Climate Resilience Pathways: Water Security and WASH in Asia Pacific
Suva, Fiji: 29 April – 1 May 2025

Summary Report for session on "Advances in Water Supply Technology"

Paul Hart, Bluemont.

The two-hour session was held on Thursday 1st May and involved both formal presentations and delegate participation in the form on an interactive Q&A (via QRA code and smart phones).

The session was attended by approximately 50 delegates and generated a good level of questions and interest following each presentation.

The formal presentations involved public, private and academic organizations and were given by representatives from Water Authority Fiji (WAF), University South Pacific and Bluemont Pty Ltd. The formal presentations were:

1. Introduction to different types of water supply technologies. *Paul Hart, Bluemont Pty Ltd.*
2. Innovative low-pressure membrane processes as a modular solution for decentralised water treatment. *Jai Goundar, University of South Pacific.*
3. Clean Rural Water – EPS Projects in Rural Villages in Fiji. *Jone Vunidaiga (WAF)*
4. Improving Quality of Life – Water Authority of Fiji's Packaged Water Treatment Plants. *Jone Vunidaiga (WAF)*
5. Solar Desalination: Making Freshwater from just the Sea and the Sun. *Paul Hart, Bluemont Pty Ltd.*

The interactive Delegate Workshop was led by Mr Manasa Tusulu (WAF) and asked the following two questions and received the 17 responses as listed below. The 17 responses represent an approximate 30% participation rate from the delegates in attendance.

What water supply systems/technologies are being used in your country?	Which ones are working well and NOT working well?
Conventional,Packaged plant, EPS, boreholes, Disinfection dosing	Direct dosing
Desalination PlantsPackage PlantsBoreholesRWHSEPS	Desalination
Treated water supply through the treatment system	All work well with their own challenges
Gravity fed water systems, hand pump borehole, solar powered borehole,	All are not working well
Vanuatu Rainwater HarvestingGravity systems from springsBoreholes - solar and hand pur	AccessibilityAffordabilityMaintenance
Kiribati - household well	Wells working well
FIJI - Piped water	Working well
Fiji - Government Reticulated Water, Rain Water, Bore Hole, Community Schems	GOVERNMENT Reticulated System
Rain water catchment Direct Gravity Fed system Solar Powered water system	RWC working well.Solar Powered has its challenges with O&M
Fiji- Desalination, Ecological Purification system, Automatic treatment plants	Desalination- expensive to run
Fiji - EPS for communal supply - Bucket filter or livestraw for HH	Maintenance is the issue
1. Rainwater harvesting. 2.RO. Gravity fed systems. 3. Handdug wells	Rainwater tank wells working well. Gravity fed systems working well but issues at times.
EPS, Desalination, Nano Filtration, Ultrafiltration	Working well - EPS.
Tonga- Ground Water (diesel pump, solar pump, electric pump)- Solar Desalination - Rainv	Maintenance of these systems Solar not working wellDesalination yet to operate
Treated piped waterBoreholeSpringRainwater harvesting	Poor and old infrastructure
Rain water harvestingReticulated systems EPS	EPS is working well but gets costly
Kiribati - Treated water supplies, solar distillation water, desalination plant	Untreated well water

Responses were received from at least 4 different countries: Fiji, Tonga, Kiribati and Vanuatu.

The responses inform us that a wide range of water supply technologies are in use across the Pacific, ranging from rainwater harvesting, boreholes, Ecological Purification Systems (EPS), packaged treatment plants, and desalination.

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The feedback on what systems are ‘working well and not working well’ varied considerably. Key issues seemed to be affordability, maintenance and ageing infrastructure.

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