



# Pacific Water Conference & Expo 2009

*Shared Opportunities, Shared Water*



PWWA's OFFICIAL 2ND ANNUAL CONFERENCE & EXPO  
Vava'u, Tonga July 30 - August 03, 2009

## CONFERENCE REPORT



## **Pacific Water Conference & Expo 2009 Report**

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### **Shared Opportunities, Shared Water**

July 30 – August 3 2009  
Puataukanave International Hotel  
Vava'u Tonga

Prepared by  
The Secretariat of  
Pacific Water & Wastes Association

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## 1 ACKNOWLEDGEMENTS

Her Royal Highness Princess Salote Mafile'o Pilolevu Tuita, Hon. Dr Viliami Ta'u Tangi, the Tonga Water Board, PWWA Executive Board and Members of the Pacific Water & Wastes Association.

## 2 OPENING CEREMONY



**3 NEW PWWA EXECUTIVE BOARD MEMBERS**

	<p><b>Alternate Treasurer</b> 'Apisake Soakai</p> <p>Apisake is the CEO of Nauru Utilities.</p>
	<p><b>Allied Members Representative</b> Brian Hooper</p> <p>Brian is a Marine Engineer by profession who has worked within the pumping industry for the past 23 years, 22 of them in various positions with Mono Pumps Limited in New Zealand, Australia and the United Kingdom. He specialises in water &amp; waste water, agriculture and solar pump applications in the South Pacific Region. Brian is currently the Christchurch Branch Manager for Mono Pumps (NZ) Limited.</p>
	<p><b>Host Chairman</b> Billy Imar</p> <p>Mr Billy Imar is the current CEO of Eda Ranu in Port Moresby, Papua New Guinea. Eda Ranu will host the next Pacific Water Conference &amp; Expo in Port Moresby from September 13-16.</p>



## 4 DAY 1



### 4.1 Presentations by Sponsors & Allied Members with Various Projects, Services, Products & Profiles (Facilitator Tainau MFVT Titimaea, Samoa Water Authority)

#### Pita Moala, Project Manager of Tonga Water Board

Pita presented the current situation of the water supply in the islands of Eua, Vava'u and Tongatapu. The three types of water supply in Tonga are:

1. Streams, cave sources;
2. Galleries;
3. Drilled bores and hand dug wells

A major improvement project was recently completed in Eua and was funded by NZAID costing TOP 3.1 million. A proposed water supply improvement project for Nukualofa and Neiafu is estimated to cost around TOP 8 million. One of the biggest challenges faced by the Tongan Water Board is leak detection and how to sustain it.

#### David Kamper, Napier Computer Systems

Napier Computer Systems have aided in the soft water development for NZ councils for the last 25 years. They deal with end consumers and provide water and wastewater utility billing systems; which include meter reading handheld software which has integrated GIS systems. NCS have worked with Tonga Water Board, Solomon Islands Water Authority, Marshall Islands Energy Corporation and Solomon Islands Electricity Authority.

#### Mike Peffers, General Manager of Mono Pumps

Mono Pumps is a global company owned by NOV (National Oilwell Varco). They have been involved in the water industry for over 70 years. There are over 750 employees worldwide. Progressive cavity pumps are Mono Pumps core business. Other products include – borehole pumps, solar pumps, solar water filtration systems, and pressure sewer systems.

**Question** from Christopher Ioan – what sort of pump is used?

**Answer:** progressive cavity pump – 1930s developed and continued refinement of the product since.

### Fil Resnik, ITT Water & Wastewater

ITT Corporation work in fluid technology, Defense Electronics & Services and motion and flow control. ITT work in 140 countries with 310 locations. They have 43 production facilities, 40 service centres and more than 2,500 Distributors.

ITT Water & Wastewater uses products from Flygt, Sanitaire, Wedeco and Leopold. ITT Water & Wastewater has worked throughout Australia and also in Fiji.

**Question** Financial data – how much will it cost for solar water plants?

**Answer:** Ballpark figure of about AUS\$1million for a seawater plant. Depends on consumables, and other aspects.

### Neil Towner – Oceania Water

Oceania Water Group was established as a planning, servicing and supply chain of specialists for the Pacific Communities and tourist resorts. Oceania adopts a holistic approach for the smaller end of the market, while ensuring that training by local staff is a part of the package.

Patrick mentioned in his opening welcome speech “sharing responsibilities’ – action needs to be taken to implement changes etc. Oceania Water Group brings together manufacturers with the goal to assist many island communities and resorts that are finding it hard to maintain the high standards of safe treated water currently needed. A hands-on approach is needed for this.

During a project in Fiji, training of staff was important as it is necessary for them to change the oil and listen out for different noises to know what is happening on site. Existing site issues include the lack of service on systems.

**Question:** Saimone Helu – process of desalination – what percentage of water is being wasted and how often is the membrane needing to be changed and costs?

**Answer:** Membranes can last 3 years if well looked after – vital to train staff so that they can maintain the system well and prolong the life of the membranes. Average replacement cost of 18 inch membrane is approx US\$900.00. About 35 – 40 % retrieving rate of water and reject about 60% of water going in.

### Bill Haigh, Haighworks

Haighworks company is currently working on civil works, roading, and water supply works. Haighworks experience in wastewater work includes design of systems for hotels, industrial sites, maraes (Maori meeting houses). They are also involved in sewerage reticulation – concept design and final design.

### Fetoloa'i Alama – Water Sector Management Unit, Samoa

Fetoloa'i presented a snapshot on Samoa's approach to managing water. This approach was likened to that of a water sector bus. Instead of each water related project having its own car, it is hoped that a sector wide approach be taken and all the projects align on the one bus to arrive at their destination. This move from project based to a sector wide based approach requires improved coherence between policy, budgeting and actual results. The potential benefits of the Sector Approach include greater ownership, improved efficiency, better management of resources and greater development impact.

Issues still exist that need to be addressed, these include:

- *Climate change and variability*
- *Fragmented control, management and protection of water resources*
- *Competing and conflicting demands for water resources by users (both consumptive and non consumptive users)*
- *Insufficient knowledge and understanding of water resources nationwide;*
- *Social and environmental impacts of development proposals particularly abstractions are usually ignored*
- *Poor water quality*

- *Excessive demand on water supply*
- *Lack of community understanding and appreciation of responsible water management*
- *Limited community involvement in water resource management*
- *Deteriorating water quality and quantity at supply sources*
- *Highly variable and often inadequate levels of service to water users*
- *High levels of leakage and unaccounted for water at system and household levels*
- *Low levels of cost recovery and non-financially viable operations*
- *Excessive water demand and usage by users*
- *Lack of available and relevant technical skills and capacity*
- *Insufficient knowledge and understanding for planning and management*
- *Inadequate attention paid to wastewater disposal and sanitation measures*
- *Inadequate appreciation of responsible water management and use by users*
- *Limited community involvement in water service planning, management and delivery*
- *Uncoordinated development across sub-sectors*

In summary, buses need fuel and this water sector bus is no different. The apparent improvements in Samoa's water sector would not have been possible without the generous support from donor partners as well as Regional Organisations. Many development partners have donated substantial funds towards developing this approach. The current Water Sector Support Programme (WaSSP) was made possible with funding from the EU of around 20 Million Euros to be disbursed from 2005 to 2012. This is a substantial amount of bus fuel in anyone's books.

**Question:** Saimone Helu – interesting to hear about the water legislation. How is it affecting Samoa?

**Answer:** The status of Samoa's new water resources legislation will be covered by Suluimalo Amataga Penaia's presentation (Suluimalo Amataga is the Assistant CEO, Water Resources of Ministry of Natural Resources and Environment, Samoa).

## **Session 2: Allied members continued (Facilitator Saimone Helu, Tonga Water Board)**

### Chelsea Giles-Hansen - SOPAC

The Water Demand Management programme (WDMP) aims to build the capacity of Pacific utilities in water demand practices and methodologies –ultimately enabling them to manage systems efficiently and sustainably – address water losses and provide good quality and safe drinking water to Pacific communities.

There are 5 pilot countries involved in the SOPAC WDM Programme; they are the Republic of Marshall Islands, Federated States of Micronesia, Solomon Islands, Niue and the Cook Islands. A replication of these projects is also being conducted in Vanuatu.

Chelsea stated that the three main components of the programme are:

1. Building capacity
2. Developing WDM plans and
3. Increase awareness and importance of water demand management in the Pacific

The Demand Management approach uses existing resources more efficiently, optimising management of existing resources AND encouraging consumers to use water more efficiently. Because many utilities in the Pacific are suffering from;

- insufficient institutional capacity
- lack of government support
- insufficient public support

a WDMP will work best within an Integrated Water Resource Management framework which looks across sectors and makes the proper links between policy instruments and impacts.

## Jonathan Powell – SMEC International

SMEC (Snowy Mountains Engineering Company) International and Brisbane City Enterprises have over 3,000 staff and 40 offices internationally. SMEC has been working in the Pacific for some time now and has an office in PNG and also in Tonga.

SMEC is a services focused company meaning they don't sell products. The water distribution unit is a commercialized business unit of the Brisbane City Council. It is one of Australia's largest water utilities. One of the biggest services offered by SMEC is Asset Management. This can be done remotely at times, through phones meaning that people don't need to be on site for work.

SMEC and BCE can provide the Pacific water industry with:

- Extensive experience working with Pacific clients
- Access to the practitioner expertise of BCC Water Distribution Unit:
  - ❖ Training and knowledge transfer, including twinning
  - ❖ Asset management
  - ❖ Leak detection and leakage management
  - ❖ Business processes and customer service
- World class technical expertise in water supply, sanitation, waste management and environmental management

**Question:** Pita Moala – interested in the twinning arrangement for training of staff. Travels included. How does this work for all levels of the organisation?

**Answer:** Can be a study tour of 3 – 5 days. In the Solomon Islands it was about 6 weeks of hands on practical training. Can be certificated course and the length of the course depends on the needs of the organisation needing training in collaboration with SMEC.

## Suluimalo Amataga Penaia, Ministry of Natural Resources & Environment of Samoa

The Ministry of Natural Resources & Environment (MNRE) introduced the Water Resources Management Act (WRMA) to provide for the **management**, **protection** and **conservation** of the water resources of Samoa. Included in the Act is the Water Resources Management Plan which is a composite (“living”) document consisting of:

- National Water Resources Policy
- Water Resources Management Strategy
- Watershed Management Plans including technical and other relevant reports.

Part V of the Act is regulating the taking of water. Licenses are now required and there is a mechanism to review the decision to ensure no Conflict of Interest. Section 12 of the Act stipulates that every person/organisation must have a permit or license to take, drill or dig for water, construct a well, make or use a bore hole or investigate the water resource. An exception to the requirement of license or permits is if less than 10m<sup>3</sup> surface water is abstracted per day however, it is still required to comply with all other requirements of the WRM Act and the WRM Plan.

A priority of the Act is the groundwater – it's like a sleeping giant – don't want to disturb this resource. Groundwater is protected through the Act. It is important to know the hydrogeological nature of the rock formation for effective management for sustainable groundwater. This ensures that the cost measures etc are more realistic.

One of the challenges is the ability to think strategically on how to implement the Act. A recommendation has been to educate our people to change their mindset and be more adaptable to changes. Another is to promote inclusiveness – it can be done because we cannot manage water by ourselves as water is everybody's business and responsibility.

**Questions:** Dave Neru - does MNRE deal with any issues to do with environmental standards? **Answer:** Health Ministry deals with water quality and drinking standards.

**Question:** How does the WRMA apply to disasters?

**Answer:** In the act there is a provision for watershed management – any actions identified under the watershed plans. There is provision for MNRE workers or anyone authorised to abstract water in emergency crises.

**Question:** Andre Siohane – one of the issues in Niue is penalty – can community service be included as a penalty?

**Answer:** No there are penalty units in the act and depends on the gravity of the offence.

**Question:** Pita Moala – where is the Samoa Water Authority (SWA) within this Act? What is their statutory obligation?

**Answer:** There are provisions for certain service providers like SWA and IWSA (Independent Water Scheme Association).

**Question:** Tainau Titimaea – got a bill from the MNRE – cost too high. If the IWSA don't pay their water bills then why should the SWA pay for theirs? What about in the situation of a disaster? The Prime Minister's council will override the Act –which is higher?

**Answer:** The PM special council act overrides all acts, including the WRMA 2008. Users need to provide information as to how much water the service providers are extracting from the sources. MNRE is not revenue collectors ... just protecting the sources.

#### Phil Battey – Veolia, Australia

Veolia Water is creating water solutions for Pacific Islands. Veolia employs 36,000 staff and make an AUD\$64 billion turnover. 8,000 staff are employed in Australia and a revenue of AUD\$2billion was made. Veolia Worldwide, operates throughout 64 countries, and provide water and wastewater services to around 120million people worldwide.

The two core activities under Phil are:

1. Design and build
2. Solutions

Veolia Water can provide:

- Treatment of **groundwater or surface water, brackish water and seawater** for producing high quality **drinking water, process water or irrigation**
- **Treatment of wastewater and contaminated water** to remove bacteria and viruses, heavy metals, arsenic & other contaminants for **safe discharge or reuse**
- Service, maintenance, training & chemical solutions, with our team of experienced experts
- Expertise in multiple facets of water and waster water treatment
- Products, services & activities certified to ISO 14001, ISO 9001 and AS/NZS 4801 by BSI Certification

Reverse osmosis has been used in projects such as the Sydney Desalination Plant and the desalination plant for Nauru Hospital, Republic of Nauru.

Veolia is a financially stable partner, which is important to note in this economic climate. Veolia stands by its products and projects and brings to projects significant experience and skills.

**Question:** Where is the head office of Veolia?

**Answer:** Worldwide – Veolia is a French company. There is a Sydney office.

Leigh John, Hynds Group

John Hynds (Chairman) established the business in 1973 in his backyard in Auckland. Through acquisition, growth and diversification Hynds Ltd now employs over 600 people in NZ and Australia. Hynds is still family owned and their key areas are drainage and wastewater infrastructure.

Hynds have 27 branches and 9 factories – there is currently an export partnership with Alrite International for the Pacific Region.

Hynds have a variety of products in their Hynds Pipe systems. Hynds also supply pressure sewer systems and vacuum sewer systems – suitable for conditions of high water table.

Denis Harahan, Water Guru Ltd Australia

Experienced in leakage management.

Products available in this company. Two products for promotion - One which creates water from air at the rate of 25 litres to 5,000litres per day. The ground breaking technology creates pure drinking water for home, office and commercial uses. To produce approximately 30litres a day, the technology uses 540watts.

Currently working in Kiribati – not possible to use leak detection equipment there.



## 5 DAY 2

### 5.1 PWWA Benchmarking (Facilitator Patrick Amini)

Pita Moala started off with a prayer.

1. Latu presents on 'Benchmarking'.
2. Worked with Chris Cheatham on this previously. Benchmarking is an important aspect, e.g. asset management.
3. 4 basic steps for benchmarking – choose key data, collect the data routinely, analyse the data and compare with the past and similar organisations, make decisions that save costs and improve performance.
4. Why do benchmarking? So that you know where you are in terms of your performance against your sister/brother utility organisations and aim to achieve targets for the following years. Also we need to identify our strengths and weaknesses and overcome. Plan ahead to addressing the issues.
5. Self knowledge is power, effectiveness and a key to opening many doors e.g. to potential sources of finance (public and private donor agencies).
6. Who benefits from benchmarking? The utility itself first and foremost. Government regulators, budget masters also benefit. Others include private sector, regional agencies and the sources of finance.
7. What are the costs? Staff and management has to be committed to the process – training and new skills may be needed (e.g. asset management).
8. Regional benchmarking efforts – the history is incomplete. ADB attempted to do this. Data collection is a good starting point but this is still an issue at the present time with the islands. Started 2001, continued in 2005 and hasn't continued since.
9. Return on regional data collection was not good (ADB TA 2005). A total of 8 out of 20 utilities submitted complete data.
10. There is a wide variability and gaps in the data – sample used was small. Indicates a general lack of focus on appropriate performance standards in the sector, and large gaps in capacity.
11. There are some institutional reforms e.g. organisations moving from public to corporation. Regulation is minimal amongst the countries and activities such as water quality testing and effluent testing is either sporadic or absent.
12. Benchmarking can only improve with more cooperation of data collection etc
13. Latu introduced the draft action plan for PWWA to facilitate collaborative assistance and action for the active members with the support of the allied members, donors, partners etc

Discussion into groups

- Group 1 and 6 Service Delivery
- Group 2 Staff capability
- Group 3 Executive management
- Group 4 and 7 Financial management
- Group 5 Stakeholder partnering

Objective	Actions	Recommendations
Applying policies consistently and appropriately	Review of policies Review of decisions	Need to develop policies and replace existing that aren't effective, obsolete or inapplicable Lobby support from and collaborate with the legislators, ministerial level Policies need to be supported by regulations Independent regulator needed – separate from the provider-- to regulate the price and standards compliance with health and environment. Pricing

		<p>could be regulated by a Public Utilities commission Policies need to be consistent with Regulator or regulations Compliance with standards should consider WHO standards but could be progressive in terms of achieving the standards – can commence with minimal WHO standards as a basis and progress over the years</p> <p>To be customer oriented policies you need to be independent from political influence and if can't make decisions that are not politically oriented the service provider should be fully corporatized</p>
Monitoring and reporting performance	Corporate Performance monitoring PWWA benchmarking	<p>Link with financial and operation performance Benchmarking is important – show to the region and the world. Transparent records – as Executive you need to own your performance data and in your own interest to reflect your data. Monthly reporting to its organisation and board. Utility uses its benchmarks to report monthly to its board or government and quarterly to PWWA.</p>
Improving management of contracts	Contract procedures applied	<p>Ensure there are policies in place to enforce principles such as Transparency; avoiding conflict of issues, e.g. procurement is above board and fair Ensure you are excuse yourself from the process e.g. close relationships between contractor and service provider. Don't get involved in dinners and entertainment during contract negotiations – neutral stance can be compromised</p>
Enhancing the internal, external, operations and single audit function	Implementing the audit programme and plans Operation of Audit Committee	<p>Not only internal but external audit e.g. auditor general to conduct an audit Also an independent operations audit needed – can ask trade association e.g. PWWA can audit your operational performance against benchmarks in place – look at staff Single audit required – Aid agencies encourage this from utility to ensure that compliance with donor procedures and policies are adhered to. The external auditor checks to see that the conditions of donors are met.</p>
Legislation change	Implement appropriate legislation	e.g. Water Resources Management Act in Samoa
Corporate planning	Develop and reviewing CP	Strategic plans should be part of your planning process
Enhancing capability in information technology	Review of IT systems Develop and review national utility website and link to PWWA site	<p>Ensure that components within the IT systems are compatible Ensure there is standardisation in the region of the systems so that sharing can be encouraged and assistance is available from other regional member utilities Review and improve the PWWA website to ensure the data is updated and the members have good access to this e.g. benchmarking performance standards</p>

## 5.2 Active Member Presentations on Existing Situation (Facilitator Jeffrey Booth)



### Ampelosa Tehulu, CEO of Tuvalu Public Works

Tuvalu depends heavily on rainwater (especially Funafuti the Capital with a population of 3,000 plus). Each house has water storage connected to the roof where rainwater is harvested. The government is the only institution that is storing large scale water storage facilities. Water is also supplied via a water truck to households by Public Works. Ground Water cannot be used as a source of water supply because of its poor quality. Tuvalu has a Desalination Plant, but it is only used as a backup source of water supply as it is very expensive to operate.

The Government of Tuvalu will seek funding assistance from bilateral partners, Australia, New Zealand, Japan, United Nations and European Union to increase water storage facilities and improve water catchment facilities to all households on Tuvalu. It is also hoped to increase Government Water storage facilities (Concrete Water cistern- underground) and to seek alternative means in reducing harvest rainwater (for Toilet facilities) by introducing composting toilets, and the possibility of using secondary water from the runway.

Tuvalu aims to improve water storage capacity by 77% from 1,825,000 gallons to the new storage capacity of approximately 3,222,500 gallons. Tuvalu faces daily disaster of having NO WATER.

Current projects in progress in Tuvalu include:

- Water and sanitation
- Water monitoring programme
- Groundwater assessment programme
- EU funded EDF9 project
- Japan Wharf Development Project
- IWRM Tuvalu Demonstration Project

**Question:** Do you have any programmes for recycling water?

**Answer:** No. Looked at runway water collection however investigation still not completed.

**Question:** Does commercial or private sector provide water?

**Answer:** No – don't have enough water to support many commercial enterprises.

**Question:** Legislation – act = enforce  
Water storage – do you have that in place

**Answer:** Yes – they do

**Question:** Is there a policy for recycling of water?

**Answer:** No

**Question:** How to you deal with natural disasters such as drought?

**Answer:** Government will provide a water system that will be shared.

#### Ta'inau MFVT Titimaea, CEO Samoa Water Authority

Ta'inau presented a report on "New Thinking on Water Governance – applying new water governance definitions to our Pacific water Reforms", based on a workshop attended by himself and Saimone Helu (CEO Tonga Water Board) in Singapore earlier in the month.

Ta'inau discussed what is meant by "Water Governance". He stated that it has different meanings depending on who is speaking at the time. When used by the World Bank talking about developing & underdeveloped countries: "governance" is a code word for corruption. When used by developing & underdeveloped countries about the World Bank: "governance" means too little too late representation. When used in the Pacific - too little too late implies frustration!!!

All our Water Policies should be shared on the understanding that water governance broadly has the set of water laws, policies, programs and projects adopted by "a Pacific country or a State to develop and manage its water resources to meet the current and future needs of its population." "Good water governance implies that these laws, policies, programs and projects are effective, efficient, equitable, sustainable and are consistent with the World Water Forum Principles."

Ta'inau then went on to use framework definitions in the context as presented by the Nobel Prize Winner Douglass North. Ta'inau gave the following definitions:

- Institutions are the humanly devised constraints that structure human interaction.
- Organisations are made up of groups of individuals bound together by some common purpose to achieve certain objectives.

The other area was Community and what their goals were. In Ta'inau's perspective the Institutions and Organisations put their goals and needs first leaving the Community behind. This was likened to a horse drawn cart with what should be the driving force, community, being put behind the cart carrying the institutions and organizations.

The way forward for Pacific Water Governance is:

1. We get the 3 definitions to be well balanced;
2. Get water sectoral approach working
3. Let's dig & extend the networks– the new thinking on Water Governance is let's monitor and disconnect!!!!

**Question:** Querying - support amount of time spent on workshops, etc

**Answer:** in the 70s the World Bank were involved building big dams and very little on training – until 80s / 2000 – focus changed

There are funds going elsewhere. There should be a balance. Balance consultancy.. are working on strategies. What are we going to see at the future of the pacific? Not only are we in charge of large ocean, but we're isolated as a pacific community – so as to stay balanced we need to focus on tourism or strengthen tourism – support utilities needed.

#### Neemia Mareko Water Manager ASPA

The water division was formed in 1981 and Wastewater division in 1988. As water is life, infrastructure makes it get to its customers. The water division has 63 employees in total. The ASG Central system is ASPA's largest system. It is divided into nine hydraulic districts that include two water treatment plants. ASPA has three satellite water systems that are not connected to the ASG central system. ASPA's water division has 4 areas it deals with, they are:

- Water Administration
- Water Construction
- Water Preventative Maintenance
- Water Treatment & Water Quality

ASPA's goals for 2009 are:

- Ta'u, Manu'a WATERLINE
- Ta'u, Manu'a WELLS
- Aunu'u Water Storage TANK
- Drilling of two new WELLS Nu'uuli
- Cathodic Protection-WATER STEEL TANKS
- Upgrade Pava'ia'i Booster Station
- Backflow Prevention
- Leak Detection

Water division has enforced large water customers and new connections to install backflow prevention devices - to protect the central water system from contamination. Customers have to purchase the prevention device themselves.

**Question:** Can you tell me what is your daily output demand per property and how much water does each property use on average?

**Answer:** Between 70 – 90 gallons per person.

**Question:** Cost recovery – 8000 customers and your system is way ahead for the amount of people to pay the territory in order to keep maintenance. Is it subsidised and if so by whom?

**Answer:** It costs around US\$1.45 for every 1000 gallons. We have pumping systems to assist water outreach. This cost changes every month as the pumping goes up and down. We're looking at \$2 a month. We also operate at a loss. There is no cross subsidies.

**Question:** What's the impact with the Canneries Industry in AS?

**Answer:** There is a very big impact to our operation as a lot of water is used and it affects the whole community. As of now we're still working on new rate.

**Question:** Water quality is cheap in the Marshall Islands compared to American Samoa – What amount of testing has been certified? Can we standardise this kind of training or is it more expensive? Test options? What are other options being used?

**Answer:** The cost is very high. Each year there's a report sent out called the consumer confidence report. This report tells our customers what they are drinking and includes a table of tests and the requirements for this report.

Taboia Metutera – CEO Public Utilities Board, Kiribati

Water source in Kiribati is primarily groundwater. Consumers are encouraged to supplement their water supply with alternative sources, e.g rainwater. Public water supply is not available 24 hours per day. In order for the public water supply service to continue to its customers, cross subsidisation between water and power accounts is necessary.

Pre-paid electricity has been introduced. The PUB is also looking at outsourcing some corporate activities and encourage private sector participation.

**Question:** Is the rationing of water systemised in the public distribution network?

**Answer:** Yes, water is rationed for approximately 6 – 8 hours.

**Question:** Will each household have a standard constant flow of water?

**Answer:** Not yet.

**Question:** If water is a life necessity and only \$10,000 can be collected per month from its customers, can it be increased like the electricity tariff? Will customers pay more as they do for electricity?

**Answer:** No

Faamausili Leinafo Tuimalealiifano, President, Independent Water Scheme Association, Samoa

The Independent Water Schemes Association (IWSA) represents and supports 25 independent water schemes covering 48 villages. The independent water village/district schemes provide water to 25,000 people, which is 13% of the total population of Samoa. The water schemes vary in size from between 15 to 4000 household connections. The water schemes are self managed by local people in water committees selected by their own villages.

Why did we form an association?

To get recognition of the role of IWS as water service providers and retain independence

To access support from govt and donors

To work together to solve problems and learn from each other

What have we achieved as an association?

1. Training
2. Worked with Government and SUNGO (Samoa Umbrella of NGOs) to design and deliver a one week training program to each IWSA member, covering committee organisation, planning, communication, fee collection, book keeping, maintenance, water shed management and water safety issues

3. Data collection on IWSA
  - Information collected from a baseline survey and update during training and follow up visits
  - Information on committee structure, fee collection, number of household, source of water, water quality, problems,
  - Set up simple database to monitor progress and assist decision making
4. Water quality monitoring
 

IWSA has worked with the Ministry of Health to introduce a regular program of water quality monitoring for IWSA and also introduced the use of H2S testing.
5. Technical design support and funding for rehabilitation
  - Funding from EU/WaSSP for technical review and design of priorities for rehabs and improved water quality of IWSA
  - Schemes must demonstrate improved management with set criteria to access support, fee collection, regular meetings, female participation etc

Current programme:

Tender launched for 1<sup>st</sup> intervention works for four Independent Water Schemes (IWS) with works to be undertaken over the coming 8 months. MoU's are expected to be signed with each participating IWS setting out their role and contributions.

Future challenges

- Production of manual for IWS with all the lessons learned from the training programme
- Training for IWS plumbers and support to introduce regular maintenance
- Workshop to reinforce training on financial management
- Techniques for IWS to monitor water use, control consumption and undertake leak detection
- Better understanding of the causes of poor water quality
- Appropriate technology for water treatment
- Funding to continue rehabs program for IWS
- Support for the development of IWSA

Why should IWSA be supported?

- Lower cost to government – IWS manage and pay for their own services
- Local community ownership creates awareness of the importance of managing the resource and also watershed issues
- Reduces pressure on SWA to provide services in areas where it is not economically viable

**Question:** CEO Samoa elaborated on Faamausili's position and credentials. She is a qualified Town Planner from Auckland University.

**Question:** Quality - is there any monitoring and are you prepared to assist them? Who enforces?

**Answer:** started with our ancestors – A manual is being put together to help the IWSA.

**Question:** How sustainable is your operation. You're relying on developing assistance. But what if at some point it decreased?

**Answer:** We're looking at that and getting assistance from Ministry of Environment and Natural Resources, and Ministry of Health. We are working together with them to train our people to

conserve water and further contribute to the management of their systems. There is also financial assistance that is being sought as we want to be able to sustainable

### **5.3 Active Member Presentations on Three Top Priorities of Water Operators (Facilitator - Jan Gregor)**

#### Billy Imar – Eda Ranu CEO

Billy presented on the successful outcomes from water loss reduction. Through Public Private Partnership (PPP), Eda Ranu was able to get the resource funding that was needed for this project. Eda Ranu is a Government owned company responsible for the provision of portable water and sewage collection and treatment in Port Moresby.

Distribution network prior to loss reduction project

- Serves a population of about 300,000 people of 25,000 service connections
- Data will give indication of service connections
- Uncontrolled system pressures
- High leakage
- High frequency of bursts

Because of the high leakage and pressure problems a Non Revenue Water Reduction Project was deemed necessary. A pilot project was held in 2003, 2004 phase 2 of the water project began and in 2008 the project was completed.

The project fixed leaks and controlled water pressure using a SCADA/Telemetry System. With the increased reporting of NRW, the data collection methods improved. As a result of this project Eda Ranu has reduced NRW from 65mld daily to 45mld currently.

#### CEO Nauru Utilities Authority – Apisake Soakai

The three top priorities of Nauru Utilities Authority as stated by 'Apisake are:

1. Increase water supply and delivery capacity to meet WHO standards
2. Increase water storage capacity
3. Strengthen local capacity through training and development

The Nauru Sustainable Development Strategy 2005-2025 provides a platform for reform in the water sector. Short term strategies include:

1. Better management of water resources including underground water
2. Improve collection and storage of water at all levels
3. Restore capacity for water production

Medium term milestones that were identified were:

1. Quality water available to households and businesses 24 hrs a day
2. Water storage capacity expanded

The long term goal for NUA is to have improved access to a reliable supply of quality water.

NUA is undergoing a corporatisation process and should become an authority by the end of the fiscal year. NUA stated that their three development priorities were:

1. Increase water supply and delivery capacity to meet WHO standard
2. Increase water storage capacity
3. Strengthen local capacity through training and development

The NUA have developed a set of strategies for each of their priorities to enable them to achieve these priorities.

**Question:** Are your wells provided by EUT? or households?

**Answer:** Householders

Tonga Water Board – Saimone Helu

Saimone presented the current situation facing the various islands in Tonga in regards to their water resources and water supply and delivery.

Priorities identified by the Tonga Water Board were Asset Management, Leakage Control and Stakeholder/ Customer satisfaction.

It is hoped that there will be timely replacement of assets which will aid in the effective control, cost effectiveness, reliability of supplies and accurate and precise budgeting.

Through leakage control there will be a constant pressure which will lead to cost savings, longevity of freshwater lens and no inverse pressure.

A corporate act and legislation will aid in finding a solution for unpaid water bills. It will also increase customer satisfaction which can give a return on investment.

Sibona Vavia – Executive Manager – Planning: Papua New Guinea Water Board

Sibona Vavia discussed the Strategic Plan of the Papua New Guinea Water Board for 2006-2015. Sibona identified seven key result areas, they were:

1. Core Business: Ensure provision of safe, reliable and sustainable water & sanitation services
2. Business development: Ensure the development of viable water supply and sanitation services and products
3. Operations Optimization: Ensure all our water and sanitation operations are reliable , cost-efficient and environmentally friendly
4. Customer Services: Ensure customer service standards are met
5. Financial Discipline: Ensure financial discipline in all our operations
6. Human Resource: Ensure development and management of our human resources to achieve our corporate objectives
7. Corporate Support Services: Ensure our business units are provided with the best possible support

Some of the key challenges faced by the Papua New Guinea Water Board include:

- Development of a National Policy and establishment of an Apex body for Sector Coordination
- Ensuring good corporate governance
- Increasing sustainable access to safe water and sanitation services
- Exploiting viable water and sanitation business development opportunities

The three top priorities for PNG Water board over the next three years are:

1. Develop water supplies for five (5) District Centres and two (2) new Provincial Towns.
2. Water and Sewerage Systems optimization.
3. Asset Management System / Plan

## 5.4 Identification of Water Experts, Practical Solutions (Facilitator 'Apisake Soakai)

### John Chaniel - CEO UNELCO Vanuatu

John discussed the various obligations that are felt in Vanuatu. John detailed the obligations of the operator to operate, maintain, upgrade and also to renew and extend. He also stated the rights of the operator to apply tariffs and a price adjustment formula. In comparison John stated the obligations of the Government. In this case the government needs to recognise and support the rights of the operator. The government has the right to apply penalties and cancel the contract in case of default. By abiding by and respecting these rights and obligations it is possible to empower the managers to become the experts that are needed in the Pacific.

### Utu Abe Malae – Former CEO ASPA and Senator of American Samoa

Utu Abe Malae began by asking, how many in HS have taken industrial arts? He went on to say that a Buddy system is a twinning model where participants learn new skills with an accomplished counterpart. Training is very graphical and hands-on; they tend to focus on specific operations and skills. Practical tricks of the trade are developed through years of experience, not learned from books. The buddy system can provide onsite training with the buddy used as a resource. Alarming true in the US educational system there are people who don't know how to do basic mechanical stuff with their own hands like rotating equipment. They have no working knowledge for manual technology and it is getting progressively worse. We tend not appreciate the work that goes with working with your hands.

The bottom line is: WORKING THINGS MANUALLY – NOT TECHNICALLY

Don't ignore people working with their hands. Technicians have to have informal training. The transfer incorrect knowledge is bad habit.

1. Need to have apprenticeship technicians. All part of a bigger training programme. 15% of payroll should be dedicated to all training.
2. Importance of manual labour and thinking.
3. Good investment for donors, agencies, for this concept.

### Robert Hood ADB Twinning Programme

There is much room for improvement in utilities, particularly in the following components technical training, knowledge products, benchmarking, establishing regional networks, and twinning.

Establish regional networks

Twinning is a buddy type system with a big brother and small brother concept. The technique is to do some matching. There needs to be empathy and chemistry to work within the industry. A prerequisite could be to find willingness on both sides with attitude compatibility.

In these cases experts offer their free time and ADB facilitate and fund the projects. There are 8 twins operating in Asia at the moment.

## 5.5 Donor & Regional Body Presentations



### Fine Lao - SPREP

SPREP water initiatives include developing a regional climate change adaptation proposal to address water problems and issues in 21 PIC member countries in close collaboration with other agencies

SPREP Waste initiatives seek to assist and enhance the 21 PICT member countries capabilities to manage and respond to waste water, solid waste, and sewerage.

Some of the current activities of SPREP include:

#### 1. Water Sector

- PACC Project(2008 – 2012) which seeks to improve the water sector in 5 Pacific island communities; Marshall Islands, Nauru, Niue, Tonga and Tuvalu

#### 2. Waste Management Sector has developed a waste management strategy and action plan for PICTs

### Marc Overmars – SOPAC

Marc discussed the various collaborations that SOPAC and various organisations have been involved in over the years. SOPAC has been involved with PWWA since its conception and hope to continue this relationship in the future.

SOPAC see the following as areas for future collaborative opportunities with PWWA:

- PWWA to become part of Pacific WASH Coalition
- PWWA/SOPAC to establish Pacific Water Operators Partnership (WOP) with UN HABITAT and IWA
- PWWA to maintain role as most strategic partner in Pacific Water Partnership on Sustainable Water Management
- PWWA/SOPAC to provide further support in benchmarking and WatSan indicator development linked to National IWRM Frameworks

**Question:** Is your water monitoring programme still on?

**Answer:** Yes it's up and running – and laboratories reports to upgrade programme

**Question:** On personal interest, where are we today, are we able to see light at the end of the tunnel?

**Answer:** The establishment of PWWA is a good opportunity to get together and work these things out. There's no shortage of money. Money is not the issue, benchmarking is very important.

#### Thomas Opperer – EU

Thomas discussed the various areas in which the EU is aiding the Pacific in the water and wastewater sectors. He described how the Blue-Green Strategy will aid in the strengthening of partnerships by addressing the following areas:

- Governance
- Regionalism
- Sustainable Management of Resources
- More and efficient aid

Thomas gave examples of projects that the EU have partnered with in Samoa, Tuvalu and Kiribati. Thomas ended his presentation by stating various reasons that PWWA is important. These were:

1. **Establishing and encouraging good practise in water resource management and service delivery**
  - Sector policies
  - Legal and regulatory framework
2. **Coordinating the approach towards regional challenges**
  - Capacity building
  - Benchmarking and performance standards
3. **Strengthen the relationship between service providers, governments, donors and the private sector**
  - Exchange of lessons learned
  - Increase efficiency of development cooperation

**Question:** With the new water facility, tell us about the rules of change and the Minimum amount?

**Answer:** There are no rules for application; I can't answer this question because it is still in progressive stage

**Question:** What do we do with 50% achievers?

**Answer:** The dispersement of funds goes to two funds. Sector / micro economic are linked to performance. Pre finance is a fixed one. Fixed is not performance. Either 0 or 100%

**Question:** performance based – what are the bench making indicators for success outcomes. There's a lot of money spent on funding. What has the agency achieved in providing money in the form of grants?

**Answer:** Quality /local government. There is a need for more efficient aid. We don't implement a project that doesn't justify a budget. Benchmarking incorporation is very difficult.

#### Alain Goffeau – ADB

In the Asian and Pacific region, almost 600 million people lack access to safe drinking water and 2 billion people have inadequate sanitation facilities. This causes other impacts to the regions such as increasing competition for resources, degraded water resources and aquatic environments.

ADB's vision for water management is shown in its "water for all" policy. The policy promotes the following:

- Promote a national focus on water sector reform
- Foster the integrated management of water resources
- Improve and expand the delivery of water services
- Foster the conservation of water and increase system efficiencies
- Promote regional cooperation
- Facilitate the exchange of water sector info and experience
- Improve governance and capacity building

ADB has provided assistance for almost 50 projects technical assistances and projects in water and sanitation in the PDMCs since the 1990s through:

- Technical Assistance Programs
- Grants and
- Concessional Loans

ADB can help PWWA through, Regional Technical Assistance and small grants. Possible RETA activities include:

- Asset Management
- System Optimization
- Financial & Management Systems
- Customer Services

## 5.6 Conference Dinner



## 6 DAY 3

### 6.1 PWWA Workplan

Input on the PWWA Action plan was given by the conference attendees. This input will be included in the draft work plan that the PWWA secretariat will compile.

### 6.2 Annual General Meeting



## 6.3 Field Trip



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## 7 DAY 4

### 7.1 Church Service

A PWWA church service was held on Sunday morning at the Local Methodist Church. Various members took part in the service, including Patrick Amini, Ta'inau Titimaea, Apisake Soakai, Saimone Helu and, Andre Siohane. Those in attendance were uplifted by the sermon and the angelic voices of the congregation.

## 7.2 Nuku Lunch Trip



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## 8 DAY 5

### 8.1 Water Safety Plans Workshop



WHO ran a Water Safety Plans Workshop on Monday August 3, 2009. While this workshop was not formally part of the conference, WHO saw that it was a great opportunity to get feedback and input from the CEOs and conference participants on Water Safety Plans.

## 9 EXPO



The expo was a step up from last year. While the numbers of exhibitors weren't large, the overall event was a great success. This year we had nine exhibitors at the conference. They were:

- Tenix Robt Stone
- Mono Pumps
- Alrite International Ltd
- Arthur D Riley & Co. Ltd
- Oceania Water Treatment
- Napier Computer Systems
- Veolia Water
- Wood & Partners
- ITT Water & Wastewater