

Pacific Partnership Initiative on Sustainable Water Management

Logon to: Pacific Partnership Initiative on Sustainable Water Management

Issue: XII, January 2007

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Welcome to the twelfth 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

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SOPAC







<u>Pacific HYCOS - Inaugural Technical Advisory</u> <u>Group</u>

The Pacific Hydrological Cycle Observing System (HYCOS) is a 3 year project serving 14 Pacific Island Countries, funded through the European Union (EU) Water Facility.

The Pacific HYCOS project developed by SOPAC under the World framework of Meteorological Organisation's (WMO) World Hydrological Cycle Observing System (WHYCOS) aims to strengthen the human and technical capacity of the National Hydrological Services (NHSs), and to promote the appropriate collection, dissemination and use of water related information necessary for effective water resources management.

The inaugural Pacific HYCOS - Technical Advisory Group (Pacific HYCOS-TAG) hosted by WMO at National Institute for Water and Atmospheric Research (NIWA), Christchurch, New Zealand in December 2006 brought together experts from a range of technical disciplines with experience and knowledge in water resources investigations, collection, and analysis in Pacific Countries. Represented were WMO, NIWA and SOPAC.

The group discussed details for the upcoming Pacific HYCOS Preparatory Meeting in Brisbane from 16^{th} - 20^{th} April and decided on the framework for the project implementation.

Members of the group will advise on the appropriate options for effective implementation of the Pacific HYCOS project, and will be available to provide more specific technical advice as required. The Pacific HYCOS - TAG proposes to meet when possible with available members, at coinciding WMO meetings and other Pacific HYCOS project meetings, and utilising telecommunication options for discussions in between sessions.

Pacific HYCOS provides a platform to develop a regional as well as national database whilst developing the capacity from which appropriate water resource policies and decisions can be made. The access to the collective expertise and experience available from the Pacific HYCOS -TAG will only strengthen the successful implementation of this project.



For further in information on Water & Sanitation Support in Papua new Guinea please contact:

EWB National Office www.ewb.org.au

Live and Learn www.idea.org.au/liveandlearn/



Water & Sanitation Support in Papua New Guinea

Papua New Guinea is rich in gold, oil, copper, timber, and is home to abundant fisheries. Although it has a population of only 5.3 million, the country is home to the greatest number of distinct languages in the world.

Despite this cultural diversity and abundance of resources, more than 42 percent of the population lives on less than US\$1 a day, and serious problems of governance and corruption have hampered development.

Its partner Live & Learn is a non-government organization which promotes greater understanding and action toward human and environmental sustainability through education and dialogue building.

Their purpose and aims are to:

- Develop and implement projects and programs for teachers, schools, communities and other target groups in the field of environmental and development education;
- Encourage individual and community attitudes, values and actions that are ethical and environmentally sustainable;
- Share knowledge, skills, learning experiences and resources with others for the benefit of the physical and human environment;
- Promote the integration of environmental, human, cultural and peace concepts in all education projects and programs.

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Minimizing Nutrient Release from Animal Waste through Ecological Pig farming as practiced in a Chinese model project

In the Pacific region the majority of livestock is owned as small-scale semi subsistence in community. As the population of animals has increased public pressure has forced farmers to move from a system of free ranging animals to one where animals are penned and waste is concentrated in and around specific areas. If livestock waste is not collected or managed it is possible these will cause contamination of surface and groundwater which can lead to human health risks including zoonotic diseases (such as leptospirosis) and loss of potential nutrients and energy via biogas. Some countries such as Fiji, Tonga, Tuvalu and Kiribati have high livestock densities. As a result, livestock waste has become an important source of pollution if not managed or treated. Studies along the Coral Coast in Sigatoka in Fiji have revealed that pig waste is one of the root causes of high nutrient (nitrates and phosphate) levels.

Taking this into consideration United Nations Environment Programme (UNEP) and Global Programme for Action for the Protection of the Marine Environment from land based sources of Pollution (GPA) and the International Waters Project (IWP) Fiji has conducted a Email: iwpfj@connect.com.fj

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training on "Minimizing Nutrient Release from Animal Waste" jointly with the Coastal and Ocean Management Institute (COMI) of Xiamen University. The Ministry of Environment in Fiji through the IWP in Fiji has identified a number of actions to address poor animal waste management through the recently developed National Liquid Waste Management Strategy. The overall goal of the training is to transfer appropriate methodology and provide for strategic planning in reducing pollution especially nutrients that result from wastewater.

The pilot training in China with Fijian stakeholders has been developed to build capacity for Fiji which can be shared with other Pacific Island Countries. The training will test the appropriateness of a Chinese method to reduce nutrient release from pig farming in the Fijian context and develop a concrete strategy for the development of a specialized training centre in a concerted pig farm in Fiji.

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Sustainable Integrated Water Resources and Wastewater Management project for Pacific Island Countries

Project Design Commences

In July 2006, the 'Sustainable Integrated Water Resources and Wastewater Management project for Pacific Island Countries' commenced its Project Development Facility (PDF)-B phase as part of a Global Environment Facility (GEF) funded initiative implemented by the United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP) and executed by the South Pacific Applied Geoscience Commission (SOPAC).

Several activities have occurred to date as part of the design phase including the Inception Meeting held in Honiara, from 25-27 September 2006 and the start of the required national analyses in each country which form the foundation of the design of demonstration projects.

An opportunity to review these national analyses will present itself at the 2nd Steering Committee Meeting for the project beneficiaries and partners from 23rd – 27th April in Fiji. The Second Steering Committee Meeting will bring the project focal points and their partners together and assess national analyses, exchange information and share experiences. It will also allow the preparation for the next steps in the project which include developing demonstration project designs and preparing cofinancing strategies together with the project team.

SOPAC as the executing agency for the project is tasked with its management and delivery in close collaboration with the implementing agencies UNDP and UNEP, other appropriate stakeholders and most importantly the member countries.



For further in information on Water Safety Plans please visit: www.waterquality.crc.org.au/ and www.sopac.org/tiki/tikiindex.php?page=Water

or contact:

+Safety+Plan

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<u>AusAID Focus Magazine covers Pacific's Plans for</u> Water

For many island nations vulnerable to environmental and climatic forces, the main concern is protecting scarce water resources.

The Pacific island countries are scattered and culturally diverse but when it comes to the natural environment many are in the same boat. Sharing similar experiences binds them together and working in partnership to conserve their fragile resources simply makes sense.

'Many atoll countries already have extremely vulnerable groundwater reserves but they are under further threat from population increases, urbanisation and tourism,' says WHO environmental engineer Steven Iddings.

Under a program funded by AusAID, SOPAC water experts, WHO health specialists and local communities are developing 'Water Safety Plans'. Once fully implemented, these plans will help improve the quality of water in the Pacific and make it safer to drink. Advice will include safe storage of water, its more efficient distribution to households and even water treatment possibilities, such as recycling.

Pilot projects establishing the water safety plans are underway in Vanuatu, Tonga, Cook Islands and Palau.

At a strategic level AusAID is supporting close cooperation between SOPAC and WHO. At the regional level, the Pacific island countries are sharing their experiences. At a national level, government officials, the private sector and non-government organisations are realising they must coordinate responsibility for water delivery and, at a local level, communities are working together. They're learning to protect and maintain their own water systems.

'We hope the Pacific water safety plan approach will help people develop more control and understanding of their own water systems and the importance of safe drinking water. Learning how to protect wells from pollution and manage rainwater tanks is the only way to ensure a safe and more consistent water supply,' says Steven Iddings.



For further in information on Water Safety Plans please visit: www.waterquality.crc.org.au/and www.sopac.org/tiki/tiki-index.php?page=Water +Safety+Plan

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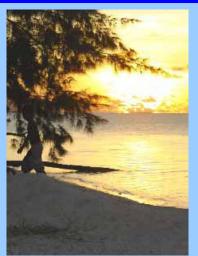


Water Safety Plan Pilots

The first year for the Water Safety Plans programme has been successfully completed. The AusAID funded programme implemented in four Pacific Island Countries (Tonga, Cook Islands, Vanuatu, and Palau) as pilots but replication in other countries and within the country will allow the lessons learned from pilots to be used in other areas.

The team from SOPAC/WHO have completed scoping missions and training workshops in the first year (2006) for the pilot countries. For the second year (2007) a number of activities are planned such as seeing the completion and implementation of Water Safety Plans, public awareness and production of Information, Education and Communication (IEC) materials. There is a need for involvement of the in country stakeholders and NGOs in raising public awareness. Negotiations are underway with NGOs Live and Learn in Vanuatu and Tonga Trust in Tonga to assist in the preparation of IEC materials and organising public awareness campaigns. Other programme materials such as survey forms, water quality parameters and standards and WSP guidelines will be developed during the year.

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For further information on Island Climate Update please visit: www.niwascience.co.nz/ncc/icu

Island Climate Update Received Extra Funding

The Island Climate Update (ICU) is a multi-national and multi-organisational project that involves the National Institute of Water and Atmospheric Research (NIWA), the Pacific Islands Applied Geoscience Commission (SOPAC), the Secretariat of the Pacific Regional Environment Program (SPREP) national meteorological services (NMS) in the Pacific and several other regional and international climate research institutions. The objective of the project is to improve the effectiveness of planning processes in climate sensitive sectors in the Pacific through increasing access to accurate climate information. The ICU bulletin is a regional climate outlook produced to meet this objective. Every month, over 800 printed copies of the bulletin are distributed to subscribers. The ICU is also available online where it can reach a much wider audience.

Following the first project review in early 2006 and positive feedback received from the reader community,

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there was found to be ample support to keep the project running. A proposal was written to the New Zealand Agency for International Development (NZAID) for continued support of the project and this was granted in January 2007. The additional funding will see the production of 12 issues of the ICU bulletin in 2007 as well as end user consultation workshops to be held in 2 countries (Tonga and Vanuatu) in mid-2007. There will be increased collaboration with NMS and linkages with larger regional programmes such as the Pacific HYCOS, PI-GCOS and PI-GOOS will be made to improve the quality and efficiency of climate information to climate sensitive sectors in the Pacific region.

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For further in information on Water & Sanitation Support in Papua new Guinea please contact:

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Live and Learn
www.idea.org.au/liveandlearn/



RiverCare School Environment Club Cleans-Up

RiverCare, a project of Live & Learn Environmental Education, involves high school students, teachers and communities in improving the health of waterways. This is done through raising awareness of water issues and mobilizing action. RiverCare in schools is aimed at empowering students to investigate and identify water quality issues through scientific enquiry. RiverCare encourages active citizenship by promoting critical thinking skills, dialogue, equitable participation in decision-making and problem solving. RiverCare is funded by Vodafone (ATH) Fiji Foundation and the project has been embraced at the Assemblies of God High School.

Earlier in the year a RiverCare teacher training workshop was held at Olympic House, Suva, for staff from Navua, Suva and Nausori schools. Teachers were introduced to new activities that encourage participatory, student centred methods. All these activities have an environmental focus.

Assemblies of God High School decided to launch their RiverCare project with a clean up of the creek that flows across their grounds on 19th October 2006. The theme for the day was "Clean Water For Healthy Living". The program included chores of picking up rubbish, cleaning the drains and creek, sorting out the rubbish, making rubbish bins and cleaning the flower beds and planting.

Students were excited to find a range of organisms including eels, prawns and fish inhabiting the creek. Such experiences are crucial in nurturing the importance

of having clean waterways that support a diversity of living things.

The students also moved some rocks to let the water flow better. These were piled in calmer areas to become home and shelter for guppies. After lunch, and once the water had settled and cleared again, the Principal released back into the creek some prawns and fish as a "symbol of life in our rivers".

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For further information on the First Announcement of the 1st ASIA-PACIFIC Water Summit please visit:

http://www.apwf.org/



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<u>First Announcement of the 1st Asia-Pacific Water</u> Summit

The 1st Asia-Pacific Water Summit will be held on 3 - 4 December, 2007 in Oita Prefecture, Japan. The Summit will be organized as a keystone activity of the Asia-Pacific Water Forum (APWF), an independent, not-for-profit, non-partisan, non-political network dedicated to solving water problems in the Asia-Pacific region.

The APWF was initially proposed by the participants of the 4th World Water Forum's Regional Preparatory Process under the coordination of the Japan Water Forum (JWF). The establishment of the APWF was officially announced by Mr. Ryutaro Hashimoto, former President of Japan Water Forum, during the Asia-Pacific Day at the 4th World Water Forum, Mexico City, March 2006. And on September 27, 2006 in Manila, the APWF was officially launched during an elaborate ceremony attended by over 160 water stakeholders from the region.

The goal of the APWF is to contribute to sustainable water management in order to achieve the targets of the MDGs in Asia and the Pacific by capitalizing on the region's diversity and rich history of experience in dealing with water as a fundamental part of human existence. Specifically, the APWF champions efforts aimed at boosting investments, building capacity, and enhancing cooperation in the water sector at the regional level and beyond.

The Asia-Pacific Water Summits, to be organized every two or three years, shall target top-level policy and decision-makers beyond the water sector, such as heads of the government and ministers of finance and planning, as well as leaders from the private sector, local governments, civil society and the media.

The Summits will create incentives for these leaders to showcase tangible water sector results in their respective countries, as reflected by increased water investments, adoption and implementation of strategic reforms, improved water governance at all levels, and significant progress in reaching the MDGs. Furthermore, the Governing Council of the APWF will report on the key findings from the APWF process (from the different Key Result Areas, Priority Themes, and Sub-Regional results) to the top-level leaders at the Summit.

Participation in the Summits will be by invitation only, and the official invitation letters to the leaders of the 47 countries of the Asia-Pacific region will be sent via the



For further information on International Year of Sanitation please visit the Website:

[1] International Year of Sanitation 2008: revised draft resolution, U.N. General Assembly Document,

A/C.2/61/L.16/Rev.1.

Available through:

http://documents.un.org/

or

www.un.org/ga/61/second/ proposalslist.html

[2] U.N. Department of Economic and Social Affairs - Sustainable Development Topics - Sanitation www.un.org/esa/sustdev/ sdissues/sanitation/ sanitation.htm

[3] Hashimoto Action Plan www.unsgab.org/ Compendium of Actions en.pdf



<u>United Nations Declare 2008 as the International</u> Year of Sanitation

The U.N. General Assembly has declared 2008 as the International Year of Sanitation. It requested the U.N. Department of Economic and Social Affairs to serve as the focal point for the Year and to develop proposals on possible activities, including possible sources of funding. The UN General Assembly reaffirmed the commitment to implement Agenda 21, the Programme for the Further Implementation of Agenda 21, the Johannesburg Plan of Implementation, and the other international agreed development goals, including those contained in the United Nations Millennium Declaration and reaffirmed the 2005 World Summit Outcome. They also agreed that there is a need to assist developing countries efforts to prepare integrated water resources management and water efficiency plans as part of their national development strategies and to provide access to safe drinking water and basic sanitation in accordance with the Millennium Declaration and the Johannesburg Plan of Implementation including halving by 2015 the proportion of people who are unable to reach or afford safe drinking water and who do not have access to basic sanitation.

The Year was one of the recommendations of the Hashimoto Action Plan launched by the U.N. Secretary-General's Advisory Board on Water and Sanitation in March 2006 at the 4th World Water Forum. For sanitation, regional and sub-regional organisations should undertake concerted campaigns to support the provision of financing, marketing, technology and organisational assistance and guidance. "The Water for Life" Decade should be used to build political will to reach sanitation targets. There have been two main objectives set up for this year;

Sanitation Objective 1

- (a) Raise awareness on the urgent need to concentrate on sanitation in each of its three aspects: hygiene promotion, household sanitary arrangements, and sewage arrangements.
- (b) Promote accelerated actions for achieving the MDG water and sanitation target and the Johannesburg Plan of Implementation.
- (c) Develop and apply the capacity of regional and subregional organizations to undertake concerted campaigns to support countries with the provision of financing, marketing, technology and organizational assistance and quidance.

Sanitation Objective 2:

National governments formulate clear-cut strategic sanitation policies and plans tailored to their economic, social and environmental situations.



For further in information on ADB Initiated Water Projects please visit:

www.adb.org/Media/Articles/ 2006/11238-asian-water-financingprograms/default.asp

ADB – Water Financing Program www.adb.org/Water/Operations/ WFP/default.asp

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ADB Plans \$100 Million Facility for Water Projects

The Asian Development Bank (ADB) is launching a Water Financing Partnership Facility that aims to raise US\$ 100 million (EUR 77.1 million) for its Water Financing Program by 2008. The facility will accept grants from both public and private sources including bilateral and multilateral donors, companies and foundations.

About 70 per cent of the funds will go to demonstration projects in the three key areas of rural water, urban water and basin water. The remaining 30% will go to knowledge, capacity, and innovation building activities, engaging civil society, and regional cooperation.

The facility can support project preparation, financial structuring and implementation, reforms and capacity development in project organisations, policy and institutional reforms, and provide funding for goods, works, and services for parts of projects.

Resources will be provided in the form of concessional loans, guarantees etc.

Beneficiaries will include central and local governments, government agencies, and NGOs.

ADB launched its 2006-2010 Water Financing Program in March 2006. It aims to provide safe drinking water and improved sanitation for about 200 million people, better irrigation and drainage services for about 40 million people, reduced flood risk for about 100 million people, and to introduce integrated water resource management in 25 river basins across the Asia-Pacific region.

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For more information on Masters of Integrated Water Management please contact:

Manager, Academic Administration, Faculty of Engineering, Physical Sciences & Architecture, tel.: +61-7-33654777,

website:

www.watercentre.org/
education/masters

admin@epsa.uq.edu.au



OF QUEENSLAND







Master of Integrated Water Management

University of Queensland, Brisbane, Australia

Organised by: The International Water Centre (IWC)

The International Water Centre (IWC) Masters Programme is taught by lecturers at four internationally recognised Australian Universities - The University of Queensland, Monash University, The University of Western Australia and Griffith University. The Programme aims to build the capacity of future leaders in water resource management, with an emphasis on professionals working in developing countries.

Target group: A student must:

- (a) hold an approved degree; and
- (b) satisfy the executive dean and head of school that, based on the student's academic record, the student is qualified for admission.

Availability: International students must undertake this programme on campus at University of Queensland on a full time basis to be eligible to apply for an Australian student visa. Please contact the International Education Directorate.

Duration: 1.5 years (full-time)

Costs: International student fees: AUD 12,000 (EUR 7,200). This is an indicative semester fee based on a full-time enrolment of 8 units per semester. A student's actual tuition fee may vary in accordance with their choice of field of study or electives.

Application deadline: Applications for starting in the second semester should be lodged through the International Education Directorate, The University of Queensland.

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.

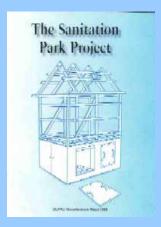
The Facilitator enables countries and development agencies to: identify successful previous activities and therefore improve the sustainability of subsequent interventions; reduce and prevent duplication of activities; link country requirements to development programmes (and vice versa); and augment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

Sanitation Park Project Flyer



A flyer on the Sanitation Park Project was developed to provide background information to community members, students and to interested individuals/institutions visiting the Park or for those who would like to make a visit. The flyer gives a brief description of the available Sanitation Park systems and their features. Existing demonstration systems include; a sanitary well, a water seal latrine, a septic tank and soakage trench, a ventilated improved pit latrine and a waterless or composting toilet. Wherever possible pictures and illustrations have been used to present these systems for better understanding. Lastly, some useful references have been listed for those keen on further investigation on one of the wastewater treatment option. Contact details on personnel of the project team are provided should you require specific data on a topic.

Copies of the Sanitation Park Project Flyer can be obtained from the **SOPAC Secretariat** (<u>kamal@sopac.org</u>) or you can download the document via the following website:

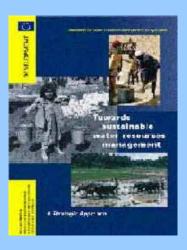
http://www.sopac.org/Sanitation+and+Hygiene

Water Resources development and management in an integrated and sustainable way for the benefit of all is based on a set of guiding principles.

These Guidelines set out a strategic approach to the management and sustainability of water resources and the delivery of water-related services, providing a broad perspective of all aspects of water resources activities. They are designed to respond to the needs of EC staff and those of partner country governments and other professionals working for the Commission and its Delegations. Water issues are cross-cutting and the Guidelines should enable experts and non-experts to cross disciplinary and sectoral boundaries.

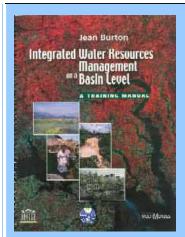
Copies of the Guidelines for water resources development co-operation towards sustainable water resources management can be obtained from the **European Commission**. For further information contact development@cec.eu.int.

Guidelines for water resources development co-operation towards sustainable water resources management



Integrated Water Resource Management on a Basic Level - A Training Manual This manual is an introduction to the principles underlying the integrated water resources management concept: the focus will be on the approaches and management tools that facilitate its application, taking into account the size of the territory, whether it be national and international basins or sub-basin of local interest.

The manual is first destined to trainers who, through a national or a regional seminar, would bring the participants to produce a diagnosis of their basin and an action plan. A simple and field-tested framework will guide them throughout this learning process. On the other hand, those who would like to prefect their knowledge and improve their capacity to manage water uses in a more sustainable fashion can also



use the manual.

Copies of the Integrated Water Resource Management on a Basic Level - A Training Manual can be obtained from **UNESCO** or can be downloaded from the following website: http://www.unesco.org/water/ihp/iwrm_basins.shtml

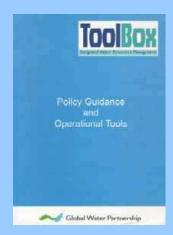
The purpose of Global Water Partnership's (GWP) ToolBox on Integrated Water Resources Management is to provide water management professionals clear examples of good and bad practices and lessons learned from real life experiences of implementing IWRM.

The GWP ToolBox contains a description of 50 tools for developing IWRM, each of which is supported with case studies, reference and organisations. Version 1: contains discussions on way IWRM and how the ToolBox can help-'Policy Guidance' and the descriptions of the tools for IWRM themselves.

Copies of the Policy Guidance and Operational Tools document is available from **GWP**. More information on ToolBox is available on the GWP website:

http://www.gwpforum.org/

Policy Guidance and Operational Tools

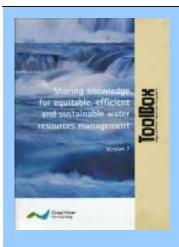


Sharing knowledge for equitable, efficient and sustainable water resources management The primary users of the IWRM ToolBox are water resource management professionals such as water resource planners, policy makes, river basin managers and political advisors. Other users will include local government staff, non-government organisations and the general public with water interests.

Version 2 - 'Sharing knowledge for equitable, efficient and sustainable water resources management ' is aimed to assist with the development of practices inspired by the principles of IWRM.

Copies of the Sharing knowledge for equitable, efficient and sustainable water resources management is available from **GWP**. More information on ToolBox is available on GWP website:

http://www.gwpforum.org/



After 3 years of operation beginning on 1996, the Technical Advisory Committee (TAC) of Global Water Partnership (GWP) felt there was a need for a clarification and formulation of certain principles and recommendations within integrated water resources management - serving a general purpose of contributing to the implementation of IWRM, but also an internal purpose of establishing a common understanding within GWP and TAC.

The present paper represents the "corporate view" of TAC on integrated water resources management and has been authored by all members of TAC in the period 1996 through 1999.

Copies of the Integrated Water Resource Management-Technical Advisory Committee Background Papers are available from GWP.

More information on Integrated Water Resource Management-Technical Advisory Committee Background Papers is available on **GWP** website:

http://www.gwpforum.org/

Integrated Water Resource Management-Technical Advisory Committee Background Papers



The Island Climate Update

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



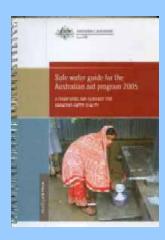
The Safe water guide provides an overview of the approach that AusAID has adopted for managing water quality in activities implemented under the Australian aid program. That approach is based on managing risks.

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 2005 can be obtained from **AusAID**. For further information visit their website:

www.ausaid.gov.au

Safe Water Guide for the Australian Aid Program 2005



An 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:

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

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

Water Quality Monitoring in Pacific Island Countries



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:

http://www.sopac.org/tiki/tiki-sopac_download.php?path= /data/virlib/JC/JC0143.pdf&file=JC0143.pdf&loc=JC The integration of Social and Technical Science in Groundwater Monitoring and Management describes a groundwater pollution study on the island of Lifuka in the Kingdom of Tonga, in a village where private wells are an important source of water, in addition to dependence on household rainwater tanks and a public reticulated system. Comparison is also made with the findings of a ground water recharge project, which was undertaken on the island of Tarawa in the Republic of Kiribati, Central Pacific, where a reticulated groundwater system, sourced from a government controlled water reserve, was the primary focus of the study.

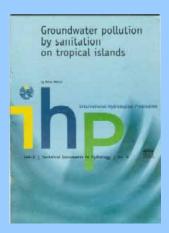
Copies of the Integration of Social and Technical Science in Groundwater Monitoring and Management can be obtained from the **SOPAC Secretariat** (kamal@sopac.org) or you can download the document via the following website:

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

Integration of Social and Technical Science in Groundwater Monitoring and Management



Groundwater Pollution by Sanitation on tropical Islands



The objective of the Groundwater Pollution by Sanitation on tropical Islands is to review the scientific foundations for managing this issue with particular reference to small tropical islands. This includes a brief assessment of the extent of groundwater pollution by sanitation systems, the nature of contaminants, their fate in the subsurface environment including factors affecting their attenuation, and the methods which have been used to study the movement of sewage contaminants in groundwater. The report concludes with a summary of the options for managing this problem, including sitting, design, and maintenance of sanitation systems, and techniques to undertake site specific studies.

Copies of the Groundwater Pollution by Sanitation on tropical Islands can be obtained from the **SOPAC Secretariat** (kamal@sopac.org) or you can download the document via the following website:

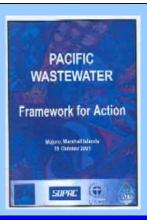
http://www.sopac.org/CLP+Publications

The Pacific Wastewater Policy Statement sets out a framework of guiding principles and policies to guide future development and co-operation by the Pacific Island Countries (PICs).

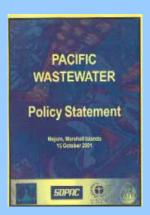
The Pacific Wastewater Framework for Action comprises a list of proposed actions to be undertaken at national and regional levels to achieve the goals that are laid out in the Pacific Wastewater Policy Statement and which refer to the GPA Strategic Action Plan and Guidance Document on Wastewater (UNEP/GPA, WHO, UNCHS-Habitat & WSSCC).

Pacific Wastewater Framework for Action Copies of the Pacific Wastewater Framework for Action can be obtained from the **SOPAC Secretariat** (<u>kamal@sopac.org</u>) or you can download the document via the following website:

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



Pacific Wastewater Policy Statement



The Global Programme of Action for the Protection of the Marine Environment from Land based Activities (GPA) identifies the priority for action on sewage. In the Pacific region, a consultation process was facilitated by SOPAC, SPREP, PWA and the UNEP/GPA Coordination Office on wastewater management. A Regional Wastewater Management Meeting was held 10-15 October 2001 in Majuro, Republic of Marshall Islands and was the latest in the consultation process, which included preliminary sessions in February and March 2001 in Auckland and Apia. The Majuro meeting was sponsored by the Governments of Belgium, New Zealand and Taiwan/ROC.

The meeting brought together representatives from 15 Pacific Island countries (American Samoa, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, New Zealand, Niue, Papua New Guinea, Palau, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu), technical experts from in and outside the region, regional and international organisations (SOPAC, SPREP, SPC, PWA, WHO, UNESCO, UNEP/GPA), potential donors and NGO's, to complete the Pacific Wastewater Policy Statement and the Pacific Wastewater Framework for Action.

Copies of the Pacific Wastewater Policy Statement can be obtained from the **SOPAC Secretariat** (<u>kamal@sopac.org</u>) or you can download the document via the following website:

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

<u>Pacific Regional Action Plan on Sustainable Water</u> <u>Management</u>

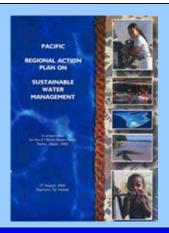
The national consultations as well as a regional meeting held in Sigatoka, Fiji from 29 July – 3 August 2002 provided a platform through which participants translated ideas into decisions and policy changes resulting in the Pacific Regional Action Plan on Sustainable Water Management (Pacific RAP).

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".

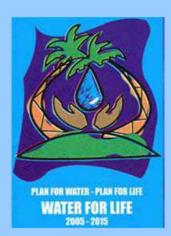
Pacific Regional Action
Plan

Copies of the Pacific RAP 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



World Water Day Campaign



World Water Day Material 2006 available: Water for Life

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.fi). You can also download the document via the following website:

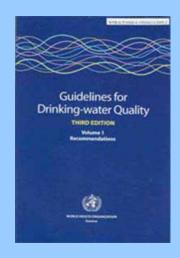
 $\underline{http://www.sopac.org/tiki/tiki-index.php?page=World+Water+Day+2006}$

Third Edition WHO Guidelines for Drinking-Water Ouality

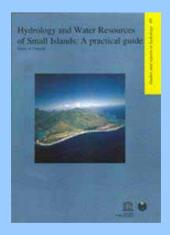
Since the second edition of WHO's Guidelines for Drinking water Quality, there have been a number of events that have highlighted the importance and furthered understanding of various aspects of drinkingwater quality and health. These are reflected in this 3rd edition of the Guidelines.

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/



Hydrology and Water Resources of Small Islands: A Practical Guide



Hydrology and Water Resources of Small Islands: A 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** (<u>mathias@sopac.org</u>) or from the **UNESCO** Apia Office (<u>hans@unesco.org.ws</u>).

Harvesting the Heavens, A Manual for 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 fro 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.

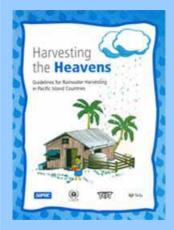
Copies of this Manual can be obtained from the **SOPAC Secretariat** (<u>arieta@sopac.org</u>) or you can download the document via the following website:

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

Harvesting the Heavens, A Manual for Participatory Training in Rainwater Harvesting



Harvesting the Heavens, Guidelines for Rainwater Harvesting in Pacific Island Countries



Harvesting the Heavens, Guidelines for Rainwater Harvesting in 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 (UNDP) 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:

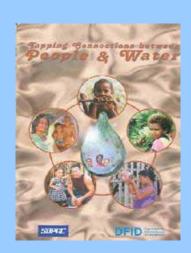
http://www.sopac.org/CLP+Rainwater+Harvesting

<u>Tapping Connections between People & Water</u>

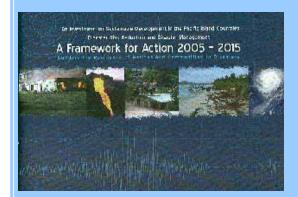
Everyone uses water and everyone needs some kind of sanitation. The way water is used depends on the island where you live: the climate, the landforms, and the source of water. It also depends on the tradition and customs of the family and community, their income and the size of the population.

The handbook 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/virlib/MR/MR0577.pdf



A Framework for Action 2005 - 2015

There is ongoing and increasing vulnerability of Pacific Island nations and communities to impacts of disaster. This has led to increased national regional commitments to disaster risk management on an 'all hazard' basis in support of sustainable development. This Framework for Action 2005 - 2015 has been developed to respond in part to these commitments.

Copies of this Guideline can be obtained from the **SOPAC Secretariat** or you can download the document via the following website:

www.sopac.org/tiki/tikisopac_download.php?path=/data/virlib/ MR/MR0613.pdf&file=MR0613.pdf&loc=MR

Multimedia



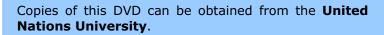
Cap-Net - IWRM Tutorial

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 this 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.







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 this DVD can be obtained from the **Global Water Partnership Secretariat.**

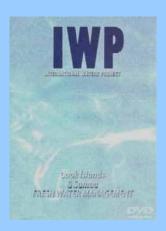
Harvesting the Heavens

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 this documentary can be obtained from the **SOPAC Secretariat** (<u>mathias@sopac.org</u>) or you can download the document via the following website:

Harvesting the Heavens

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.

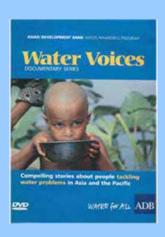
Copies of this documentary can be obtained from the **SPREP Secretariat.**

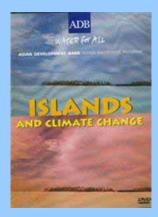
Water Voices Documentary Series

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





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 2006

DATE	EVENT	LOCATION	DETAILS
February 12 th - 24 th	Water & Sanitation for Development & Emergencies	Fort Dauphin	This course will provide a very broad overview of technical and theoretical aspects of water and sanitation projects in development situations as well as emergencies. While certain technical options are feasible in both environments, important differences exist, especially concerning methodology, beneficiary participation, scale and planning. http://www.irc.nl/page/31497
February 21 st - 22 nd	1st Meeting of the Asia Pacific Water Forum Governing Council	Singapore	The discussion shall focus on how to organize and present the input from activities of the APWF to the 1st Asia-Pacific Water Summit (to be held in 3-4 December, 2007, in Oita, Japan). http://www.apwf.org/event/
February 26 th - 28 th	U.N. Framework Convention on Climate Change expert meeting	Rarotonga Cook Islands	U.N. Framework Convention on Climate Change expert meeting on adaptation for small island developing States.
March 22 nd	World Water Day 2007	Suva, Fiji	Organised by: SOPAC and Live and Learn in Suva Fiji marking the Food and Agriculture Organisation Theme: Our Islands with Water. http://www.sopac.org/CLP+Water+Awareness
March 22 nd	World Water Day 2007	International	Organised by: FAO Theme: Coping with Water Scarcity The international observance of World Water Day is an initiative that grew out of the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. www.unesco.org/water/water_celebrations/index.shtml
May 2 nd - 5 th	Conference ICLEI Oceania	Grand Hyatt Melbourne Australia	In May 2007, ICLEI-A/NZ will host an international gathering of leaders in local government, ICLEI Campaigns and sustainable development from the Oceania region. http://www.iclei2007.com.au/
May 15 th - 18 th	5 th South Pacific Stormwater Conference	Auckland New Zealand	The aim of this conference is to provide delegates with an opportunity to upskill in various areas of stormwater science and management, network with their peers and hear new and cutting edge stormwater information. www.unesco.org/water/water_events/Detailed/1455.shtml http://www.nzwwa.org.nz/indexsw.htm
May 18 th - 22 nd	26th Pacific Islands Environmental	American Samoa	For additional information regarding the conference please contact Carl L.Goldstein (goldstein.carl@epa.gov; 415-972-3767) of EPA's Pacific Islands Office.

	Conference		
August 14 th - 17 th	2007 American Rainwater Catchment Systems Association Conference	Kilauea Military Camp Hawaii	This conference will present information valuable to users, public health officials, academics, designers, installers, architects, builders, product vendors, students, planners, and water utility staff. http://www.arcsa07.com/
September 3 rd - 6 th	10th International Riversymposium & Environmental Flows Conference	Brisbane Australia	The symposium will feature presentations on innovative practices and case studies from all over the world and a wide range of perspectives on managing river flows for people and ecosystem health. http://www.riversymposium.com/index.php?page=Home
December 3 rd - 4 th	1st Asia-Pacific Water Summit	B-con plaza (Beppu Convention Center), 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

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.html	
AOSIS Alliance of Small Island States www.sidsnet.org/aosis	Pacific Water Association www.pwa.org.fj	
AUSAID www.ausaid.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/ CSD12	UNESCAP www.unescap.org UNESCO	
www.un.org/esa/sustdev/csd/csd12/csd12.htm Co-operative Programme on Water and Climate	www.unesco.org/water UNU	
East-West Center www.EastWestCenter.org/climate	WHO www.who.int/water_sanitation_health/en/	
ESCAP www.unescap.org/esd/water/activities	WMO www.wmo.ch/web/homs/index.html	
European Union www.europa.eu.int/comm/development/publicat/water/ en/frontpage_en.htm www.euwi.net http://europa.eu.int/comm/development/index_en.htm http://europa.eu.int/comm/environment/water/index.html	World Bank www.worldbank.org/html/fpd/water	
Gender and Water Alliance www.genderandwateralliance.org	World Summit on Sustainable Development www.johannesburgsummit.org	
Global Water Partnership www.gwpforum.org GWP Australia	World Water Council www.worldwatercouncil.org World Wide Fund for Nature	
www.gwpaustralia.org Island Climate Update	www.wwfpacific.org.fj WSSCC	

www.niwa.cri.nz/NCC/ICU	http://www.wsscc.org/
NZAID	NIWA
www.nzaid.govt.nz	www.niwa.co.nz
USGS	SPC
http://hi.water.usgs.gov	www.spc.int
USP	Japan Water Forum
www.usp.ac.fj	http://www.waterforum.jp/eng/index.html
SOPAC Water	
http://list.sopac.org.fj/Secretariat/Programmes/H2O/	UN-Water
3rd_world_water_forum/index.html	http://www.un.org/waterforlifedecade/

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

We have changed the frequency of issuing this newsletter from semi-annually to 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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Web site: http://www.sopac.org/CLP+Pacific+Partnership



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