

Pacific Partnership Initiative on Sustainable Water Management



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Issue: XV, November 2007

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Welcome to the fifteenth official mail-out of the Pacific Partnership Initiative on Sustainable Water Management. This Quarterly Newsletter provides Water and Sanitation information to Pacific member governments, professionals, NGOs, CBOs, researchers, private sector and counterparts in the donor community who are interested in water sector issues and initiatives.

We would appreciate your assistance in forwarding the newsletter to other colleagues who may be interested in this initiative so that it reaches the widest possible audience.

If you wish to print this newsletter, a PDF version is also available on the SOPAC website:

<http://www.sopac.org/Community+Lifelines+Programme+Water+and+Sanitation>

Highlights

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1st Asia-Pacific Water Summit, Water Security: Leadership and Commitment

The 1st Asia-Pacific Water Summit (1st APWS) will be held in Beppu, Oita prefecture, on December 3 and 4, 2007, with top-level decision-makers participation from the Asia-Pacific region.

"The fact is that, at present, in Asia and the Pacific, 700 million of our citizens do not have access to safe drinking water, the region suffers disproportionately from water-related disasters and degraded land-water ecosystems significantly threaten water productivity," said former Prime Minister Yoshiro Mori, Chairperson of the Steering Committee of the 1st Asia-Pacific Water Summit.



"We can turn the situation around if we can agree to make water a high priority in our development plans, if we can improve governance, if we mobilize and allocate more financial resources to water infrastructure and if we acknowledge that the access to safe drinking water is a basic human right of our people," he said.

The Asia-Pacific Water Ministerial Meeting also called upon the APWF to organize Asia-Pacific Water Summits, to be held, once every 2-3 years.

The Summit will bring together top-level leaders from various sectors including industry, public, education, local organizations, and media from 49 countries. All in all, around 300 people are expected to participate in this Summit .

The leaders of some of the region's foremost institutions and stakeholders involved in water and sanitation issues are expected to participate, namely, the Asian Development Bank, The World Conservation Union (IUCN), the Food and Agriculture Organization of the United Nations, UNESCO, Singapore PUB, Streams of Knowledge, UN-Habitat, UNESCAP, Japan Water Forum, among others.

In parallel to the 1st APWS, an Open Event forum will be held in Beppu, 1-5th December 2007 in and around the B-Con Plaza, with a broad participation from civil society stakeholders, multilateral organizations, and others.

The press is required to pre-register for the Summit to obtain Summit accreditation. If you would like to attend the summit, please register in advance through the website www.watersummit.jp, www.reg-clinkage.jp/apws/eng/press/index.html and www.apwf.org.

SOPAC is a member of the Asia Pacific Water Forum and will be co-organising a special session on small islands and climate change during the summit.

For detailed information on the Summit please visit:

<http://www.apwf.org/press/>



SOPAC





AusAID supports Phase II of the Water Safety Plans Programme

The four pilot countries (Cook Islands, Palau, Tonga, Vanuatu) involved in the Water Safety Plans programme will now benefit from infrastructure improvements through funding provided by AusAID under Phase II of the Water Safety Plans programme.

The Pacific Water Safety Plan Programme (WSP) is aimed at risk identification and developing a management plan - or water safety plan - to control these risks. Through the exercise of developing and implementing a water safety plan, participating water authorities identified gaps and weaknesses within their system and the improvements needed to reduce or eliminate these risks.

Often, the improvements needed are low-tech and/or low-cost solutions, which could be in the form of altering operational guidelines or Standard Operating Procedures. Some improvements however need substantial capital funding to implement.

One of the products of a water safety plan is the Improvement Schedule. The improvement schedule itemizes the needed upgrades within the system (infrastructure, procedures, policies) and maps an action plan with timeline to complete these improvements. The benefits of developing and implementing water safety plans are greatly enhanced when improvements are identified and implemented.



In addition to this, it is envisaged that successful pilots in each pilot country will be replicated in other areas of the pilot country and in neighbouring countries of the Pacific. The expressed interest and participation of potential replication countries like Samoa, Solomon Islands and Marshall Islands is encouraging.

Phase II components propose to reinforce the strengths observed in the WSP programme, support expansion of the practical and proven community-based approaches, and fill some of the gaps identified.

The approaches developed with local know-how of the WHO/SOPAC partnership are meant to be in tune with the realities of the Pacific island states, including their severe logistical constraints, limited laboratory capabilities and scattered populations.

Phase II responds to the Pacific Framework for Action on Drinking Water Quality and Health and incorporates guidance from the AusAID Safe Water Guide.

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Cooperative State Research, Education, and Extension Service Southwest States and Pacific Islands Regional Water Quality Program

The United States Department of Agriculture CSREES Southwest States and Pacific Islands Regional Water Quality Program works to improve water quality management through educational knowledge and extension programming that emerges from a research base. The program builds on the strengths of the Extension Water Quality Programs at the Land Grant Universities throughout the Southwest and Pacific Islands. States and territories within the Region include Arizona, California, Hawaii, Nevada, American Samoa, Guam, Marshall Islands, Federated States of Micronesia, Commonwealth of the Northern Marianas, and Palau. Within this huge and diverse region, the project addresses common needs and goals such as provision of safe drinking water and control of agricultural pollution. We also recognize our diversity with subregional projects such as small scale piggery waste management in the Pacific Islands and water conservation and irrigation management in the Southwestern States.

The Program is designed to make research, education, and extension resources of the university system more accessible to Federal, State, and local water quality improvement efforts. This enhances opportunities for agricultural producers and agriculturally impacted communities to adopt voluntary approaches for the improvement of water quality.

For more information, please visit: <http://ag.arizona.edu/region9wq/>
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U.S. Freely Associated States Water Quality Laboratory and Laboratory Technician Certification Program

US Environmental Protection Agency (EPA) Region IX Pacific Islands Office (PIO), and the US Pacific Territorial Environmental Agencies (American Samoa EPA, CNMI DEQ, and Guam EPA), have developed a voluntary US Freely Associated States (FAS) Water Quality Laboratory and Laboratory Technician Certification Program modelled on the USEPA Laboratory Certification Program. The development of the program was initiated at the request of the FASs at the Pacific Islands Environmental Directors meeting in 2006 (Kona, Hawaii). At the 2007 EPA Pacific Islands Environmental Conference, all six FASs (Republic of Palau, Republic of the Marshall Islands, FSM Chuuk State, FSM Kosrae State, FSM Pohnpei State, and FSM Yap State) requested to be included in the program.

To qualify for certification FAS laboratories must meet specific criteria, pass a bi-annual on-site audit, and have a certified technician on staff. To qualify for technician certification, laboratory technicians must pass a written exam and successfully analyze a set of performance evaluation samples. All training and certification audits for this program will be performed by USEPA authorized certification officers.



A major benefit of the FAS certification program is that all data produced by the labs will have greater assurance of scientific validity and will be defensible, and of known and acceptable precision and accuracy. Valid and credible water quality data can result in significant health and economic benefits for the FAS, including improved public health protection from human exposures to contaminated waters and protection of vital aquatic animal resources used for harvesting or tourism development.

It is EPA PIO's mission to establish certified water quality laboratories in the FAS, and to provide continuing re-certification efforts. EPA PIO and the US Pacific Territorial Environmental Agencies, in partnership with SOPAC, are working together to ensure that a laboratory in each of the six FASs has the capability to be fully certified for analysis of drinking and recreational waters.



Implementation of the certification program is well underway. This past June in Guam at a joint lab training sponsored by SOPAC and Guam EPA, a Certification Program Staff member presented details of the program to laboratory technicians and water quality specialists working in the FAS who are interested in becoming certified. Participants were also given lab certification manuals and other pertinent certification requirements. In March 2007, a certification team conducted preliminary assessments of water quality laboratories in FSM Kosrae State. This October, certification teams will perform an audit of the Environmental Quality Protection Board's Water Laboratory in the Republic of Palau. As well, the team will visit laboratories in FSM Yap State to do preliminary certification inspections, and to provide technical assistance and certification guidance to these facilities. Certification activities for the remaining FAS areas are scheduled for 2008.

For more information on the Water Quality Laboratory Certification Program please contact:

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Piggery Waste Management in the Pacific Islands

In Pacific Island cultures, pigs are very important! At the same time, controlling piggery wastes is a serious concern due to limited land for disposal and the need to protect streams and coastal areas from contamination by nutrients and pathogens. Most animal waste management practices in the continental US are not appropriate to the small scale and limited resources of Pacific Island farms.



Coordinated activities to solve these problems are supported by the United States Department of Agriculture CSREES Region IX Water Quality Program. Our objectives are to protect stream, coastal and groundwater resources through promotion of waste management practices which are culturally acceptable and economically feasible. Water Quality Coordinators in each of the Islands support research and extension to develop and promote promising practices. Such practices include dry litter systems, composting, and effluent irrigation.

The University of Hawaii and the Northern Marianas College are the main partners in this effort, with input and assistance our colleagues in Guam, Palau, the Federated States of Micronesia, the Marshall Islands, and American Samoa. Coordination of projects and sharing of information has been accomplished through field visits, joint workshops, meetings and linked websites, reducing the isolation of these distant islands and helping to better serve our communities. This effort is supported by the USDA CSREES Water Quality Program, with additional funding and technical support from the USDA Natural Resources Conservation Service and the US Environmental Protection Agency.

For more information, please visit: http://ag.arizona.edu/region9wq/pdf/factsheet_RWQ005.pdf
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American Samoa Environmental Protection Agency (EPA) Piggery Compliance Program

Uncontrolled waste from piggeries in American Samoa has resulted in severely degraded water quality and transmission of disease via these contaminated waters. According to a 2004 study by the U.S. Centers for Disease Control & Prevention (CDC), pig waste contributes to the Territory's high prevalence of leptospirosis, a serious bacterial disease that affected nearly 10,000 American Samoans in the last 3 – 5 years, and killed at least 4 people since 2003.

To address the critical environmental and health impacts caused by improperly managed piggery waste, the American Samoa Environmental Protection Agency (ASEPA) under the American Samoa Coastal Non Point Source Program (ASCNPSP) developed a multi-phased Piggery Compliance Program (PCP). The objective of the first phase of PCP was to educate the public on leptospirosis and the laws governing piggeries and to geo-locate pig facilities and their discharge points. The goal of Phase II is to bring all piggeries into compliance with local environmental and health regulations.



Phase I work was successfully completed in November 2006. During Phase I of PCP, ASEPA focused strictly on education and information gathering: teams went house to house educating families about PCP and the disease leptospirosis. At households with piggeries, ASEPA delivered more extensive, tailored information. Piggery owners were made aware of the technical requirements of a legal piggery, and potential future enforcement actions against illegal ones. With the assistance of piggery owners, ASEPA also collected data about the piggery including waste disposal methods, piggery infrastructure, geo-location for mapping purposes, and barriers for bringing piggeries into compliance.

As a result of Phase I work, ASEPA successfully identified 8,244 pigs and 997 piggeries operating in American Samoa. These data represent the first systematic, accurate, and most up-to-date census of swine facilities for the Territory. According to the survey, 97% of piggeries were found to be non-compliant with local environmental laws. Of the 997 piggeries, 30% did not have enough land to meet setbacks, and must be permanently closed.



Despite the violations and widespread potential for diseases from pig wastes, the survey revealed that less than one-fifth of piggery owners had ever received a warning or citation, and most were unaware of the health risks associated with inadequate pig waste management. The good news is that more than 80% of pig owners want to make their piggeries compliant with local laws, and reported that they would initiate the permitting process following the survey.

Currently in Phase II of PCP, ASEPA enforcement officers are re-visiting all piggeries and taking enforcement action against piggeries that do not comply with piggery laws. In just 8 months, ASEPA staff has inspected over 120 piggeries. The initial inspection results are encouraging: nearly half of the piggery owners have voluntarily complied with environmental and health laws; one-third of the owners have closed their piggeries; and about 20% of owners who have enough land to meet setbacks are applying for land use permits to continue raising their pigs.

ASEPA is encouraged by the positive response from piggery owners, and by the continuing cooperation from community and government leaders. Continued implementation of this program will ensure that the American Samoa people and her environment are protected from poor water quality and diseases like leptospirosis.

For more information on the EPA Piggery Compliance Program please contact:

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Kiribati Adaptation Project Phase II

Kiribati is one of the world's most vulnerable countries to climate change and sea level rise. Most of the land in urban Tarawa is less than 3 meters above sea level, with an average width of only 450 metres. The key goal of the World Bank's Kiribati Adaptation Project Phase II (KAP II) is, working in partnership with the Government of Kiribati, to reduce Kiribati's vulnerability to climate change, climate variability and sea level rise.

Australia has committed \$2.9 million to support the freshwater management component of KAP II. This funding will be used to purchase tanks, pipes and other materials, provide services, technical advice and capacity building activities to improve freshwater management and build resilience to water stress. Key activities to be undertaken include an update of the national water policy, planning and remedial actions for densely populated South Tarawa, including reduction in water leakage on Betio, establishment of new rainwater collection storage facilities, and an assessment and upgrade of out island water supply systems.

The following are actions undertaken so far on two activities of Water Component of KAP II:

1. National Water Policy and 10 Year Water Plan

An activity under Water Component of KAP II aims to develop the National Water Policy and 10 Year Water Plan. The scope of this Technical Assistance activity is to assist the Government of Kiribati in the propagation of a national water policy together with a national 10-year water plan to implement that policy.

Professor Ian White from Australian National University is engaged in this activity and has completed the first visit and produced the Draft National Water and Sanitation Policy and Draft Cabinet Briefing Note. The draft documents are undergoing review by national stakeholders and will be further discussed and finalised during the second visit of consultant in

February 2008. The final policy will be subsequently submitted through the appropriate protocol for Cabinet's approval.

2. Senior Water Engineer

Lack of capacity within the Water Engineering Unit of Ministry of Public Works and Utilities (MPWU) has been identified as a significant hurdle to ensure success of national water projects and other regional water projects (e.g. HYCOS, IWRM projects organised by SOPAC).

KAP-II will attempt to address this issue with the engagement of a senior water engineer within MPWU for two years on a full-time basis. This engagement will be one of the eighteen projects (activities) within Water component (Component 3 of KAP-II.)

Recruitment of Senior Water Engineer is in progress and the tentative date for engagement will be before end of November 2007.

KAP II is also support by New Zealand (\$1.3 million) and the Global Environment Facility (\$2.4 million).

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Water Demand Management in Honiara, Solomon Islands

29 July - 2 August 2007

Working with SOPAC's Water Demand Management Adviser and Wide Bay Water, the Solomon Islands Water Authority (SIWA) carried out a week long investigation of the Lower Western Kola part of the bigger Tuvaruhu pumped water supply system in the city of Honiara. The aim of the investigation was to identify water use efficiency problem areas, such as water supply leaks, the need for improved operation and maintenance and repairs, pressure management issues, etc. This was based on an earlier Scoping Mission conducted in October 2006 which identified the need for a Water Loss Management, Sectorisation, Metering and Logging program for Honiara.

In summary, the following activities were conducted:

- Site investigation in the field and through MapInfo;
- Sectorisation and creation of District Metered Area (DMA) in field and MapInfo;
- Installation of flow and pressure loggers throughout the DMA;
- Repair of hospital water meter and boundary valves, and;
- Minimum night flow determination, leakage estimates and data logger analysis.

Further detailed information on the findings and possible solutions will be available in a forthcoming SOPAC Technical Report (No: TR401), but in summary:

- There is potentially a large level of leakage within the District Metered Area;
- The pressure regime is inconsistent with the topography;
- There may possibly be a major restriction in the pipework close to the water supply point;
- The bulk water flow meter needs to be relocation;
- The integrity of the boundary valves is uncertain, and;
- The measurement gauge on the supply tank appears to have seized and is not working.

Equipment and training in its use were provided to allow SIWA to conduct further investigation. Further recommendations to SIWA for practical Water Demand Management intervention through a possible phase 2 in Honiara include:

- The comprehensive sectorisation of the Honiara Water Supply Network;
- The installation of flow meters within the sectorised areas;
- The installation of bulk flow meters on all reservoirs;
- The need to investigate the possibility of pressure reduction;
- The need for a comprehensive leakage detection programme once DMA's have been established, and;
- The establishment of a comprehensive boundary valve and maintenance programme.





The Water Demand Management Programme for Pacific Islands Countries is solely funded by New Zealand's International Aid & Development Agency and implemented through SOPAC in partnership with Wide Bay Water Corporation and the Pacific Water Association.

For further information on Water Demand Management in Honiara, Solomon Islands please contact:

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Vulnerability and Adaptation Initiative in Tuvalu

Under the \$4 million Vulnerability and Adaptation Initiative, Australia has committed \$585,000 to enable the Government of Tuvalu to contract and manage the construction in Tuvalu of about three hundred 10,000 litre polyethylene household rainwater tanks.



Tuvalu's Department of Works staff will be trained in the construction of tanks and in their installation, repair and maintenance. Household members will be taught how to maintain the roof catchment and pipes to ensure good water quality and how to manage their use of potable water from the tanks.

In 2008 and 2009, Tuvalu expects to take on the supervision of several large donor-funded water infrastructure projects. The Tuvalu Government will also manage comprehensive public education and training programs on water resource management for the Tuvaluan communities. Australia has agreed to fund a water and sanitation specialist to work with the Department of

Works to assist them to manage construction projects and improvements to water resource management and governance.

For further information on Vulnerability and Adaptation Initiative in Tuvalu please contact:

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Hydrogen Sulphide Test Impresses Youth in Rarotonga, Cook Islands

The Hydrogen Sulphide Paper-Strip Test was a sensation among the youth participating in the Training for Trainers workshop on Community based Water Quality Monitoring held in Rarotonga, Cook Islands from 16-18 October 2007.

"When I saw the colour change, it immediately hit me that I was drinking contaminated water" said Albert, a leader in the Boys Brigade. "I think that it's a good way of showing people whether the water we are drinking is safe or not."

Albert and other young participants at the workshop were invited by the local TV channel for interviews to share what they had learnt during the workshop.

The 3-day workshop was organized by the Cook Islands National Environment Service in partnership with the World Health Organization (WHO) and the Pacific Islands Applied Geoscience Commission (SOPAC).

The main objective of the workshop was to introduce simple, but effective tools such as the Hydrogen Sulphide Paper-Strip Test and Sanitary Surveys for community based monitoring of drinking water quality. These tools are particularly efficient in rural communities with little or no resources for testing their water samples at laboratories.

The H₂S test acts as a screening test for microbiological quality of drinking water. It indicates the presence (or absence) of bacteria in drinking water. It has been used widely for community based monitoring of their water supplies, including within the Pacific region.

The Sanitary Inspection is a method of assessing the water supplies for risks of contamination. It's a comprehensive assessment of the water supply system (e.g. piped water, rainwater, wells etc) to identify areas where contamination is likely. While the H₂S test indicates whether there is contamination, the Sanitary Inspection identified areas where the contamination could have occurred.



Together, they provide a powerful tool for communities to monitor drinking water quality, but also to manage their water supplies to maintain safe water.

Live & Learn Environmental Education, a regional NGO, was engaged to conduct part of the workshop, while an expert microbiologist from the University of the South Pacific provided training for laboratory technicians on how to produce the H₂S test kit.

The workshop comprised of innovative and highly participatory activities to generate useful discussions among the participants. Examples of training activities include "Wash it Away", an introductory activity that allows participants to recognize that infectious microbes can be found in common places. "Looks Aren't Everything" an activity that enables participants to identify ways that water can be contaminated and its effects on the community.

Practical training on the use of the H₂S test and sanitary survey sheets was also provided, with a session on interpreting and analyzing the results.

"I am going to share what I learned about water monitoring with other youth and try to set up a monitoring network in my school". said Albert.



The Hydrogen Sulphide Paper-Strip not only impressed the youth, but also made a mark on the Minister of Works in Cook Islands. Honorable Ngamau Munokoa (or Aunty Mau as she is affectionately called) said that she was very impressed with the H₂S test.

For further in information on Hydrogen Sulphide Test training please contact:

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The Federated States of Micronesia Prepare their IWRM Project for the GEF Regional Project

The Federated States of Micronesia (FSM) is one of 24 countries involved in the regional Sustainable Integrated Water Resources and Wastewater Management Project funded by the Global Environment Facility.



Working with SOPAC IWRM Advisers, Mr. Leerenson Ariens from the Pohnpei Utility Corporation has led the development of the Demonstration Project for FSM. The project focuses on using an Integrated Water Resource Management approach to reduce environmental stress and improve the management of both fresh and shallow marine waters.

The project will focus on improving drinking water quality and significantly reducing pollutants entering fresh and marine waters on the main islands of Pohnpei and Chuuk States. The

earlier Diagnostic Analysis Report highlighted the two key issues of water management concern for FSM:

- 1) Poor sanitation systems and practices, leading to ground, surface and marine waters contamination; and
- 2) Deforestation of the watersheds leading to sedimentation within the lagoons. The clearing of forests for cash crops, employment and important export revenue also allows the encroachment of invasive plant species. Intensive rainfall causes the loss of vital topsoil, creating high sediment loads in rivers and streams which silt up mature mangroves and lagoons, covering coral reefs in fine sediment.

The Demonstration Project will focus on helping existing stakeholders and institutions tackle these two concerns. The project hopes to work with the Micronesia Conservation Trust, the Conservation Society of Pohnpei, the Environmental Protection Agency and the Asian Development Bank.

For further in information on IWRM Project for the GEF Regional Project please contact:

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Final Preparations for Submission to the Global Environment Facility

In a final opportunity to meet prior to submission to the Global Environment Facility (GEF) the Sustainable Integrated Water Resources and Wastewater Management Project Steering Committee met in Suva, Fiji, between the 5th and the 8th of November.

As the Project Development Facility (PDF-B) phase comes to conclusion the Meeting provided the opportunity to discuss the draft Demonstration Project proposals with the countries, including co-funding arrangements and project implementation approaches.

The current design of a new programmatic approach for GEF in the Pacific will alter full project implementation next year, but has had little impact on the project design phase. Excellent country involvement and enthusiasm provided a solid platform for completing the design of the Regional Components of the project.



Despite changing deadlines and considerable changes within the GEF, member countries remain confident that demonstration project design will be successful and look forward to submitting the Project Implementation Framework to UNDP in December, followed by the GEF Secretariat in January February 2008.

Watch this space as more information on the project regional elements is presented and find out how you can get involved in this US\$12 million regional programme.

For further information on IWRM Project for the GEF Regional Project please contact:

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Background on Water in Small Island Countries

The global water community acknowledged the special vulnerability and particular needs of small islands by the inclusion of "Water in Small Islands Countries" as a special theme at the 3rd World Water Forum that was held in Kyoto, Japan from 16-23 March 2003. SOPAC and the Asian Development Bank (ADB) jointly led this Water in Small Island Countries session as well as its preparation through a regional consultation in the Pacific (Sigatoka, Fiji Islands, 2002).

A major outcome of the Pacific regional consultation was the Pacific Regional Action Plan on Sustainable Water Management (Pacific RAP), which details priority actions of the water sector in the region. This action plan, endorsed by 18 island countries, 14 at ministerial level, (and 16 countries at Head of State level including Australia and New Zealand) has been incorporated into the Type II Water Partnership Initiative and was submitted by the Pacific Island Countries to the UN Commission for Sustainable Development (CSD) in Johannesburg during the World Summit for Sustainable Development (WSSD) in August 2002.

The objective of this Partnership Initiative is to implement the Pacific Regional Action Plan on Sustainable Water Management, inclusive of its sister strategies, the Pacific Wastewater Policy Statement and the Pacific Wastewater Framework for Action, as effectively as possible.

Over 200 participants were involved in the national and regional consultations and the Water in Small Islands Countries session and they form the core of the Partnership. Now, over 750 individuals have joined this network. Hardcopies of the Regional Action Plan have been distributed to all attendees of Sigatoka and Kyoto and are available from the SOPAC Secretariat. In addition you can obtain more information through the following website:

http://list.sopac.org.fj/Secretariat/Programmes/H2O/3rd_world_water_forum/index.html

Arrangements of the Pacific Type II Partnership Initiative on Sustainable Water Management

The overall aim of the Partnership Initiatives is to ensure coordination and increased partnerships in meeting the WSSD goals through its Plan of Implementation.

The Pacific Partnership Initiative on Sustainable Water Management is coordinated and facilitated by the intergovernmental organisation SOPAC (South Pacific Applied Geoscience Commission), which has the regional mandate to support the Pacific Island Countries in water & sanitation. SOPAC is assisted in this task by a deputy facilitator, the University of the South Pacific (USP).

The Partnership has a Facilitator (based at SOPAC) who is responsible for implementing the core functions of the partnership: liaising between the regional stakeholder groups and their sub-networks; researching and receiving stakeholder information on on-going and planned water activities; tracking donor and development agency programmes; identifying areas requiring implementation; and coordinating proposal submissions and project implementation. The Facilitator is also responsible for high-level advocacy of the strategic approach.

Monitoring and evaluation are carried out using a matrix inventory of previous, existing, planned and proposed activities, including details of the stakeholders involved, the intervention objectives, implementation duration and status, and anticipated impact.

The Facilitator enables countries and development agencies to: identify successful previous activities and therefore improve the sustainability of subsequent interventions; reduce and prevent duplication of activities; link country requirements to development programmes (and vice versa); and augment existing and proposed activities nationally and regionally.

A working group of CROP agencies (Council of Regional Organizations of the Pacific) and NGO representatives has been set up to act as the overall coordinating body of the Pacific Type II Initiatives. Facilitators are asked to report to this Sustainable Development Working Group on a regular basis.

If you have comments on this Initiative or would like to make contributions and be further involved please do not hesitate to contact Marc Overmars marc@sopac.org



Publication

[IWRM Community Mobilisation Guidelines](#)

The final Community Mobilisation Guidelines to help assist communities and facilitators working with them to look at IWRM approaches at a village and community level are now available.

Developed by Live and Learn Environment Education, supported by SOPAC and UNDP and UNEP, the guidelines are a key output from the Project Design phase of the Sustainable Integrated Water and Wastewater Management project supported by the Global Environment Facility. This project will work with 14 countries in the Pacific starting in 2008. Through a network of national Demonstration Projects supported by regional capacity building components the project aims to raise awareness on IWRM approaches and strengthen national and regional approaches to integrate improved water management in the water sector and into wider national and community interventions.

The **IWRM Community Mobilisation Guidelines** is available on SOPAC website for download: <http://www.sopac.org/tiki/tiki-index.php?page=CLP+Publications>



[Valuing the Environment in Small Islands](#)

Although a large number of guides already exist on aspects of environmental valuation, none of these references specifically focus on the issues and needs of small islands. This toolkit was developed to address this gap. Its core aim is to provide a practical resource to meet the pressing needs of a group of pioneering stakeholders in Bermuda, the Cayman Islands and Montserrat who will lead valuation studies, but have no, or only limited, knowledge of environmental economics. In addition, the toolkit is designed to be of use to a wider audience of stakeholders in small islands around the world who wish to learn about

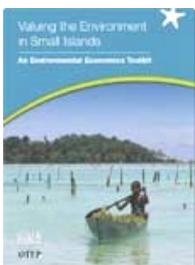
practical aspects of environmental valuation, but struggle to find a reference adapted to small island contexts.

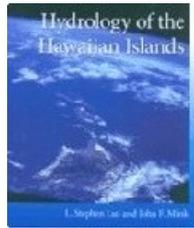
The development of this toolkit was jointly funded by OTEP and the Joint Nature Conservation Committee (JNCC). OTEP is a joint programme of the UK Government Foreign and Commonwealth Office and the Department for International Development to support the implementation of the Environment Charters and environmental management more generally in the UK Overseas Territories. JNCC is the statutory adviser to the UK Government on UK and international nature conservation, including in the UK Overseas Territories.

For more details on the UK Overseas Territories valuation projects please visit the following website: <http://www.ukotcf.org/OTEP/docs/OTEP2007PROJECTS.pdf>

For more details on the UK Overseas Territories Environment Charters please visit:

http://www.ukotcf.org/OTEP/docs/general_brochure.pdf





[Hydrology of the Hawaiian Islands](#)

Why is groundwater the predominant drinking water source in Hawaii? Why are groundwater sources susceptible to pesticide contamination? How long does it take for water in the mountains to journey by land and underground passages to reach the coast? Answers to questions such as these are essential to understanding the principles of hydrology—the science of the movement, distribution, and quality of water—in Hawaii. Due to the humid tropical climate, surrounding ocean, volcanic earth, and high mountains, many hydrologic processes in the Islands are profoundly different from those of large continents and other climatic zones. Management of water, land, and environment must be informed by appropriate analyses, or communities and ecosystems face great uncertainty and may be at risk. The protection of groundwater, coastal waters, and streams from pollution and the management of flood hazards are also significant. This volume presents applications of hydrology to these critical issues.

The authors begin by outlining fundamental hydrologic theories and the current general knowledge then expand into a formal discussion specific to Hawaii and the distinctive elements and their interrelations under natural and human-influenced conditions. They include chapters on rainfall and climate, evaporation, groundwater, and surface runoff. Details on the quantification of hydrologic processes are available to those with more technical knowledge, but general readers with an interest in the topic—one of singular importance for the Hawaiian Islands—will find much in the volume that is timely and accessible.

For further information on **Hydrology of the Hawaiian Islands** please visit the following link:

www.uhpress.hawaii.edu/cart/shopcore/?db_name=uhpress&page=shop/flypage&product_id=4226

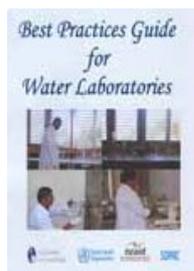


[Resource Guide - Mainstreaming Gender in Water Management](#)

This is the second edition of the Resource Guide on Mainstreaming Gender in Water Management of August 2006, which was first published by the United Nations Development Programme (UNDP) in 2003. The Guide is a reference document to assist water and gender practitioners and professionals as well as persons responsible for gender mainstreaming, and anybody else who is interested in the water sector. It is a compilation of newer resources – documents, papers, books, case studies, tools and toolkits - on gender mainstreaming in Integrated Water Resource Management (IWRM). It is meant to support action and further reading and research.

For the regular updating of the website version of the **Resource Guide** please visit the following website:

www.genderandwater.org/



[Best Practices Guide for Water Laboratories](#)

The guide is prepared as part of the NZAID-funded Pacific Water Quality Monitoring Capacity Building Programme that is being implemented by SOPAC, WHO and IAS-USP. It is intended to be a resource guide for small PIC water laboratories on best practices that can be employed in water laboratories.

The Guide is comprised of two parts:

Part 1 - outlines the 10 key features that an ideal water quality monitoring laboratory is recommended to have in order to successfully conduct its role.

Part 2 - outlines other aspects that are to be addressed in supporting the development of a water monitoring laboratory.

For more information on the guide or to obtain copies, please contact **SOPAC Secretariat** (tasleem@sopac.org).



[Hydrology for the Environment, Life & Policy](#)

HELP (**Hydrology for the Environment, Life & Policy**) is a joint initiative of the United Nations Educational Scientific Organization (UNESCO) and the World Meteorological Organization (WMO). HELP is led and coordinated by UNESCO's International Hydrological Programme (IHP). In the Pacific, the IHP is administered by the UNESCO Office for the Pacific States in Apia, Samoa, through a memorandum of understanding with the South Pacific Applied Geoscience Commission (SOPAC).



Under the title "HELP in the context of the Pacific Regional Action Plan for Sustainable Water Management: A Framework for Action", the proceedings of the Pacific HELP Symposium were prepared in response to the recommendations by the Pacific Island country participants and supports the implementation of catchment management actions envisioned in the overarching Pacific Regional Action Plan on Sustainable Water Management.

This document consists of the Framework for Action itself, as well as a CD-Rom containing electronic editions of all presentations and papers delivered at the HELP Symposium.

Participating Pacific Island Countries in the HELP Symposium: - Cook Islands, Fiji, Papua New Guinea, Samoa, Solomon Islands and Vanuatu.

[Participatory Training in rainwater Harvesting](#)

This manual of **Participatory Training in rainwater Harvesting** was developed as part of the United Nations Environment Programme (UNEP) project titled "Pilot Project on Empowering Women in Rainwater Harvesting in the Pacific Atoll Islands" with funding from the Government of Sweden.

The manual is targeted for use by Non-Government Organisations (NGOs), Community-Based Organisations (CBOs) or people involved in rainwater harvesting, and contains a number of participatory techniques, tools and activities based on best practices from a variety of sources.

Copies of this Manual can be obtained from the **SOPAC Secretariat** (arieta@sopac.org) or you can download the document via the following website:

<http://www.sopac.org/CLP+Rainwater+Harvesting>

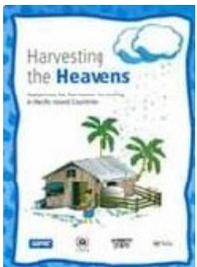
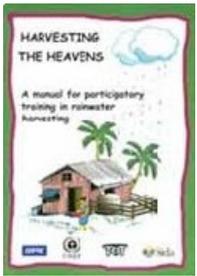
[Harvesting the Heavens: Guidelines for the Rainwater Harvesting in the Pacific Island Countries](#)

The "**Harvesting the Heavens: Guidelines for the Rainwater Harvesting in the Pacific Island Countries**" were developed as part of the United Nations Environment Programme (UNEP) demonstrating projects on "Empowering Women in Rainwater Harvesting" funded by the Government of Sweden through their development agency SIDA and carried out in Africa (Kenya) and the Pacific (Tonga).

The guidelines capture the lessons learned during the preparation and the implementation of the demonstration project executed by the South Pacific Applied Geoscience Commission (SOPAC) and carried out in the Island group of Vava'u of the Kingdom of Tonga through the Village Women's Development Programme (VWDP) of the Tonga community Development Trust (TCDT).

Copies of this Guideline can be obtained from the **SOPAC Secretariat** (arieta@sopac.org) or you can download the document via the following website:

<http://www.sopac.org/CLP+Rainwater+Harvesting>

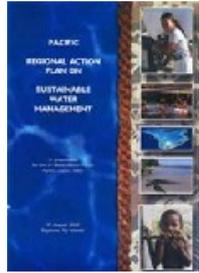




[Pacific Regional Action Plan](#)

National consultations as well as a regional meeting held in Sigatoka, Fiji from 29 July – 3 August 2002 provided a platform through which participants translated ideas into decisions and policy changes on water and sanitation resulting in the Pacific Regional Action Plan on Sustainable Water Management (Pacific RAP).

The outcomes of the consultation were carried forward and presented during the 3rd World Water Forum in Kyoto as part of the theme "Water in Small Island Countries".



Copies of the **Pacific Regional Action Plan** can be obtained from the **SOPAC Secretariat** (mathias@sopac.org) or you can download the document via the following website:

<http://www.sopac.org/CLP+Publications>

[ICU bulletin](#)

The ICU is a multi-disciplinary, multi-national project providing Pacific island countries with 3-month climate forecasts. It is published monthly both in print and online by the National Institute of Water and Atmospheric Research (NIWA) in New Zealand and is funded by NZAID. Every month, 1200 printed copies of the ICU are distributed free-of-charge by NIWA, the publisher, directly to subscribers.

Online versions of the **ICU bulletin** can be downloaded from the following NIWA ICU website:



<http://www.niwascience.co.nz/ncc/icu/archive>

[Safe Water guide for the Australian aid program](#)

The Safe water guide provides an overview of the approach that AusAID has adopted for managing water quality in activities implemented under the Australian aid program. That approach is based on managing risks.

The guide outlines the steps that may need to be taken when designing, implementing, monitoring and evaluation water-related activities, particularly the provision of safe drinking water suppliers. It provides guidance on the procedures for identifying and managing existing and potential water quality problems.

Copies of the **Safe Water guide for the Australian aid program** can be obtained from AusAID. For further information visit their website:

www.ausaid.gov.au



[Overview of Integrated Water Resources Management in Pacific Island Countries: A National and Regional Assessment](#)

The report concentrates on regional and national progress and activities in the Pacific region on IWRM, and where relevant refers to national and sub-national level examples of "roll-out" of these developments.



Copies of the **An Overview of Integrated Water Resources Management in Pacific Island Countries: A National and Regional Assessment** is available on **SOPAC website**:

www.sopac.org/tiki/tiki-sopac_download.php?path=/data/virlib/MR/MR0554.pdf&file=MR0554.pdf&loc=MR



[Water Quality Monitoring in Pacific Island Countries](#)

The Water Quality Monitoring in the picture is the first of its kind guideline that has been developed by the Institute of Applied (IAS) of the University of the South Pacific (USP) and the South Pacific Applied Geoscience Commission (SOPAC). The publication is divided into sections on how to design a water quality monitoring programme; selection of drinking and recreational water sampling; solid and liquid waste management and general notes on sampling and laboratory procedures.

This handbook is aimed for those people working in the water and wastewater sectors in the Pacific region, with local examples to allow more understanding and adaptation.

Copies of the **Water Quality Monitoring in Pacific Island Countries** can be obtained from the **SOPAC Secretariat** (tasleem@sopac.org) or you can download the document via the following website:

www.sopac.org/tiki/tiki-sopac_download.php?path=/data/virlib/TR/TR0381.pdf&file=TR0381.pdf&loc=TR



[Directory of Environmentally Sound Technologies for the Integrated Management of Solid, Liquid and Hazardous Waste for Small Island Developing States \(SIDS\) in the Pacific Region](#)

The Directory of Environmentally Sound Technologies for the Integrated Management of Solid, Liquid and Hazardous Waste for Small Island Developing States (SIDS) in the Pacific Region represents the combined efforts and achievement of numerous people from UNEP, SOPAC and SPREP.

The directory provides an overview of solid, hazardous and wastewater technologies.

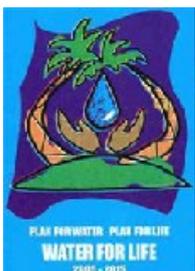
Solid waste technologies - discuss information on different municipal solid waste management (MSWM) technologies that are currently used in different regions of the world.

Hazardous Waste Technologies - addresses the proper management of various types of hazardous wastes, as they require special handling, treatment and disposal due to their hazardous potential.

Liquid waste or wastewater technologies - in SIDS wastewater disposal systems are just as important for public health as a water supply distribution system.

Copies of the **Directory of Environmentally Sound Technologies for the Integrated Management of Solid, Liquid and Hazardous Waste for Small Island Developing States (SIDS) in the Pacific Region** are available from the **SOPAC Secretariat** (kamal@sopac.org) or you can download the document via the following website:

www.sopac.org/tiki/tiki-sopac_download.php?path=/data/virlib/JC/JC0143.pdf&file=JC0143.pdf&loc=JC



[World Water Day Campaign](#)

The World Water Day "Water for Life 2005-2015" Activity Booklet has been produced for schools and communities to further consider water issues through participative activities. The Activity Booklet should be used with the Water for Life Cartoon Scenes on the posters or calendars as the activities are linked to each cartoon scene. Alternatively, it can be used on its own to address different components of the theme "Water for Life".

Copies of the **World Water Day Campaign** are available from the **SOPAC Secretariat** (kamal@sopac.org) or **Live & Learn Environment Education** (marie@livelearn.org.fj). You can also download the document via the following website:

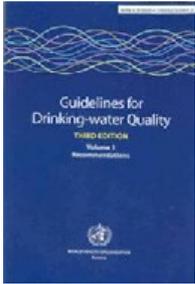
<http://www.sopac.org/WWD+2007>



[Guidelines for Drinking - Water Quality](#)

Since the second edition of WHO's Guidelines for Drinking water Quality, there have been a number of events that have highlighted the importance and furthered understanding of various aspects of drinking-water quality and health. These are reflected in this 3rd edition of the Guidelines.

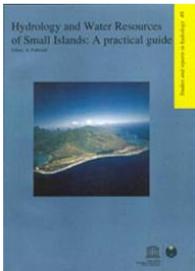
The Guidelines are addressed primarily to water and health regulators, policy-makers and their advisors, to assist in the development of national standards. The Guidelines and associated document are also used by many others as a source of information on water quality and health and on effective management approaches.



Copies of the **Guidelines for Drinking - Water Quality** are available from **WHO's website**: http://www.who.int/water_sanitation_health/dwq/gdwq3/en/ or from the **WHO's Pacific Regional Office** (IddingsS@sp.wpro.who.int).

[Hydrology and Water Resources of Small Islands: Practical Guide](#)

In most small islands water development projects have not achieved any goal. This is often because the technologies, design and materials were not suitable for either the environment or the cultural habits of the population, or because the operation and maintenance cost were excessive. Combined with geological and other physical complexities and the exposure to natural disasters, the hydrological and water resources problems, must be carefully considered. The situation is aggravated by lack of qualified personnel.



This guide has been prepared to assist technicians, hydrologists, engineers and managers in the identification, assessment, development, management and protection of water resources of islands. It is intended to be a guide to the selection of methods and practices appropriate to the special conditions of small islands.

Copies of the **Hydrology and Water Resources of Small Islands: Practical Guide** can be obtained from the **SOPAC Secretariat** (mathias@sopac.org) or from the **UNESCO Apia Office** (hans@unesco.org.ws).

[Tapping Water Connections](#)

Everyone uses water and everyone needs some kind of sanitation. The way water is used depends on the island where you live: the climate, the landforms, and the source of water. It also depends on the tradition and customs of the family and community, their income and the size of the population.



The handbook "**Tapping Water Connections**" can be used by field workers when working with communities to install and maintain water and sanitation systems. It can also be used to support health and hygiene programmes. The handbook raises seven Questions to think about. The Questions can be a checklist to identify important connections between people and their water and their land.

Copies of the Manual can be obtained from the **SOPAC Secretariat** (arieta@sopac.org) or you can download the document via the following website:

<http://www.sopac.org/data/virilib/MR/MR0577.pdf>

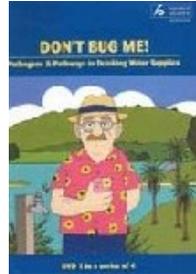


Multimedia

[Don't Bug Me? – Pathogens and Pathways in Drinking Water Supplies](#)

This is the DVD 1 of the four series produced by New Zealand Ministry of Health and can be used in the Water Safety Plans programme as public awareness material. This video informs on the access and presence of pathogens in the drinking water supplies. It is intended for the small drinking water supplies and can be used in the Pacific Island Countries.

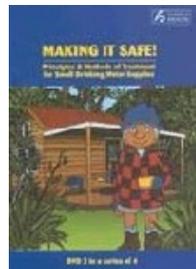
Copies of this documentary are available from **New Zealand, Ministry of Health**.



[Making It Safe? - Principles and Methods of Treatment for Small Drinking Water Supplies](#)

This is the DVD 2 of the four series produced by New Zealand Ministry of Health and can be used in the Water Safety Plans Programme as public awareness material. This video informs on the principles and methods of treatment for small drinking water supplies. It can be used for educating the pacific island communities as well.

Copies of this documentary are available from **New Zealand Ministry of Health**.



[Cap-Net - IWRM Tutorial](#)

This DVD contains a brief introductory tutorial aimed at policy makers, water managers, trainers and educators who want a basic understanding of IWRM principle. It provides the case for IWRM and the argument against those who may oppose it on institutional or sectoral grounds.

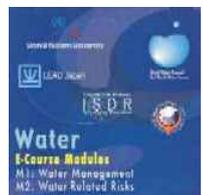
Copies of the **Cap-Net - IWRM Tutorial DVD** can be obtained from the **United Nations Development Programme**.



[Water E-Course Modules](#)

The content of this DVD includes an overview of the major concern related to water use and management. The workshop consisted of a series of lectures which included the status of global water crisis, measures being taken by the global community, issues related to water resource assessment, water sharing, floods and concerns related to dam construction.

Copies of the **Water E-Course Modules DVD** can be obtained from the **United Nations University**.



[Toolbox](#)

This DVD contains a brief introductory tutorial aimed at policy makers, water managers, trainers and educators who want a basic understanding of IWRM principle. It provides the case for IWRM and the argument against those who may oppose it on institutional or sectoral grounds.

Copies of the **Toolbox DVD** can be obtained from the **Global Water Partnership Secretariat**.



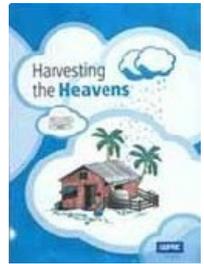


[Harvesting the Heavens](#)

A DVD documentary which follows the pilot project in Vava'u. The video highlights the important aspects of the project including community participation and ownership, encouraging women as well as men to participate in water management and promoting sustainable approaches. Harvesting the Heavens follows a rainwater harvesting demonstration project carried out in the villages of 'Utungake and Matamaka in the island group of Vava'u in Tonga. The project focused on the importance of community participation and ownership, encouraging women as well as men to participate in water management and promoting sustainable approaches.

Copies of the **Harvesting the Heavens** documentary can be obtained from the **SOPAC Secretariat** (kamal@sopac.org) or you can download the document via the following website:

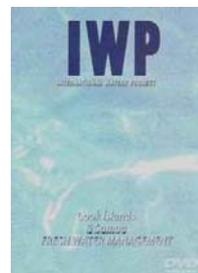
<http://www.sopac.org/CLP+Rainwater+Harvesting>



[Cook Islands & Samoa Fresh Water Management](#)

A DVD documentary which follows the pilot project in **Cook Islands and Samoa fresh water management**. The International Water Project ensures that by establishing a good fresh water management plans our water quality would be safe for consumption.

Copies of this documentary can be obtained from the **SPREP Secretariat**.

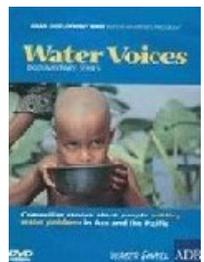


[Water Voices Documentary Series](#)

Water is essential to all life. And yet one in three Asians lacks access to safe drinking water, and half the people living in Asia and the Pacific do not have access to adequate sanitation. Conflicts over sharing of scarce water resources are increasing at an alarming rate.

A documentary series that recognizes the power of good examples and lessons learned to inspire 'home grown' solutions to water problems. The series recognizes the power of good examples and lessons learned to inspire 'home grown' solutions to water problems and looks specifically at communities in Fiji, Kiribati and Tonga.

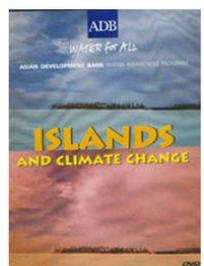
Copies of this documentary can be obtained from the **SOPAC Secretariat** (arieta@sopac.org) or the **Asian Development Bank** (http://www.adb.org/Water/CFWS/Water_Voices_Videos.asp).



[Islands and Climate Change](#)

Islands and Climate Change examines and reports on a unique initiative on Fiji's Coral Coast where coastal communities and the tourist industry try to protect water resources. The Water Awareness Program aims to increase public understanding about vital water issues in the Asia and Pacific region; promote water sector reform; improve delivery of water services, especially to the poor; and foster conservation and integrated management of water resources.

Copies of this documentary can be obtained from the **SOPAC Secretariat** (arieta@sopac.org) or the **Asian Development Bank** (http://www.adb.org/Water/CFWS/Water_Voices_Videos.asp).





Pacific Water Agenda 2007

DATE	EVENT	LOCATION	DETAILS
October 22 nd - 26 th	Workshop organised by NGO –Live and Learn on Water Safety Plans Programme	Luganville, Santos	Training and Community workshop to be organised by NGO- Live and Learn with assistance from SOPAC/WHO
October 22 nd - 26 th	3rd Southeast Asia Water Forum	Kuala Lumpur, Malaysia	HEME: Consolidating Actions Towards Effective Implementation of Integrated Water Resources Management (IWRM) http://3rdseawf.water.gov.my/index.cfm
November 4 th - 9 th	UNESCO IHP-HELP Southern Symposium	Emperors Palace, Johannesburg, South Africa	This Symposium is aimed at bridging the gap between science and policy and moving towards sustainable development at local, national and the international levels. The UNESCO HELP initiative has identified 67 catchments from 56 countries as HELP Basins-Symposium is a tremendous knowledge sharing opportunity on how to put HELP into action
November 5 th - 8 th	3 rd IWRM Steering Committee Meeting	Suva, Fiji	The 3rd Steering Committee was held at Tradewinds Convention Center.
November 12 th - 15 th	1st International Conference on Adaptive & Integrated Water Management	Basel, Switzerland	The conference will provide a multidisciplinary platform and bring together scientists from academia, industry, and policy making/government to analyse progress, to explore new research directions and highlight policy implications of scientific findings. www.usf.uos.de/projects/caiwa/index.htm
November 13 th - 15 th	BORA-BORA seminar	French Polynesia	The seminar highlights issues such as: Water Management in island territories, coastal regions and isolated communities.
November 19 th - 23 rd	International Conference on Hydrology and Water Resources Management for Hazard Reduction and Sustainable 15th Regional Steering Committee Meeting for UNESCO-IHP Southeast Asia and the Pacific	Metro Manila, Philippines	The general conference themes of Hazard Reduction and Sustainable Development, are selected in order to attract from the region a broad range of papers and presentations devoted to several focal areas of IHP-VI such as: <ul style="list-style-type: none"> • Global distribution of water quantity and quality (e.g., as affected by the El Niño/Southern Oscillation or ENSO), • extreme events in land and water resources management (droughts, tropical cyclones, floods, landslides, tsunamis, and water-related events of tectonic and volcanic origin) which are evidently common and significant in the SEAP region (associated with typhoons and monsoons), • integrated river basin management (IRBM) and integrated water resources management (IWRM), including environmental management of watersheds, rivers, lakes and aquifers, • hydrology of various land habitats (dry-lands, wetlands, mountains, small islands, coastal zones, urban and rural settlements) present in the region, • social and economic values of water, water conflicts and other global water societal issues, and • public awareness and water education (such as the use of information technology and teaching materials). www.unesco.or.id/activities/science/water_sci/events/215.php
November 22 nd - 29 th	SOPAC Annual Session and STAR Water Working Group Meeting	Nuku'alofa, Tonga	www.sopac.org/Annual+Session+2007-Kingdom+of+Tonga
November 24 th - 25 th	Joint Inter Regional Meeting	Metro Manila, Philippines	The Joint Inter Regional Meeting of partners of GWP South Asia, South East Asia and China is scheduled to be held on 24th and 25th November in Manila.
December 3 rd - 4 th	1 st Asia-Pacific Water Summit	B-con plaza (Beppu Convention Centre), Oita Prefecture, Japan	Open Summit is a series of events which will be organized by the host local government (s)/regional offices of the Japanese Governments, CSOs in cooperation with the Summit SC in Oita Prefecture as well as in any other places in Japan on the occasion of the 1st Summit. The events will include: public symposium, seminars and workshops, exhibitions, and technical visits and excursions. http://www.apwf.org/news/index.html



Selected Water Websites

ADB Water in Small Island Countries www.adb.org/Water/theme3.asp	Pacific ENSO Update http://lumahai.soest.hawaii.edu/Enso/subdir/update.dir/update.html
AOSIS Alliance of Small Island States www.sidsnet.org/aosis	Pacific Water Association www.pwa.org.fj
AUSAID www.usaid.gov.au	SIDSNET www.sidsnet.org
Australian Water Portal www.developmentgateway.com.au/water/index.html	UNEP http://freshwater.unep.net/
Barbados +10 www.sidsnet.org/Mauritius2004/	UNESCAP www.unescap.org
CSD12 www.un.org/esa/sustdev/csd/csd12/csd12.htm	UNESCO www.unesco.org/water
CSD13 http://www.un.org/esa/sustdev/partnerships/csd13_partnership_fair.htm	UNU www.inweh.unu.edu/inweh
Co-operative Programme on Water and Climate www.waterandclimate.org	WHO www.who.int/water_sanitation_health/en/
East-West Centre www.EastWestCenter.org/climate	WMO www.wmo.ch/web/homs/index.html
ESCAP www.unescap.org/esd/water/activities	World Bank www.worldbank.org/html/fpd/water
European Union www.europa.eu.int/comm/development/publicat/water/en/frontpage_en.htm www.euwi.net	SOPAC Water www.sopac.org/Community+Lifelines+Programme+Water+and+Sanitation
Gender and Water Alliance www.genderandwateralliance.org	World Water Council www.worldwatercouncil.org
Global Water Partnership www.gwpforum.org	USP www.usp.ac.fj
GWP Australia www.gwpaustralia.org	WSSCC http://www.wsscc.org/
Island Climate Update www.niwa.cri.nz/NCC/ICU	NIWA www.niwa.co.nz
NZAID www.nzaid.govt.nz	SPC www.spc.int
USGS http://hi.water.usgs.gov	Japan Water Forum http://www.waterforum.jp/eng/index.html
Water Virtual Learning Centre (WVLC), University of the South Pacific www.earth.fst.usp.ac.fj/index.php?id=4043	UN-Water http://www.un.org/waterforlifedecade/
World Summit on Sustainable Development www.johannesburgsummit.org	World Wide Fund for Nature www.wwfpacific.org.fj



--- Please let us know if you think other websites are worth mentioning here! ---

Frequency of issuing this newsletter is quarterly so you can be kept updated on the latest developments. As mentioned in earlier mail outs we would appreciate it if you could forward this to colleagues who may be interested in this initiative so that it reaches the widest possible audience.

To subscribe please send an email to sanjeshni@sopac.org to add your contact to our mailing list.
and

Send a blank email message with the words

"unsubscribe" in the subject field to: sanjeshni@sopac.org to unsubscribe from this list if you wish not to receive any further issues in the future.

The Pacific Water Partnership Initiative News is produced by the Pacific Partnership Initiative on Sustainable Water Management for Water Awareness Program to provide water information to Pacific member governments, professionals, researchers, private sector and their counterparts in the donor community who are interested in water sector issues and initiatives.

For comments or more information:

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