CATALOGUE:

Resilient WASH in School Technologies and approaches to Operations & Maintenance

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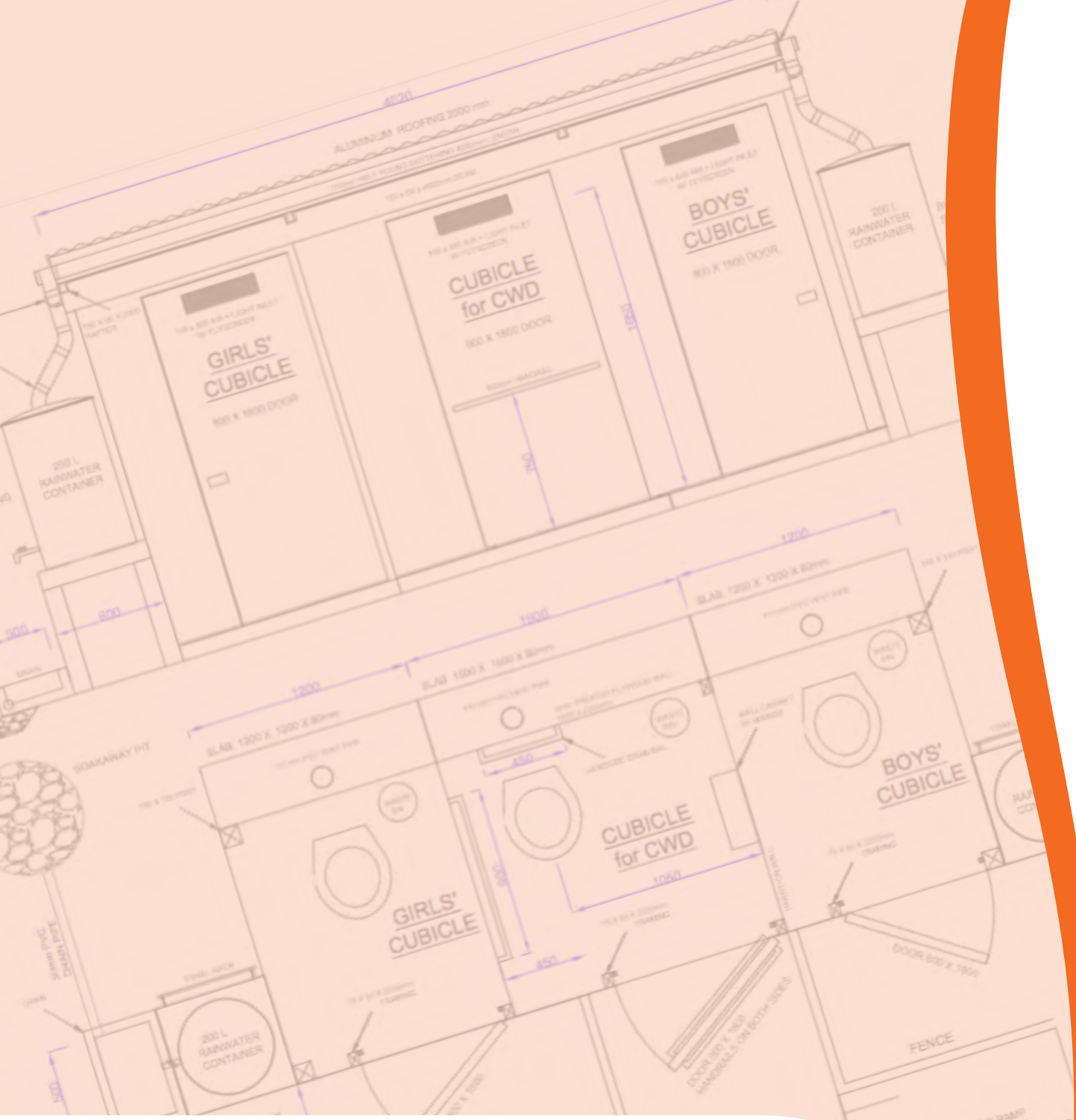
November 2019

Documentation of WASH in Schools approaches in the Pacific

Kiribati, Fiji, Solomon Islands and Vanuatu



Documentation of WASH in Schools approaches in the Pacific

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LRPS-2019-9146377

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Introduction

This catalogue gathers resilient approaches to the operations and maintenance (O & M) of school water, sanitation and hygiene infrastructure (WASH). It is written for government stakeholders and school leaders who want to make low cost improvements to WASH infrastructure, and who want to involve students and communities in O & M.

This catalogue supplements the WASH in Schools (WinS) Three Star Approach, which is the model adopted by governments in the Pacific to improve WASH in schools. This approach prioritises models that are resilient from an environmental, technical and financial perspective.

Through desk review, school visits and interviews in Fiji, the Solomon Islands, Vanuatu and Kiribati designs for school water supply, toilets and handwashing facilities were identified that promote ownership by schools to maintain and are able to be quickly repaired without much external support in both ordinary operation and times of emergency, as well as designs that conform to national standards. This document also lists approaches to O & M that have been implemented in schools that can enhance resilience and inclusion.

This catalogue contains the following elements:

1. Overviews of national minimum WinS standards and related documents, and ways schools can engage with them.
2. Technical drawings and documents that help schools with O & M of WASH facilities.
3. Ways that schools can consider updating O & M to enhance resilience and inclusion.

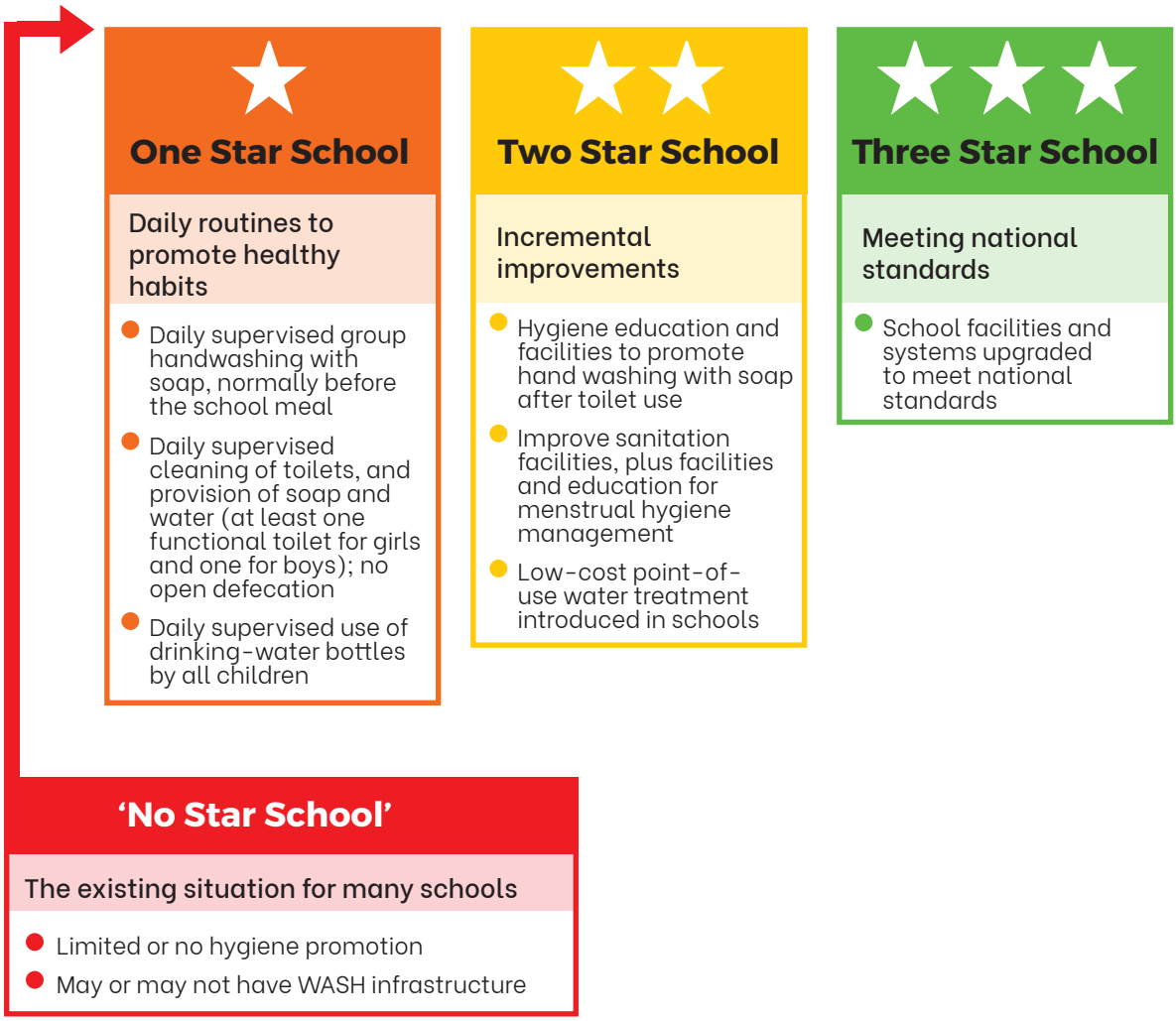
During the writing of this document 17 schools were visited across Fiji, Kiribati, Solomon Islands and Vanuatu. These schools demonstrated evidence of school ownership of WASH programs and understanding of the need for improvements, as well as the need for ongoing maintenance of facilities. Schools displayed extensive teacher and student involvement in monitoring of facilities and cleaning, and O & M has been successful when communities have been integrated into this process. The leadership from head teachers, in particular of prioritizing WASH, is crucial to successful O & M.

Currently, O & M presents the biggest challenges for WASH. Schools have created handwashing stations, and are monitoring, cleaning and conducting simple repairs. But there is a gap between these and the capability of schools to make larger infrastructure investments, such as toilet blocks and water supplies, that would bring them up to the national standards, and meet usability and accessibility needs for girls and children with special needs. Costs of upgrading or building can be prohibitive. Appropriate skills and materials can be difficult to source. Technical designs can be difficult to realise without professional help, and designs do not always consider local materials. All these factors can make complying with national standards difficult.

This catalogue documents how schools are aiming to meet national standards and utilizing the Three-Star Approach, and what resources are available, both in technical designs and documents that outline sanitation options and approaches to O & M.

National Minimum WinS standards in Fiji, Solomon Islands and Kiribati

WASH in Schools standards in Fiji, Kiribati, Solomon Islands and Vanuatu is informed by the Three-Star School framework, which enables schools to implement incremental progress towards achievement of national standards.



Key characteristics of the Three Stars Approach

The standards for each country are set out in the following documents:

FIJI:

Ministry of Education, Heritage & Arts WinS policy 2019, Ministry of Education, Heritage & Arts WinS standards (2012) (This document consolidates policies from the Education Act, Public Health Act, Environmental Management Act, Water Supply Act, National Building Codes, National Drinking Water Quality Standards.)

SOLOMON ISLANDS:

Water Supply, Sanitation & Hygiene for Education Facilities in the Solomon Islands (2018), Ministry of Education and Human Resource Development.

KIRIBATI:

School Improvement Plan Standards, National Infrastructure Standards for Primary Schools (2011), Kiribati Ministry of Education. These documents contain basic standards for WASH, but further policy detail is available in the *Ministry of Education WASH in Schools Policy* (2015).

At the time of writing Vanuatu is drafting their national WASH in Schools standards.

Generally, Fiji schools aim for compliance with national standards, although it was observed that WASH outcomes would be improved by better knowledge of the standards at school level. In Fiji schools visited were proud of their progress in moving from 1 star to 2 or 3 star schools. In the Solomon Islands progress to achieving national standards appeared to be slower in the schools visited, with improvements from no star to 1 or 2 star. School level knowledge of national standards was very limited. In Kiribati, standards are basic, and documents currently refer to general regional Three-Star levels.

School Water Supply Standards

Countries have defined varying standards for the amount of drinking water that should be available to each student. In the standards Fiji requires less water per day for day students than the Solomons and Kiribati, but in Fiji schools are more likely to have a piped water supply, which is more consistent.

Water tanks are also required in Fiji and Kiribati, adding an alternative (stored) water supply which is available in times of drought or breakdown of equipment. In Kiribati, if school buildings have traditional roofing, a separate catchment shelter with iron roofing for water collection into a water tank has been used in schools.

In the Solomon Islands and Kiribati, where water supply may be less reliable, resilience is encouraged through students bringing their own drinking water to school each day, complementing the school's water supply, and ensuring that when the school cannot provide the mandated amount of water for each student, school attendance is not reduced.

In all countries, water supplies can be sustained through combinations of multiple water sources, and schools can make decisions on what are the best combinations for their situation. When these combinations are used, schools do not need to close because their primary water supply has run out. For example, at Sarasawati Primary in Fiji provision of a water tank meant the school has remained open when the piped water was unavailable, whereas in the past it required closing when the water supply failed.

Combinations of water sources allow schools to be resilient to shocks such as cyclones or droughts, and it also builds resilience for the long-term effects of climate change, which may cause or exacerbate erratic water supply.

A well as ensuring that water quality matches standards, in Fiji the standards require students to be educated about water quality. In this way students can participate in gathering knowledge about healthy practices.

Inspection and testing are important parts of the water supply process. Testing ensures the quality of long-term water supply, building resilience. In some cases schools in Fiji are doing their own assessment. If testing has not been done recently, boiling water ensures the water supply is free from contaminants. In Solomon Islands none of the schools visited had tested their drinking water supplies.

Kiribati's *WASH Technical Toolkit Menu of Options Guide* includes drinking water treatment options, including solar disinfection and boiling water.

Toolkit 2 of the *WASH Resilience Guidelines Toolkits and Case Studies* resource contains checklists and flow diagrams that can help schools identify risks and protect drinking water sources, capture and safely store water, and ensure water is tested and treated appropriately.

Water Supply

Table 1 below demonstrates differences between countries at the national standard level for school water supply.

Table 1: Water

WATER SUPPLY			
WASH Focus	**Fiji**	**Solomon Islands**	**Kiribati**
Quantity (minimum), ratios	Potable per day: 1 L per day pupil, 2 L per boarding pupil, 4 L per teacher Non-potable per day: 5-10 L per day pupil, 20 L per boarding pupil	Potable per day: 5 L per student. Students required to bring water bottle. Drinking tap/student ratio: 1:50 Non-potable: 20 L per student for pour toilets, 30 L for flush toilets. Boarding schools 50-100 L per student.	Potable: 2 L per student per day, students and teachers encouraged to bring own when necessary 1600 L tank per 50 people for potable water. 1600 L tank per 20 people when including handwashing.
Quality	Potable: meets FNDWS: 'odourless, colourless, tasteless' Non-potable: 'odourless, colourless, free from particles'. To be labelled, separate from potable	Meets WHO standards	'safe, accessible, sufficient'
Testing	Minimum once a year, mandatory for suspected contamination	Minimum once a year, incorporated into WASH plans	Inspection by health inspector once a term
Supply	5000 L tank in addition to mains. 2 x 5000 L for schools as emergency shelters, to be maintained by staff Rainwater collection required	Boarding schools require piped supply and back-up Rainwater collection encouraged	School to provide and maintain rainwater tanks

School Sanitation Standards

School sanitation infrastructure involves considerable expense in building and maintaining. This is the component of WASH where it is most difficult for schools to achieve compliance with the national standards. Levels of funding and logistics costs will determine in each instance what schools are able to achieve, and this may determine the setting of ratios for toilet access in standards, which differ across countries.

Additionally, provision of toilet facilities that meet national standards ensures that the school can be used as an evacuation centre, allowing the whole community to be more resilient to shock events such as cyclones, which may become more frequent with climate change.

National standards in each of the countries allow for options for toilet construction. The minimum construction allowable is a Ventilated Improved Pit (VIP) latrine. Beginning with this design, toilet design options ensure minimization of the risk of contamination of the environment and the spread of disease. Additionally, choosing an appropriate design allows consideration of the funding limitations and logistical issues schools may face in the construction of sanitation facilities. Schools can also plan for incremental improvements to their toilet designs (such as moving from VIP latrines to pour flush).

Schools can build resilience in their toilet facilities by ensuring that latrines and septic tanks are located the required distance from water sources, and by ensuring that septic tanks are in a raised location that prevents contamination at times of flooding or high tides. Fiji building codes discuss location of toilets and septic tanks. Schools should conduct inspections of suitable sites before building. The *WASH Resilience Guidelines Toolkits and Case Studies* provide checklists for the suitable location of facilities in relation to reducing the threat of flooding, landslides and other risks.

Fiji's standards include the provision of equipment including cleaning products. While such equipment may be assumed for cleaning and maintenance, the inclusion in standards ensures that schools are focused not only on building, but also maintaining infrastructure. Cleaning and regular maintenance builds resilience by minimizing the chance of major damage or failure, resulting in further, large expenditure.

Disability access to toilets ensures that barriers to students most in need are removed. The standards are most effective in this regard where minimal alterations to infrastructure are involved, or where new buildings can easily incorporate disability accessible cubicles. This can include replacing steps with ramps and ensuring cubicle width is as specified by the standards. In the case of Fiji, standards refer to the national building code for width specifications. In the Solomon Islands standards mandate the width of cubicles to allow disabled access. Kiribati's national building codes lack detail on how disability access toilets are to be constructed.

Sanitation

Table 2 below demonstrates differences between countries at the national standard level for school sanitation.

Table 2: Sanitation

SANITATION			
WASH Focus	**Fiji**	**Solomon Islands**	**Kiribati**
Quantity, toilet ratios	Girls – 1:20, Boys – 1:33, 1:50 (urinal)	Day schools: 1:30 (girls), 1:40 (boys), boarding schools: 1:25 (girls), 1:35 (boys), 1:50 (boys' urinals)	1:50 toilet/student (3-Star Approach), 1:40 (girls), 1:60 (boys)
	Staff – min. 2 cubicles, M/F separated, 1:20 ratio	1:20 (staff), M/F separated	1:25 (staff)
Disabled access	1 toilet wheelchair access Special needs schools toilet/student ratio 1:15, 1 wheelchair access cubicle per sex Min. VIP latrine	1 toilet wheelchair access per block Min. VIP latrine	Disability access required Min. VIP latrine. Schools with piped water are to provide flushing or water seal toilets
Construction	Adequate light and ventilation, privacy, lockable doors, appropriate location – 30m from water sources, mandatory heights of toilets and washbasins	Adequate light and ventilation, privacy, lockable doors, appropriate location, outside screening walls, separation of staff and student blocks	Well lit and ventilated, clean and maintained, doors open outwards, appropriate location
Equipment	Cleaning products, sanitary products, bins, toilet paper to be provided		

School Hygiene Standards

Standards provide student/tap ratios for the provision of handwashing facilities. However, the types of facility can be chosen by schools, and can accommodate levels of funding and government assistance and availability of building supplies. Where these factors are low, tippy tap water stations can provide adequate handwashing facilities. Where budgets allow, more robust handwashing stations can better maintain handwashing routines.

When choosing the type of group handwashing facilities to be constructed, schools also need to consider the type of water source and the consistency of water supply. There are various designs of group handwashing stations available that can be matched with water supply. *Scaling Up Group Handwashing in Schools* is a document that describes various facility types and how appropriate they are to specific contexts.

Schools can build resilience by ensuring that whatever facilities are constructed, the hardware is accessible for maintenance and, if necessary, replacement. This is a potential area of weakness, as some schools install free-standing or wall-hung hand-basins that are more common in private homes. These hand-basins are not designed for the challenges of daily heavy use by groups of children, and examples have been seen of relatively new basins and taps leaking or damaged. The design of individual toilet hand-basins and group hand-washing stations needs to be resilient to heavy use, with preference for strong trough-type basins, if possible embedded into sturdy benchtops.

The involvement of students builds resilience by involving them in risk management. The standards mandate education and involvement by students in supervised handwashing and education in menstrual hygiene management (MHM). This builds resilience by spreading WASH supervision across the school community. Involving students and parents in cleaning and maintenance rosters also builds resilience by ensuring more community members are responsible for the cleanliness of facilities, minimizing the need for expensive replacements if facilities become unusable through neglect.

National standards include the provision of MHM facilities. This ensures inclusion of all students, which in turn creates agency and better school attendance for girls. Schools can adapt existing sanitation facilities to provide private washing facilities for girls.

Table 3 below demonstrates differences between countries at the national standard level for school hygiene.

Table 3: Hygiene

HYGIENE			
WASH Focus	**Fiji**	**Solomon Islands**	**Kiribati**
Ratios	Water tap/student ratio: 1:50, Water tap/teacher ratio: 1:20	Handwashing facility/ student ratio: 1:100, one per toilet block, one in proximity to kitchen	
Menstrual Hygiene Management	One cubicle with showering/washing facility, provide sanitary items, sanitary bins in toilet cubicles	One cubicle for girls with showering/washing facility, provide sanitary items, sanitary bins in toilet cubicles Boarding schools to provide sex-segregated showering facilities	Provide MHM programs
Activities	Daily handwashing with soap, teeth brushing	Handwashing with toilet use, before meals	Daily handwashing with soap, teeth brushing
Education	Toilet use, handwashing, waste disposal and cleaning	MHM, general hygiene, teachers to model positive behaviour	Hygiene practices incorporated into school practices, inclusive participation

School WASH Management Standards

Schools can build resilience into their WASH plans by involving the school community and the local community in planning, building, cleaning and maintenance. National standards require the setting up of WASH clubs and committees. WASH clubs involve students in WASH activities, spreading knowledge and agency. Involving the community in WASH committees builds resilience through the utilization of local skills and experience, as well as engaging community members for fundraising. National standards mandate budgeting for school WASH. Careful budgeting builds resilience by ensuring that funds are available for regular supplies and also unplanned, shock events that may require unexpected expenditures. Provision of regular school grant funds from governments and other stakeholders in a timely manner helps this process.

Regular inspections of school facilities by both school staff and government authorities allows schools to identify problems early, reducing outlays, and ensuring that schools comply with standards. Inspections of facilities helps to identify where resilience can be further strengthened.

As well as ensuring the health and hygiene of students and staff, adequate cleaning and maintenance of school WASH facilities helps to avoid costly replacements when infrastructure breaks down due to neglect and underuse. Standards mandate that cleaning should not be prescribed as punishment. Rather, rostering for cleaning and the allocation to students of monitoring and WASH champion roles gives students a sense of pride in their school facilities, and helps foster responsibility. Students are more likely to take responsibility when cleaning is seen as a positive activity, thereby ensuring cleaning is more regularly and thoroughly carried out.

Table 4 below demonstrates differences between countries at the national standard level for school WASH management.

Table 4: School WASH Management

WASH MANAGEMENT			
WASH FOCUS	**Fiji**	**Solomon Islands**	**Kiribati**
Supervision	WASH champions, WASH	WASH committee, WASH clubs, maintenance master	Students encouraged to lead WASH and MHM activities and inspect facilities Teachers to monitor progress
Maintenance	Cleaning allocated on equitable basis. Assessment checklist includes functionality of toilets	Toilets to be regularly cleaned and maintained Rostering implemented	Rainwater tanks maintenance to be overseen by school committees Ministry of Public Works and Utilities to provide services
Planning and budgeting	WASH in planning and budgets mandatory	WASH in planning and budgets	

Overview of WASH Technical Designs & Documented Approaches to O&M

Introduction

The following sections contain useful examples from Fiji, Kiribati, and Solomon Islands of technical drawings for WASH facilities, and drawings that are not technical but are adaptable and offer guidance to schools that might not have the expertise available to interpret technical drawings. In both cases, the examples shown are part of larger collections of designs covering WASH aspects. (See annex for information on all WASH designs developed in the four different countries). At the time of writing Vanuatu were still developing their draft designs.

This section also refers to examples that are useful to schools in deciding on designs that are appropriate for their context, and useful checklists for decision-making and sustainable O & M, factors that are essential to making the right choices of WASH designs.

Differences in approaches to documenting national WASH hardware designs

There are differences between the level of technicality of designs and drawings across countries and therefore skills needed in realizing the designs. In Fiji and the Solomon Islands technical drawings are available that would be best carried out by builders with professional skills.

In **Fiji**, the *Minimum Standards on WinS Infrastructure* document has annexes with designs primarily for toilets, but with variability in the complexity of drawings. The Water Authority of Fiji has technical drawings for rainwater harvesting on their website, and national building codes supply details on guttering required.

The *Minimum Standards on WinS Infrastructure* document includes a very basic checklist for three categories: water, sanitation, MHM, which aligns with national standards. However, this checklist is a general overview and does not contain checklists and matrices that can guide end-users in making decisions about water supply and sanitation facilities and that cover all aspects.

The *WinS Three Star Approach Guide Book* provides lists of activities associated with cleaning and monitoring. These lists include GSI considerations, such as emptying of sanitary bins.

In the **Solomon Islands**, the *Technical Requirements Manual for School WASH Facilities* (draft, 2019) document is comprehensive, incorporating technical drawings and material lists (Bills of Quantity) for water supply, handwashing and toilet facilities. There is a comprehensive list of options incorporating the following:

- Hand pump
- Rainwater harvesting
- Group handwashing station
- Single tapstand
- Buried well
- VIP ground level
- VIP raised
- Pour flush toilet
- Ablution block timber
- Ablution block concrete

Because of the level of detail in the designs, the document is targeted towards external stakeholders and construction would require professional expertise. The designs and BOQs incorporate standard building materials, which aims at reliability, but there is no capacity to use local, traditional building materials, unless school management and communities have the skills to be very proactive in adapting designs.

Designs for **Kiribati** can be found in the *WASH Technical Toolkit Menu of Options Guide.* In conjunction with the designs this guide also contains decision matrices that help with making choices appropriate for local context for the following areas:

- Water capture and storage (rainwater, well)
- Water purification options
- Toilet options: pit, flush, dry toilet
- Handwashing: tippy tap, handwashing station
- MHM basic facilities

The designs do include materials required, but the designs are not technical drawings and do not include dimensions and contain no costings. There is a combination of drawings and photographs, with the photographs serving as examples rather than giving direction to construction. Schools would need to look further for more detailed drawings on construction specifications. The national standards are basic, and the Toolkit reflects this. However, the national building codes contain further information on rainwater collection.

Toolkit 2 of the *WASH Resilience Guidelines Toolkits and Case Studies* resource has detailed checklists for the siting and construction of water collection, sanitation facilities and their maintenance, which can supplement national standards from each country.

The draft *Vanuatu WASH in Schools Improvement Plan School Guide* contains checklists for assessing the current state of WASH facilities and making risk assessments of facilities. The accompanying *Technical Manual* contains flow charts for making appropriate choices for securing water supply, storage and upgrading of toilet facilities that include considerations of budget and context of school grounds and location.

Table 5 offers some examples of resilience approaches to WASH hardware designs and O & M from Fiji, Kiribati and Solomon Islands, and how these align with the Three Star Approach for WASH in Schools.

Table 5: Resilient WASH Infrastructure Guidance

Resilient WASH Infrastructure Design Guidance examples		
Three Star – *meeting national standards*	Water	*Solomon Islands* – Technical drawings for water supply available that meet national standards. Designs include bills of quantity (BOQ). *Kiribati* – Rainwater collection design allows for low access points, inclusive for people living with disabilities. Includes roofing materials showing consideration of local context for resilience. More detail in building codes. *Fiji* – *School Maintenance Handbook* guides on fixing water storage leaks.
	Toilet	*Solomon Islands* – Comprehensive list of toilet designs that conform to national standards but require expertise in construction. *Fiji* – Toilet designs conform to national standards, but vary in complexity and ability of end users to build to national standards. Includes disability access. Variability of designs to allow for local context.
	Hygiene	*Solomon Islands* – Designs conform to national standards. *Fiji* – National standards documentation has checklist that cross references standards. Includes MHM checklists.
Two Star – *incremental improvements*	Water	*Kiribati* – *Menu of Options Guide* rainwater and well collection design simple but practical.
	Toilet	*Solomon Islands* – Includes disability access cubicle. But some toilet designs include steps, precluding wheelchair access. *Kiribati* – Drawings in *Menu of Options Guide* are simple and practical, allowing flexibility but do not take into account ratios.
	Hygiene	*Kiribati* – Tippy-tap or handwashing station options simple and adaptable to local context.
One Star – *daily routines to promote healthy habits*	Water, toilet, hygiene	*Kiribati* – *WASH Sanitary Survey Checklists* provide guidance to ensuring daily routines including cleaning are maintained. Includes disability access and MHM.

WASH Infrastructure Designs – Useful Examples

The following section highlights examples from WASH hardware drawings and guidelines produced in Fiji, Kiribati, Solomon Islands and Vanuatu. Examples were selected based on demonstration of elements of resilience, or inclusion for girls and children with special needs, practicality in terms of construction and adaptability, or clarity in guiding decision-making by a school. The examples provided do not necessarily demonstrate all of the above components.

School Water Supply

The following illustration (Figure 1) is taken from Kiribati's *WASH Technical Toolkit Menu of Options Guide* and illustrates a simple rainwater collection system. In particular it shows how a roofing system differing from traditional roofing materials used for classrooms and other buildings is needed for water catchment.

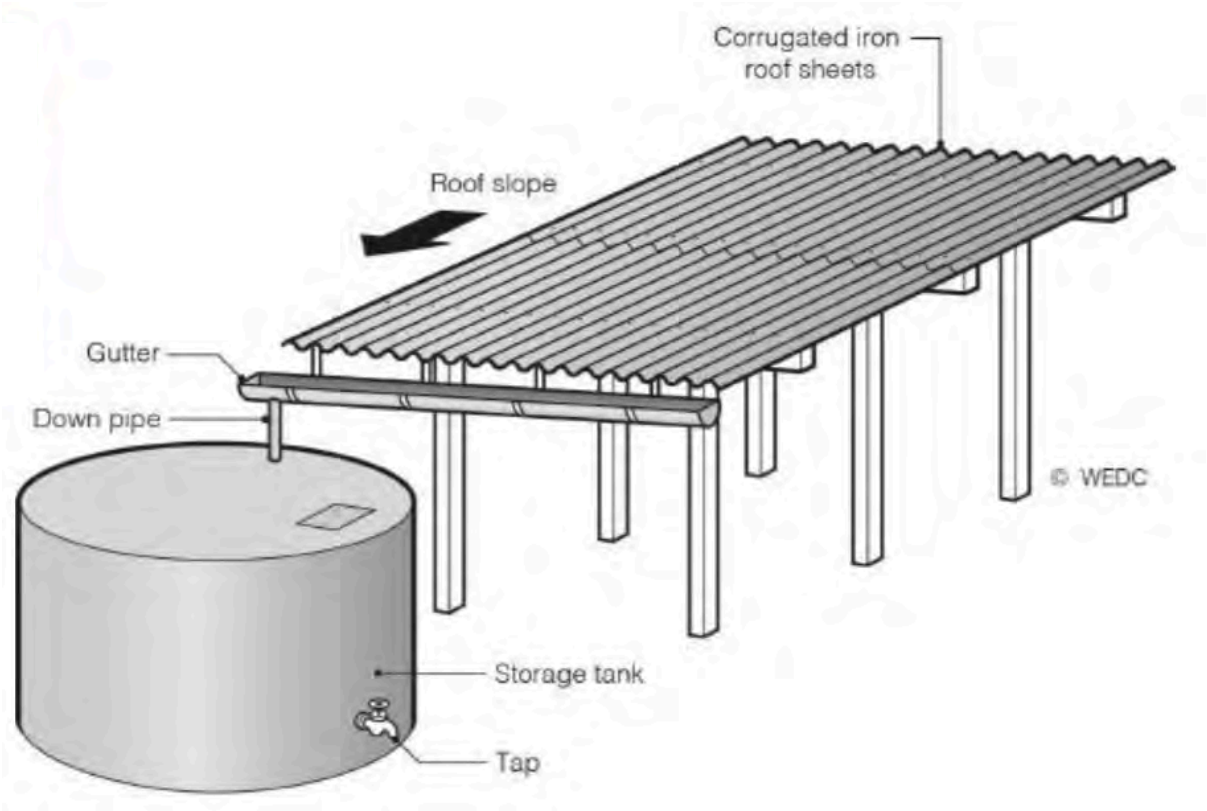


Figure 1: From WASH Technical Toolkit Menu of Options Guide (Kiribati)

Technical drawings for many aspects of water supply infrastructure are available, including this example (Figure 2) of a hand pump design from Vanuatu. These technical drawings may be more appropriate for professional builders than community members or school staff attempting building. Photo 1 shows water tank construction in Kiribati, connected to a structure specifically built for rainwater catchment (using non-traditional roofing material).

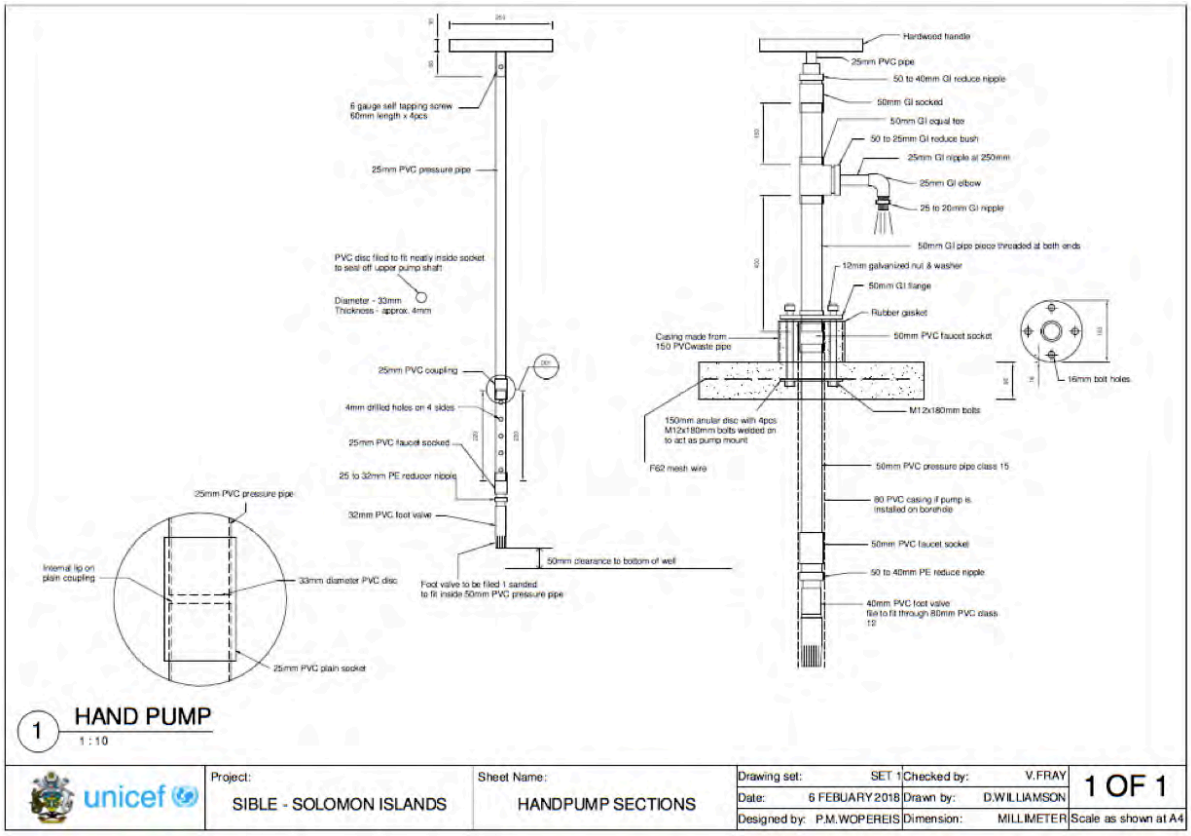


Figure 2: From Technical Requirements Manual for School WASH Facilities (draft, 2019) (Solomon Islands)

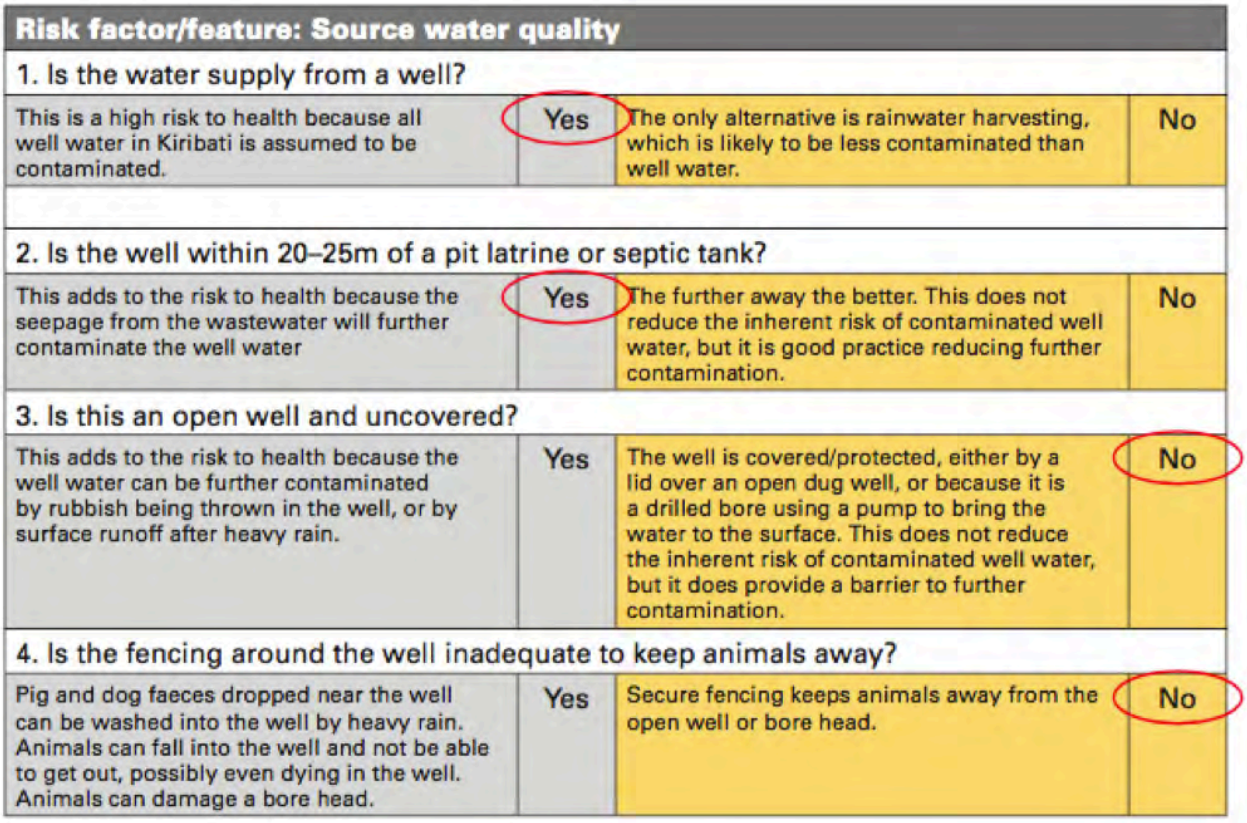
Photo 1: School water tanks, Kiribati

Figure 3 is a decision matrix for water collection technologies from the *WASH Technical Toolkit Menu of Options Guide* (Kiribati). It is a well-laid out guide for checking local context. The inclusion of the skills/tools and sustainability sections means that schools can assess the suitability for ongoing O & M.

Evaluation Criteria	Description	Score
Health/ Environmental Impact	**Value of the technical solution including trade-offs with environmental and health impacts and the suitability of the solution for various locations.** *There are minimal environmental issues and health risks are managed with regular roof and tank cleaning combined with boiling water. It is compatible with other WASH options and can be located where convenient/nearby a suitable roof.*	
Social Acceptability	**Suitability of the solution in terms of safety risks, user preference and willingness to use and accessibility.** *A desirable and acceptable community water source option that will be used frequently. Access for those with disabilities is possible as long as the tap is set at an appropriate height. Providing that it is not located in an isolated area there are minimal safety risks for boys and girls.*	
Cost	**Total cost to build, operate and maintain and whether external or local finance is required.** *May require external funding but once constructed the local community are most likely able to fund the operation and maintenance. Repair costs also need to be considered when unexpected damage occurs.*	
Skills/tools	**Technical skills and tools required to build, operate and maintain and whether this expertise can be found from within or outside the community.** *With assistance from the Island Water Technician the local community are most likely to have the skills and tools available to build, operate and maintain it.*	
Sustainability	**Life expectancy and source of materials.** *Depending on the quality of materials used it appears to be a reliable and durable option but it does require materials that may not be readily available on the island (i.e. tank, roof and gutter materials). An appropriate calculation of the water demand for each school is critical (minimum of 5L/ person/day) during the design process.*	

Figure 3: From WASH Technical Toolkit Menu of Options Guide (Kiribati)

The *WASH Technical Toolkit Sanitary Checklist for Kiribati* includes checklists in three main areas: water supply, sanitation, hygiene (handwash and MHM). Pictured below (Figure 4), the guide has a simple outline and clear instructions, providing a general overview of issues to be managed in O & M. The example shows that checklists are basic, but contain appropriate information. It also illustrates that checklists are tailored towards the local context, such as the presence of livestock or other animals in villages close to schools.



Risk factor/feature: Source water quality			
1. Is the water supply from a well?			
This is a high risk to health because all well water in Kiribati is assumed to be contaminated.	Yes	The only alternative is rainwater harvesting, which is likely to be less contaminated than well water.	No
2. Is the well within 20–25m of a pit latrine or septic tank?			
This adds to the risk to health because the seepage from the wastewater will further contaminate the well water	Yes	The further away the better. This does not reduce the inherent risk of contaminated well water, but it is good practice reducing further contamination.	No
3. Is this an open well and uncovered?			
This adds to the risk to health because the well water can be further contaminated by rubbish being thrown in the well, or by surface runoff after heavy rain.	Yes	The well is covered/protected, either by a lid over an open dug well, or because it is a drilled bore using a pump to bring the water to the surface. This does not reduce the inherent risk of contaminated well water, but it does provide a barrier to further contamination.	No
4. Is the fencing around the well inadequate to keep animals away?			
Pig and dog faeces dropped near the well can be washed into the well by heavy rain. Animals can fall into the well and not be able to get out, possibly even dying in the well. Animals can damage a bore head.	Yes	Secure fencing keeps animals away from the open well or bore head.	No

Figure 4: WASH Technical Toolkit Sanitary Checklist (Kiribati)

Documents containing designs and checklists for school water supply	
Fiji	*School Maintenance Handbook* (Ministry of Education, 2014) includes instructions on fixing rainwater tanks. *WASH in Schools Three Star Approach Guide Book.*
Solomon Is	*Technical Requirements Manual for School WASH Facilities* (draft, 2019) *Solomon Islands WASH in Schools – Designs and Bills of Quantity (draft 2018*
Kiribati	*WASH Technical Toolkit Menu of Options Guide* *WASH Sanitary Survey Checklists*

School Sanitation

The sanitation and supply table developed in Solomon Islands, as reproduced below (Figure 5) is an example of a simple but effective matrix to identify appropriateness of sanitation choices, in this case, suitability of toilets for avoidance of contamination of drinking water supplies.

		Pit latrine	VIP	Pour flush	Septic tank	Compost
Primary drinking water source	Shallow groundwater	Fair[1]	Fair[1]	Poor	Poor–Fair[2]	Good[3]
	Shallow groundwater prone to flooding	Poor	Poor	Poor	Poor	Good
	Surface water	Fair–Good[4]	Fair–Good[4]	Fair–Good[4]	Fair–Good[4]	Good
	Rainwater	Good	Good	Fair[5]	Fair[5]	Good

Figure 5: From Technical Requirements Manual for School WASH Facilities (draft, Solomon Islands)

The following (Figure 6) is an illustration of toilet design from the Kiribati *WASH Technical Toolkit Menu of Options Guide* which gives a basic overview of concept, including general guidance on building materials. Technical detail is lacking, meaning that for construction external expertise may be required. But the design can be adapted to local conditions, capabilities and material available, including, for example, the use of traditional roofing materials.

Figure 6: WASH Technical Toolkit Menu of Options Guide (Kiribati)

Photo 2: School Toilets in Kiribati

Figure 7 below shows a simple and practical example from Vanuatu of a drawing that allows schools to plan appropriate siting of a septic tank in order to avoid drinking water contamination by septic waste. It is simple enough to be adaptable to context, but also includes relevant dimensions/distances to ensure consultation of more detailed plans are not necessary, at least in the initial stages of design.

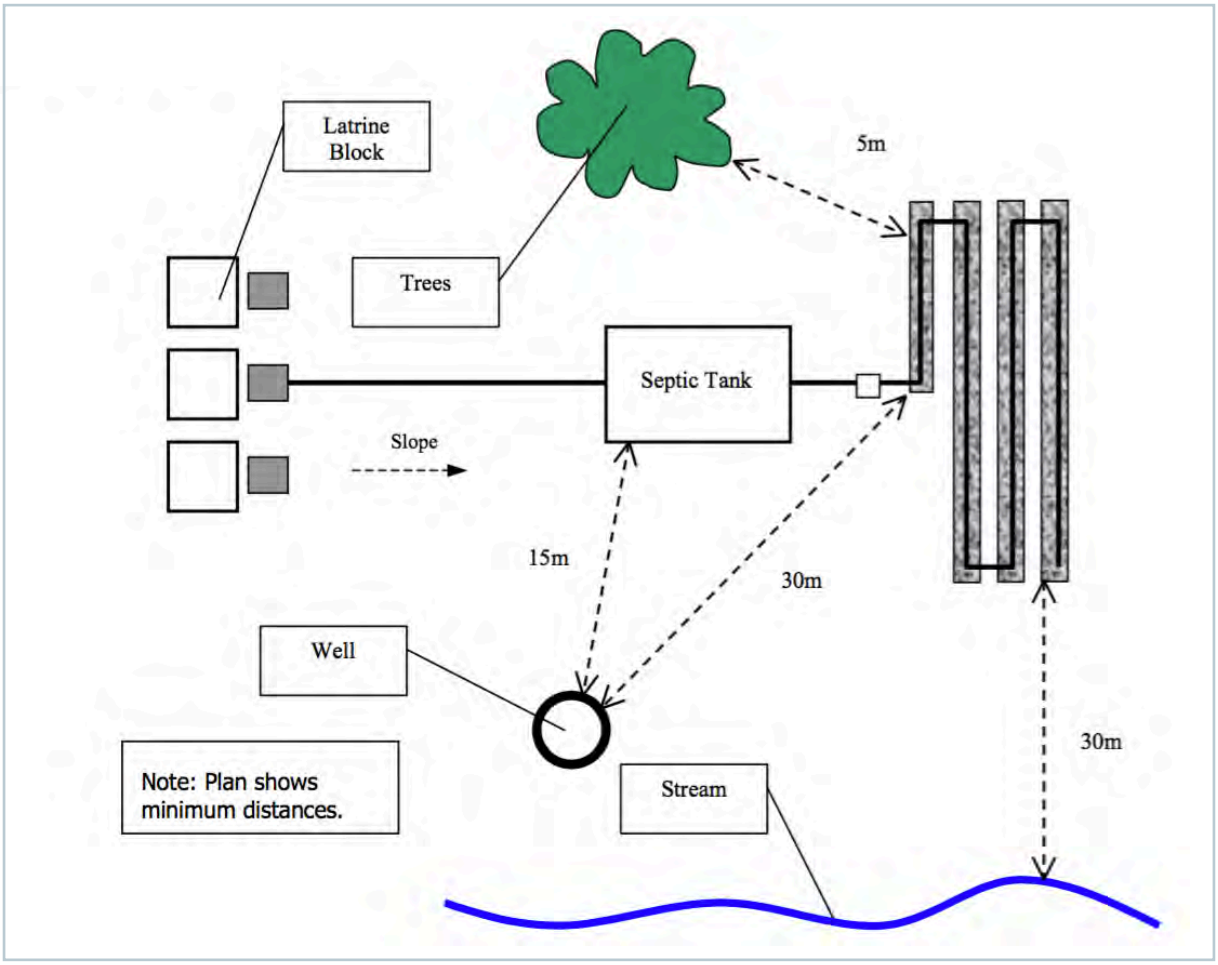


Figure 7: Oxfam Technical Briefs Septic Tanks & Drainfields

Photo 3: School toilets in Fiji

The following design (Figure 8) is an example of a draft technical design from Vanuatu for a toilet accessible by wheelchair, and including ramps and hand rails for other mobility impairments. It is technical in nature, requiring the employ of professional tradespeople to construct facilities. However, where schools are able to do so, this design is a reasonable solution to the need for stand-alone disability access toilet facilities that does not necessitate the rebuilding of ablution blocks.

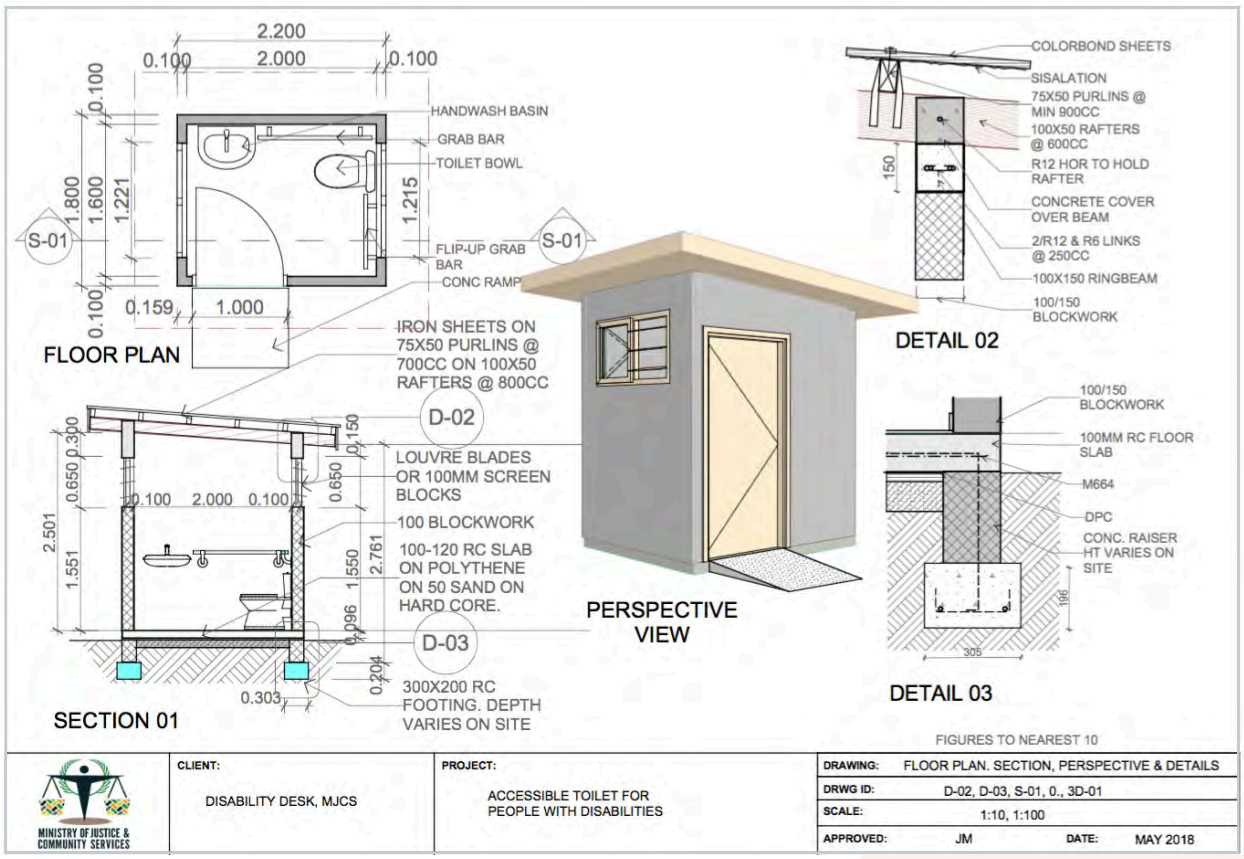


Figure 8: Image supplied by Ministry of Justice & Community Services Vanuatu

Another design from Fiji for a wheelchair access cubicle is reproduced below (Figure 9). No bill of quantities is supplied, but the design is clear about dimensions while leaving the type of construction and the materials required to be adapted to local contexts. This design also allows for construction of a single facility or integration into a larger structure. Instructions are included to further clarify access requirements.

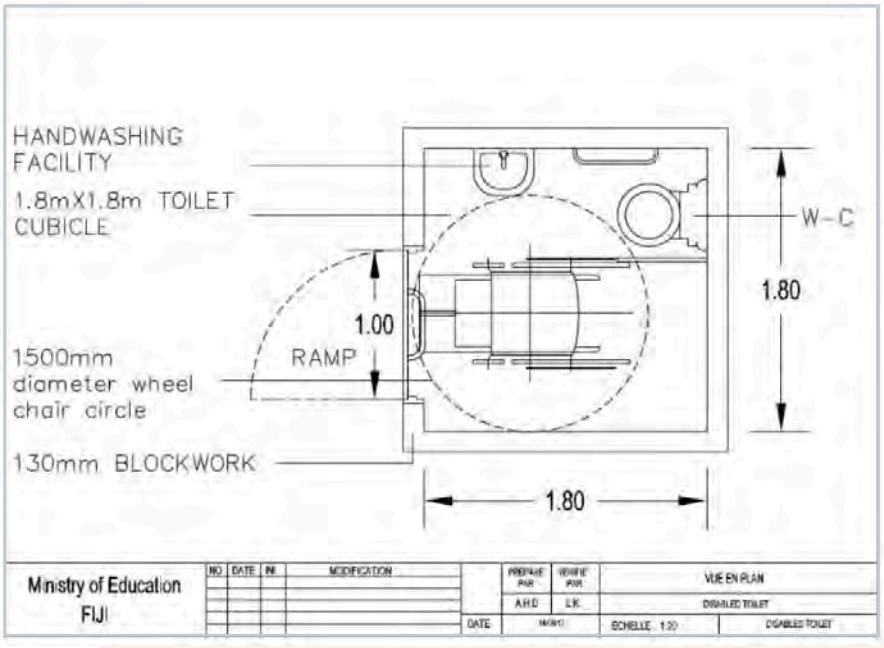


Figure 9: From Minimum Standards on WinS Infrastructure (Fiji)

The following drawing (Figure 10) was provided by Oxfam in Vanuatu. It incorporates a disability access cubicle into the toilet block design. This design could also be adapted for the inclusion of an MHM room. Because of the level of detail in the design, the drawing is targeted towards external stakeholders and construction would require professional expertise. BOQs for this and similar technical drawings incorporate standard building materials, which aims at reliability, but there is little capacity to use local, traditional building materials, unless communities are proactive in adapting designs. Following this design are examples of MHM room and sanitary bin.

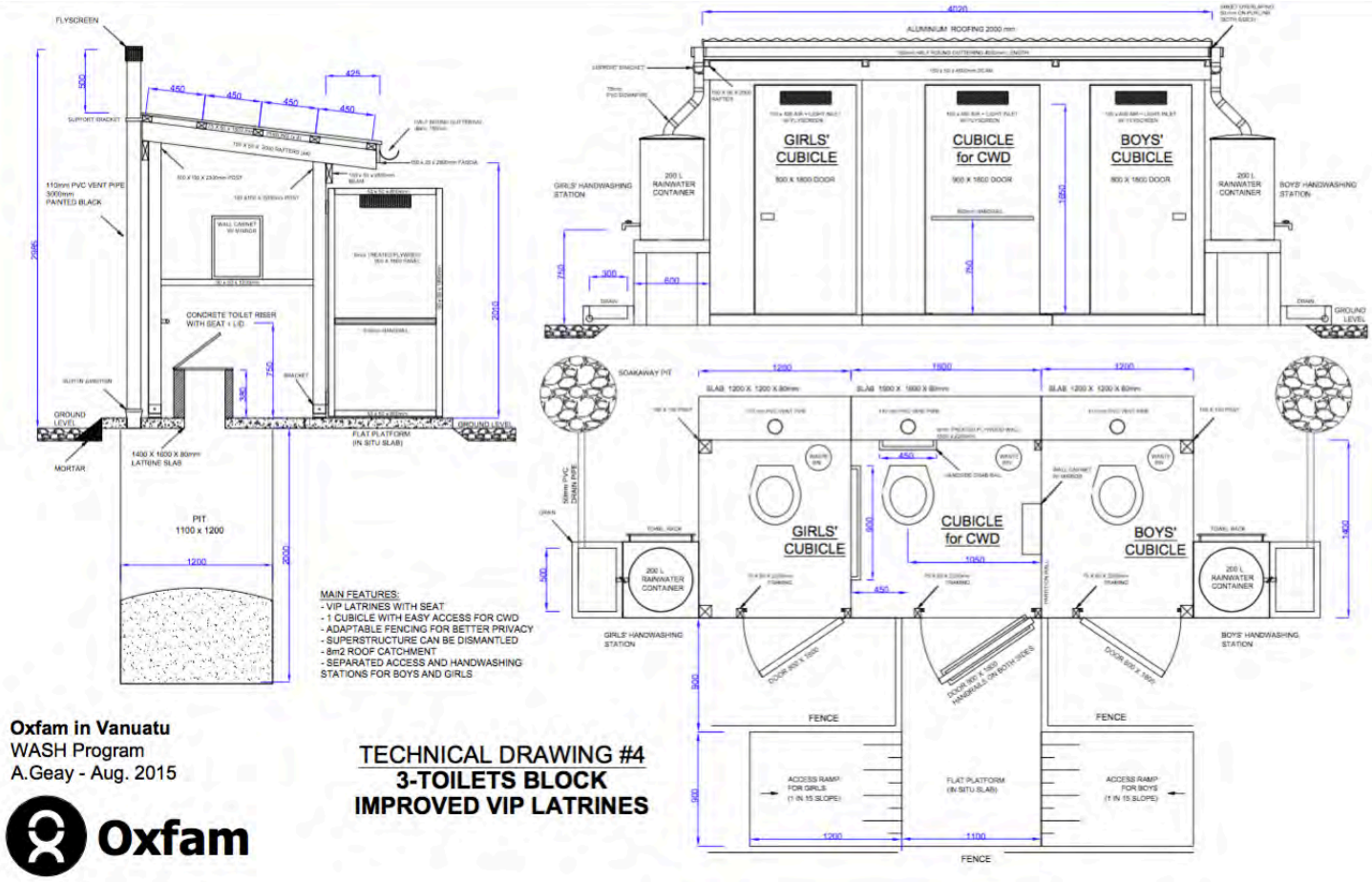


Figure 10: Image provided by Oxfam Vanuatu

Photo 4: MHM facilities in Fiji and Solomon Is

The recently published *WASH Resilience Guidelines Toolkits and Case Studies* includes the following illustration (Figure 11) combining toilet design and procedures for O & M. While the tasks for maintenance described are basic and do not include the ability to allocate tasks, the advantage of this guide (and others like it in the publication) is that they include visual references to specific parts of WASH technologies in order to aid O & M.

EVERY 3 MONTHS	
PERFORM SANITARY SURVEY	• Complete risk score • New risks are fixed
AFTER EVERY USE	
Add ashes or other organic material	• Ensure material is available • Ensure a good mix of wet and dry waste
EVERY WEEK	
Clean/Disinfect Toilet	• Check system isn't blocked • Clean pan, seat and floor

Figure 11: From WASH Resilience Guidelines Toolkits and Case Studies (UNICEF South Pacific)

A *Toilet Self-Assessment Checklist* (Figure 12) is included in Fiji's *WinS Three Star Approach Guide Book*, and is a good example of clarity of presentation, allowing comprehensive but not complicated monitoring of facilities, and separation of particular tasks, in this case, toilet monitoring, for delegation to students/individuals.

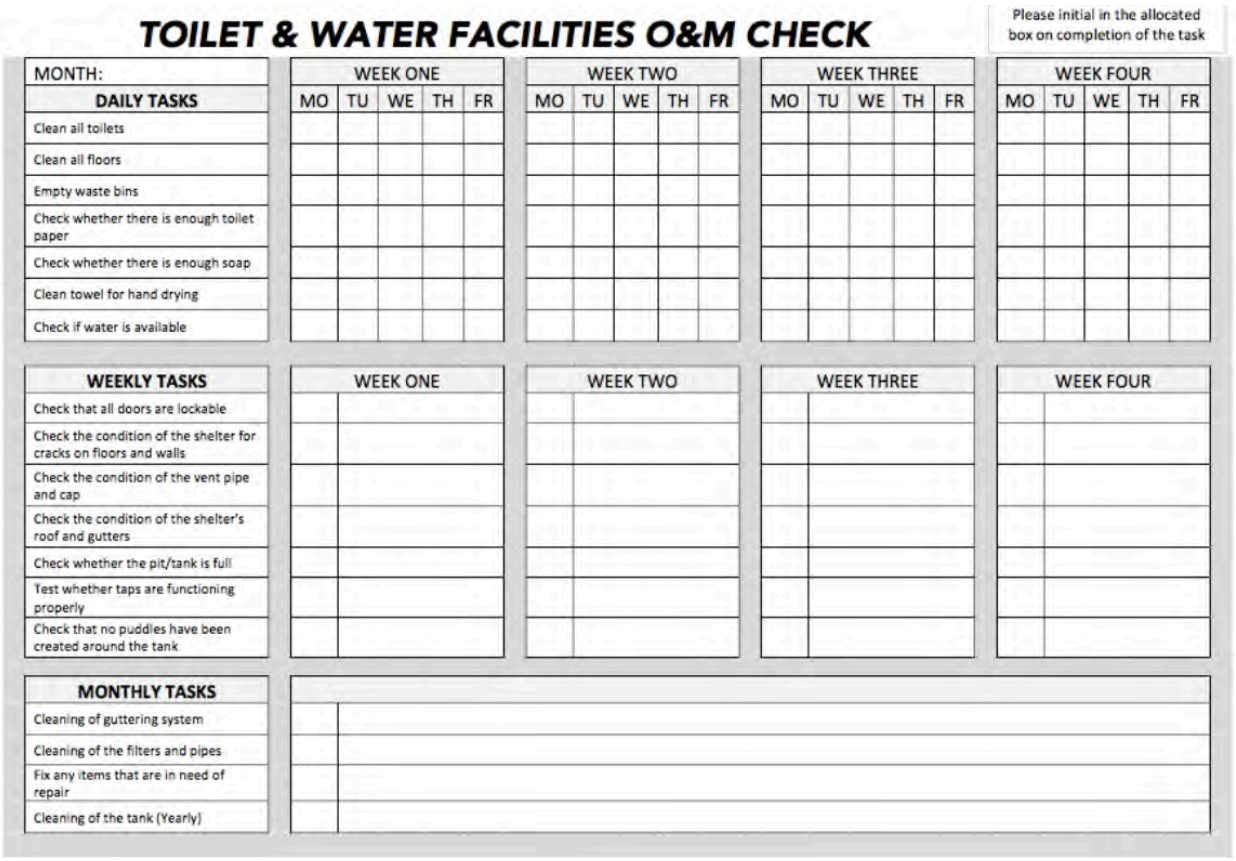
Name of school: _____ Date: _____

Done by: _____ TOD/WASH Coordinator/HT/AHT
- Circle appropriate -

Please tick the boxes accordingly.	Yes	No
ENTRANCE	☐	☐
Q1 There are prominent signages and the entrance looks clean.		
HAND WASH AREA	☐	☐
Q2 All the taps at the basin are in good condition.	☐	☐
Q3 Soap is available at the washing area.	☐	☐
Q4 Overall, the hand wash area is clean and tidy, with no litter		
WATER CLOSET (WC)	☐	☐
Q5 The cubicle door is clean and free of graffiti.	☐	☐
Q6 The door lock and coat hook are intact and functional.	☐	☐
Q7 The toilet bowl seat and cover is intact and stain free.	☐	☐
Q8 The Water closet flush is functional and free of dust and stain.	☐	☐
Q9 The toilet paper holder/ dispenser is intact and functional with toilet paper.	☐	☐
Q10 Sanitary bin (for girls only) is clean, intact and lined with plastic bag.		
URINALS (FOR BOYS ONLY)	☐	☐
Q11 The urinals are intact and functional without blockage.	☐	☐
Q12 The urinal flush is functional and free of dust and stain.	☐	☐
General Areas		
Q13 The floor, walls, wall tiles and ceiling are free from dust, stains and litter.	☐	☐
Q14 The lightings are intact and functional, and of appropriate brightness.	☐	☐
Q15 The toilet is odour free, the floor is dry and no water leakages.	☐	☐
Q16 Are there any other areas to improve on?	☐	☐
Q17 Any other comments?	☐	☐

Figure 12: From WinS Three Star Approach Guide Book (Fiji)

This checklist (Figure 13) demonstrates a succinct format to plan daily, weekly and monthly O & M tasks, with the ability to allocate tasks to individuals or classes. This checklist could be expanded to include other activities, or could be adapted to focus on particular areas of school maintenance and cleaning, such as water supply, handwashing or toilet blocks. The format also allows for notation of follow-up work needed in the case of deficiencies encountered, which is a function not always catered for in other checklists, which often have room only for notation of compliance or not.



TOILET & WATER FACILITIES O&M CHECK

Please initial in the allocated box on completion of the task

MONTH:	WEEK ONE					WEEK TWO					WEEK THREE					WEEK FOUR				
DAILY TASKS	MO	TU	WE	TH	FR	MO	TU	WE	TH	FR	MO	TU	WE	TH	FR	MO	TU	WE	TH	FR
Clean all toilets																				
Clean all floors																				
Empty waste bins																				
Check whether there is enough toilet paper																				
Check whether there is enough soap																				
Clean towel for hand drying																				
Check if water is available																				

WEEKLY TASKS	WEEK ONE		WEEK TWO		WEEK THREE		WEEK FOUR	
Check that all doors are lockable								
Check the condition of the shelter for cracks on floors and walls								
Check the condition of the vent pipe and cap								
Check the condition of the shelter's roof and gutters								
Check whether the pit/tank is full								
Test whether taps are functioning properly								
Check that no puddles have been created around the tank								

MONTHLY TASKS	
Cleaning of guttering system	
Cleaning of the filters and pipes	
Fix any items that are in need of repair	
Cleaning of the tank (Yearly)	

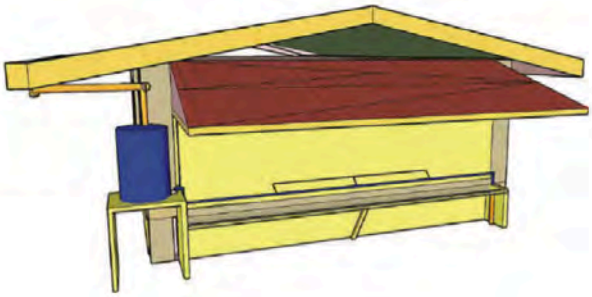
Figure 13: From Schools Guide to O & M (PNG)

Documents containing designs and checklists for school sanitation	
Fiji	*Minimum Standards on WinS Infrastructure* *School Maintenance Handbook* (Ministry of Education, 2014) includes instructions on fixing sanitation facilities. *WASH in Schools Three Star Approach Guide Book.*
Solomon Is	*Technical Requirements Manual for School WASH Facilities* (draft, 2019) *Solomon Islands WASH in Schools – Designs and Bills of Quantity* (draft 2018)
Kiribati	*WASH Technical Toolkit Menu of Options Guide* *WASH Sanitary Survey Checklists*
Supplementary	Compost Toilet Maintenance Guide image from *WASH Resilience Guidelines Toolkits and Case Studies* (UNICEF). Three Toilets Block Improved VIP Latrines image sourced from Oxfam Vanuatu. *Oxfam Technical Briefs Septic Tanks and Drainfields.*

School Hygiene

Kiribati's *WASH Technical Toolkit Menu of Options Guide* includes a picture (Figure 14) that shows how a simple handwashing station can be created at the side of an existing building or new structure. Height can be adjusted to suit children with disabilities. Although not a technical design for professional builders, this design can be adapted to context.

Solomon Islands provides a technical drawing (Figure 15) of a group handwashing station that can be connected to a separate rainwater tank supply. This design requires more technical expertise to interpret the design and construct. The design can be adapted for disability access and for the needs of smaller children.



KEY COMPONENTS

- **Tank**
- **Guttering**
- **Corrugated iron or PVC roof**
- **PVC pipe**
- **PVC wide guttering and drain pipe**
- **Soap**

Figure 14: From WASH Technical Toolkit Menu of Options Guide (Kiribati)

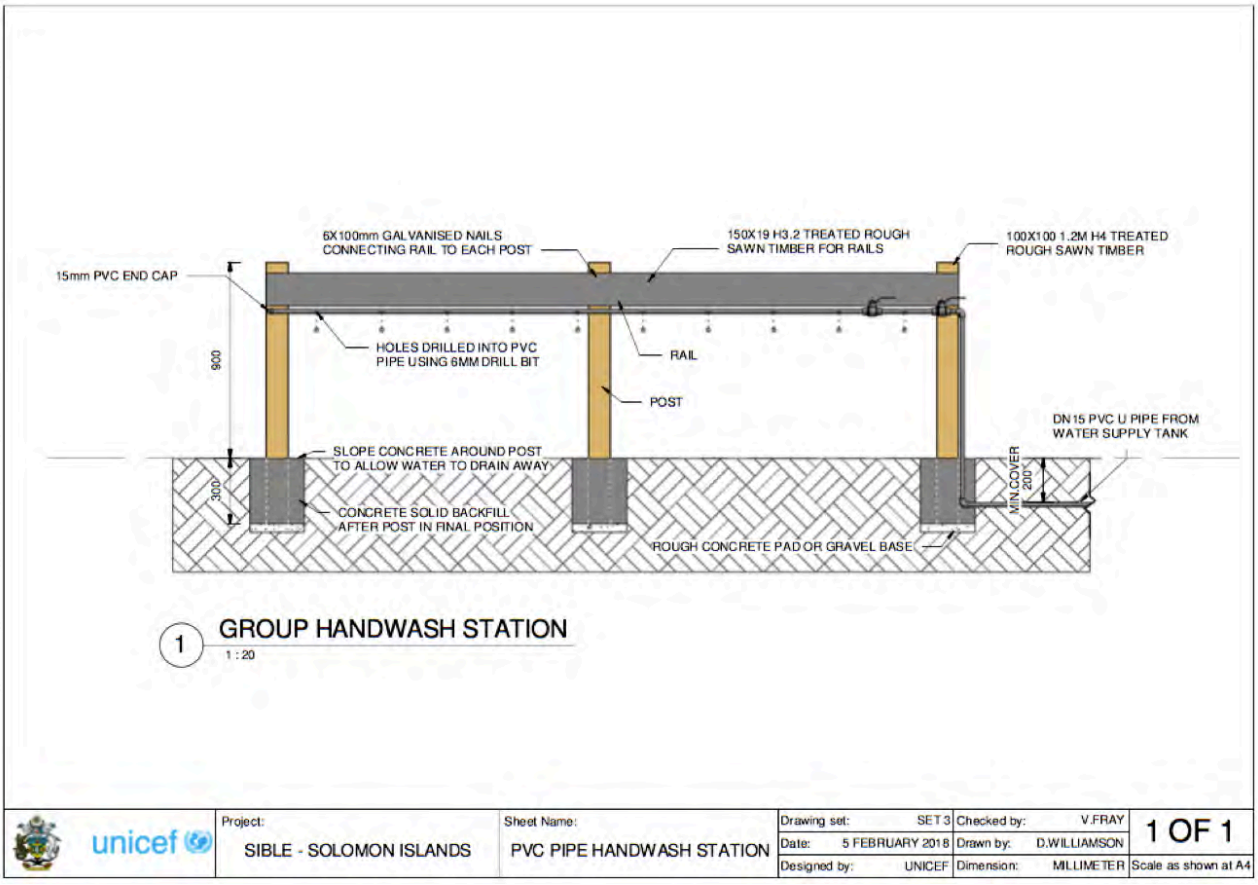


Figure 15: From Solomon Islands WASH in Schools - Designs and BOQ

Fiji provides a simple schedule (Figure 16) which schools can use to forward plan for improvements to O & M. Although the design is simple, the schedule gives direction to further planning.

MOE OUTPUT: 3.2, 3.6		ANNUAL TARGETS		STRATEGIES & TIMELINE	ESTIMATED COST	EVALUATION TOOLS	TASK MANAGER
Objective	Perfomance Indicator	2018	2019				
Girls have easier access to MHM materials in school	A set of MHM materials are available in the school office	Purchasing of MHM materials and storage box for the school	Maintaining the supply for MHM materials	Purchasing and collecting of MHM materials End of Sept, 2018	$100.00	List of materials bought. Receipt from the shopping Weekly report from WASH coordinator	List of materials bought. Receipt from the shopping Weekly report from WASH coordinator

Figure 16: From WASH in Schools Three Star Approach Guide Book (Fiji)

Documents containing designs and checklists for school hygiene	
Fiji	*School Maintenance Handbook* (Ministry of Education, 2014) includes instructions on fixing handwashing facilities. *WASH in Schools Three Star Approach Guide Book.*
Solomon Is	*Technical Requirements Manual for School WASH Facilities* (draft, 2019) *Solomon Islands WASH in Schools – Designs and Bills of Quantity* (draft 2018)
Kiribati	*WASH Technical Toolkit Menu of Options Guide* *WASH Sanitary Survey Checklists*

Photo 5: Kiribati handwashing facility

The following photographs illustrate various group handwashing designs, from the elaborate to the basic. In each case, construction has been adapted to availability of funding and materials, type of water supply and frequency of use.

Photo 6: School handwashing facility, Fiji

Photo 7: School handwashing facility, Solomon Is

Photo 8: School handwashing facility, Kiribati

Factors for Success

The 17 schools visited in Fiji, Kiribati, Solomon Islands and Vanuatu for this report are taking steps to build resilience in the Operations & Maintenance (O & M) of school WASH facilities and programs.

Discussed below are a number of improvements mentioned in interviews with school leadership. These improvements can be easily applied in all schools that need to improve O & M. These suggestions are divided into four key subject areas. Planning broadly and making changes in each of these areas makes schools more resilient and inclusive:

- Local ownership
- Technical skills and funding
- Climate change and disaster risk reduction
- Gender and social inclusion

Local Ownership

Being aware of standards helps with WASH improvement

The level of knowledge of the national standards for WinS varies across schools and by country to country. There is general awareness that facilities need upgrading, and that failing to do so affects student health, and attendance levels, especially regarding MHM. Standards give more direction about steps needed, and when school management are aware of national standards helps with what can be achieved. Designating schools as evacuation centres provides incentive for identifying and complying with standards.

In Fiji and Kiribati government-provided workshops have been effective in briefing head teachers on standards. In the Solomon Islands and Vanuatu, head teachers were largely unaware of the national standards. School staff can look to government and external stakeholders for knowledge of standards and how to meet them. Most of the schools sampled advised that WASH facilities were built before the national standards were in place. Standards can guide upgrading of facilities.

Generally, where standards were acknowledged, budgets and the affordability of meeting standards impacted the degree of compliance. Where school leaders expressed concern that the standards were too high and not able to be met, affordability was the chief concern. Schools need to be aware that they can access multiple sources of funding, and that in many cases low-cost solutions can be found in order to attempt to meet standards.

Regarding disability access, there were indications that school management thinks that the provision of disability access facilities as dictated by national standards only applies where students with physical disabilities are actually in attendance already. But making facilities available could encourage students living with disabilities to attend school. In Solomon Islands. Kiribati and Vanuatu, schools for children with special needs are uncommon, so education authorities need to discuss how children with special needs can be served in mainstream schools and provide assistance for schools to provide appropriate WASH facilities.

Schools can construct, operate and maintain handwashing facilities

Schools can construct handwashing facilities that vary in sophistication, from piped water connection to tippy-taps. Schools providing handwashing stations with multiple taps, and establishing rosters for use and maintenance, encourages good WASH practices, as well as sustainability through continued operation of facilities.

Taking into consideration the location of handwashing facilities within the school grounds, as defined by standards, helps hand hygiene practices. Schools that follow this practice have built resilience by separating from toilets from water supplies and from areas prone to flooding, as well as encouraging adequate handwashing by having classrooms close to WASH facilities.

In one case of good practice, the school redesigned handwashing facilities to allow for better access to infrastructure (pipes) in case of repairs. In other cases, the number of taps has been increased to avoid congestion at handwashing times. If more taps cannot be added, staggering handwashing times can also reduce congestion. Several schools in Solomon Islands had good group handwashing facilities in place, but were reliant on rain-water, so the facilities were not used during dry times.

Schools can take ownership of the provision of WASH supplies

The provision of soap needs to be maintained. Teachers are taking steps to monitor soap usage to avoid loss. Parents and teachers are providing soap. In some schools soap drives at home are providing schools with soap remnants that can be made into balls for school handwashing. In other schools students pay a late fine that goes towards the purchase of soap and toilet paper. In other schools mothers who sell food to students in the school are charged a small fee that is used for purchase of soap and toilet paper. Teachers are taking the initiative to purchase soap but to continue this practice schools must ensure teachers are reimbursed, and this in turn must be ensured by timeliness of outside funding.

Schools are integrating monitoring into WASH duty rosters

There has been successful integration of monitoring for O & M issues within WASH clubs and committees, with the creation of rosters for cleaning and monitoring, supervised by both teachers and students, and regular inspections by head teachers. When students are actively engaged in WASH programs more resilient schools are created. Schools can involve students in WASH clubs and rostering for cleaning and maintenance rosters,

> *"We have a weekly roster. All classes are on the duty roster on different days, either cleaning the toilets or carrying water. Cleaning and getting water is done every day. Teachers and students work closely together. Everyone has this responsibility."*
>
> *– Teacher, Tenavatu School.*

including reporting faults in WASH infrastructure such as handwashing stations, toilets and rainwater tanks. Students can also monitor availability of supplies of soap and toilet paper at handwashing stations and toilet blocks. Quality and timeliness of maintenance and repairs is then dependent on considerations of budget restrictions, skills of teachers and local community members and availability of hardware. Interview results indicate also that the quality of monitoring is highly dependent on initiative of head teachers and engagement of local communities.

Schools are successfully operating and maintaining simple hardware

The simplicity of some handwashing facilities means repairs can be done efficiently. However, when construction is basic, for example, consisting of perforated PVC piping, appropriate drainage needs to be added, and appropriate height for disabled access and access by small children needs to be considered.

If local water supplies are unreliable, rainwater harvesting can be used. This supplementary supply was particularly useful in the case of one school where mains water supply was damaged and offline. However, rainwater supply is not always reliable. One school reported that handwashing activities had stopped because of the unavailability of rainwater due to lack of rainfall and empty water tanks. Schools can consider multiple water supplies to ensure continuity.

WASH facilities appropriate for local contexts need to be carefully managed

When schools are using piped water for handwashing supply they notice a rise in water bills, so such water usage and expenditure needs to be carefully managed. Some schools find that having supplementary rainwater supply helps keep down water bills.

Full-flush toilets may be ideal from a hygiene perspective but may be only appropriate with mains water supply. In order to maintain reliable, sustainable facilities schools benefit from checking what toilet technologies are appropriate in their case, before referring to standards for construction or upgrade.

To be sustainable, schools can consider what is the appropriate infrastructure for local context. Schools should avoid building expensive shelters over more appropriate lower technology facilities such as pit latrines. Schools can attain advice about the appropriateness of facilities. There are various checklists available for such assessments. For example, Kiribati's *Menu of Options Guide* contains steps for considering what is appropriate in a particular context.

> *"The designs we do are based on the context of the school and its location. So the design approach and guidelines are contextualized. We use a sanitation design flowchart and a water design flow chart. These two charts spell out clearly which facility the school should construct. So if flush toilets are not suitable then we don't construct them."*
>
> *– World Vision Solomon Islands Officer*

In some schools in Kiribati and the Solomons pour flush toilets are used because, staff indicate, pour flush toilets use less water than full flush, and are easier to repair/maintain. However, pour flush toilets are generally reliant on rainwater harvesting or hauling water from wells or other distant water supplies.

In order to remain resilient, schools can consider security, where there is a danger of theft of hardware such as taps, or water. Successful maintenance also requires a plan for vigilance over holiday periods when schools are unattended.

Schools are showing increased ownership of MHM

The experience of many Fiji schools is that providing sanitary bins in toilet cubicles, sanitary items and wash facilities for girls increases attendance. In one case, the head teacher claimed that provision of MHM facilities meant that girls' individual attendances rose by up to 90 days per year.

Creating awareness of the importance of MHM and showing a desire in implementing better MHM facilities is the first step in creating better MHM. An additional benefit of MHM in Fiji schools is that girls are given agency through the management of the facilities themselves. Older girls are given responsibility for MHM, and the embarrassment of consulting teachers for menstruation need is avoided.

Schools in Kiribati, Solomon Islands and Vanuatu are not providing as advanced MHM facilities as those in Fiji, but incremental steps have been taken, including providing doors with locks for privacy, access to bins for used sanitary pads, and supplies of sanitary pads at schools. Male and female teachers in all schools visited are demonstrating greater confidence in discussing MHM, as are girl and boy students interviewed in school WASH clubs.

Photo 9: Girls' toilet building in Kiribati

Technical Skills and Funding

> *"The head teacher is the link between teachers, students and the community."*
>
> *– Head teacher, Fiji.*

Good leadership is critical to strong Operations & Maintenance

The initiative and dedication of a head teacher to WASH is critical for the supervision of ongoing O & M. Head teachers can build resilience by prioritising school activities around WASH, rather than thinking of WASH as simply a supplementary part of the school curriculum. Head teachers can teach that the health and hygiene of students contributes critically to school attendance.

A head teacher who prioritises WASH can build resilience by engaging other teachers in the supervision of WASH, who in turn educate children in the priority of WASH. Rostering and cleaning is encouraged and through monitoring infrastructure and rostering cleaning, repairs and stocking of sanitary items can be done in a timely way.

Head teachers can seek help from the community, and from other staff. School site visits have emphasised that self-organisation is successful if a head teacher understands the school's WASH plan and communicates this effectively with staff. There is evidence that head teachers are doing daily or weekly checks of school facilities to ensure WASH infrastructure is in working order. If government-supplied checklists are used thoroughly and appropriately, they can aid the sustainability of the school's WASH program.

Schools successfully self-organise when head teachers are supported

Schools can strengthen the sustainability of WASH O & M through the school leadership and community supporting the head teacher. Self-organisation requires and implicates ownership by the entire school community of teachers, students and parents. In more remote locations it is clear that community involvement makes a difference to providing funding for building and repairs, and the availability of skills for such tasks.

Schools situated remotely from communities but drawing students from a number of communities have particular challenges in seeking community help for O& M of WASH infrastructure. This is not a challenge exclusive to remote schools. Schools in urbanised settings can be surrounded by businesses rather than homes, or by crowded informal settlements where there is a lack of community cohesion, so are therefore also disengaged from the communities where students and parents reside. Governments can help by recognising when schools lack community engagement.

While the dedication of personnel is critical, it is noted that schools do suffer from high staff turnover rates. Therefore, documentation of O & M processes is also critical. The most successful schools are ones who have embedded rosters for cleaning and checking into everyday school practice, and who seek assistance from government and other bodies.

Successful O & M budgets require differentiation from other necessities

Successful schools have budgets that specifically include WASH O & M. This is not restricted simply to new-builds or upgrades of buildings or infrastructure, but also includes allowance for regular fixes of hardware and the provision of sanitary items, which are ongoing.

Many schools indicated that funding for WASH budgets is critical to successful self-organisation. If funding from government bodies is timely, purchase of supplies, either for sanitation or repairs can be handled. Community support is also vital for meeting budgets. In Kiribati, one respondent noted that up to 60% of funding for WASH projects is raised by the local community.

Smaller, more remote, schools may receive less funding than their more urbanised counterparts. In these cases schools can seek personnel with appropriate skills from the community to prioritise WASH using the Three-Star Approach, and to adapt local materials to building projects.

Local skills are vital to successful self-organisation

The skills of teachers and community members in the areas of practical maintenance and management are vital to the autonomy of schools in their upkeep of infrastructure and supplies and therefore the sustainability of WASH programs.

Community members often undertake to construct new toilet blocks. Schools emphasise the need for practical skills such as plumbing, carpentry and, to a more limited extent, electrical in order to undertake minor repairs and larger structural work such as the construction of toilet blocks. The availability of such skills in the community surrounding a school varies but identifying these skills in the local community helps sustainability.

Governments can help resilience of schools by providing training on maintenance, particularly for female school staff. Training of female community members provides not only greater spread of skills, but because in communities men will often be unavailable, enabling female parents to be skilled for maintenance provides greater availability of skills. Training in budgetary/accounting skills and in leadership is also beneficial.

In secondary schools, there is more likelihood of teachers holding specialized skills which can be used in maintenance. When schools employ a handyman/caretaker, either full-time or part-time, who is skilled in plumbing and carpentry, repairs and maintenance can be more readily undertaken.

When major infrastructure needs building or upgrading, governments can assist schools by giving information to schools about where extra assistance, either from governments or other external stakeholders, can be sought. Better coordination between stakeholders ensures coverage across all schools.

Approaches to Climate Change and Disaster Risk Reduction

Schools are aware of and witnessing climate change-related challenges

Schools are aware of the risks associated with climate change – sea level rises, more erratic and severe weather patterns, population shifts. However, schools are largely focussed on implementation of WASH programs and the upgrading of WASH infrastructure.

In order to reduce risks from disasters and climate change, schools can focus on water supplies and ensuring that they have an alternative water supply in case of emergencies or drought.

Schools can ensure that WASH facilities are built with sufficient elevation to avoid flooding, which occur from disasters such as cyclones, or high tides associated with rising sea levels. The elevation of septic tanks especially ensures that floodwater does not contaminate surrounding areas and drinking water supplies. Some schools have relocated septic tanks to avoid flooding.

Some schools are used as potential evacuation centres in the case of disasters. Detailed checklists to help assessment of schools as evacuation centres are available (for example, from the *Vanuatu WASH in Schools Improvement Plan School Guide*). Schools can access information about how various types of disaster will affect school water supplies and sanitation facilities and how schools can conduct recovery and ongoing supply.

There is awareness but schools can improve disability access

Schools are aware that facilities are needed in the event of students with disabilities attending, especially students using wheelchairs. For example, one school in the Solomons indicated that they are taking steps to identify children with special needs within the school community, aware that the needs of these students, in the area of toilet accessibility, isn't currently being met.

Some schools are not providing disability access because of the lack of students living with disabilities attending school, and the cost of improving facilities can be prohibitive. However, schools can take measures to improving access in order to encourage school attendance, such as ensuring handwashing stations are at a height for wheelchair access.

The needs of girls can be included in school infrastructures and O & M

There is enhanced awareness of MHM issues in schools across countries, even if there are variations across countries as to what infrastructure has been put in place for adequate management.

Schools can offer sanitary bins and sanitary items, including reusable pads, to girls. In some schools, older girls are being given responsibility for cleanliness of MHM facilities and the dissemination of sanitary items when needed. This results in two benefits: older, supervising girls have been given agency for WASH procedures, and other girls in need of supplies for MHM feel less embarrassed when seeking help from peers rather than teachers.

When girls are able to attend school because the school provides MHM facilities and sanitary items, school attendance rises dramatically. Along with education of the student body, including boys, the provision of MHM facilities has lessened social stigmas around menstruation and has resulted in declining discrimination and bullying, primarily of girls by boys.

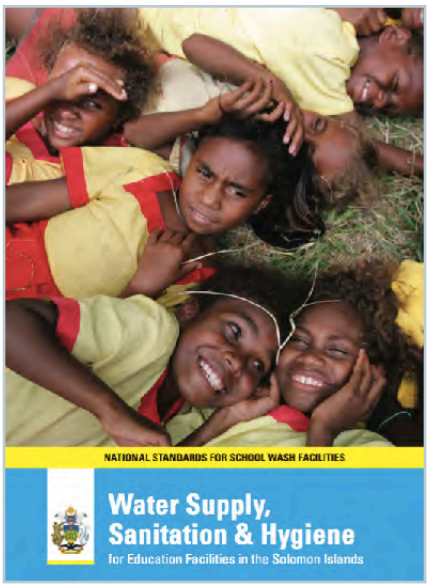
The provision of an MHM room with washing and showering facilities helps with school attendance of girls. Just as critical is keeping facilities clean. The provision of bins and rosters for cleaning helps girls understand that their needs are being considered.

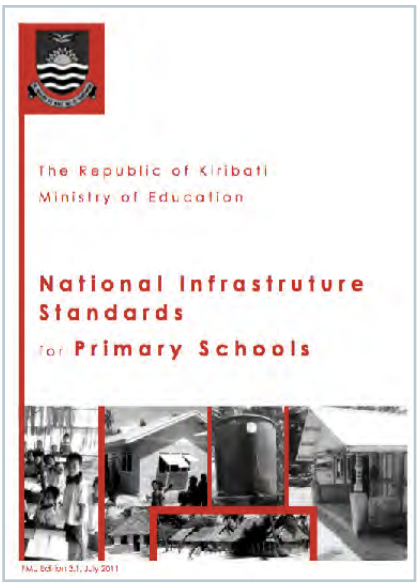
Taking into account the height of toilet risers and providing lower risers for smaller children helps smaller children to use toilets regularly and keep them cleaner. If the cost of providing toilets with different heights is a problem, schools can place solid concrete blocks or other materials in front of toilet risers to allow smaller children to step up, giving better access to toilet seats.

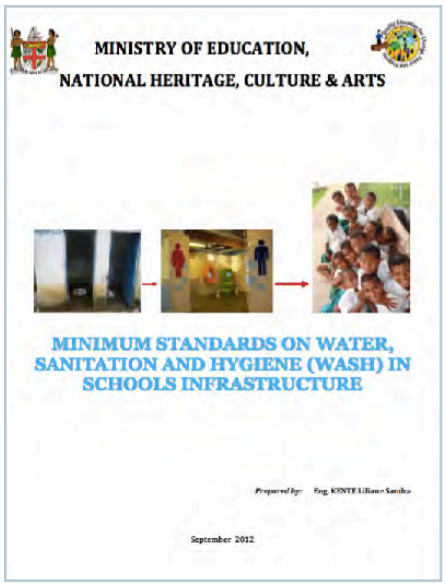
ANNEX 1: Technical Drawings

Copies of the National Standards for WASH in Schools for Fiji, Kiribati and Solomon Islands can be downloaded at the following link:

https://livelearn.org/what/resources/wash-schools-national-standards-fiji-kiribati-solomon-islands

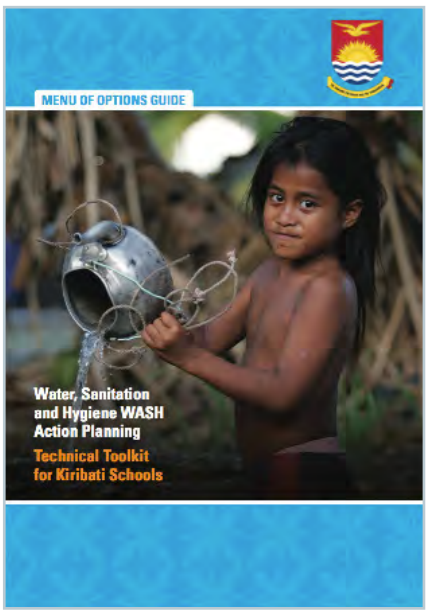






Copies of the technical drawings for WASH facilities in schools that have been produced by Fiji, Kiribati, Solomon Islands and Vanuatu can be downloaded at the following link:

https://livelearn.org/what/resources/wash-schools-technical-designs-fiji-kiribati-solomon-islands-and-vanuatu



ANNEX 2: Documents Reviewed

Fiji:

Minimum Standards on WinS Infrastructure

Ministry of Education, Heritage & Arts WinS policy 2019

Ministry of Education, Heritage & Arts WinS standards (2012)

School Maintenance Handbook (Ministry of Education, 2014)

WASH in Schools Three Star Approach Guide Book

Solomon Islands:

Technical Requirements Manual for School WASH Facilities (draft, 2019)

Solomon Islands WASH in Schools – Designs and Bills of Quantity

Water Supply, Sanitation & Hygiene for Education Facilities in the Solomon Islands (2018), Ministry of Education and Human Resource Development

Solomon Islands: Incorporating MHM into national WASH in schools: policies and guidelines

Kiribati:

WASH Technical Toolkit Menu of Options Guide

WASH Sanitary Survey Checklists

School Improvement Plan Standards, Kiribati Ministry of Education

National Infrastructure Standards for Primary Schools (2011), Kiribati Ministry of Education

Ministry of Education WASH in Schools Policy (2015)

Kiribati WASH in Schools Review, UNICEF, 2018

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Supplementary:

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Vanuatu WASH in Schools Improvement Plan Technical Manual (draft)

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ANNEX 3: Interviewee Details

Fiji Stakeholder Interviews

Name	Title/Position
Mr Serupepeli Udre	Director, Asset and Management Unit, Ministry of Education, Heritage and Arts
Mr Kitione Radrodro	Team Leader, FTA WASH Unit
Suliasi Batikawai	WASH Coordinator, Ministry of Health
John Mausio	WASH Project Manager, Save the Children
Asenaca Vakasevuraki	Water for Women WASH Project Manager, Habitat for Humanity Fiji
Selina Vatuvoka	Former WASH in Schools Officer, Live & Learn Fiji
UNICEF Staff	
Jeffery Ing	WASH Consultant
Maria Carmelita Francois	WASH Specialist
Head Teacher or WASH Coordinator from the following schools:	
Sarasawati Primary School	Chauhan Primary School
Wainibuku Primary School	Natawa Primary School
Rt Asaeli Primary School	William Cross Primary School
St Peter Channel Primary School	

Kiribati Stakeholder Interviews

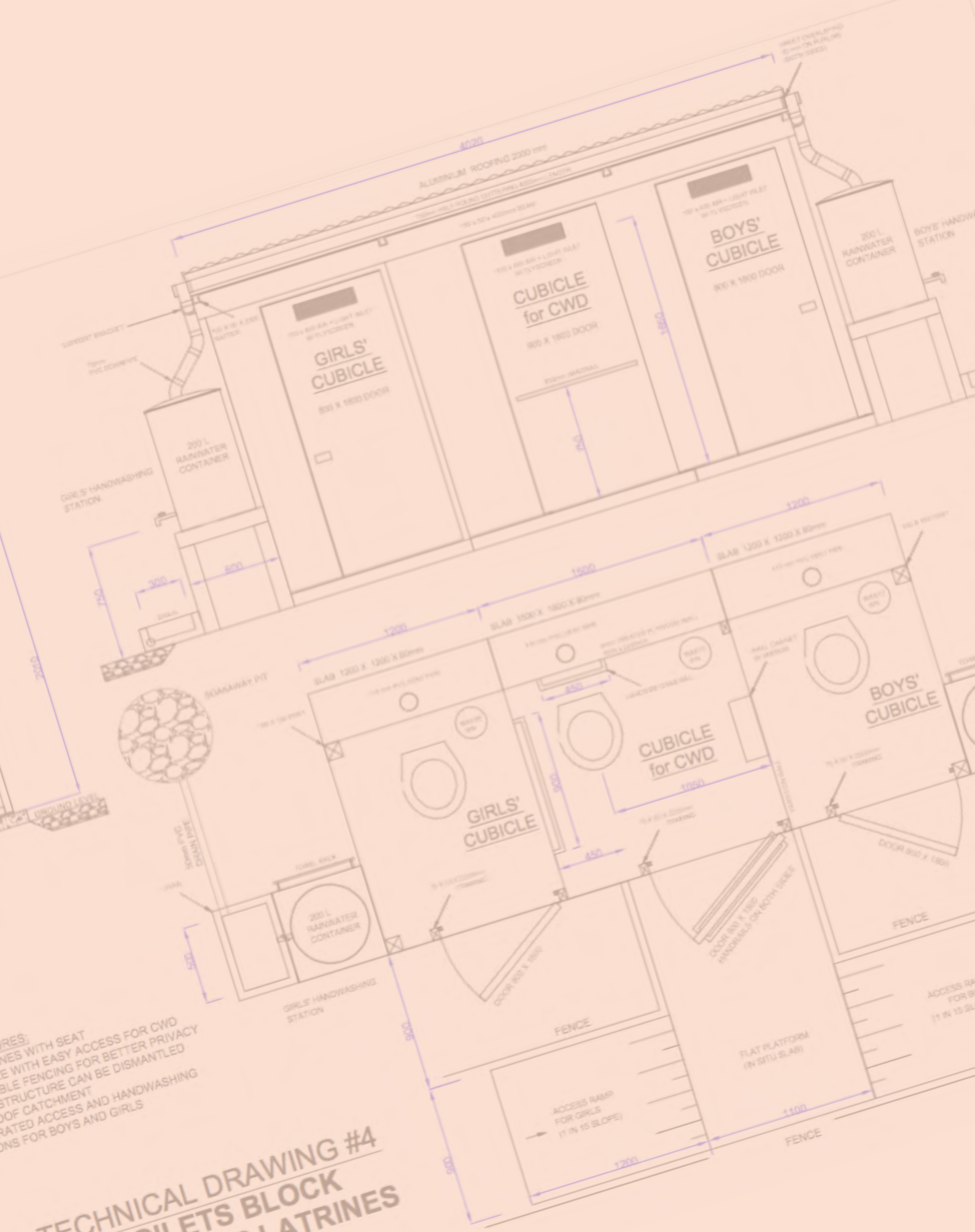
Name	Title/Position
Reetina Katokita	Director Policy, Planning, Research and Development, Ministry of Education
Isimotai	Management Unit
Rakere Tiree	District Education Officer
Aritu	Director Public Health, Ministry of Health
Rikki	KILGA
Waqairapoa Tikoisuva	UNICEF Kiribati
Beia Tiina	
George Quijada	
Brucetta Toaty	
Head Teacher or WASH Coordinator from the following schools:	
Naibunaki School	Mamatannana School
Taiwan School	Nun Teweia School
Sunrise School	

Solomon Island Stakeholder Interviews

Name	Title/Position
Dr Nemia Bainivalu Peter Viser Paul Amao Joe Rodi Mathaias Katui Enif Petsakibo Elma Panisi Caroline Saemala Migena Edward Huitarau Nathaniel Salini Wilson Misi Ellison Mane	Ministry of Health and Medical Services Rural WASH, Ministry of Health Permanent Secretary, MERD MERD WASH Program Manager, Live & Learn SI Live & Learn Si Live & Learn SI Country Manager, Worl Vision World Vision SIBLE WASH Project Officer, Ministry of Education Contractor, Kaloele School HCC, Chief Education Officer
Fred Saeni Mamita Bora Thakkar	UNICEF Solomon Islands
Head Teacher or WASH Coordinator from the following schools:	
Naha School Mbokonavera School Mbalasuna School	Mbokona School Tenavatu School

Vanuatu Stakeholder Interviews

Name	Title/Position
Graham Uzakana Nelly Ham Serge Lewawa Peter Goodfellow Margette Dickson Georgina Bule	WASH Project Manager, ADRA Vanuatu Manager Environmental Health Unit, MoH Director Policy and Planning, Ministry of Education Director Programme Development Quality Oxfam Oxfam
Jake Ward	UNICEF Vanuatu
Head Teacher or WASH Coordinator from the following schools:	
Erakor School Melemaat School Olwie School	



RES:
NES WITH SEAT
E WITH EASY ACCESS FOR CWD
BLE FENCING FOR BETTER PRIVACY
STRUCTURE CAN BE DISMANTLED
OOF CATCHMENT
RATED ACCESS AND HANDWASHING
ONS FOR BOYS AND GIRLS

TECHNICAL DRAWING #4
3-TOILETS BLOCK
IMPROVED VIP LATRINES

unicef

Documentation of WASH in Schools approaches in the Pacific

Kiribati, Fiji, Solomon Islands and Vanuatu

November 2019