: Sanitation and Hygiene Request Form

TO: ALL COMMUNITY MEMBERS

Thank you for your interest in sanitation and hygiene for your community. The Solomon Islands Government (SIG) vision is for all Solomon Islanders to have easy access to sufficient quantity and quality of water, appropriate sanitation, and living in a safe and hygienic environment.

1. What support does the government provide for improved sanitation and hygiene?

In the past, SIG used the subsidised system where they tried to help people by providing materials or labour for improved sanitation. While many people liked the system, it didn't lead to improvements in sanitation because people didn't feel that they owned the facility and did not use it properly or maintain it. People also felt that sanitation was less important, so they were not actively involved in changing it.

Now, people are realising that the health problems they see in their communities are a result of their own behaviour. By changing behaviour, communities can solve many of their health issues.

The government also realised this. After seeing that providing money and materials was not working, and understanding the importance of behaviour change, SIG has developed a new policy for improving sanitation. The RWASH Policy states that there will be no more money or materials for community sanitation. Instead, the focus will be on a sanitation and hygiene behaviour change program called CLTS.

2. What is CLTS?

CLTS stands for Community-Led Total Sanitation. This means that any change in sanitation is led by the community itself. There are no rules telling you what you must do about sanitation. Instead, communities think for themselves and make their own decisions about what is affordable and good for them. So, whatever your community thinks, that's what you as a community do.

CLTS puts the power back into the hands of the people!

There is nobody stopping you from building whatever latrine you want. The only criteria is that the latrine is clean, stops flies, and has a place to wash hands with water and soap. The attention is on finding solutions that are affordable and comfortable for you. Households can start with a safe and simple solution, and then move up to the next level when they are ready, until they have a system where they feel comfortable.

You don't need lots of money. By doing a small amount of work, you can save your health, and save money! When you are healthy, and when your children are healthy, you are free to do a whole lot of things.

3. How does my community get involved in CLTS?

Complete the attached form asking for basic information of your village. It is also **very important** that the whole community agrees with the project. For this we require that village chiefs and community leaders sign the request form.

Furthermore, each community must nominate two community representatives – one man and one woman - who will lead CLTS in your village. See below for the type of people that make good CLTS Facilitators.

PLEASE FILL IN THE FORM AND RETURN IT TO YOUR LOCAL PROVINCIAL or the NATIONAL RWASH OFFICE!

4. What will happen next?

SIG will continue to assist communities by helping you better understand this new policy and helping you to look at the resources around you that you can use to stop you becoming sick. We will also organise trainings for community facilitators, where we go step-by-step and teach you how to run CLTS in your village.

When your community is selected, Provincial staff will contact you to invite you to the training in your Province. As this is a new program, SIG will start with a small number of interested communities. However, the aim is to cover the whole country, so don't feel left out. We will get to all provinces & all communities!

Facilitators Wanted: Community-Led Total Sanitation

Do you feel strongly about improving hygiene and sanitation in your village?

Are you confident in speaking to groups of people?

Do you have lots of energy and enthusiasm?

The Environmental Health Division (EHD) at Ministry of Health and Medical Services is seeking two people – one man and one woman - from your community to be trained as CLTS Facilitators.

Applications are invited from people who are:


- One man + one woman. Leaders and youth are encouraged to apply.
- Good role models for using latrines and washing hands.
- Willing to speak openly and have fun when talking about toilet and hygiene.
- Experienced in leading communities – adults and children.
- Positive and enthusiastic to learn.
- Read and write basic English and Pijin.
- Respect children and value their ideas.

If you are selected, you will be required to:

- Attend 5 days training in the Province (all costs covered by EHD).
- Implement CLTS in your own village. You may also be asked with work together with CLTS Facilitators from surrounding villages to help each other implement CLTS. This will require 1 day per village.
- Train a committee in your village to help achieve the village's sanitation & hygiene goals (1 day).
- Work with your village committee to visit each house in your village 1-2 days every week to check progress and keep people motivated.
- Report to Provincial EHD once per month (costs covered by EHD).

Position will be voluntary. However, you will receive a certificate and a contribution towards a village celebration when your village achieves "No Open Defecation" status.

**SANITATION AND HYGIENE
PROJECT REQUEST FORM**

	<p>RURAL WATER, SANITATION AND HYGIENE DEPARTMENT Environmental Health Division Ministry of Health PO Box 349 HONIARA PHONE: 21805; FAX: 25513</p>
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Date form submitted:

Province:

Constituency:

Ward (Name & Number):

Community Name:

Village Name (if different from community):

Population: **Number Households:**

COMMUNITY PRIORITIES:		
What does the community consider to be their main priorities? List the highest priority at number 1.	1.	
	2.	
	3.	

QUESTIONS ABOUT SANITATION:	
Where do people go to toilet now? (eg. Bush / beach)	
Does anybody in the community use latrines?	
If yes, what type?	Traditional dry pit
	Ventilated Improved Pit (VIP)
	Pour-flush
	Cistern flush
	Compost
What sources of water does the community have?	
Has the community had a sanitation program before? If so, why did it fail? (Please provide details and year)	
Does the community have environmental challenges for sanitation (eg. Flooding, rocky soil)	

COMMUNITY CLTS FACILITATOR:	
Each community must nominate two representatives to be trained as CLTS Facilitators. Please provide details of the people selected. <u>Note:</u> Leaders and Youth are encouraged.	
Male Representative:	Female Representative:
Phone:	Phone:
Signature:	Signature:

SIGNATURES OF COMMUNITY LEADERS:		
EHD requires Community Leaders to agree with being involved in the CLTS program. This includes Chiefs, Religious leaders, Women leaders, Youth leaders, and any other leaders. Please list the names and positions of Community Leaders that agree, and their signature.		
Name:	Position:	Signature:

Appendix 4: Vanuatu Drinking Water Safety and Security Plan Form

Available on the following link:

www.theprif.org/sites/default/files/2021-06/Drinking%20water%20safety%20and%20security%20plan_Facilitators%20Guide_0.pdf

Appendix 5: Awareness and Communications

Sanitation Development Tools

The proposed PRIF sanitation improvement support for a member country is articulated around a country matrix or dashboard presented in the main report and indicated in the following figure.

Figure 1: Sanitation Development Country Matrix



As each country has a different level of sanitation development, a sanitation development program should rely on tools and guidelines to support the development. A series of Sanitation Development Tools and examples (SDT) are provided in the following section. The SDT are aligned with each stage of the Sanitation Development Country Matrix.

Appendix 6: Sanitation Development Tools and Examples

Stages	Policy/legislation	Strategy/action plan	TECHNOLOGY
Early Stage	National Sanitation Plan using SDG Strategy tools	Sanitation National Implementation Plan (SNIP) - Example of Vanuatu NIP	Development of Sanitation guidelines specific to local needs – example of Vanuatu guidelines
Intermediate	Define clear sanitation responsibilities with all government agencies and recognizing local Decentralisation Acts	Organization of WASH technical group with NGOs and Government Agencies— Example of Vanuatu WASH Framework	<ul style="list-style-type: none"> Sanitation Guidelines aligned with National Building Code. Capacity Building and training programs
Mature	<ul style="list-style-type: none"> Sanitation board fully operational with appropriate resource Sanitation Policy developed examples - RMI Water and sanitation Policy Vanuatu sanitation & Health Policy 	<ul style="list-style-type: none"> Sanitation Community Consultation aligned with SNIP - Example of Vanuatu DWSSP Consultation using mWater Allocation of capital plan aligned with SNIP for Urban and Rural sanitation - Example of Philippines 	<ul style="list-style-type: none"> Monitoring of sanitation quality Reaching 100% improved sanitation coverage with 100% performance

The table provides tools and examples associated with each stage of the Sanitation Development Matrix through hyperlinks referring to selected examples.

For example, a country such as RMI which has a mature level of Sanitation Policy but is at an early stage in implementing real sanitation improvements could benefit from reviewing the Vanuatu national implementation plan and sanitation implementation strategy.

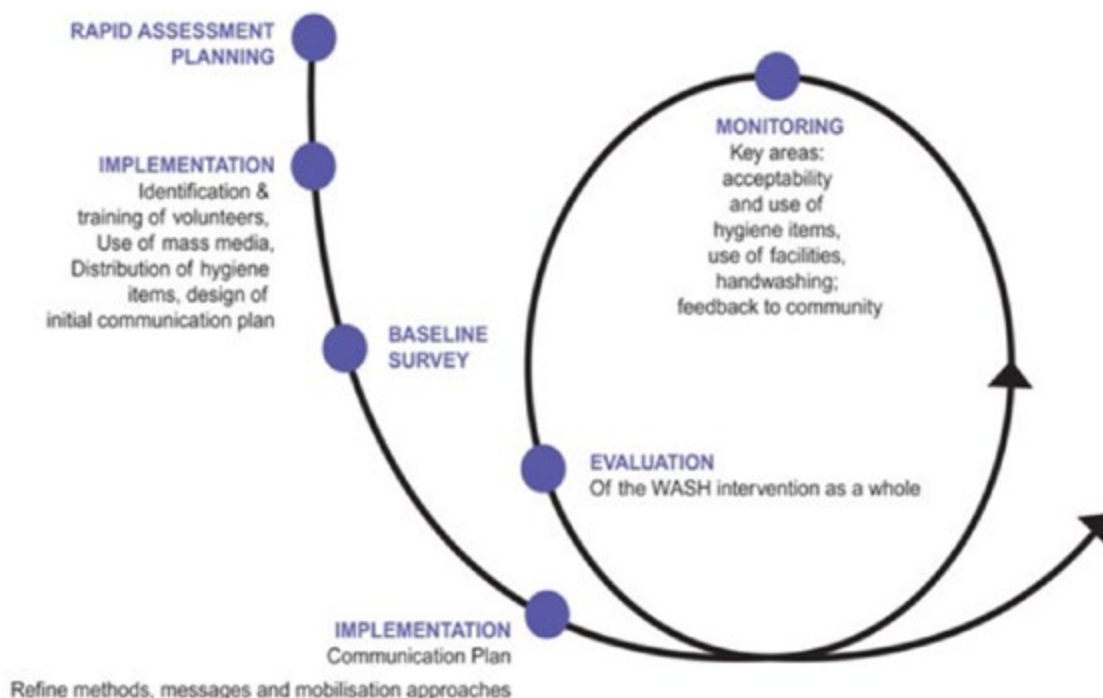
Appendix 7: Sanitation Communication Development

Sanitation Communication Materials

To support the successful implementation of a Country Sanitation Development program, a multi-level communication plan will be needed.

The communication plan should be designed to convey a range of messages to a range of stakeholders and should build on the country sanitation policy and or strategy. The policy and/or strategy document may need to be reformatted several times to reach different audiences and specific awareness materials will need to be developed to disseminate it.

An example of an approach to the development of a communication plan is provided in the following diagram which recommends a staged approach.



Source: UNHCR. 2017. Hygiene Promotion Guidelines 2017

Once a country has a communication plan then the identified communication tools will need to be developed.

The communication plan will ensure that policymakers and other groups involved in the sanitation development program have at hand key awareness materials that can be used at all levels, including brief information document(s) describing the responsibility (leadership), list of policies and laws in place, summaries of the strategy and action plans, and communication tools and materials.

The following table provides examples for each audience targeted recognizing that each group needs adapted materials.

Audience	Materials
Policymakers (Ministry of Health, EPA, etc.)	<ul style="list-style-type: none"> • National Sanitation and Hygiene Policy and summary • National Sanitation Strategy and summary • National Sanitation Implementation Plan summary • National Communication Plan including leaflets/presentations • Example of communication strategy plan
WASH partners	<ul style="list-style-type: none"> • National Policy summary • National Strategy summary • Communication Plan summary • Leaflets/presentations • Example of USAID WASH Engagement and Communication Plan
Technical Staff	<ul style="list-style-type: none"> • Sanitation and Hygiene Guidelines • Construction Guidelines • Posters/Leaflets • Example of Live Learn toilet practical guide
Outreach Staff	<ul style="list-style-type: none"> • Construction guidelines • Hygiene promotion materials • Handwashing posters • Example of Vanuatu Ministry of Health health promotion package
Communities	<ul style="list-style-type: none"> • Posters • Construction guidelines • Example of Vanuatu Community portal



Source: UNHCR. 2017. Hygiene Promotion Guidelines 2017.

With regards to communication materials, it is important to ensure they are context specific, locally appropriate, and visually striking. Examples of communication materials suitable for use in parts of the Pacific are provided in Appendix 8.

Appendix 8: Sample Wash Communication Materials

Building a Communication Plan for Sanitation Improvement

Example 8-1: Sanitation Communication Key Activities

<p>1. Understanding, assessment & monitoring</p> <p>Asking questions, monitoring and obtaining feedback from affected communities. Undertaking in depth formative research and using this to shape and adapt the programme</p>	<p>2. Design, use & maintenance of facilities</p> <p>Ensuring that facilities are acceptable to different users, well maintained and used sustainably. Encouraging ownership, responsibility, self reliance and sustainability</p>
<p>3. Communication for action</p> <p>Listening, advocating, mobilizing and motivating using a variety of methods that stimulate, inspire the action of individuals, households, leaders and different community groups.</p>	<p>4. Access to hygiene items</p> <p>Distribution of hygiene items or cash alternatives to ensure that people are enabled to maintain their hygiene and dignity. Involving women and men in the selection process and obtaining feedback on use and satisfaction.</p>
<p>5. Participation & accountability</p> <p>Understanding the needs of different groups and allowing them to make decisions about the WASH intervention. Providing clear information on who you are, what you can offer and the resources available.</p>	<p>6. Co-ordination & collaboration</p> <p>Collaborating with UNHCR health and nutrition partners, other WASH partners and the government to prevent duplication and ensure the most cost effective use of resources.</p>
<p>7. Advocacy</p> <p>Influencing decision makers within the government and other agencies to recognise the different WASH needs of the population and to ensure greater accountability to them e.g. incorporating MHM into all WASH responses</p>	<p>8. Research</p> <p>Recognising the need for an improved evidence base in hygiene promotion to support future decision-making about what works and what doesn't. Adhering to research guidelines so that results are comparable.</p>
	

Source UNHCR Hygiene Promotion Guidelines 2017

Community hygiene awareness

Example 8-2: Wash Posters



Source: Vanuatu Ministry of Lands

TAEM BLONG SIKMUN

MENSTRUEL HAEJIN



Yusum niu napkin / klin kaliko o Stay Free oltaem.

Wasem han wetem wota mo sop bifo mo afta we yu jenisim napkin / kaliko blong yu.



Kaveremap mo sakem napkin o Stay Free we yu yusum finis long tin doti we i gat lid blong hem mo long stret ples.



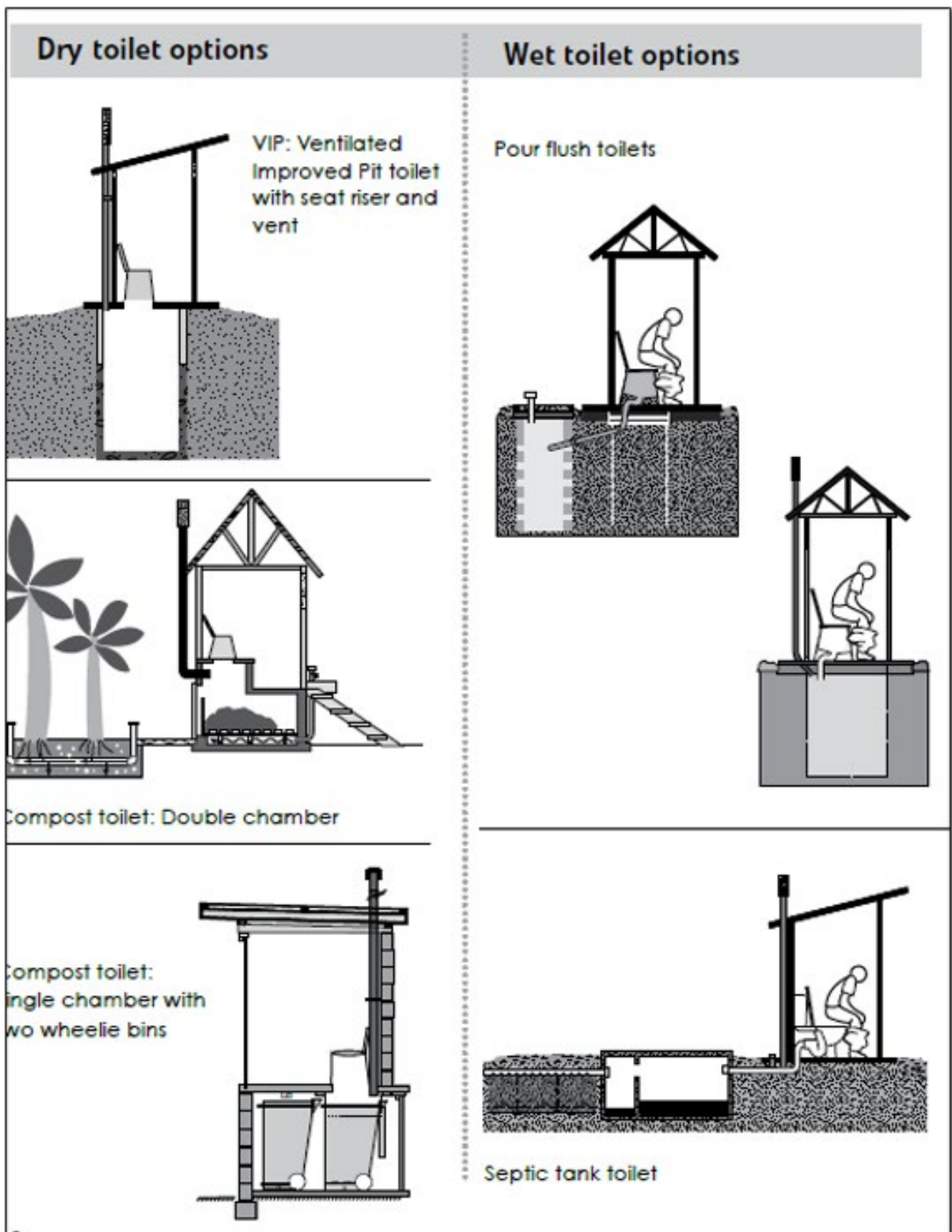
No sakem napkin o Stay Free we yu yusum finis long flas toelet.



Mekem sua se yu swim gud oltaem wetem wota mo sop mo stap klin oltaem taem yu luk sik mun.



Source: WASH Campaign, Vanuatu Ministry of Lands and Natural Resources



Source: Live and Learn Construction Guidelines

Example 8-5: Technical Survey of Existing Facilities

Sanitation Inspection Checklist

+ VENTILATED IMPROVED PIT (VIP)

Toilet Owners Name: # _____ Inspection Date: # _____

1) → Ventilated Improved Pit Latrine

#	INSPECTION CHECKS	#	CIRCLE ONE
MINIMUM (ESSENTIAL) CRITERIA – IMPROVED SANITATION SERVICES			
1.X	The toilet is used by one household only	YX	NX
2.X	Access path is cleared between the house and the toilet	YX	NX
3.X	Toilet is located between 3m and 30m from house served	YX	NX
4.X	Toilet is located down gradient of drinking water sources (well, river, spring), and at a minimum horizontal distance of 15 m (if not sure of flow direction, min. is 30m)	YX	NX
5.X	There is either a mount or dug channel to prevent flood to enter the pit	YX	NX
6.X	There is a hand washing facility with soap within 3m and a soakaway between the toilet and the house	YX	NX
7.X	Toilet and hand washing are easy to use for everyone in the house (children, elderly, people with disability)	YX	NX
8.X	There is a vent pipe of 100mm minimum of diameter	YX	NX
9.X	The vent pipe is finishing 0.5 m above the rooftop	YX	NX
10.X	The vent pipe has fly net, well attached, covering the end	YX	NX
11.X	Toilet is reasonably dark inside yet safe to use	YX	NX
12.X	Toilet has an appropriate door with internal lock and external locks to keep it secure	YX	NX
13.X	There is good airflow in the toilet (at least a 20cm gap on top of the structure and toilet seat lid is open/removed)	YX	NX
14.X	Toilet slab is <u>has</u> no cracks and sealed to foundation slab with concrete	YX	NX
15.X	Toilet floor is clean and there is no strong smell	YX	NX
16.X	There is a bin with lid	YX	NX
17.X	There is more than 0.5 metres from the underside of slab to the top of waste pile	YX	NX

Overall, this toilet should be: UNCHANGED UPGRADED REPLACED (if question #1, 3, 4, 16 are 'no')

Source: Vanuatu Ministry of Health standards - draft

General cleaning and maintenance of toilets

It is important to regularly clean and maintain your toilet to ensure it can be used by you and your family.



Tips for keeping the toilet clean:

- ✓ Provide personal cleaning materials, such as toilet paper.
- ✓ Make sure there are handwashing facilities and importantly, SOAP.
- ✓ Provide a towel for drying hands and make sure the towel is washed at least every week.
- ✓ Each person should leave the toilet clean for the next user.
- ✓ Wash the whole slab every morning with water (and disinfectant if possible).
- ✓ Clean the toilet at least once a week, using cleaning materials (such as a disinfectant or bleach) to clean the top of the seat, under the seat or pan, door handle, walls and floor. Don't put these chemicals inside the toilet bowl.
- ✓ Do not use the toilet cleaning cloths for other purposes (e.g. washing the dishes).
- ✓ Make sure that the bins are cleaned regularly and waste disposed of properly.
- ✓ Make sure that the floor is not wet, so not slippery.
- ✓ DON'T USE too much water when cleaning inside the compost toilet – a little is okay.
- ✓ Try to keep rats and mice away from the toilet area. Block any small holes.
- ✓ Add some flowers inside for fragrance to freshen up the toilet!

Source: Live and Learn Construction Guidelines

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Pacific Region Infrastructure Facility

