

Climate Change Challenge To Youth

What are your plans to assist yourself, your family, friends, community and country address the climate change challenge?" Dr Russell Howorth, Director of SPC Applied Geoscience and Technology Division (SOPAC), issued the challenge to the more than 40 international youth delegates from the **23rd Ship of World Youth Programme** who attended a special presentation by SOPAC scientists on their work within the region on climate change.

The presentation was held at SOPAC headquarters in Suva. Dr. Howorth said that climate change has gained pre-eminence in the debate on development at all levels, national, regional and global. "The ocean is often referred to as the engine room of the global climate," said Dr Howorth. "It occupies nearly three quarters (75%) of the earth's surface and stores most of the incoming energy from the Sun. Not only is the Pacific Ocean the largest physical feature on Earth, here in the SOPAC region over 95% of the environment is the Pacific Ocean." Most of SOPAC's work is indirectly, if not directly, linked to assisting its island members respond to the climate change challenge, and assisting island communities ensure effective adaptation strategies are in place, and sustainable.

This requires understanding the potential impacts of climate change, and understanding requires information that comes from timely ongoing scientific and technical data collection.

"Put simply, this is the very rationale for SOPAC," said Dr Howorth. Dr Howorth explained that climate change is not discernable on a daily basis, it is about daily weather events and in particular, extreme weather events, that are changed slowly over time, and whose frequency and intensity may be increasing. Climate change brings another dimension to a whole range of environmental, social and economic issues to which small island developing states around the world are vulnerable, and it is key to understand how the adverse impacts will affect communities in SOPAC's island members. Information is essential to understanding what has happened in the past, and what is happening today. Will the frequency and intensity of events increase and thereby, so will the social and economic impacts? Is our capacity to cope increasing, or has it in fact diminished or even been lost?

"Once island communities have this information they can design and implement adaptation strategies that are underpinned with a "No Regrets" approach," said Dr Howorth. Dr Howorth concluded by saying he hoped the future role of the youth delegates would hinge around "providing No Regrets adaptation strategies: plant drought resistant and salt resistant crops, secure fresh water supplies by fixing leaking pipes and/or taps, build buildings to required building codes, do not build on the high tide line or in river channels."

The 23rd Ship for World Youth Programme, operated by the Cabinet Office, Government of Japan, involves 144 young people from Japan and a further 144, made up of 12 delegates from each of the partner countries of Australia, Bahrain, Brazil, Chile, Fiji, Federated States of Micronesia, Mexico, Oman, Solomon Islands, Tanzania and Vanuatu.

The aim of the programme is to build leaders of their countries. While on delegates study and discuss common major theme for discussion is Climate

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capacity and develop youth as future board, and when visiting countries, the issues from a global perspective. A Change and Global Warming.

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Readers & Stakeholders involved in the Water & Sanitation Sector can contribute to our newsletter via:
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Water For Life
"Water is everybody's responsibility"



Samoa Water For Life Newsletter

The 3rd annual review meeting for the Water and Sanitation Sector took place on 22 – 24 November 2010. The theme for this year's

review was adopted from the World Water Theme "Clean Water for a Healthy World" which was commemorated in March 22, 2010 as a demonstration of the Government's commitment to ensuring community access to water of good quality.

The official opening was held at the To'oa Salamasina Hall on the 22 November 2010. The opening programme started with opening remarks from the Chief Executive of the Ministry of Natural Resources and Environment, Taule'ale'ausumai Laavasa Malua followed by the opening prayer from Rev. Epati Amosa of the Congregational Christian Church of Samoa. The keynote address was delivered by the Hon. Minister of Natural Resources and Environment, Afioga Faumuina Tiatia Liuga. The official opening also saw the launching of the 3rd Water and Sanitation Sector Annual Review Report 2009/10 and the revamped Water for Life Website. Sector t-shirts and bags were distributed to members of the public.

The official opening program was followed by the Water and Sanitation Sector Forum proceedings, held for the first time to share views and experiences on best practices and lessons learned from the

sector and across the region. Presentations covered water quality issues at the regional level including a presentation on the implications of climate change on the sector as a whole. At the national level, there were presentations on water quality governance with experiences from the Samoa Water Authority and Independent Water Schemes on implementing water safety plans with case studies from the Fuluasou water treatment plant and Matautu Independent Water Scheme. Concluding the forum proceedings was a special presentation from Managing Director of

Water & Sanitation Sector Stakeholders, Regional & International Partners meet for the sector's 3rd Annual Review



Some of the participants @ the opening ceremony



Participants during the Sector Forum



Site Visit @ Lake Lano

Samoa Water Authority, Ta'inau Moe-fa'auo Titimaea on lessons learned from the devastating tsunami event of September 29, 2009 for the water and sanitation sector.

The second day of the review continued with presentations from the sub-sectors on achievements and challenges for the period 2009/2010. The sub-sectors are: Sector Orientation spearheaded

by MNRE through the Water Sector Coordination Unit; SWA Water Supply Sub-sector led by Samoa Water Authority; IWS Water Supply Sub-sector led by the Ministry of Women, Community and Social Development together with the Independent Water Schemes Association; Drinking Water Quality Sub-sector led by the Ministry of Health; Sanitation Sub-sector led by the MNRE through PUMA; Drainage Sub-sector led by Ministry of Works, Transport and Infrastructure with Land Transport Authority and Water Resources Management Sub-sector led by MNRE through the Water Resources Division.

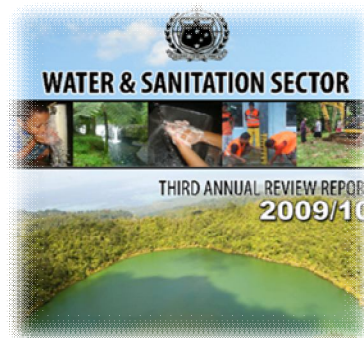
The third and final day of the review was a field trip to the Wastewater treatment plant in Sogi and the Togitogiga Water Treatment Plant, both of which are now fully operational. Participants also had a chance to visit part of the

national water resources hydrometric network, the Togitogiga watershed, Aufaga Independent Water Scheme and the water supply interim schemes in the tsunami affected areas.

The annual review process provides a platform for the sector together with stakeholders and development partners to engage and interact on progress, achievements and challenges faced by the sector. For more information on the activities of this 3-day event please contact Peni Allen at peni.allen@mnre.gov.ws or visit our website www.waterforlife.org.ws



Excerpt from the Water & Sanitation Sector's Third Annual Review Report 2009/2010



Foreword

By Seumanutafa Malaki Iakopo

I am pleased to present herewith the Annual Report of the Water and Sanitation Sector, which covers progress of the sector in achieving its outcomes and targets in 2009/10, as well as the future challenges and way forward. One of the great strengths of the sector approach, which has been adopted in Samoa, is that it brings together a diverse range of stakeholders, both within and outside Government, to work as team to overcome the challenges and problems that we face in improving the management of water, sanitation and drainage throughout the country. We have seen this approach grow for strengthen to strength over the last few years.

This report has been prepared to inform the annual review meeting for the sector, which will take place from 22-24 November 2010. This will be the 3rd annual review meeting that has been hosted by the sector. Our objective in these meetings is not only to report to our partners on progress that we have made over the past year, but also to engage in dialogue with all interested stakeholders and partners on the way forward.

We know that we face many challenges in the water and sanitation sector and we need all the assistance we can get to overcome these challenges. Poor water quality continues to be a major risk for the health of the population. We have targeted the roll out of water safety planning for both the Samoa Water Authority and independent community-managed water schemes throughout the country to help identify the main areas for water contamination and to prioritize actions to limit the risks. We are also concerned to work in collaboration with SWA to reduce the unacceptably high levels of water losses in the Apia area water supply systems, which has knock on effects on the regularity and quality of services. Improved sanitation has been recognized as a new area of priority and a new Sanitation Policy has been approved setting out a strategy for action. One of the main problems we face is the poor quality construction of septic tanks, particularly in the rural areas. We are very concerned that poor treatment of waste water is beginning to damage the coral reef systems around the country with serious consequences for people's health, livelihoods and the environment.

We need to find better ways to reach out to local communities who must be our main partners in meeting the objectives of the sector. We need their support in many areas including conservation of water sheds, recognizing the value of clean water, helping to maintain and safeguard water systems, and working to improve sanitation facilities. We have developed constructive partnerships with communities through our independent water schemes programme and we must use this experience to build similar relationships in other areas.

Lastly we have worked on the introduction of a new Water Services Policy that we believe should improve governance in the delivery of water services to meet the needs of customers. This includes the introduction of a Regulator for Water Services and improved collaboration between IWSA and SWA.

We look forward to hearing your opinions on our performance in the sector and the way forward for the future at the annual review meeting. Thank you for the support of all our partners.

Seumanutafa Malaki Iakopo

Chairman, Joint Water Sector Steering Committee

Copy of our 3rd Annual Report
can be downloaded from:
<http://www.waterforlife.org.ws>

The Pacific meets in Palau to improve water management

Koror, Thursday, July 22, 2010: "I'm not an expert, but I know that without water no one can survive. Even when scientists look for life on Mars the first thing they look for is water." With these words Palau's President, His Excellency Johnson Toribiong, opened a regional meeting on water management currently being held in Palau. He reminded delegates from 13 Pacific island countries that water is one resource that no one can take for granted. "The availability of freshwater is important to the quality of life, and I will go further, it is critical to the economic development of every country," Mr Toribiong said. "So I urge all of you to take this conference as a serious collective effort by all of us in the Pacific region to address these important challenges." "The theme 'Implementing Sustainable Water Resources and Waste-water Management' accurately describes the challenges facing our nation and I believe all other Pacific Island Nations," he said. President Toribiong noted that the meeting was very timely for Palau as only a few months previously the nation had suffered a severe water shortage and water hours were put in place to limit use. The already fragile water

seeks to provide the governance and regulatory support for this type of approach.

Marc Wilson, Regional Manager of the GEF IWRM project, said that it was appropriate that the meeting was being held in Koror where water availability and wastewater management is an acknowledged constraint to development.

"Water performs vital services from ridge to reef and is everybody's business from communities to cabinet," Mr Wilson said. "It is a measure of the seriousness and awareness of water issues in Palau that His Excellency, President Toribiong, has agreed to open this meeting."

Jose Padillo, Regional Technical Advisor for Marine, Coastal and Island Ecosystems with the United Nations Development

Programme (UNDP), said the relevance of these projects cannot be overemphasised given the situation the Pacific finds itself in.

"Oceania taken collectively has been off-track with respect to the water and sanitation targets," Mr Padillo said. "In fact, the percentage of the region's population with access to safe drinking water and sanitation facilities has declined by 1%



Meeting participants

and 2% respectively. Thus we see the importance of this project in meeting the water and sanitation targets."

Tiare Holm, Vice Chairperson of Palau's Environmental Quality Protection Board (EQPB) said that the meeting was a great opportunity for countries to share information and learn from one another. She reminded delegates that change was slow and needed the dedication and commitment of many people.

"As a Palauan who has spent years in the field of natural resource management and conservation, I can say that management and prevention is always especially challenging, as the outcomes are rarely immediate," Ms Holm said. "Persistence and dedication is required from our government, our partners and our communities."

The GEF projects focus on four key areas: watershed management, wastewater management and sanitation, water resources assessment and protection, and water efficiency and safety.

In Palau the GEF project is looking at ways to better manage and protect the Ngerikiil watershed, which supplies 80% of all of Palau's water.

Improved water management and sanitation

key to Tuvalu's long term viability

The small Polynesian island nation of Tuvalu has been the focus of climate change impacts for years. The four reef islands and five true atolls that make up Tuvalu only just break the surface of the surrounding Pacific Ocean and have an average height of 1 metre above sea level. Tuvalu's geography and location poses many challenges to the people that live there. The atolls are regularly inundated by high tides and storms and freshwater is scarce.

The contamination of groundwater from septic pollution, salt water intrusion and piggeries means rainwater is the only reliable source of drinking water. Population growth and development has resulted in food security issues and problems with waste management. Climate change will only make these problems worse but the Tuvaluan people are determined to stay on their land and retain their cultural identity. The government and organisations like the Pacific Islands Applied Geoscience Commission (SOPAC) are working together to implement local solutions to these problems.

40% of Tuvalu's inhabitants live on the capital island of Funafuti. For 3000 years Funafuti's lagoon, planting pits and coconut trees have sustained the decedents of the first Polynesians to arrive here with enough fish, root crops like taro and coconuts to survive. There were some ground water sources and traditionally rain water was caught off thatched roofs and trees. While water has never been plentiful before increased population and contamination of groundwater from waste and development makes the island much more susceptible to droughts and increased climate variability.

During droughts the country relies on desalination plants but the increasing costs of fuel mean that this is now an option of last resort. In order to increase water storage capacity and water conservation, development aid organizations like the South Pacific Regional Environment Programme (SPREP) and the Pacific Islands Applied Geoscience Commission (SOPAC) are in the process of installing water tanks and compost toilets in households on the island.

The recently elected Prime Minister, Maatia Toafa, acknowledges that while Tuvalu is highly vulnerability to natural disasters and climate change, water shortages and food security are more immediate problems. "Tuvalu is a small island state very vulnerable to natural disasters," Toafa says but adds, "The increasing population means increasing demand for water as well. With our small tiny islands just three and a half metres above sea

level, the gripping problem at present is to do with the salinity content of our underground water." Contaminated runoff from leaking septic tanks, piggeries and other household waste are also causing algal blooms that kill the reefs surrounding Funafuti. This has reduced the fish reserves that the population relies on for food. Semesi Alefio is an avid spear fisherman and local marine biologist and has been studying reef conservation in the area for years. He is concerned at how quickly the reef is being affected by human activity. Rising sea levels and coastal erosion also increase contamination from sediments washing into the lagoon.

"I think one of the main cause of the coral dying along this area is mainly due to heavy human activities affecting the reef particularly from sediments from the mainland. More nutrients are being deposited onto the reef. More algae are growing and less live coral are found in places where people used to go and collect their fish," Mr. Alefio Said. Many people in Tuvalu rely heavily on fishing from income and food but no longer see it as the secure livelihood they've had for generations.

"Before we lived on fish, today there is a big change, we depend on what is being brought in from overseas. Because of the reduction in fish we cannot manage to feed all the mouths in Tuvalu," says Lopati lakopo who has been supporting his family through fishing since he was young.

In recent years, Tuvalu has become increasingly outspoken at international climate change conferences in an attempt to get help from the international and first world community but they are now turning to their own ingenuity within their community to fight the problem. Former President of the Tuvaluan Climate Action Network, Reverend Tafue Lusama explains that people are attempting to use more water tanks, build sea walls and stronger houses to save their community without waiting for international aid.

"Our people are not that financially capable to adapt themselves but whatever little they have they try and adapt. For example, some people have tried to build up their own sea walls to protect their shorelines. Some people tried their best to buy water tanks, to have more water reserves," Reverend Lusama said. Besides trying to get every household a water tank, Uatea Maimoaga, a civil engineer with the Funafuti Public Works Department has come up with an ingenious design of a composting toilet which will solve the water shortage and salinity problems which in turn threatens food security. Traditional toilets take up to 30% of household water but if Tuvalu succeeds in putting composting toilets into the

majority of households they will conserve the precious water resources needed to survive on this atoll. This solution is directly related to the geography of the island Maimoaga explains, "Tuvalu's geographical and geological formation is very poor in a way as they are formed from corals and are coral atolls. The soil made up of sand and aggregate so there is an absorption problem when waste is cleaned out. The other problem is the water table. In low lying islands the water table is very high and in some places you can get water about less than a metre below the surface. Septic systems leach into the soil and don't work well when there is a high tide and the whole place is flooded with sea water."

Conserving water and increasing soil quality with compost from composting toilets will help improve agriculture on the island, improve food security and reduce the costs to the local economy from having to import food. The Director of Agriculture, Itaia Lausaveve sees improvements in home gardening as vital to the country. "Imagine if say 70 to 80 percent of all households in Tuvalu get engaged in home gardening throughout the area," Mr Lausaveve said, "I think then we will be better off in accessing vegetables but in the meantime we import a lot,".

The people of Tuvalu are all well aware that they need to conserve their water and 78 year old home gardener, Taliu Taliu does notice the difference between now and when he was a youth. He started his garden to help his family when he realised that other food sources were threatened. He too thinks that there are available solutions for his people so they do not have to relocate.

Apart from composting toilets, we need more water tanks and to create more awareness in the community on how they can manage their water in order for them to survive," Taliu says. Everyone in Tuvalu realizes they must take action now, in order to survive and to avoid becoming climate change refugees. The Reverend Tafue Lusama is already sending messages to the international community that abandoning Tuvalu would be the last resort, "We all know that under the international conventions on refugees there is no provision for anyone that is called climate change refugees," he says.

The Prime Minister of Tuvalu though will be taking a hard line on negotiations at the United Nations climate change conference in Cancun to try and save his people, their culture, their land and their identity. "I believe that we can work together to sort out the issues and the impacts emanating from climate change and I think the idea is to save Tuvalu and all other low lying countries in the world," he said.

<http://www.pacificwater.org/pages.cfm/news?newsid=tuvalu-confronts-climate-crisis>

Water Sector Stakeholders Discuss Water Resources Allocation Policy

23rd Sept, 2010 - Millenia Hotel Conference Room

The Assistant Chief Executive Officer (ACEO) of the WRD-MNRE, Susuga Suluimalo A. Penaia provided a brief welcoming note to all the workshop participants and guests, before inviting Fata Paulo Pemitia to lead the workshop in prayer.

Following the thanksgiving prayer, Suluimalo then introduced the consultation facilitator, Toesulusulu C. Schuster.

The consultation facilitator introduced the objectives of the workshop which were:

- * To promote stakeholder understanding on the Water Resources Management Act 2008 and Water Allocation, and
- * To re-establish issues and to raise concerns of major stakeholders on the proposed Water Allocation Framework for Samoa.

Following this short presentation of the workshop objectives, an introductory session was carried out for participants to briefly introduce themselves and their respective backgrounds.

The objectives of the consultation were to bring the stakeholders up to speed on the Water Resources Act and provide the broad framework on the development of the new Water Allocation Policy.

It was envisaged that by the end of the workshop, the stakeholders would have been able;

- * To have a clear understanding of the regulatory framework on water resources as stipulated within the Water Resources Management Act 2008, such as issues on:
 - a. Part V (Regulating the taking of water) of the legislation;
 - b. The Water Abstraction Licensing Scheme: processes and fees (WALS);
- * To have some understanding on water allocation principles and the importance of the policy on sustainable water resources management and development;
- * To raise critical issues/concerns which their respective agencies will have to address once the policy is in place.

The workshop was conducted in a semi-formal setting with stakeholders being able to intervene during presentations where possible. The local consultant, Susuga Toesulusulu Cedric Schuster was the master of ceremony and main facilitator, assisting discussions after each presentation.

Two formal presentations using power-point formats

were delivered by MNRE, followed by general plenary discussion sessions.

First presentation was "The Water Resources Management Act 2008 presented by Malaki lakopo of WRD (MNRE) focusing on following issues:

- * The Water Resources Act 2008 providing for the comprehensive management and development of water resources in Samoa
- * Practice of the Principles of Sustainable Development
- * The Precautionary Principle as a safeguard in situations where information is limited on a particular site.
- * The various rights to water resources reserved for the various utilities (SWA, EPC), community water schemes and FESA, for the execution of their statutory rights.

* Part V of the Act on regulating the taking of water: through the use of a licensing and permitting scheme for water use. Also discussed were penalties related to a breach of Part V as mentioned

- * The Water Resources Management Plan

Second presentation was "Water Allocation Policy" presented by Mr. Paul Taylor from the International Consultant: Water Services Policy

Ltd, discussing the following issues:

- * Water Allocation-What it is.
- * Principles and features of a good water allocation scheme: Best Practices
- * Legal framework for water allocation in Samoa
- * Water Allocation and Licensing
- * Responsibilities within a Water Allocation Framework
- * What is Environmental Flow
- * Water Conservation and Efficiency
- * Samoa's Case Study: Issues

The workshop was a really good forum for all stakeholders to become more aware of the strategies currently in place or are being proposed for the sustainable management of our water resources. Also stakeholders had sufficient opportunities to voice any concerns and issues which they might have on the policy framework.

Discussions on the various issues presented were very productive and will no doubt form a good basis for the development of the final policy document for the sustainable management and development of water resources in the country.



Participants during discussion

Vaipouli Village talks Sustainable Watershed Management

18th November 2010 - Fagamalo EFKS Hall (Savaii)

The protection of watershed areas has become a priority to the sustainability of freshwater resources, in light of the continuing degradation of forest in and around catchment areas. Forests within watershed areas that help regulate and maintain water resources have been largely cut down for agricultural developments and settlements

rehabilitation and sustainable management of the Vaipouli Catchment. The main objective of the consultation is to introduce the Vaipouli Management Plan final draft to the villages which include, Safai, Satoalepai, Fagamalo, Lelepa, Avao, Vaipouli/Saleia and Manase. The consultation also included the endorsement of the Plan



Photos of participants during the Consultation



as well affected by natural disasters thus providing corridors for invasive species, exacerbating the loss of biodiversity and the decrease in the quality and quantity of water available for social, economic, development.

and to get views and opinions of the targeted stakeholders on the Plan.

Some of the issues raised and discussed during the workshop:

- * Proper maintenance and monitoring of the community nursery
- * Watershed management and reforestation programs remains in community
- * Eradication of African snails

The Ministry of Natural Resources and Environment (MNRE) through the Water Resources Division (WRD) conducted its third community consultation for the Vaipouli Catchment at Savaii on Thursday 18th November 2010.

The Ministry have worked closely with "Sustainably Land Management Project (SLM)" for promoting the sustainable management of Vaipouli Watershed through the

(Copies of a full detail report can be obtained from Water Resources Division,

SITE VISIT:

The learning aspect from this site visit is the impact of treatment plant to our people and the quality of water that is been treated. As we may all know that, we have five treatment plants that were constructed under the WASSP project and yet to be commissioned very soon. We will definitely drink good clean water. It is also a milestone for SWA for their hard worked and effort so that we may have good clean water.

Well done SWA.

FINDINGS AND RECOMMENDATIONS:

- * **We found that the course was useful in ways that we also discovered that there were some tools/requirements that EU had used but were not yet known to be used by our country such as the Strategic Environment Assessments (SEAs) and Climate Risks Assessments, Environment Management Plan, Ex Post EIAs amongst other Assessments.**
- * **We would recommend extensive reading and updating on our knowledge base of EU procedure and process as they tend to change/amend/update on their policies every now and then without necessarily notifying partner countries (Handbook into the recent Guidelines - Draft) (external capacity building issue).**
- * **It is also recommended to arrange additional internal training by TA to the NAO for the staff that are involved in EU projects including those from Aid Coordination and Loans Mgmt division, Budget Division for a better appreciation of the very complex EU procedures (internal capacity building issue).**
- * **The Ministry of Finance in consultation with MNRE may wish to consider the use of strategic environmental assessments in sensitive sectors with major impacts on the environment/climate change as part of the sector planning guidelines. This is important as choices that are made at the sector planning stage may have significant impacts and by the time detailed projects are prepared it becomes very difficult to consider alternatives.**
- * **We should consider undertaking a Strategic Environmental Assessment (SEA) in the water sanitation sector once detailed investment plans have been prepared in order to check that the approach is considering all environmental and climate change issues. This would be a good learning exercise for MoF and MNRE on the SEA tool.**

The environment is becoming an increasingly important issue in view of growing consumption and affluence leading to increasingly negative impacts on the environment. On a small island preservation of a healthy environment will be critical to the future sustainability of our way of life and economy with tourism largely based on the quality of the environment. With the limited landmass of our island environment we cannot afford to make mistakes and we need to ensure that management of a healthy environment is an overriding factor in the planning and design of all development programmes and policies. It is therefore suggested that we should consider developing a sector wide approach for the Environment sector under MNRE. The EU could be

approach to consider supporting this sector after the 10th EDF and resources could be made available now in terms of capacity building and technical support to pave the way for a sector-policy support programme with budget support modality under the 11th EDF. The EU has identified the environment and management of natural resources as a high priority in the Pacific.

Acknowledgements

We would like to acknowledge the Government of Samoa and EU for making it possible to participate and learn from this Pacific Water Conference and Expo 2010.

The next PWWA Conference will host by Fiji Water Authority (FWA) in Suva - Fiji, 2011.

Samoa's Representatives:

1. Mr. Moefaaau Tainau L Titimaea - General Manager (SWA)
2. Mr. Tagaloa Suafai - Board of Directors (SWA)
3. Mr. Nicolas Roberts - TA to NAO (MOF)
4. Mr. Sulutumu Sasa Milo - President of Independent Water Scheme Association (IWSA)
5. Mr. Papalii Mataia M Mataia - Dep Coordinator (MNRE - WSSCU)
6. Ms. Mele Tanielu - Senior Quality Officer (MOH)

Faafetai lava!



Moefaaau T Titimaea (SWA MD), Mele Tanielu (MOH) Sulutumu Sasa Milo (President IWSA), Timothy (SWA)

Delegation from Samoa & Tuvalu singing during church on Sunday



Mele Tanielu (MOH - Samoa) with participants cruising around after the workshop

SAMOA representatives took part in “THE PACIFIC WATER CONFERENCE & EXPO 2010” held in Port Moresby (PNG) 13TH – 16TH SEPTEMBER 2010

For years, water quality has been and continues to be an ongoing issue for the Pacific Islands, despite considerable efforts aimed at improving the region's drinking water supply. The serious health impacts on our Pacific people and children, such as cholera and typhoid outbreaks, are a reminder that more to public/community education and awareness are needed in order to change behaviors in relation to personal hygiene, ensuring people are seeking safe water, treating water if it is not known to be safe.

This was the third annual conference that has been organized by the newly revitalized Pacific Water and Waste Association since 2007. The first conference was in Samoa and last year it was held in Vavau, Tonga. It should be noted that each year the quality of the conferences organized by PWWA has been improving. The Association has strong support from its membership and growing awareness and interest from donors and other stakeholders in the water and sanitation sector. The conference was an excellent opportunity to network with stakeholders involved in the development of the water and sanitation sector in the Pacific Region. There were also excellent presentations on the latest projects and development in the region. Alongside the conference there was a trade exhibition promoting innovative products and technical solutions for the sector. The theme of this year's workshop was “**Water Quality Challenges**”. As such the conference was a good opportunity to discuss Samoa's water safety planning proposal with SOPAC personnel. There was also a good opportunity to meet with ADB, SOPAC and EU officials to discuss developments in the water sector in Samoa.

The aim of the Conference is to capitalize on the opportunity of coming together as a Pacific region to discuss and look at ways of addressing issues related to the provision of good water services, including that of water quality, which is in line with United Nation's World Water Day for 2010.

One of the major themes during the workshop was twinning arrangements, which are developing as a cost effective tool for capacity building with a number of utility firms in Australia and New Zealand willing to enter into twinning arrangements with utility partners in the Pacific. There were interesting presentations on this approach to capacity building from both sides of these partnership arrangements. PWWA has facilitated funding from ADB to support these twinning arrangements and there are plans to expand this approach further in the region. Samoa has the potential to become both a beneficiary and a supporting partner for different areas of expertise in the region.

It was also an opportunity for policy makers, non-governmental organizations, academic and researchers, business interests, community groups, donors and the general public who are eager to meet and discuss issues, exchange ideas and experiences aimed at improving the water and sanitation situation in the Pacific. Topic

and issues that discussed were as follows:

- * Sewage, the Greatest Threat to Pacific Island Nations Economies
- * Storm Water Re-use
- * Desalination in the Pacific
- * Gender mainstreaming in the Pacific Water Sector:
- * Managing Drinking Water Quality in the Office
- * Managing Drinking Water Quality in the Field
- * Successful Outcomes from Water Loss Reduction
- * Water Utility Sustainability – Measuring how your Water Utility performs
- * Storm water Drainage and Floodway Improvements in Apia
- * Access to Safe Drinking Water_ in Pacific Islands

The conference also highlighted concerns with regard to proper treatment of septic waste in the region with real concerns for the impacts on coral reefs. There are examples of the negative impacts that can occur if this threat is not taken seriously. In the Caribbean many of the islands lost over 90% of their coral due to poor treatment of waste water, which is a particular threat with large tourism developments. The impacts on local livelihoods and the environment can be devastating and there is little warning of the impending collapse. It is essential that Samoa heeds these warnings and puts in

place effective regulation, particularly for the tourist facilities along the coast, to ensure that such a disaster does not repeat itself here. One of the key issues is to promote appropriate technology for treatment of septic waste. This is something we are only just beginning to come to grips with in Samoa. Construction of proper septic tanks provide only a partial solution as these will still result in nutrient rich outflows, which require further treatment. The option of treatment through wetlands has been tried in Fiji but the costs of this approach are prohibitive as the septic tank outflows have to be pumped to land away from the coast above the villages before being drained through wetland/reed beds. Another approach which could be considered is the development of individual treatment systems linked to each septic tank. However, this requires land and will be challenging to implement. The most appropriate solution, which would also remove the water supply problem for sanitation is the introduction of composting toilets.

It was also an opportunity to witness one of the biggest treatment plants in PNG and in the Pacific region on the last day of the conference. With reference to the information received, this treatment plant was built in 1960 and they are now in the 3rd phase of updating all the facility in terms of technology and capacity outlets which supply more than 150,000 households. Four very big tanks that feed from raw river water about 100 meters away on the same height altitudes of 300meter above sea level. In regards of water distribution not much of electricity needed as mostly would be gravity supplied.

CONFERENCE THEME: “Water Quality Challenges in the Pacific”

Water Stakeholders discuss Integrated Water for the Fuluasou Basin

(9th Sept 2010 @ Hotel Millenia)

The workshop on Integrated Water Management within the Fuluasou Basin was led by Programme Implementation Assistance (PIA) Team Leader, Mr. Henk Gijssels with Malcolm Farley, Unaccounted for Water (UFW) & Demand Management Specialist as Facilitator.

The workshop was intended to wrap up PIA support over the last 5 years including lessons learned

and possible application of these lessons using the Fuluasou Basin as a case study. Implementing Agencies (IAs) such as MNRE (Watershed Management), SWA (Rural Water Supply), MOH (Water Safety Planning in Fuluasou), IWSA (Sapatuala Independent Scheme) and FESA (Water usage) were each given the opportunity to present on progress of their respective programmes with the support of the PIA.

The PIA supported the management and implementation of the WaSSP components by providing advice, technical assistance and capacity building support to the main implementing agencies (IAs). These included the Ministry of Natural Resources and Environment (MNRE), Samoa Water Authority (SWA), the Environmental Health Office of the Ministry of Health (MOH), and the Ministry of Women, Community and Social Development (MWCSO).

The WaSSP has been successfully implemented over a five-year period from 2006 - 2010 with the PIA to formally end on 31 October, 2010.

Other objectives:

- * Identify the interlinkages between the water resource conservation, water supply and water losses.
- * Identify the importance of coordination between SWA and MNRE/MOH in integrated water management.
- * How to coordinate effective exchange of information and institutional cooperation.

- * What are SWA's informational needs? (information, pump tests, services) and what does MNRE need from SWA?



Workshop Participants @ Millenia Hotel

- * What will be the characteristics of a new water management plan of this basin? (KIP of the water management plan, like cost recovery, water loss reduction, protection of the water source, water quality of the water source etc)

- * What will be the needs of capacity building in the water

management plan

Keynote speakers:

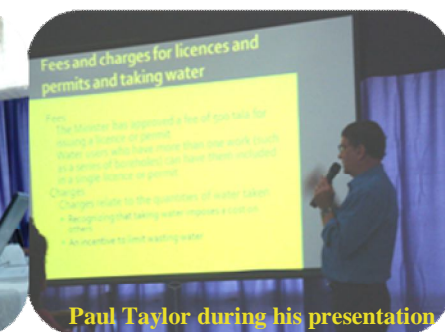
- **James Atherton** (Conservation International) – The environmental status of the Fuluasou basin and climate change threats
- **Sahara Anae** – Water supply and demand in the semi urban area to the airport / JR area; revenue and costs of water supply
- **Lautua Faafo** – Water supply and demand in the urban area
- **Malcom Farley** – Water loss in the supply area and results in water loss measurement. Water loss strategy in the pilot area.
- **Sam Semisi** –

Water resource and water catchment management in the Fuluasou conservation, pollution and protection

- **Malaki Iakopo** – Socio economic baseline data of the Fuluasou basin and its use in the water planning. Who lives there? Partnership with communities.
- **Fire Brigade Rep** – Water use by the fire brigade (incidence of fires per year)
- **Kassandra Betham** - Water quality risks, water losses and water safety plan – Fuluasou
- **Henk G** – Overview of TA advices related to the Fuluasou and its relevance (including exploitation overview of revenue)



Paul Taylor & WRD Staff



Paul Taylor during his presentation

Samoa Takes Part in the Integrated Water Resources Management Post Graduate Certificate in Water Management

The Pacific Islands Applied Geo-science Commission (SOPAC) is acting as the executing agency for the European Union funded "IWRM National Planning Programme" and Global Environment Facility (GEF) funded project "Implementing Sustainable Water Resources and Wastewater Management in Pacific Island Countries" (GEF Pacific IWRM Project). These projects are assisting Pacific Island Countries to establish and implement Integrated Water Resources Management (IWRM) and Water Use Efficiency (WUE) plans.

A key capacity building component of the Pacific IWRM Programme is the delivery of an accredited Post Graduate Certificate (PGC) Course in IWRM for Pacific Islanders working in the water sector in their own countries or who are directly involved with the Pacific IWRM Programme and have met the course requirements.

The IWRM PGC course was coordinated by International Water Centre (IWC) in Brisbane and delivered through a joint venture with four leading Universities in Australia including the University of Queensland, Griffith University, Monash University and the University of Western Australia over a two year period.

In order to address the knowledge and competency needs of Pacific Island Countries (PICs), the Graduate Certificate Program provides an integrated perspective on water management, focused on four core modules:

Project Management Science of Water Capacity Building and Community Development Catchment and Aquatic Ecosystem Health The inception of this course was carried out in conjunction with the 2nd Regional Steering Committee (RSC) Meetings of the Pacific Workshop held in Palau from the 25 - 31st July.

19 participants from the Pacific was selected for this course, and 3 amongst them are from the Water Resources Division. They were Suluimalo A. Penaia (ACEO-WRD), Sam Semisi (IWRM Demo Project Manager-WRD) and Fiasosoitamalii Ugapo - Siao (Watershed Planning Officer-WRD). It was a good opportunity for representatives from Samoa, as the course outlines more ideas to further the knowledge in managing water resources in the country. Additionally, planning

and designing skills in project management level, was of great help to the participants.

Representatives from Samoa (MNRE)



Mr. Suluimalo Amataga Penaia
ACEO Water Resources Division



Ms. Fiasosoitamalii Siao
Watershed Planning Officer



Sam Semisi
IWRM Project Manager



Post Graduate Certificate Class; Pacific Island Countries Participants



Group visit to Palau Treatment Plant Facility

Togitogiga Village finalises its very own Watershed Management Policy for the first time

The protection of watershed areas has become a priority to the sustainability of freshwater resources, in light of the continuing degradation of forest in and around catchment areas. Forests within watershed areas that help regulate and maintain water resources have been largely cut down for agricultural developments and settlements as well affected by natural disasters thus providing corridors for invasive species, exacerbating the loss of biodiversity and the decrease in the quality and quantity of water available for social, economic, development.

The Ministry of Natural Resources and Environment (MNRE) through the Water Resources Division (WRD) conducted its community consultation for the Togitogiga Catchment in the district of Siumu and Falealili on Thursday 25th November 2010.

The Ministry have worked closely with "International Union Conservation of Nature Project (IUCN)" for promoting the sus-

regards of the new water supply which doesn't work till date. They have planned on installing their own pipe lines and have approached the Independent Water Scheme Association for assistance. The community were also confused of the soil classification as they named it Fagaloa, Salani etc.

Mr. Suluimalo Amataga Penaia, ACEO of Water Resources Division, spoke on behalf of the Ministry of Natural Resources & Environment in regards of the issues raised by the community.

There is still negotiation and ongoing consultation with Ministry of Agriculture & Forestry regarding the issues on cattle farms around the water catchment. Representative from MAF was suppose to be presenting their views on the issue raised, but unfortunately, they have changed managerial positions, and the village community will be contacted once changes are all sort



Togitogiga community participants

tainable management of Togitogiga Watershed through the rehabilitation and sustainable management of the Togitogiga Catchment. The main objective of the consultation is to introduce the Togitogiga Management Plan final draft to the villages which includes, Saaga (Siumu), Saleilua, and Poutasi, Falealili. The consultation also included the endorsement of the Plan and to get views and opinions of the targeted stakeholders on the Plan.

During the consultation, there were issues raised by the village community in regards of the cattle farms belonging to the Government still not resolved since issue was raised in the previous consultation. The village community raised their disappointment with the ministry due to the fact that Ministry of Natural Resources & Environment didn't address their concern in the management plan presented. They also raised complaint in



Milika Sobey from IUCN Headquarters with Yvette Kerslake, Principal of Watershed Section,

out in the ministry (MAF).

In regards with the water problems raised, Sulu responded that this matter should be raised with Samoa Water Authority as Water Resources has nothing to do with the installation of new pipelines and distribution of water in the area.

With soil classification, Sulu also explained to the community why these soil classifications were named after Fagaloa, Salani and so forth. This was due to the names given by the expertise that did these researches on our soils, and that's why we still used these names as our references.