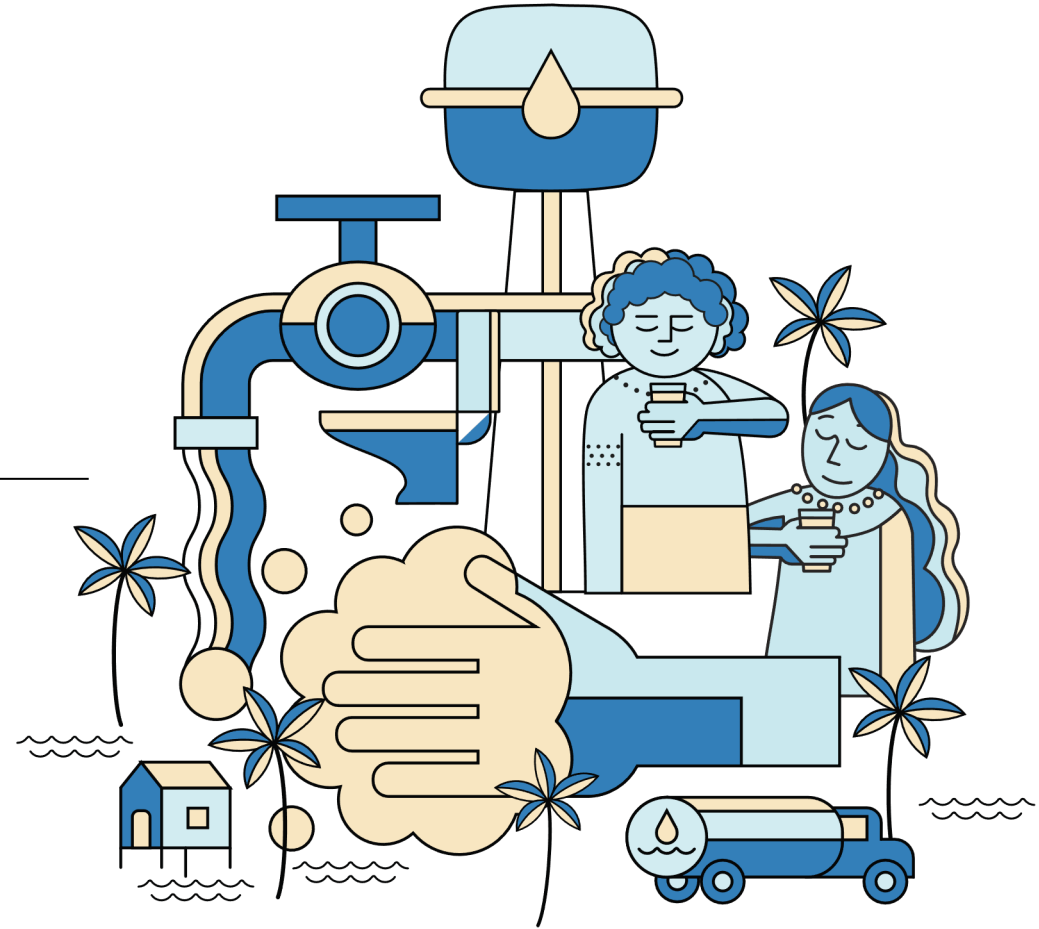


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# Pacific WASH

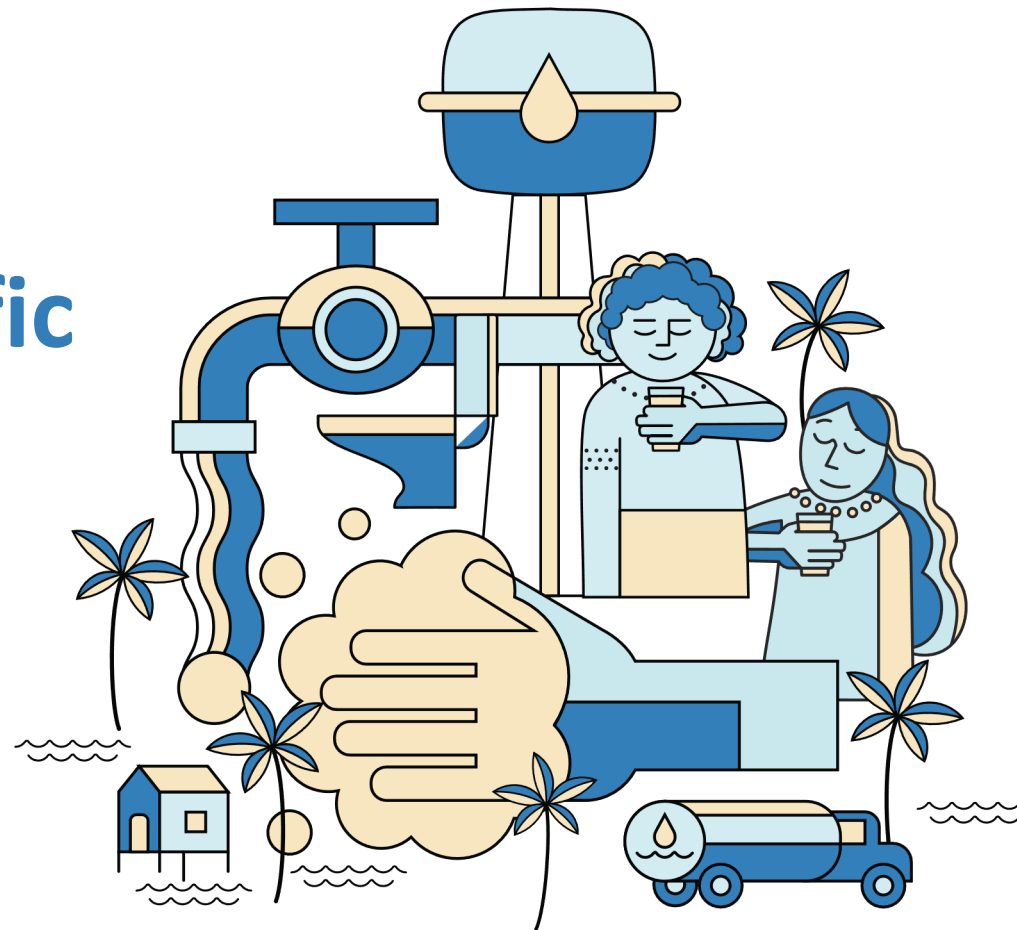
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## WEBINARS



# Water Safety Plans: Pacific Case Studies

27 April 2022



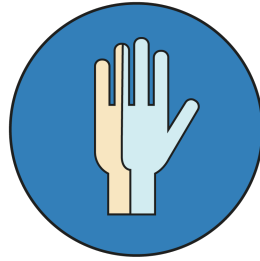
We will begin shortly.  
Participants, kindly note the following for this seminar

Please rename your Zoom name to:

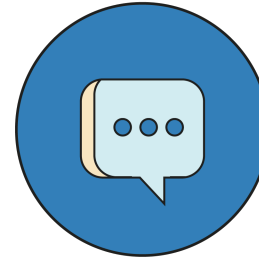
**Name, Org or Project**  
(e.g. Las Fernando, ADB)



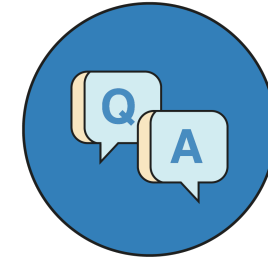
**Please turn your mic off  
during the presentation**



**Raise hand  
when you want to talk**



**Use the chat box  
for questions/concerns**



**We have a Q&A portion  
after the presentation**

# Schedule

Questions can be asked at the end of each presentation

Allotted Time	
10 min	<b>Introductions</b> Ms. Emma Veve, Deputy Director General, Pacific Department, ADB Lusia Sefo-Leau, CEO Pacific Water and Wastewater Association
10 min	<b>Presentation: Recap of WSP Approach and Update</b> Clara Laydon, Water Safety Planning Specialist
10 min	<b>Presentation: Nauru Utilities Corporation (NUC)</b> Carmine Piantedosi, Chief Executive Officer
10 min	<b>Presentation: Samoa Independent Water Schemes Association (IWSA)</b> Emma Sinclair, Environmental Scientist
10 min	<b>Presentation: Kiribati Public Utilities Board (PUB)</b> James Young, Chief Executive Officer
20 min	<b>Panel Discussion, Q&amp;A</b> Facilitated by Dean Taylor
5 min	<b>Closing remarks</b> Maria Tran, Senior Project Officer , ADB WASH Pacific Regional TA

# Introduction to Our Speakers

Our webinar today has 4 speakers.

Clara Laydon



Water Safety Planning  
Specialist, Hunter H2O

Carmine Piantedosi



Chief Executive Officer,  
Nauru Utilities Corporation  
(NUC)

Emma Sinclair



Environment Scientist,  
Samoa Independent Water  
Schemes Association  
(IWSA)

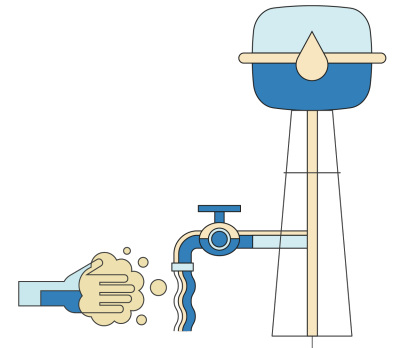
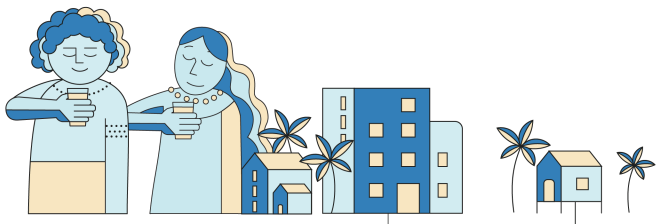
James Young



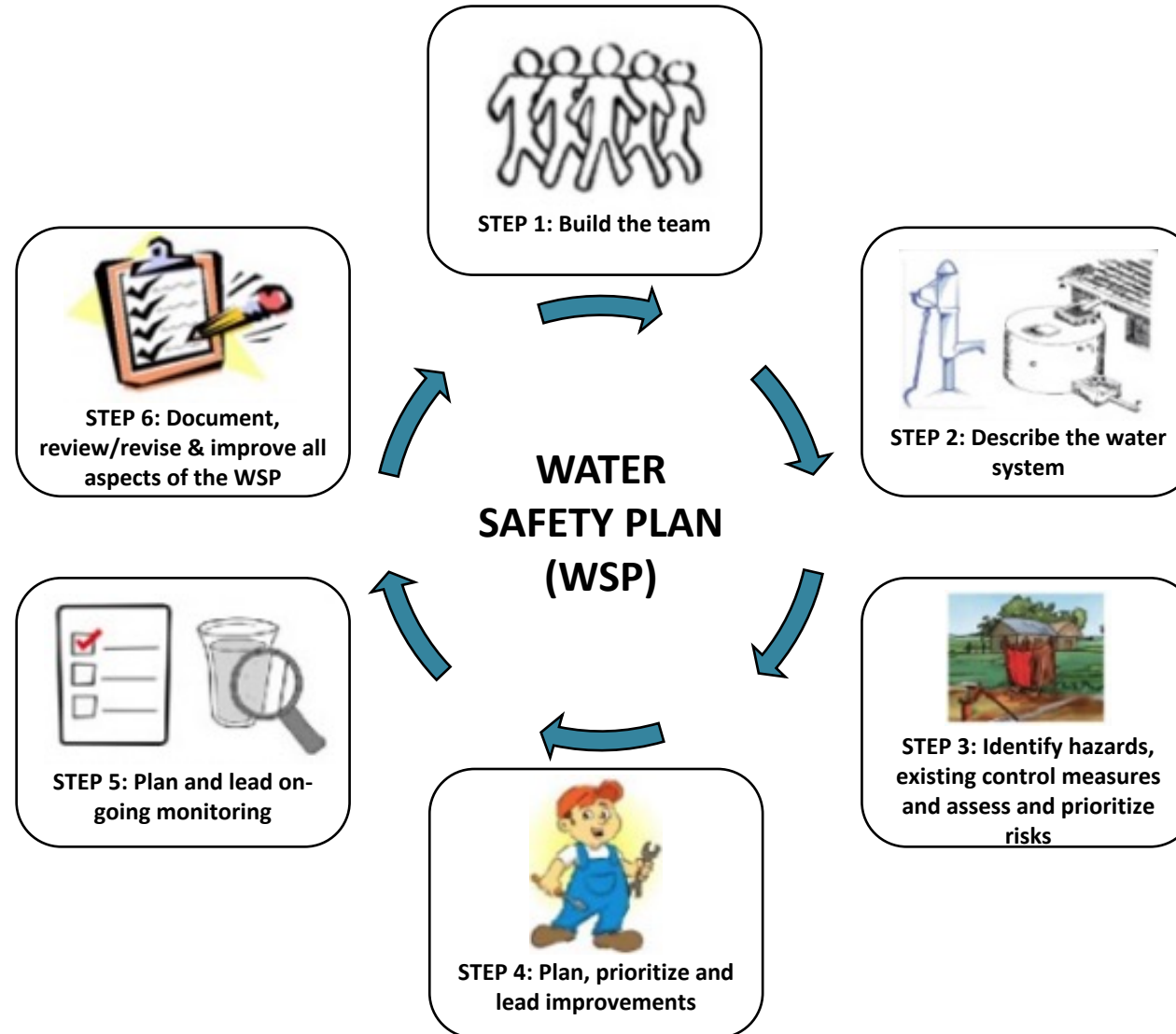
Chief Executive Officer,  
Kiribati Public Utilities  
Board (PUB)

# WSP Overview

Clara Laydon



# General Approach to Water Safety Plan

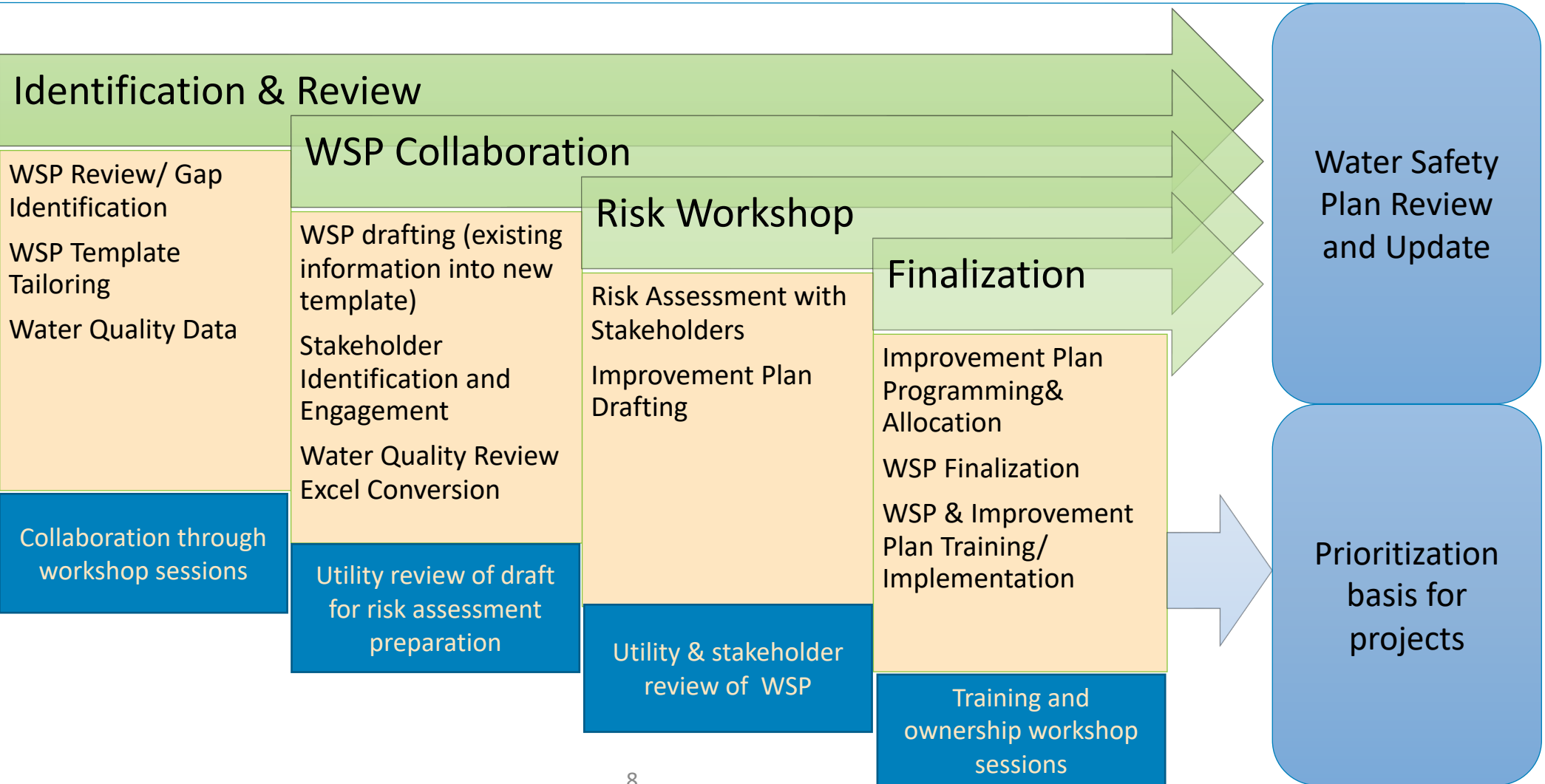


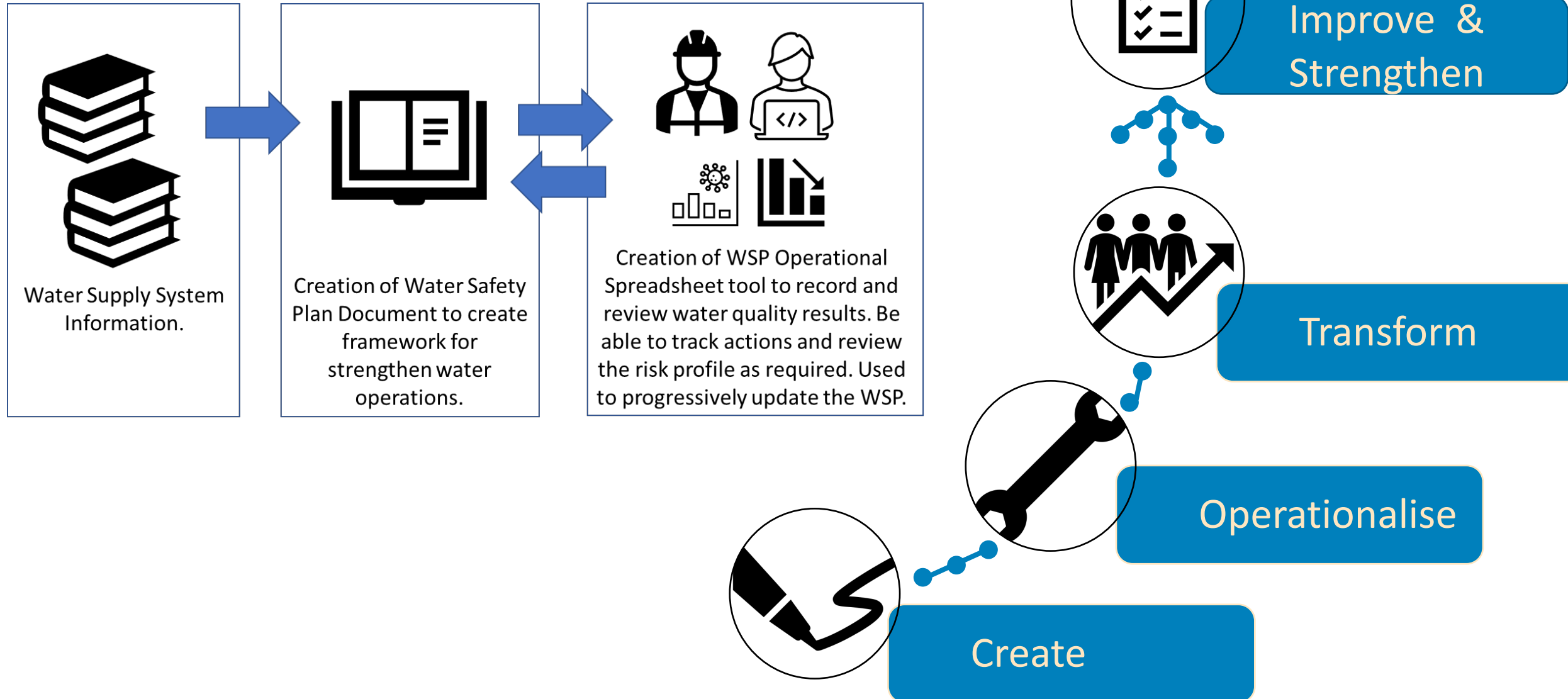
Stage 1  
Common  
Task

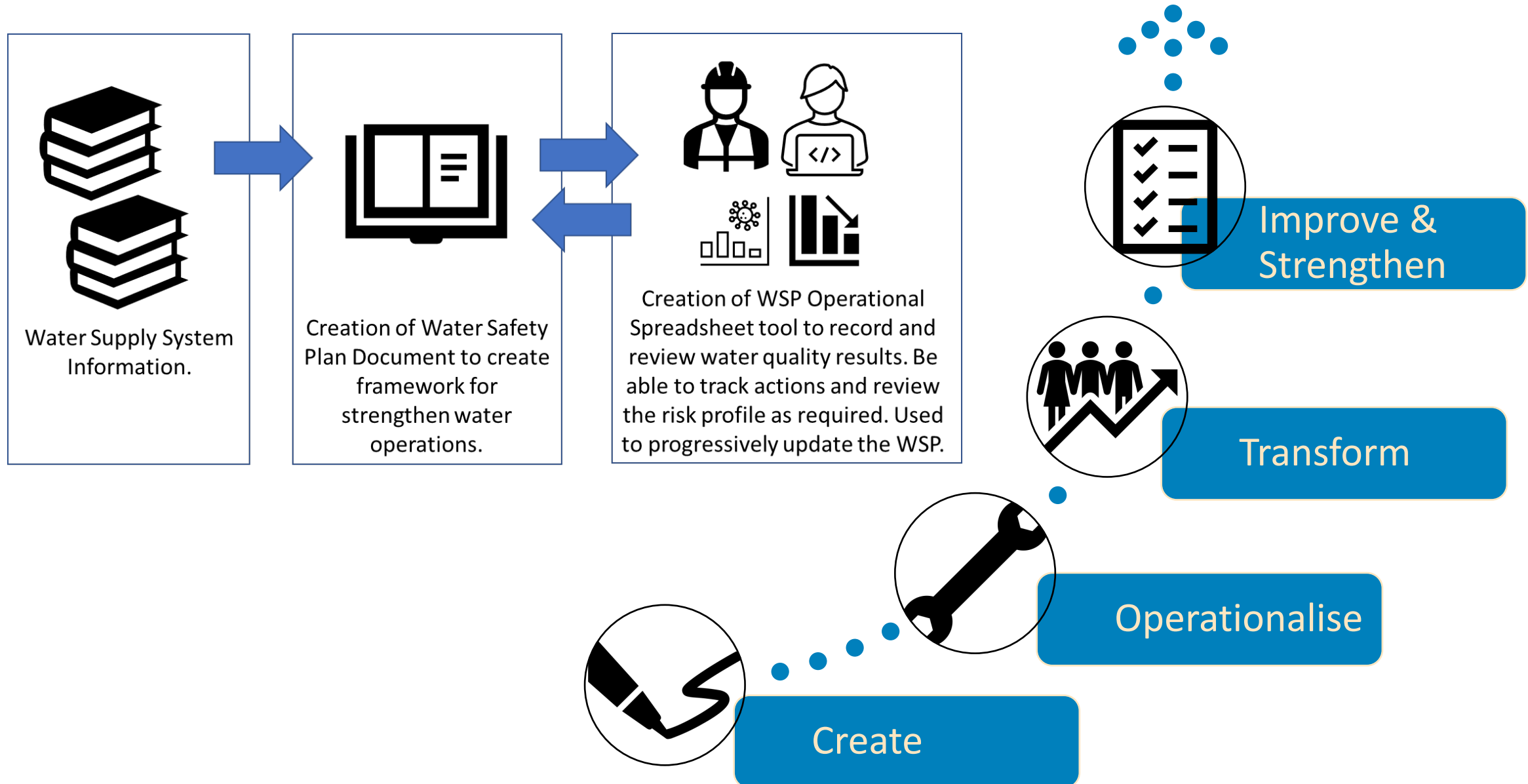
WSP Template (based on WHO)

WSP and Risk Assessment Excel Template

Stage 2 for  
each Water  
Utility

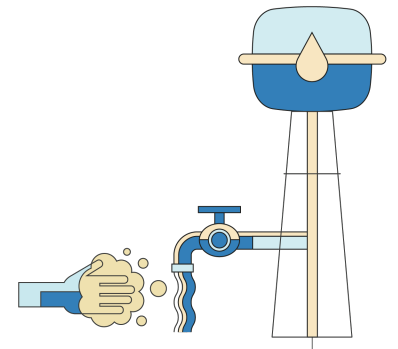
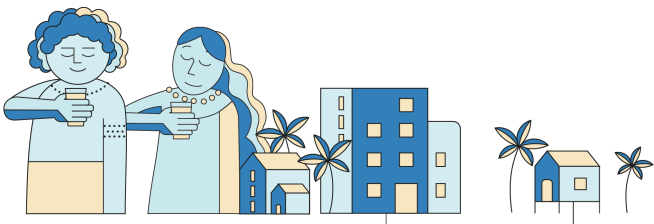






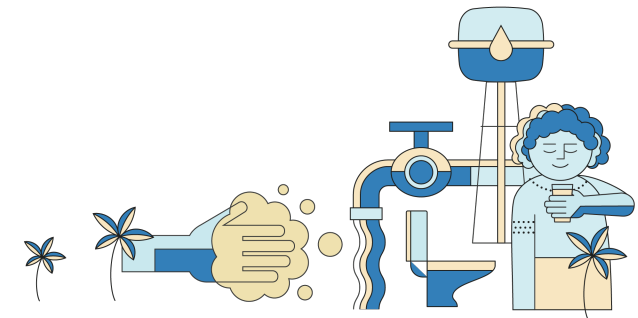
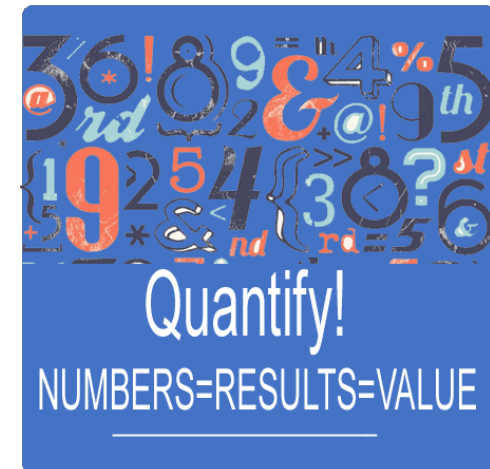
# What are the risks, how do we measure the risks?

- 1** When we review water quality results we are confirming the risk and the control effectiveness of barriers (such as treatment processes).
- 2** We need to confirm through review of results and determine if risks increase or vary, due to seasonal conditions, if there are occasional exceedance – why, what happened to cause that exceedance?
- 3** We need to understand the potential for risk profile to change, increase population trends, demand management, leakages (NRW), climate change



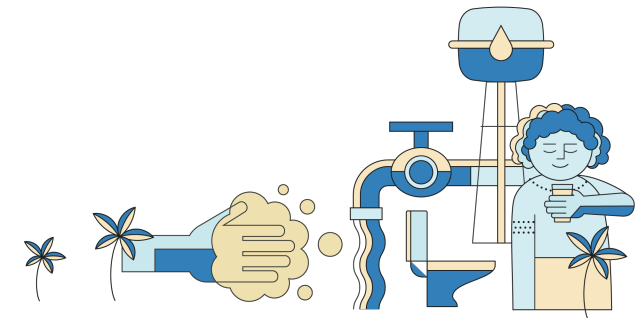
# Water Quality Spreadsheet Tools

- 1 Quantitate** Used in the Water Safety Plan process to quantify water quality results
- 2 Evaluate** Use results to determine compliance and areas which vary.
- 3 Assess** Used to determine how effective current controls are working to control water quality risks
- 4 Ongoing Review** Used to provide ongoing tool to enter data, provide more effective method to assess compliance



# Risk Assessment Spreadsheet Tools

- ✔ **Undertaking risk assessment within a spreadsheet allows a more dynamic way to review final outcomes.**
  - Risks can be grouped by scheme & filtered by risk level
  - Recommendations can be centralized
  - Tool can assist in creating a overall strategy for the utility for improvement
  - Tool can more easily allow for tracking of the improvements
  
- ✔ **Allows for Utilities to independently review and update risk assessments as required.**





## Nauru

WSP had been completed.  
Supporting NUC  
in  
implementation

## Kiribati

Draft Plan  
being  
reviewed  
water  
quality data  
being  
gathered

## Samoa – SWA

First scheme  
- WSP has  
completed  
risk  
assessment  
WSP to be  
finalized

## Samoa – IWSA

Working  
collaborativ  
ely with  
IWSA to  
create  
operational  
tools to  
support  
WSPs

## Palau

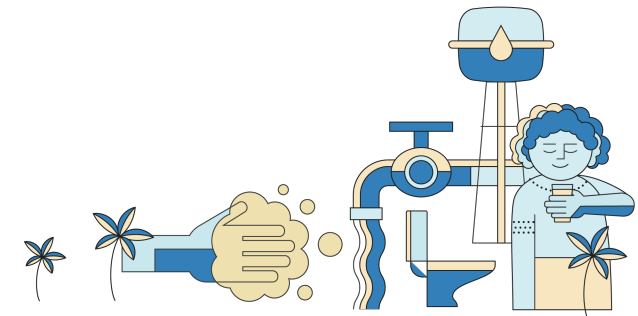
First Scheme  
- Draft plan  
being  
reviewed  
water  
quality data  
being  
gathered

## Niue

WSP being  
drafted

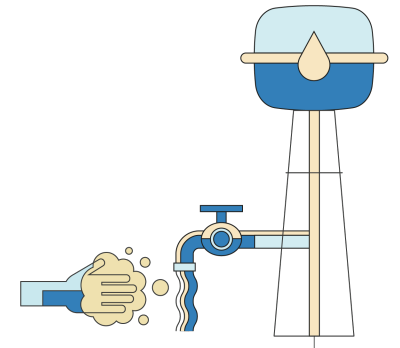
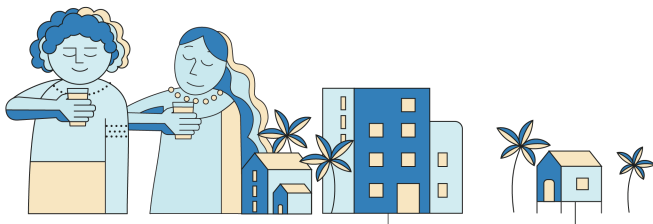
## Tonga

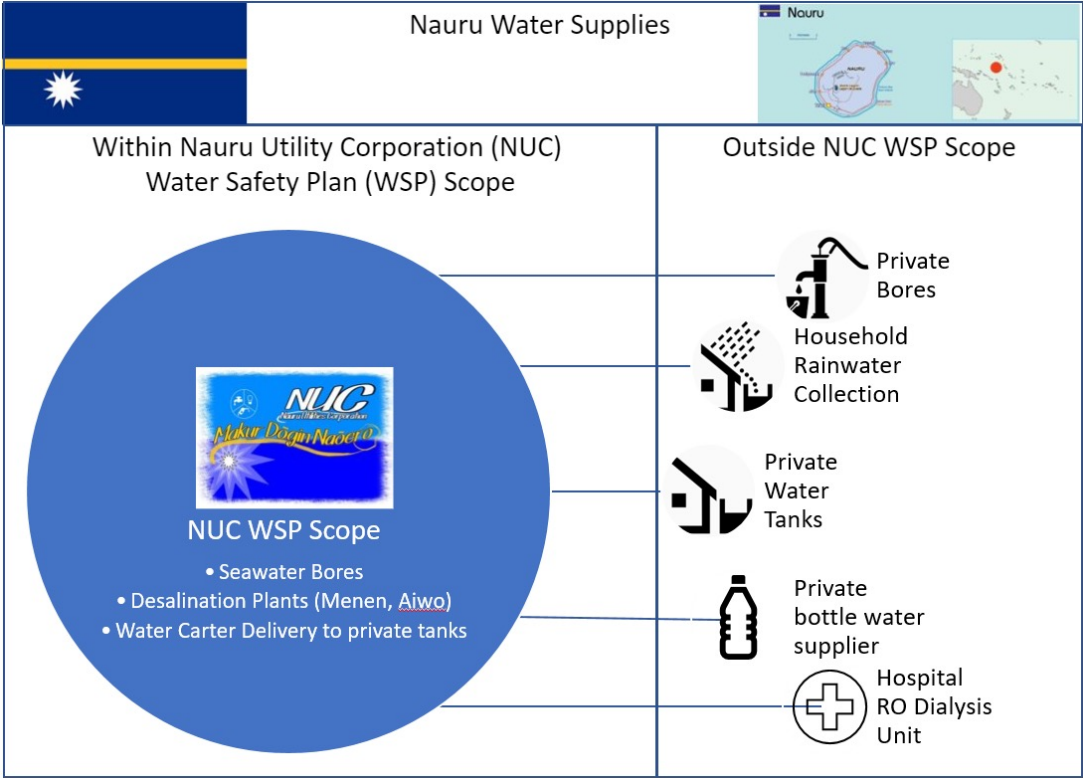
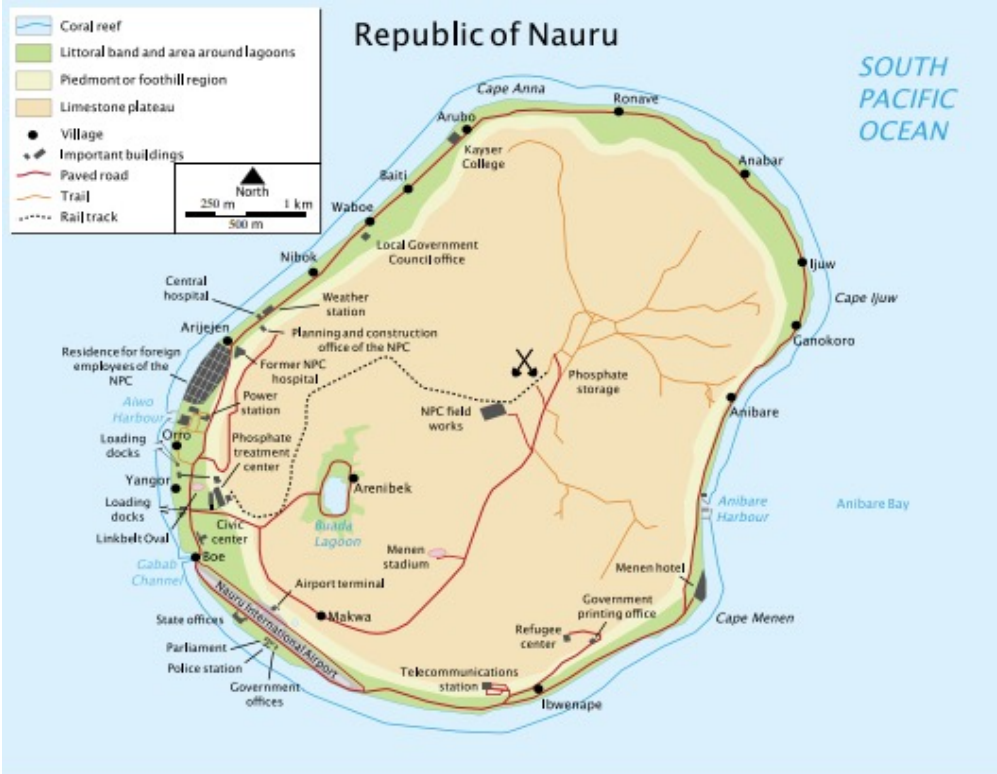
WSP being  
drafted

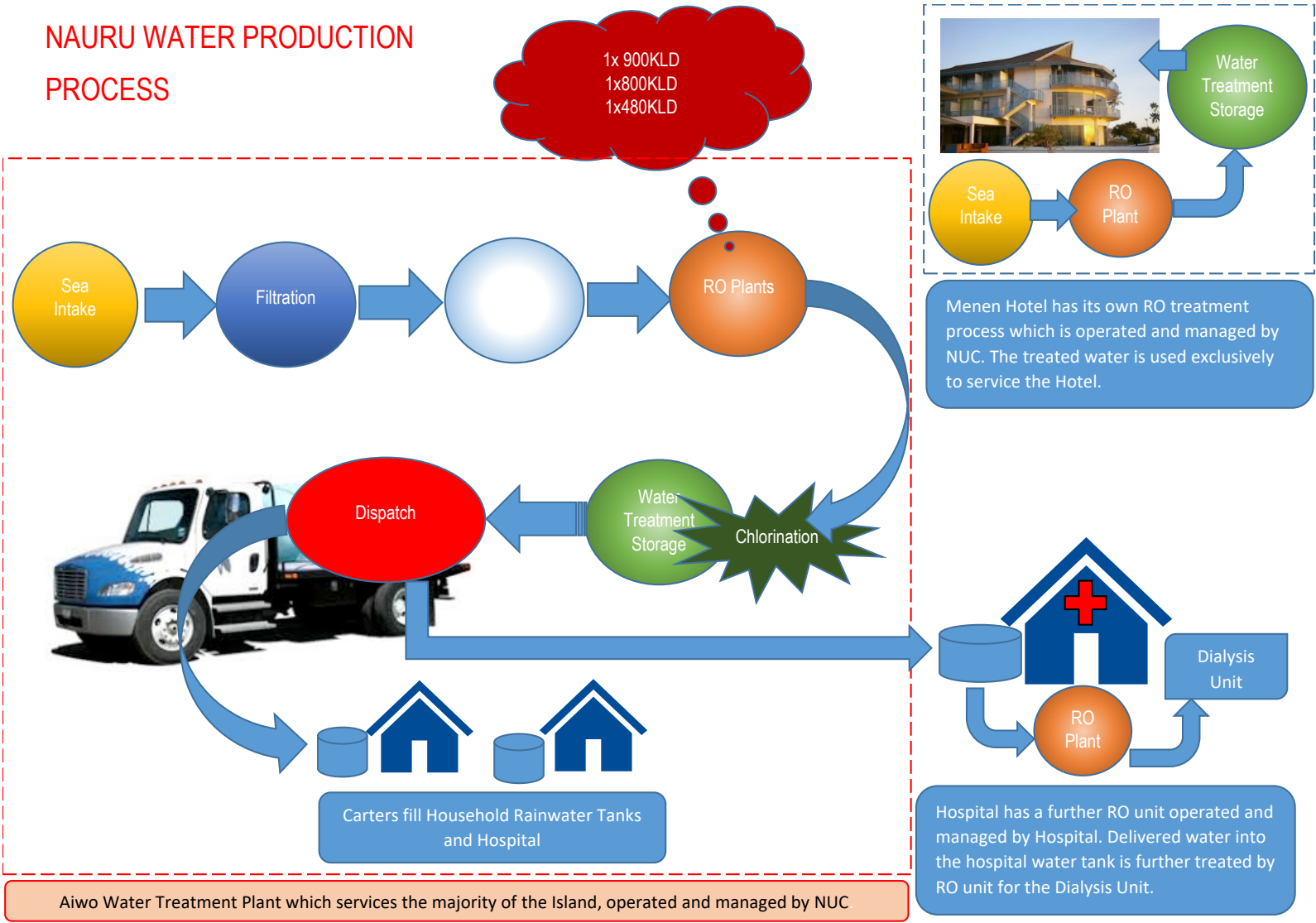


# Nauru Utilities Corporation (NUC)

Carmine Piantedosi







# Household Delivery



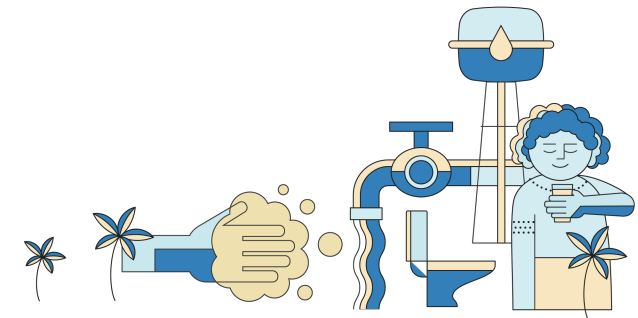
## Risk Assessment Found 2 High Risks

### 1. Household Tanks

- Household tanks providing contamination source.
- This is outside NUC direct control

### 2. Chlorination at Menen (Hotel) Site

Currently not chlorinated and commination risk of tank



# Update & Implementation


## Risk Items

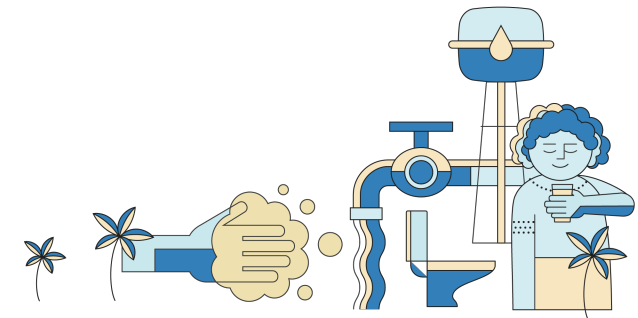
 **Household Tanks**

 **Menen (hotel)  
chlorination**

## Operationalization

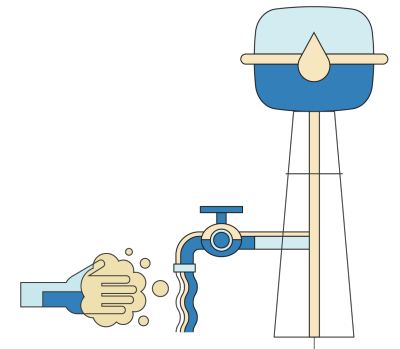
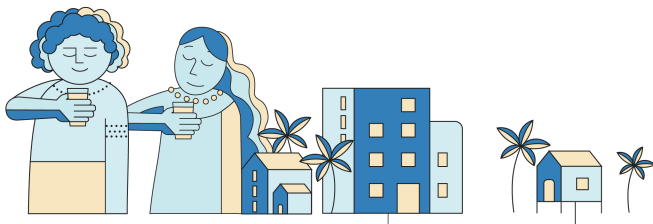
 **Spreadsheet Use**  
Monitoring and detecting  
risks

 **Ongoing Progress**  
Being able to act on  
detections.



# Samoa Independent Water Schemes Association (IWSA)

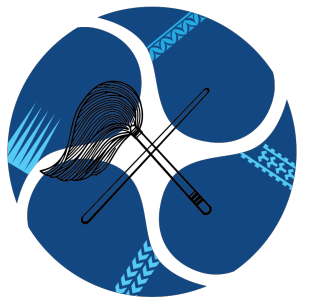
Emma Sinclair



# Samoa Independent Water Schemes Association (IWSA)

## CONTEXT

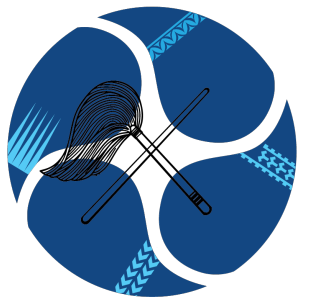
- 2006: IWSA was established
- 2008: Legally recognized as an incorporated society in 2008
- Represent the interest of communities who manage their own water supply systems, also known as **Independent Water Schemes**



# Samoa Independent Water Schemes Association (IWSA)

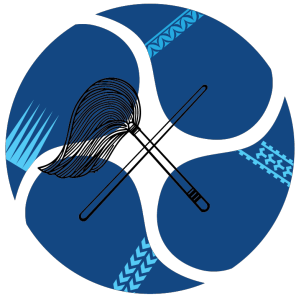
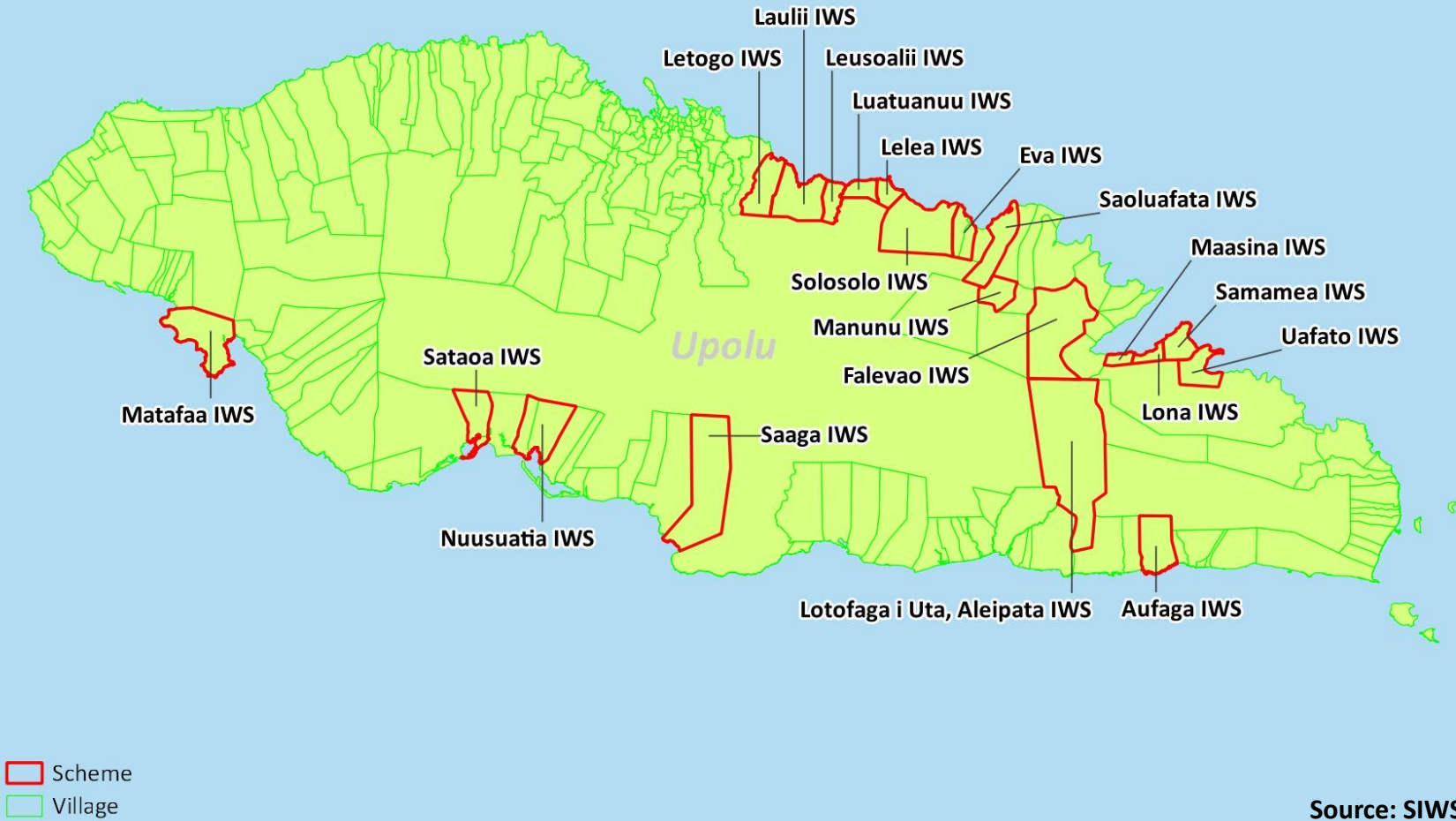
## Independent Water Schemes

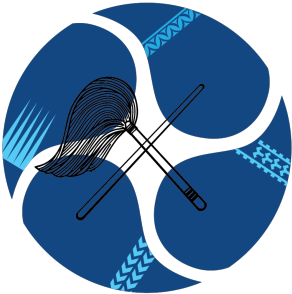
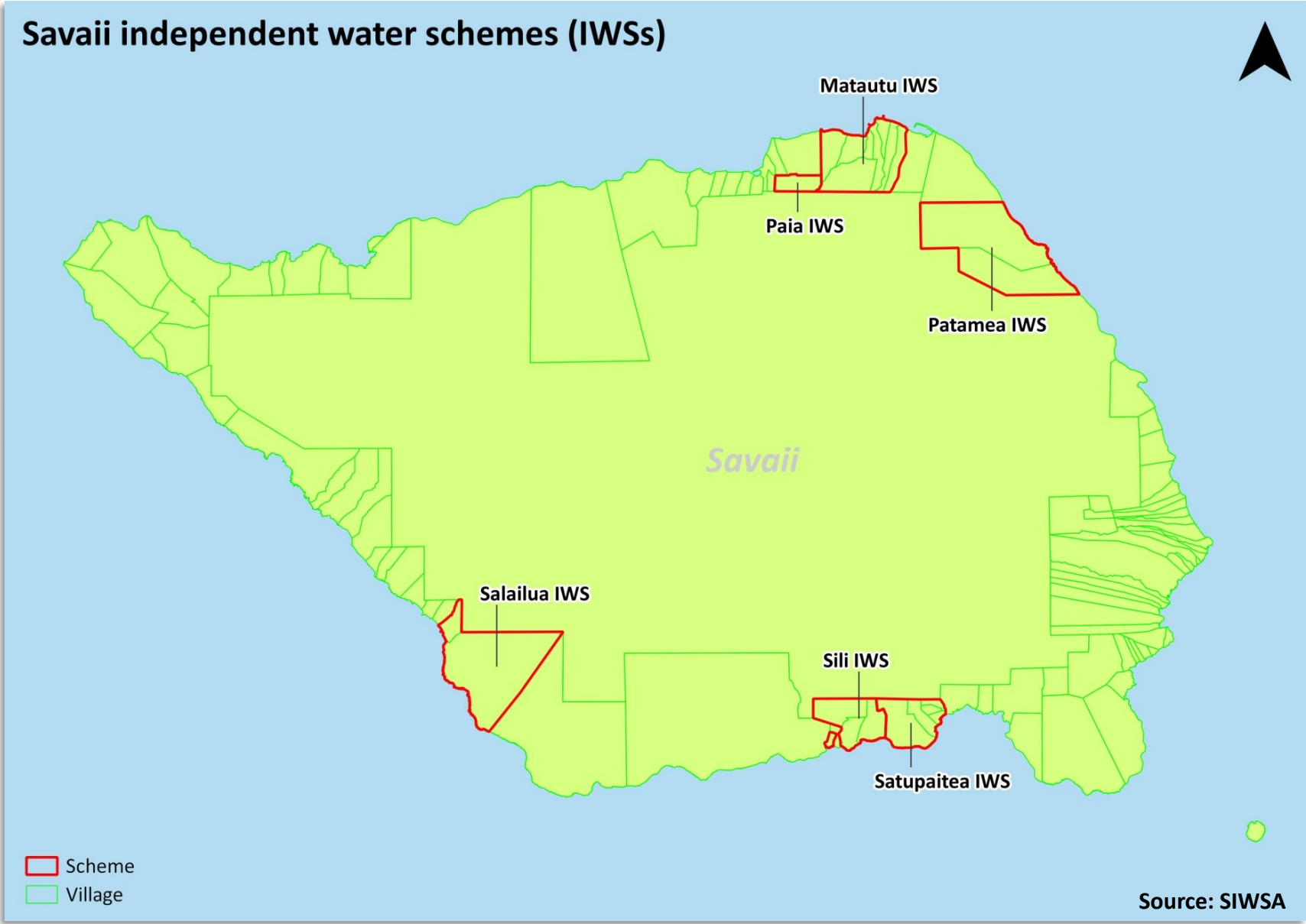
- Legally recognized as water service providers (Water Schemes Act, 2015)
- 26 schemes registered under IWSA
  - 44 village communities
  - 11.5% service coverage
- Village water committees are responsible for the overall operations & maintenance of their water networks





# Upolu independent water schemes (IWSs)



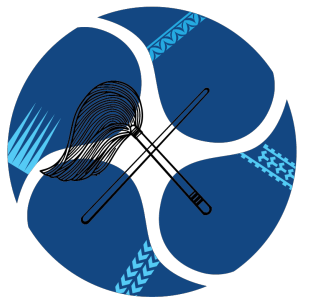




## European Union Funded Project (2 years)

“Improve the capacity of communities with independent water schemes to better manage water resources”

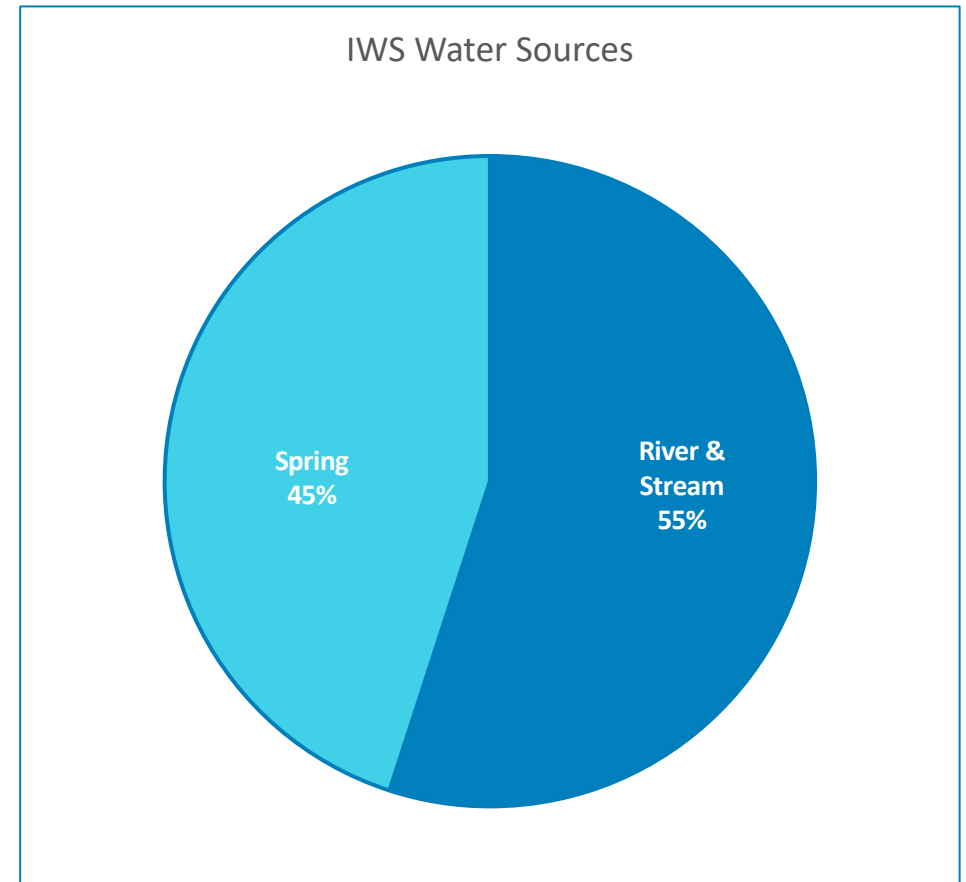
- Commenced in May 2020
- One of the key outputs: Development of **27** Drinking Water Safety Plans in two years



# Samoa Independent Water Schemes Association (IWSA)

## WATER NETWORK CHARACTERISTICS

- Varying sizes
- Gravity fed systems
- 97% have NO centralized treatment
- Sources: River & Streams, Spring
- Majority of pipelines are PVC





# Samoa Independent Water Schemes Association (IWSA)

## Operationalizing the DWSPs

### Needs

- Develop simple & effective tool to assist with implementation of corrective/improvement actions outlined in the DWSPs
  - Documentation & Monitoring
- How to prioritize works among 26 schemes

### Challenges

- Village water committee engagement
- Financial constraints
- Lack of Resources

- Spreadsheet tool is still in design phase

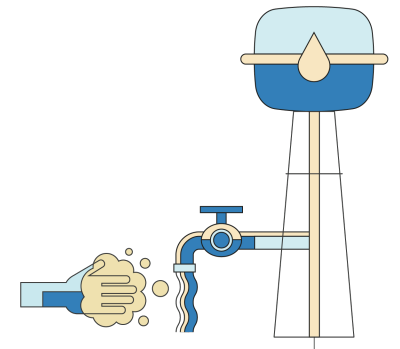
# Kiribati Public Utilities Board (PUB)

James Young

## **SOUTH TARAWA WATER SUPPLY PROJECT**

“The number of incidences of water-borne diseases could potentially rise to devastating levels, and the potentiality of an outbreak of cholera will be imminent.”

NewTap – Japan Water Research Centre 2019





South Tarawa Water Supplies



Within Public Utilities Board (PUB)  
Water Safety Plan (WSP) Scope

**PUB WSP Scope**

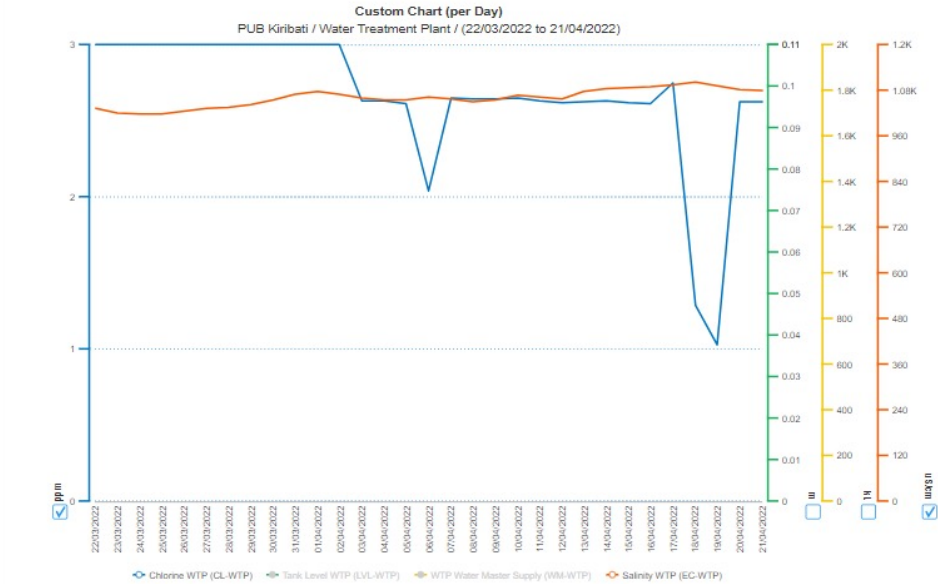
- PUB water supply from Bonriki and Betio water reserves
- Desalination Plants (Takoronga, Hospital – not operational since 2019)

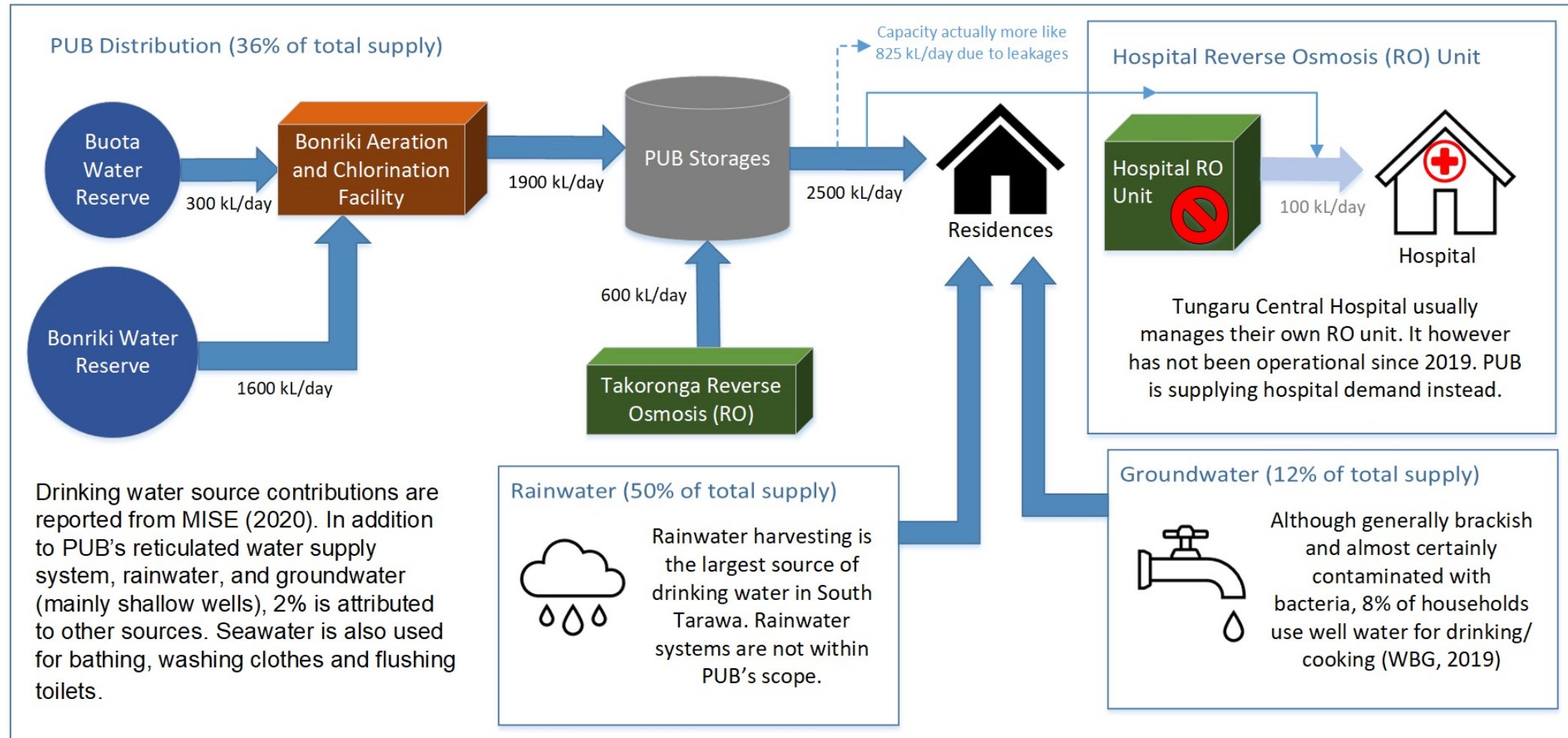
Outside PUB WSP Scope

Private Bores

Household Rainwater Collection

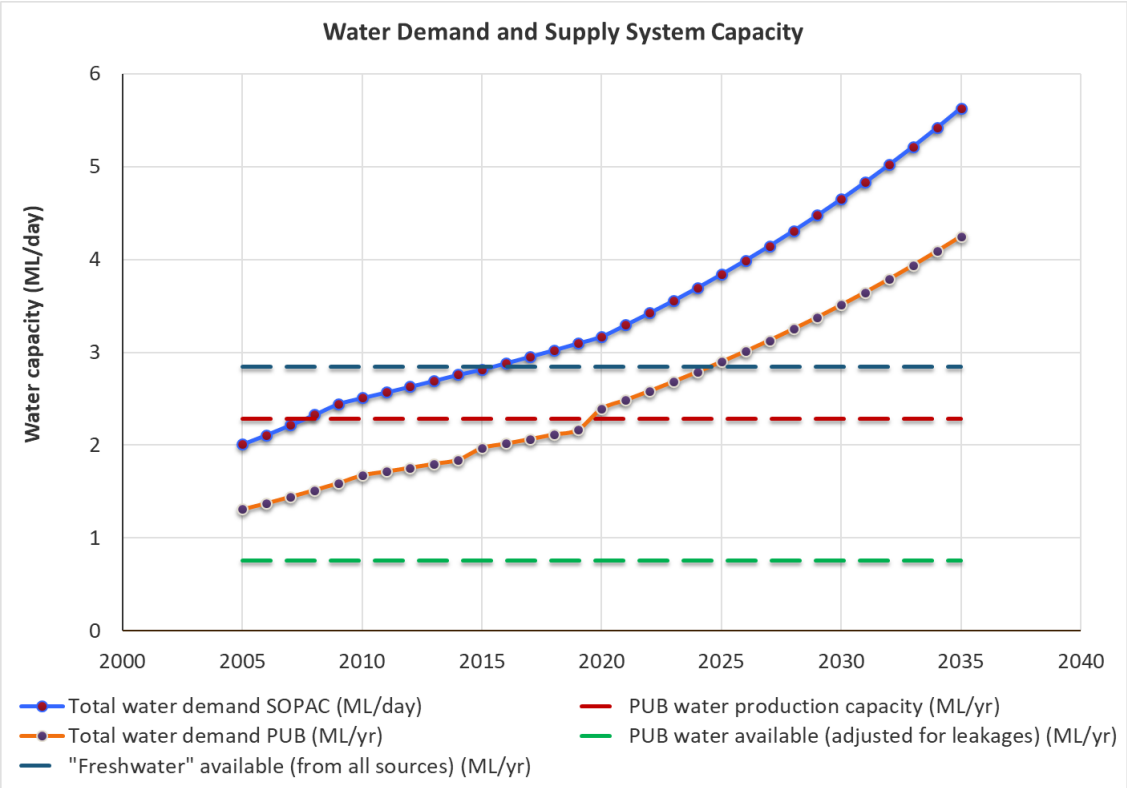
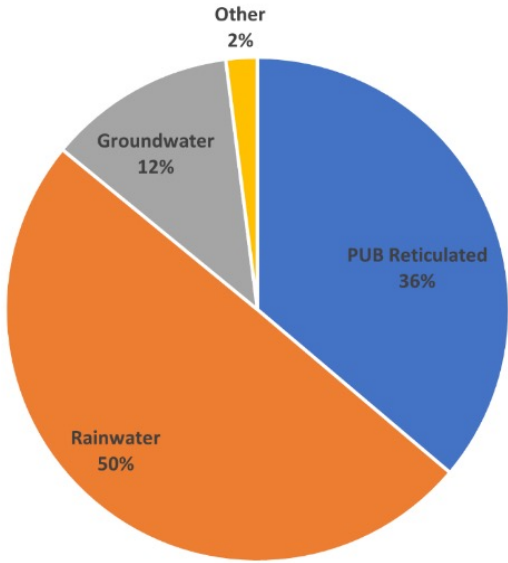
Private Water Tanks



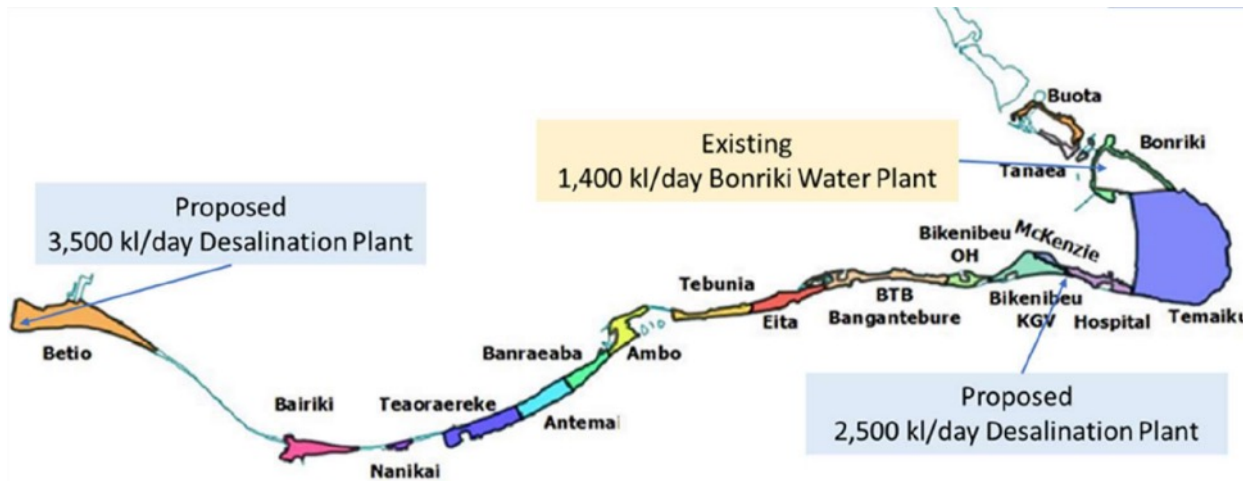




Kiribati Drinking Water Sources

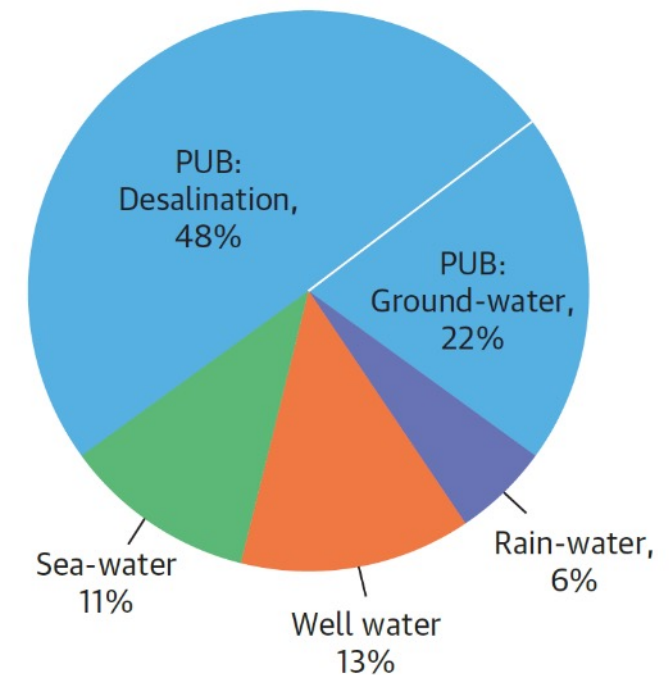


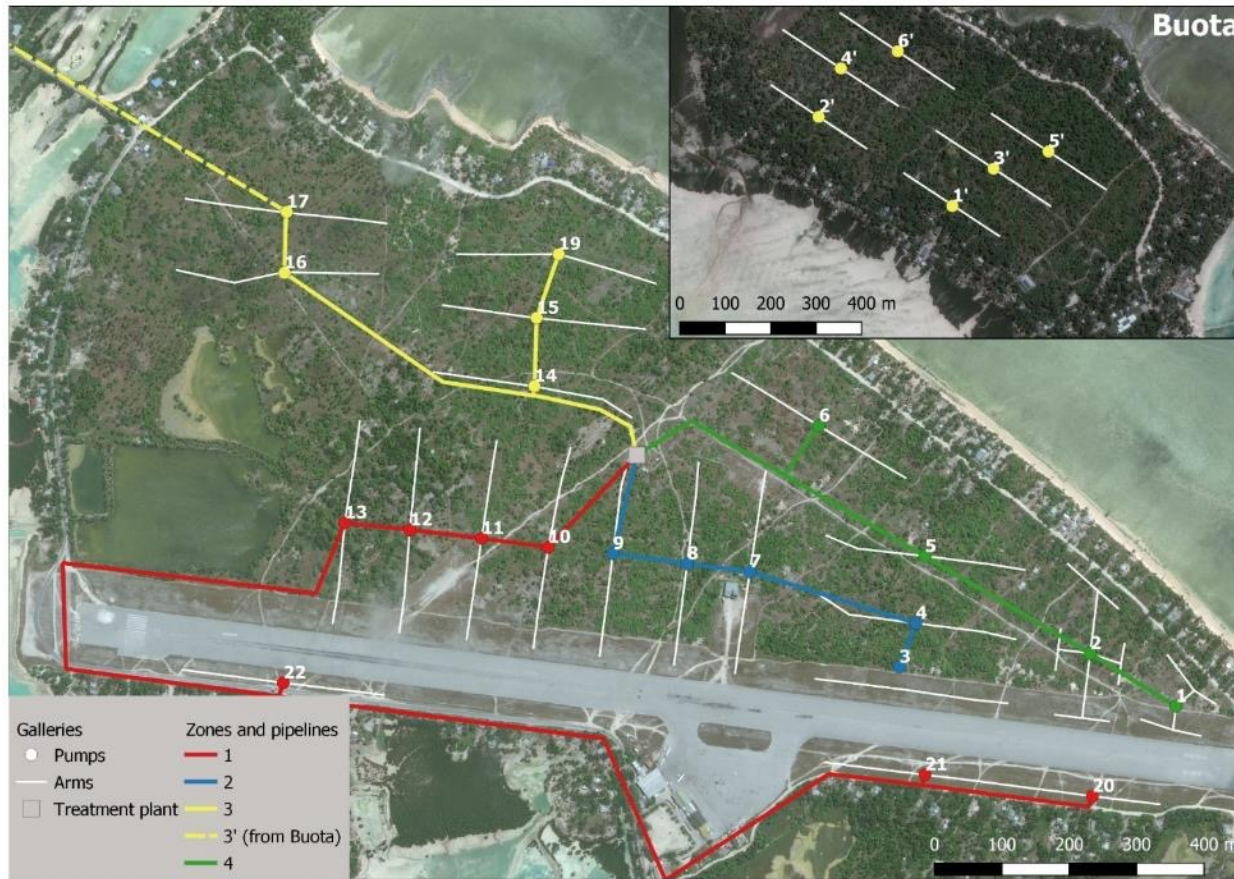
# South Tarawa Water Supply Project (STWSP)



PUB currently supplies 9 l/p/d  
STWSP increases this to 35 l/p/d

Minimum standard for 24hr supply is 100l/p/d

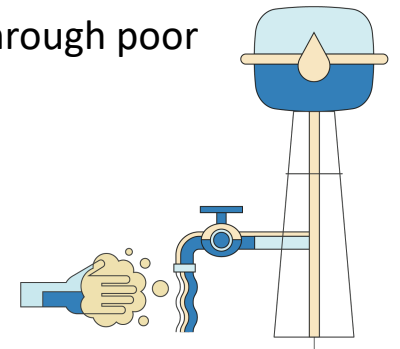
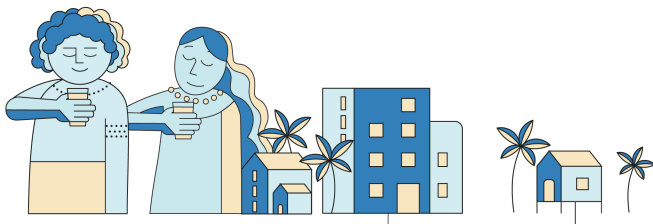




# Source Water Risks

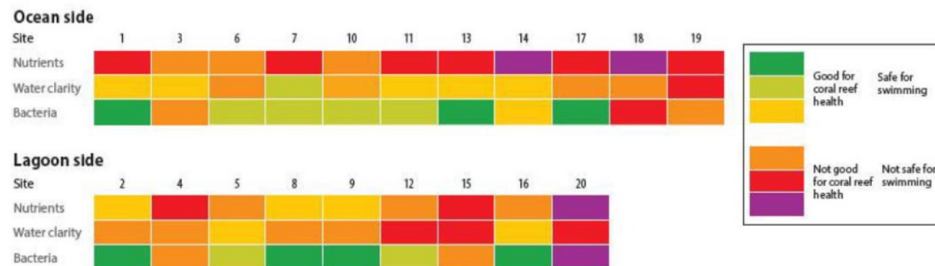
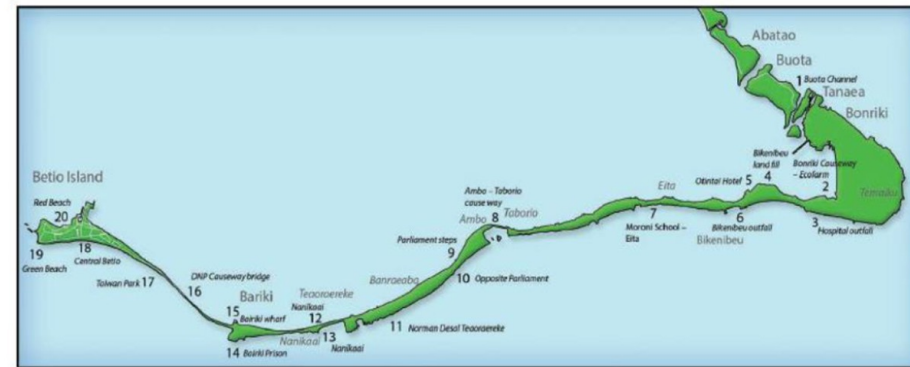
## Fresh water lens - catchment risk activities

- airport
- sand and gravel mining
- the digging of private wells
- the use of graveyards
- the raising of pigs
- the growing of crops and taro swamp fields, which use animal manure and fertilizers
- direct pollution of the freshwater lenses through poor sanitation practices.



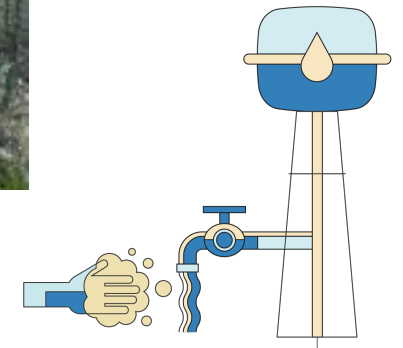
# Source Water Risks

## Seawater for Desalination – Pollution Levels



## Private Rainwater Tanks – Contamination Levels

Weekly random water South Tarawa in 2017 showed the presence of *E. coli* more than 90% of the time in harvested rainwater (World Bank Group 2019).

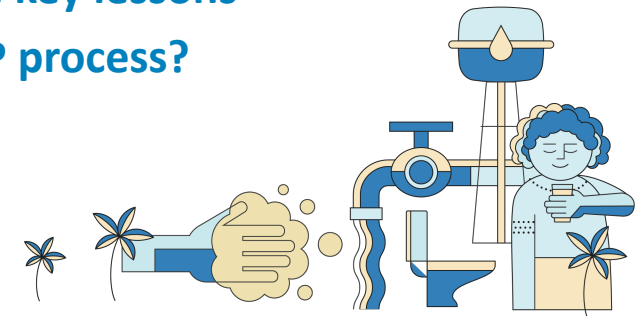


# Panel Discussion, Q&A

	Clara Laydon Water Safety Planning Specialist, Hunter H2O
	Carmine Piantedosi Chief Executive Officer, Nauru Utilities Corporation (NUC)
	Emma Sinclair Environment Scientist, Samoa Independent Water Schemes Association (IWSA)
	James Young Chief Executive Officer, Kiribati Public Utilities Board (PUB)

## Questions


- ✓ What have been the key challenges of addressing the risks?
- ✓ How to address identified risks that are beyond the utility's responsibility?
- ✓ What have been the key drivers for improvements?
- ✓ What have been the key lessons learnt from the WSP process?



# Don't forget our survey!

<https://forms.gle/Rt9yYmgajMEMda9L6>

## Responses required by 29 April



### ADB and PWWA Pacific WASH Webinars

The Pacific Water and Wastewater Association and ADB Pacific WASH TA jointly host regular public webinars. We have run a number of webinars across a range of topics already. Check these out and view slides and recordings here: <https://events.development.asia/learning-events/pacific-wash-webinars>

We are now planning upcoming webinars and would like to know what topics you'd like to see in the webinars for the rest of 2022! Please vote below and suggest your own ideas.

Please complete the survey by Tuesday, 19 April 2022.

Thank you,  
The ADB Pacific WASH team

[Sign in to Google to save your progress. Learn more](#)

**\*Required**

Your name (optional)

Your answer

Which THREE of the following webinars would you most like to attend? \*

- ☐ Effective hygiene behaviour change approaches
- ☐ Improving onsite sanitation systems
- ☐ Water utility cost condition assessment

# Thanks for Watching

Available online:

<https://www.adb.org/publications/opportunities-pacific-wash-sector>

