

Pacific Water newsletter

Issue 24, January - April 2010

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The Nadi River winds its way through the Nadi Basin

Welcome to the 24th 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 new SOPAC Water website: www.pacificwater.org/pages.cfm/water-governance/pacific-partnership-initiative/e-newsletter-subscription/

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Welcome to the 24th newsletter of the Pacific Partnership Initiative on Sustainable Water Management.

This month of April marks exactly eight years since the Asian Development Bank and SOPAC jointly started the extensive consultative process that eventually led to the Pacific Regional Action Plan on Sustainable Water Management and its associated Partnership Initiative.

Since then, attention to water and sanitation in the Pacific region has increased markedly with many countries and partners taking action to improve the management of water resources and address vital water supply and sanitation issues.

Despite these extra efforts it is clear from the latest WHO/UNICEF Joint Monitoring Report (featured in one of the newsletter articles) that the Pacific region as a whole will be unlikely to meet the Water and Sanitation Millennium Development Goal Targets.

As we have entered the last five years of the "Water for Life Decade" (2005-2015) it is essential that the call for action on water and sanitation is renewed and invigorated.

With this new outlook of the Partnership Newsletter we would like to contribute to increasing the attention to Water and Sanitation and mobilise renewed commitment and action in the region.

We appreciate your contributions to future issues of the newsletter and we highly value your assistance in disseminating the information to others so that it reaches the widest possible audience.

If you would like to comment on any articles or submit stories on your activities, upcoming events, vacancies or recent reports for the next newsletter please forward them to SOPAC Water Communications Advisor Tiy Chung (tiy@sopac.org), or IWRM Project Officer Subhashni Raj (subhashni@sopac.org) at the SOPAC Secretariat. The next newsletter will be released late July 2010.

Your feedback and inputs are most appreciated and we look forward to the next action-packed five years!

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Facilitator of the Pacific Partnership Initiative on Sustainable Water Management

Information on partners and their activities and products can be found through the following hyperlinks on www.pacificwater.org



Fetuvalu Secondary School students learn about wastewater pollution and Composting Toilets

World Water Day, March 22, 2010

Tuvalu takes World Water Day to the children of Funafuti with games and important lessons for all

For World Water Day 2010, Tuvalu's Integrated Water Resource Management (IWRM) and Pacific Adaption to Climate Change (PACC) projects joined the Department of Health to create a range of activities to raise awareness among children and their families.

In Tuvalu, several water related issues affect the community. These include water quality, water shortages and wastewater pollution. These issues affect everyone and can be dealt with at a household level through correct household water management.

During the week-long events, the Department of Health took part in awareness raising by highlighting the need to boil water and discussing water quality and hygiene on radio. Information booklets were also distributed.

IWRM and PACC spent the week working with school students by giving presentations and taking questions on topics from water catchment and storage to conservation and maintenance. Fun workbooks were given to the students to reiterate what they had learnt and contained activities they could complete with their families.

IWRM emphasised the dangers of wastewater pollution and introduced composting toilets to address water shortages and reduce pollution.

PACC highlighted the need for clean water, teaching students how to keep their water clean and monitor its quality. H₂S testing used by the Department of Health to assess bacteria levels in water tanks was demonstrated to students.

The highlight of the week was "Primary Challenge". This quiz, modelled on the TV show "University Challenge", had contestants represent their schools and compete against each other in a quiz based on World Water Day. Topics included rainwater harvesting, storage and conservation, clean water, hygiene and sanitation. The event was highly entertaining - members of the audience took part in interval activities and enjoyed the competition, which Nauti primary school won. The event was also broadcast on radio and made into a film.

Due to difficulties in accessing schools on the outer-islands, only children on the capital island of Funafuti took part in the events. However, the day was so successful that outer island primary schools requested materials so that they can reproduce the quiz and activities at home.

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Nauti Primary school learn about H₂S water quality testing



Primary school students cheer for their team in Tuvalu's World Water Day Quiz



Tony Kuman hands out prizes to students during PNG World Water Day launch.

World Water Day in PNG – “Safe water for a Healthy Papua New Guinea”

The launch of World Water Day in PNG went off with a big splash. Tony Kuman and his team did a fantastic job organising a gathering of distinguished people interested in water quality. The Secretary for the Department of Environment and Conservation, Dr Wari Iamo, opened World Water Day at Port Moresby Grammar School by explaining the role the government and his agency played in this year’s theme: “Communicating Challenges and Opportunities – Safe Water for a Healthy PNG”.

Dr Iamo highlighted the lead role his agency played in the maintenance of ecosystems and monitoring of water use and the challenges faced by PNG and its environment to provide safe water in a time of rapid industrial and agricultural development, high population growth, urbanisation, and climate change.

The water supply sector was well represented with the Managing Director of PNG Water Board, Patrick Amini, emphasizing the priority need for his sector to provide safe quality water to the communities they serve and of the need to keep up with developments in water treatment technology. Billy Imar, General Manager of Port Moresby’s water supplier Eda Ranu, reiterated these comments and described the activities Eda Ranu takes to ensure the city has access to safe quality water. The acting Head of Delegation of the European Union Dr Kay Beese detailed the support the EU was providing to improve the availability and access to safe drinking water in rural communities.

Major water suppliers used the day to promote their agencies and operations. The Governor of the National Capital District, the Hon. Powers Parkop, reminded water suppliers that they needed to improve the effectiveness and efficiency of water service delivery. He urged them to address the quality of their infrastructure and the high levels of water loss.

Support for World Water Day came from over a dozen major commercial enterprises, whose generous sponsorship made the event possible and attracted considerable publicity. A four page World Water Day supplement was included in The National newspaper and there was national TV coverage of the event. The publicity generated by World Water Day resulted in both national newspapers placing follow up news and editorials relating to global and national water issues. In relation to this year’s goal of raising water awareness, PNG’s activities can be seen as a success.



Students listen to speakers at PNG World Water Day.

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Dr Russell Howarth addresses World Water Day participants in Nadi, Fiji. ©SOPAC

World Water Day in Fiji

In Fiji World Water Day celebrations were delayed a week due to Hurricane Tomas. The national celebration was launched in Nadi on Friday March 26th and led by the Pacific Islands Applied Geoscience Commission's (SOPAC) Water Programme in partnership with Live and Learn Environment Education. The Econesian Society also launched its own event at the University of the South Pacific in collaboration with the Pacific Centre for Environment and Sustainable Development.

At the World Water Day launch SOPAC Director, Dr Russell Howarth, highlighted the fact that more time and effort and necessary resources are needed throughout the Pacific to ensure people are provided with secure access to safe water.

"Historically there has remained the problem of poor supply and quality of freshwater resources, a lack of adequate sanitation, and a limited capacity to deal with these issues," Dr Howarth said. "At the national level there are often a multitude of agencies that deal with water and the fragmented management of this resource is compounded with a lack of overarching policy, outdated laws, and poor administration capacity."

Dr Howarth said there needed to be more commitment to water resource monitoring and assessment so that countries had hydrological data at hand to better manage their resources and provide design data for infrastructure projects "especially given climate change and the adaption measures necessary to mitigate its direct effects".

He cautioned that there is no "quick fix" solution and highlighted the work being done by SOPAC and its partners to remedy water issues across the region.

SOPAC and Live and Learn, with funding from Taiwan (Republic of China), provided participating school students and community representatives with user friendly water quality awareness packs that teach people how to improve water quality by protecting and sustainably managing water and waterways. These awareness packs were also sent to other Pacific Island countries.

At USP's Laucala campus, the Econesian Society highlighted water related issues and emphasized the importance of saving water. The event was launched with the theme 'Turn it Off' and 'Keep it Off. Apart from display and information booths setup on site, a survey was conducted to find out how the level water consciousness among university students and staff.



The Fiji World Water Day information booth. ©SOPAC

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The Samoa IWRM project bus was used to transport students to the World Water Day event.

Clean Water for a Healthy Samoa

Samoa's theme for World Water Day (WWD) 2010 was "Clean Water for a Healthy Samoa". The day was an ideal opportunity for the Samoa Integrated Water Resources Management (IWRM) project to raise awareness and build capacity around IWRM concepts. Government officials and stakeholders from different sectors were invited to the opening ceremony and Year 12 science students from colleges around Upolu and Savaii were invited to take part in planned awareness and capacity building activities. Buses displaying the IWRM project signs were used to pick up students early that morning from as far as the Mulifanua Wharf on the eastern side of Upolu Island.

More than 300 people attended the ceremony, including the Deputy Prime Minister of Samoa, the Honourable Misa Telefoni, and the Australian, New Zealand and Chinese High Commissioners. The event was officially opened by the Ministry of Natural Resources and Environment's CEO Susuga Taulealeausumai Laavasa Malua who welcomed everyone and explained this year's theme. The keynote speech was given by the Minister of Natural Resources & Environment, the Honourable Faumuina Liuga Tiatia, who focussed on the meaning of WWD and its importance to the Samoan people.

The morning's events ended with an invitation for officials to take part in a tree planting ceremony, which not only marked WWD but also served as the Watershed contribution to the Samoa One Million Tree campaign.

The rest of the day focussed on awareness and capacity building activities for the school students. It started with a presentation from the Hydrology section of the Ministry of Natural Resources and Environment's (MNRE) Water Resources Division, the Ministry of Health, and the Samoa Water Authority. The joint presentation addressed challenges and solutions to achieve clean water and enhanced awareness on the relationship between quality of our water resources and our drinking water.

The presentation was followed by field trips that included more tree planting around watershed catchments and a water quality monitoring exercise where students and the public were able to test water quality on five sites around the Loimata o Apaula catchment. Parameters such as turbidity, temperature, saturation, acidity, and dissolved oxygen were tested using portable kits organised for the day.

The day ended with a session where students reviewed and discussed their water tests results and attending schools were presented with World Water Day Participation Certificates to commemorate this special day. It was a very successful day and made possible through the generous sponsorship of the Water Sector Support Program (WaSSP), the Samoa IWRM Project and the tireless efforts of the Ministry of Natural and Environment's Water Resource Division personnel who made sure the venue and sites were ready for the occasion.

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Students planting trees in the catchment area.



Water tanks on Majuro, Republic of Marshall Islands. ©SOPAC

Keeping Your Water Supply Safe - Republic of Marshall Islands

The Republic of Marshall Islands Environmental Protection Agency (RMI EPA) is empowering communities to ensure the safety of their drinking water by making them aware of possible contamination risks to their water supply and providing possible solutions.

According to Abraham Hicking, Chief Water Quality Monitoring, RMI EPA, identifying and managing the risks of water supply contamination can be relatively simple through the use of sanitary surveys or the drinking water safety planning approach.

"Keeping your water supply safe, for example your rainwater harvesting system, requires simple steps such as cleaning roofs and guttering, periodic cleaning of inside of tanks and having screen covers on inlet pipes," Mr Hicking explained.

The RMI EPA translated sanitary survey forms into Marshallese and conducted training for community facilitators to assist them take the message 'keeping your water supply safe' to communities.

Community-based training was held from March 10-12, 2010, on Majuro and included representatives from the Ministry of Health, Majuro Water and Sewerage Company, Economic Planning Policy and Statistics Office, the NGO Women United Together in Marshall Islands, Marshall Islands Conservation Society, Majuro Local Government, Internal Affairs and several high schools.

The training was facilitated by SOPAC and the World Health Organisation (WHO) in partnership with the RMI EPA. The Australian and New Zealand governments (through their Drinking Water Safety Planning and Water Quality Management programmes) and the European Union (through their EDF9 B-envelope project) provided funding.



Trainees test ground water. ©SOPAC

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Togitogiga falls, Samoa. ©SOPAC

WANI strengthens water management in Fiji and Samoa

Pacific Islands are experiencing increasing pressures on water resources due to growing populations, infrastructure development, and climatic fluctuations. The International Union for Conservation of Nature (IUCN), member and partner organisations are strengthening forces to support Integrated Water Resource Management in Oceania region.

Through four demonstration projects, IUCN's Water and Nature Initiative (WANI) focuses on good governance, payments for ecosystem services, and learning and leadership, with the aim to improve the quality and sustainability of water resources in the region.

The initiative started in the Pacific in 2008 with the establishment and initial development of WANI projects in Kadavu and the Nadi Basin in Fiji, and the Togitogiga Watershed in Samoa. Complementing the three WANI projects, is the Pacific Learning and Leadership project in collaboration with SOPAC (Pacific Islands Applied Geoscience Commission) Regional Pacific IWRM projects.

IUCN aims to support the management of Fiji's water resources and watershed ecosystem services, currently in decline due to land use changes, altered river flow patterns and degraded ecosystem services. These problems are compounded by effects, like altered rainfall patterns, of climate change.

Water management in Fiji, including tourism and forestry projects, has generally followed a "top-down" approach. WANI's Kadavu and Nadi watershed projects aim to demonstrate a watershed management model based upon participatory community approaches, sound economic valuation and ecosystem management benefitting biodiversity and the livelihoods that depend on them.

For the Nadi project, WANI helped establish the Nadi Basin Catchment Committee to provide appropriate stakeholder engagement in the development of a Flood Risk Management Plan and complements the Regional GEF Pacific IWRM's Nadi Catchment Project.

In Kadavu, three Locally Managed Marine Area Networks (LMMA) sites provided the location for work to begin on up-scaling the participatory model to include ridge-to-reef management. This bottom-up model will provide a cost-effective and integrated sustainable water resource management approach that can be replicated to other sites in Fiji, and the Pacific.



Villages on Nakata waterfall, Kadavu, Fiji. ©IUCN

The Togitogiga Catchment is WANI's selected demonstration project in Samoa. Located on the eastern Upolu Island, Togitogiga is the main source of water supply for downstream communities and has a unique biodiversity. It is also well known for recreational purposes as part of the "Togitogiga National Park". This catchment area has become significantly degraded due to increasing population and development pressures, soil erosion, sedimentation, and water pollution. The project also aims to develop and implement a watershed management plan that creates a balance between anthropogenic demands on the catchment and biodiversity conservation.

Experiences and lessons learnt from Nadi, Kadavu and Samoa will influence WANI's 4th project in the region, the Pacific Learning and Leadership Programme. This project aims to address the shortfall in awareness and knowledge within Pacific Island countries, advocate the WANI principles and support SOPAC's Regional Pacific IWRM projects.

WANI in Oceania works in partnership with the University of the South Pacific, Samoa - Ministry of Natural Resources and Environment, Fiji - Land and Water Resources Ministry (LWRM), and SOPAC.



Village elders in Kadavu, Fiji. ©IUCN



For more information on the WANI Toolkits, visit:

<http://www.iucn.org/about/work/programmes/water/resources/toolkits/>

Project photos are available upon request. Bios and contacts of IUCN water experts are available online: http://cms.iucn.org/about/work/programmes/water/wp_contacts/index.cfm



Shallow domestic well survey being undertaken in Nauru. ©SOPAC

Domestic wells in Nauru

Nauru relies upon rainwater harvesting and desalination for its potable water needs. According to current estimates, between 600 to 700 households also rely on shallow domestic wells for much of their non-potable needs including bathing, washing, and toilet flushing. The mostly brackish groundwater is an important resource for communities and reduces the need for costly desalinated water.

During March and early April the first comprehensive survey of domestic wells in Nauru was conducted. The Government of Nauru, in conjunction with the Pacific Island Applied Geoscience Commission (SOPAC), carried out the survey of household wells and collected information to find out how many people use well water, the quality of water in each well, usage, and potential areas of groundwater contamination.

Sanitary surveys were conducted to assess the risk of contamination to individual wells. The results will be used to promote safe use and development of the water resource and were made available to communities through district based workshops.

SOPAC conducted the survey and community workshops with the assistance from the Nauru Department of Health, two Nauruan field assistants and Louis Bouchet, a junior professional. Louis is completing his Masters in Integrated Water Resource Management at the International Water Centre in Brisbane and was based in Nauru for 9 weeks.

The survey information will be entered into a spatial database (GIS) to allow analysis of the shallow groundwater, including use distribution, water quality and areas of current contamination. This information will complement information from rainwater harvesting surveys collected by SOPAC over the last 2 years. Together the surveys will provide a complete understanding of the water needs, demands and current reliance of Nauru on available water sources.

The survey and district workshops are expected to be completed by the end of April. Reporting and initial groundwater maps identifying at risk areas, will be available later in June.



Children with HYCOS monitoring equipment. ©SOPAC

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The Sarakata River, Vanuatu. ©SOPAC

Vanuatu GEF Pacific IWRM Project kicks off

The Vanuatu GEF Pacific IWRM Project has hit the ground, with Rossette Kalmert finally being contracted as the Project Manager. Rossette has moved to Luganville on Santo Island to coordinate this project based in the Sarakata catchment. Rossette has established a Project Office within the Lands Building and has a consultant reviewing and providing recommendations on the project design.

An inception workshop was convened from March 30-31, 2010 to: (a) familiarise the new SANMA Water Advisory Committee members with the Vanuatu IWRM Demonstration Project; (b) review the project status; (c) review and endorse the logframe; (d) review and endorse the implementation work plan; (e) review the proposed TOR for SANMA Water Advisory Committee to act as the Project Steering Committee; and (f) review and agree on membership of the SANMA Water Advisory Committee.

Members of the existing SANMA Water Committee gathered under the Chairmanship of Charlie Nari - Provincial Manager PWD. The meeting was also attended by Marc Wilson – GEF Pacific Regional Project Manager.

Groups were formed to review the logframe and implementation work plan in order to assist the finalisation of these for endorsement. There was a general level of concern at the scope of the work to be completed within the remaining 4 years of the project and some complaints about the delayed start. As the Director of Water Resources was not present the reasons for the delay were not determined. Mr Wilson informed the meeting that countries had been informed in April 2009 that funding was available to commence the Projects.

The working groups emphasized the need to adequately resource the project's awareness activities and also to ensure that project activities were regularly communicated to communities and in particular land owners in the catchment.

The SANMA water committee currently only has National, Provincial and Municipal officers and there was much discussion about the inclusion of non government stakeholders. In the end it was agreed that the Chair and Secretary of the Sarakata Catchment Group, the Chair of the SANMA Council of Chiefs, the President of the SANMA Tourism Association, President of the Chinese Association, and a Women's Representative should be invited to join the SANMA Water Committee.



Rossette Kalmert (centre) with members of the SANMA Water Committee.

Read more: www.pacific-iwrn.org/component/content/article/1-latest-news/64-iwrn-demo-inception-workshop-vanuatu.html

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The PNG team in action. ©SOPAC

Re-establishing Laloki River Gauging Stations

Port Moresby is booming! New buildings are going up and new 5 star hotels are being built. The resource boom, in particular the multi-billion dollar LNG project, is fueling the economy and Port Moresby is the entrance point. Projected growth is 10% per annum for at least the next 5 years. Just getting a hotel room in Port Moresby is now a challenge and proves the theory of supply and demand: high demand equals silly room prices.

So what has this to do with the heading? All this growth needs water! More drinking water and more electricity sourced primarily from the Sirinumu Dam which relies on the Laloki and Goldie catchments. There is little hydrological data, however, to determine whether these catchments can handle increased growth.

In the late 1950s and early 1960s hydrology stations were established to provide information to determine if a dam would provide reliable water and electricity for Port Moresby. The Sirinumu Dam was built in the late 1960's and by independence, in 1975, serviced a population of about 70,000. It now serves many more. The 2000 census recorded a population of about 260,000 and current estimates place the population at over 500,000. This places serious demands on services.

The impacts of rapid population growth can also be seen in the growth of squatter settlements in the Laloki catchment and in the increase in commercial and government activity. This development has not been constrained by land use restrictions that would support water quality or optimize river flows. Hydrology stations are of paramount importance in providing information on water availability in such a stressed system. However, the five stations established on the Laloki to provide this information were virtually abandoned by the mid 1990s.

Therefore, no data has been collected for 15 years in Port Moresby's primary catchment area. During this period the Bureau of Water Resources, which at one stage had 40 employees, was transferred to the Department of Environment and Conservation. Some staff were transferred into the Water Resources Management Branch but gradually human and operational resources were eroded and hydrology services all but abandoned.

A late 90's review of PNG's Hydrological Service needs recommended the five Laloki stations be reestablished and that PNG needed a minimum of 72 stations nationally. At the time there were none operational.



The old Stephens logger that has been in place for almost 50 years.



The new logger is installed.

The Pacific HYCOS program sought to reestablish priority stations in the Laloki and Ramu Rivers and procured equipment to do this in 2007. All four stations on the Laloki catchment were supposed to be reopened by mid 2008 and a new station was to be constructed on the Goldie River. A station was established on the Ramu in mid 2008 but is no longer operational.

The first Laloki Station, 'GS1', was reestablished in May 2009. This month Marc Wilson, Global Environment Fund (GEF) Pacific IWRM Regional Manager, visited PNG for the inception, and to review progress, of the GEF funded Laloki Catchment Management Project. He was able to visit the area with the project manager, Tony Kuman, to download the data of 'GS1' and to replace the old Stevens Logger at 'GS2' (which has been in place for about 50 years) with new equipment. Fortunately the old gauging structures and sheds are still in place as it would be impossible to build these now due to cost and land access issues.

They visited the area with some of the few remaining "water boys" (actually "water oldies"), who completed the installation. The trip was made possible due to the availability of a vehicle kindly donated by the EU funded B Envelope programme and Tony Kuman's ongoing commitment to the PNG hydrological service.

So of the five essential Laloki and Goldie River stations two are now installed and operational with only three to go. But the news is not all good because in late November last year the level tape was displaced from the recorder wheel at GS1 and no records have been obtained since because no one has been back to routinely check equipment.

The GEF Pacific IWRM Laloki Catchment Project will form a Catchment Committee comprised of government and non government stakeholders. It is hoped that this Committee will ensure the stations are reestablished, routinely monitored and maintained, as the data collected will form the basis of the project's catchment model, which is being developed to provide effective and risk averse catchment management.

In meetings with PNG Power and Eda Ranu it is evident that they are in desperate need for such information. Perhaps the wheel has turned and there is now a realization that managing the water resources of the catchment successfully, depends on the availability of basic hydrological data.



PNG's water 'oldies' and Marc Wilson, after a successful installation at Laloki.

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Men from Alofi South discuss gender roles and responsibilities for village water management. ©Tiy Chung/SOPAC

Community to Cabinet: Village Water Management Planning in Niue

Niue's size and resource base enable it to be among the front runners of Integrated Water Resources Management (IWRM) implementation in the Pacific. Where other countries are piloting IWRM in "demonstration" areas and gaining confidence by IWRM-walking before they start IWRM-running, Niue's pilot area is Niue: so Niue is learning to walk and run at the same time.

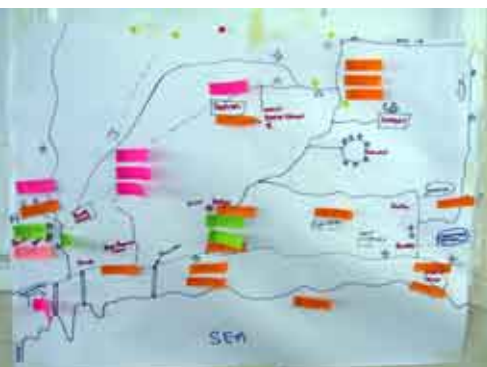
The multi-sectoral apex body, Niue Water Steering Committee (NWSC), was formed almost immediately after IWRM project start-up, in May 2009 and mandated to guide the various aspects of national water and wastewater policy, planning and management.

With 'top level' interventions underway Niue turned its attention, in February 2010, to the 'bottom' and two pilot communities, Alofi North and Alofi South committed to preparing Village Water Management Plans (VWMPs). Thereby making real the vertical dimension of 'integration' that is explicit within an IWRM approach and expressed as "Bring together stakeholders from different sectors and groups to plan and manage water [...]". Or, more succinctly, from Community to Cabinet, from Cabinet to Community.

The Chair of each Village Council called 20-30 participants to attend a 2-day workshop to produce their VWMP. Invited participants represented different groups in each village (older, younger, professional, business, self-employed, family-based, men, and women) and around 20-30% of the community households. Participants ranged from Directors of government departments through octogenarian householders, prominent business people and youth leaders.

On day 1 of each workshop, gender groups analysed and prioritised the water issues and opportunities that they faced. The gender groups recombined to review their outputs and through consultation reached consensus on the village priority issues. On day 2, mixed groups identified the outcomes they wanted for each priority water 'issue' or 'opportunity' and proceeded to develop an action plan for achieving their desired outcomes.

Action plans in both communities included activities that could be initiated by the community with minimal and readily available support (eg materials for a Village Water Use Efficiency awareness campaign); activities that simply required capacity development from PWD Water (eg village level training in basic plumbing maintenance skills); activities that would reach desired outcomes only if government departments take the lead (eg water quality testing and reporting of source-to-tap samples; zoned and secure solid and hazardous waste disposal systems); and activities dependent on supplementary financial and/or technical resources from government or donors (eg. upgrading of septic tanks and rainwater storage).



Alofi South water issues and actions map. ©Tiy Chung/SOPAC

‘Don’t be a drip: don’t waste a drop’

‘Be Water Wise’

‘No water, no future’

‘Water. We drink together, We act together’

‘Water care is people care’

Community slogans developed by participants.

In a lighter mood, overnight thinking led to a whole array of possible slogans from which the communities will select one as a signature for its plan and its activities.

The challenge now for Niue is to maintain the impetus that the planning process created and to convert it to action. Each village has identified a task force to carry its VWMP forward by finalising the details of its content, steering its implementation, monitoring its progress, and regular reporting to the Village Council.

The IWRM Project Management Unit (PMU) is committed to facilitating the process of getting NWSC approval for VWMPs and their submission to Cabinet for endorsement. The unit will also match VWMP priorities with national budget allocations and ensure that VWMPs are linked to the soon to be prepared National Water Plan. Finally, it will support villages prepare project proposals to access funds from other sources. Nominated PMU staff be liaisons for each community and attend Village Council meetings and water task force sessions. With these anchors in place, plan implementation is expected by mid-year; and results soon after!



Women listen to presentations at Alofi North. All sectors of the community were well represented at the planning meetings. ©Tiy Chung/SOPAC

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Nadi Basin Catchment Committee meeting March 24, 2010. ©SOPAC

The Nadi Basin Catchment Committee

An integral part of the IWRM Nadi Demonstration Project was to put in place a proper governance structure that would oversee and coordinate the project's implementation. This was done through the establishment of the Nadi Basin Catchment Committee (NBCC).

Main purpose and role

The NBCC is tasked to guide the Project Management Unit (PMU) and the Land and Water Resource Management (LAWRM) Division through the planning and decision making process for the IWRM Nadi Demo Project and to oversee its implementation. The first tasks of the NBCC were to agree on the NBCC Terms of Reference (TOR), constitution and membership and the formation of the subcommittee. On completion of the project in 2013, it is envisaged that the NBCC will continue to function as the body authorised to plan and co-ordinate the sustainable development and management of the Nadi catchment water resources.

Strength and decision making powers

The NBCC benefits from being a multisectoral body at management level, which represents the strength, capacity, policies and enforcement powers of the departments and organizations involved. The NBCC is yet to be formally mandated under the reviewed Land and Water Conservation Improvement Act, which still awaits proper cabinet endorsement. However, in July 2009, the LAWRM Division secured cabinet endorsement of the IWRM Nadi Demo Project, which permitted the formation of the NBCC and the appointment of 23 interim NBCC members.

NBCC Members

Nominated interim members represent the key land and water resources stakeholders (both land and water managers and land and water users) within the Nadi Basin, including the IWRM Focal Point for Fiji. The Project Management Unit under the LAWRM Division acts as the secretariat for the NBCC. The 23 interim members include government representatives, statutory bodies, provincial offices and community representatives, academia, NGOs and regional organization reps.



A woman wades through floodwaters during the catastrophic floods in Nadi, January, 2009. ©SOPAC

Progress of the NBCC

From its inception in 2008, the NBCC has come a long way. It started initially as a working group. On August 20, 2009, interim appointments were issued to relevant key stakeholders to become members of NBCC. To date the NBCC has held four quarterly meetings. Issues of interest and discussion in meetings range from water issues, landuse, flood mitigation and protection, water supply, development plans, policies and legislations, gravel extraction, etc. All of which pertain to the Nadi Basin situation. A Terms of Reference for the NBCC has been developed with collective input of members.

Currently the NBCC is working on establishing subcommittees to focus specifically on the four project components: Community Liason, Technical, Governance and Planning, Land and Water Use. The direction and decision of the NBCC has also been sought on proposed work programs for implementation in the Nadi Basin. NBCC members have supported and assisted the installation of water level recorders, a flood early-warning system, initiated proper land use practices in the upper and mid catchment areas and initiated contact with communities.



A representative from the Fiji Trade and Investment Board addresses the NBCC. ©SOPAC

What is envisioned for the NBCC

The NBCC may still be in its infancy but it is moving forward with long term plans for the effective management of the Nadi Basin Catchment area. Its future aims are to:

- Formulate and finalize a Stakeholder Engagement Plan, with clearly defined participation, contribution and responsibilities for key players and stakeholders.
- Complete the formation of the four subcommittees, which should result in more proactive participation of NBCC members in the planning and decision making process.
- Ensure that Cabinet recognizes, strengthens and mandates the NBCC's role by endorsing the Land and Water Conservation Improvement Act.
- Oversee the smooth implementation of activities, and achieve outputs, which are in line with the IWRM Demonstration Project Proposal. This will include the authorizing, vetting and endorsing of project and PMU annual work plans, writing routine and special reports, and sub-project proposals etc.

On completion of the IWRM Nadi Demo Project in 2013, the aim is for the NBCC to continue its function as the body authorised to plan and co-ordinate the monitoring of IWRM in the Nadi Demo Project area and participate in initiatives such as the development of Integrated Water Resources Management policies.



Hydrologists measure floodwater levels after the January 2009 floods. ©SOPAC

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A man is given a footbath to reduce the spread of the disease at Medecins Sans Frontieres (MSF) Cholera Treatment Centre in Lae. ©Sally McMillan/MSF

Nearly 3000 affected by PNG cholera outbreak

April 12, 2010: More than 2,900 people in Papua New Guinea have been infected with cholera since an outbreak began eight months ago.

The country's first cholera outbreak in 50 years is affecting three adjoining northern provinces, Madang, Morobe and East Sepik.

The World Health Organisation's representative in PNG, Dr Eigil Sorensen, says 500 people got the disease in the second half of March, but the infection rate has since eased.

"The latest figures as of end of March is 2907 cases. Although what we've seen within the last two three weeks that it seems to be slowing down, in particular in the East Sepik, but also in Madang, while there're still a large number of cases in Morobe province occurring."

Dr Sorensen says there were about 10 new infections over the last fortnight.

He says while the rate is slowing down, it could be due to its natural cycle.

(RNZI)

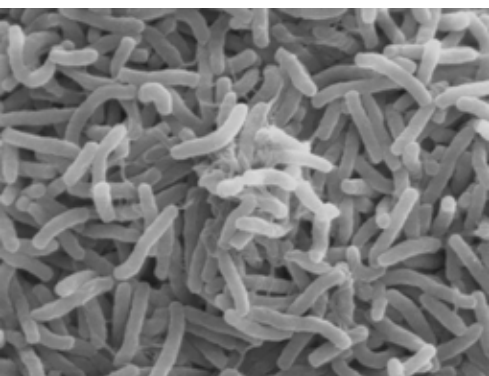
Cholera the facts

A person may get cholera by drinking water or eating food contaminated with the cholera bacterium.

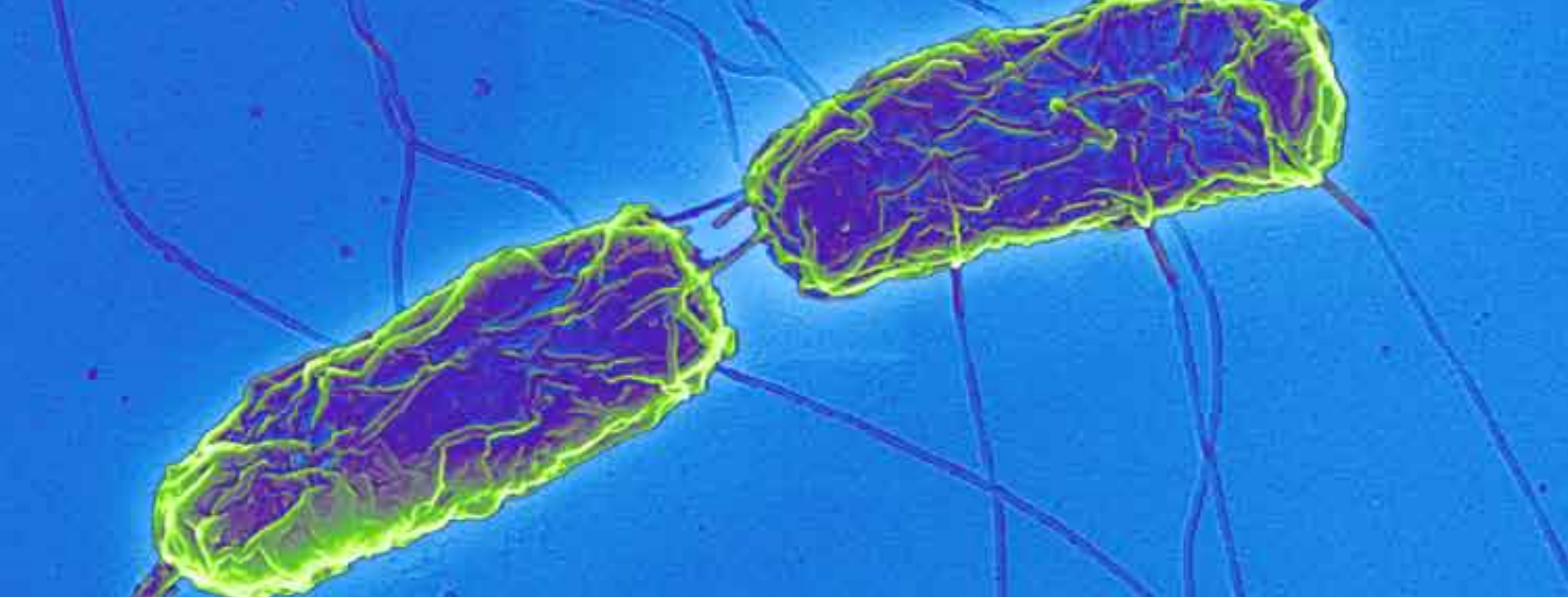
Cholera is an acute infection of the intestine, caused by a bacteria called *Vibrio cholerae*. The illness begins suddenly with painless watery diarrhoea, nausea and vomiting. Most people who become infected have very mild diarrhoea or may not even have any symptoms

Severe cholera cases have very bad diarrhoea and vomiting, which may cause rapid dehydration and death.

If untreated, 50% of people with severe cholera will die, but prompt and adequate treatment reduces this to less than 1% of cases.



Vibrio cholerae: This nasty bug kills approximately 120,000 worldwide annually.



A closeup of Salmonella typhi the bacteria that cause Typhoid.

Typhoid outbreak in Fiji

Typhoid fever is one of the major public health issues in Fiji. The numbers of reported cases has increased since 2004. Although most cases were reported in the Northern division, cases have also been reported throughout the country.

After an outbreak of Typhoid was noticed in the Jitu State settlement in Suva in February this year, epidemiologists and environmental specialists from the World Health Organisation (WHO) and Fiji Ministry of Health were sent to investigate.

The investigation found that most of the settlement's inhabitants used pit latrines and that waste from these latrines went directly into drains without any treatment by septic tanks. Results of samples collected from the drain and nearby creek found that all of the water was contaminated. It is assumed that this contaminated water caused the disease both directly and indirectly.

Fiji has many issues with water supply, especially in rural areas. However, even when treated water is provided, good personal hygiene practices, such as properly washing hands or ensuring water tanks are not contaminated, are often missing.

To improve hygiene and sanitation systems to prevent the disease, many interventions have been done through government action plans. It is important to continuously implement these activities by working closely with all stakeholders.

What is Typhoid?

Typhoid fever is an infectious disease caused by the bacteria; *Salmonella typhi*. Once the bacteria enter a person's body, it multiplies and spreads from the intestines into the bloodstream.

Typhoid fever is a water borne disease, which spreads from direct contact with water contaminated with excrement from an infected person. The disease is mainly transmitted via unsafe drinking water, food, and inadequate sewage disposal. The lack of a safe water supply, poor hygiene and poor waste water disposal can all cause the disease.

Ensuring that water is clean, food properly prepared, and good hygiene and sanitation (especially proper sewage disposal) practices can help prevent the spread of the disease.



Women at Dratabu village in Nadi boil water to prevent typhoid. ©Fiji Times

How can Typhoid and Cholera fever be prevented?

- Use treated water, or boil all water from an untreated source.
- Do not allow waste water to be used for irrigating the garden
- Wash vegetables thoroughly in safe water if they are to be eaten raw
- Do not gather shellfish from areas that may be contaminated by human waste.
- Cook food thoroughly and serve hot,
- Cover and refrigerate leftovers.
- Use a proper toilet with sanitary waste disposal that is at least 30m away from a water source.
- Do not let children or pets play in areas contaminated by human waste, such as areas of open defecation, near leaking septic tanks or sewers, or in contaminated rivers or sea water.
- Wash and dry hands thoroughly after using the toilet or changing nappies.
- Hands should be washed thoroughly with soap and water for 20 seconds and dried for a further 20 seconds using a clean cloth or disposable towel.
- Soiled clothing and linen should be washed with hot soapy water separately from that of other family members.
- Items such as face cloths and towels should be kept for individual use.
- Someone with a Typhoid or Cholera infection should not prepare food for others in the family until they are fully recovered and no longer infectious.
- In households where someone is recovering from Typhoid or Cholera, you should disinfect toilet seats, flush handles, wash basin taps and toilet door handles daily using a hypochlorite based solution, such as Janola or Domestos. The solution should be wiped over the surface and left in contact for at least half an hour.



A victim of Cholera: Willie Kagoe, 47, of Barana Village, 160 km outside Madang. ©David Swanson/IRIN

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WHO and UNICEF launch Joint Monitoring Programme report on Progress on Sanitation and Drinking Water – 2010

The new WHO/UNICEF Joint Monitoring Programme (JMP) report Progress on Sanitation and Drinking-Water –2010 Update Report, released March 15, 2010 says the world is on track to meet or even exceed the drinking-water target of the Millennium Development Goals (MDGs), with 87% of the world's population or approximately 5.9 billion people using safe drinking-water sources. However the report also points out that with almost 39% of the world's population, or over 2.6 billion people, continuing to live without improved sanitation facilities much more needs to be done to meet the sanitation MDG target.

The JMP report 2010 presents the current status and trends in 209 countries or territories towards reaching the drinking-water and sanitation Millennium Development Goals (MDGs) targets, and an assessment as to what these trends reveal.

The report provides the clearest picture to date of the use of improved sanitation facilities and improved sources of drinking-water throughout the world. The report is aimed to help policy-makers, donors, government and nongovernment agencies decide what needs to be done and where to focus their efforts to achieve these goals.

The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation is the official UN mechanism tasked with monitoring progress towards MDG Target 7 on drinking water supply and sanitation. The report includes information from household surveys and censuses completed during the 1985–2008 period.

A record number of nearly 300 datasets were added to the global database for this year's report. Importantly, the latest data has not yet registered the impact of the International Year of Sanitation (2008), which is hoped will make a significant difference to the rate of progress towards the MDG sanitation target

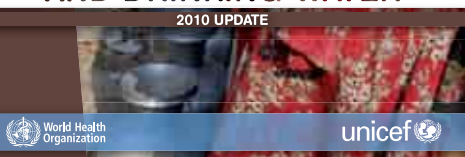
Of course there is no simple one solution or 'one size fits all' approach that can be taken globally. This is especially true in the Pacific region where many factors such as water source, type of facilities, geographic location and vulnerable groups may need more adapted mechanisms in order to address water safety, sanitation and hygiene issues.

The Pacific Water Supply Sanitation and Hygiene (WASH) Coalition, especially the WHO South Pacific Office, United Nations Children Fund - UNICEF Pacific, SOPAC and other partners are looking at opportunities to enable Pacific island countries to provide relevant water and sanitation data to be included in Joint Monitoring Programme reporting. The challenge includes the validation process used by the Joint Monitoring Programme as well as the specific methodology established for collection of data.



PROGRESS ON SANITATION AND DRINKING-WATER

2010 UPDATE



For more information on the JMP report 2010 contact,
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Did you know...? Facts and figures about the Pacific Islands

- There are about 30,000 islands in the Pacific Ocean, only 2,000 of which are inhabited. Many of the populated islands are less than 10 km², while some, especially atolls, are less than 1 km². The 18 Pacific Island countries and territories considered in this study account for 550,000 km² of land and some 7 million inhabitants spread across 180 million km² of ocean – about 36% of the earth's surface.
- Average annual rainfall varies considerably in the tropical Pacific, from over 4,000 mm to less than 500 mm. The higher altitudes of volcanic islands receive more rain, with about a 10% increase per 100 metre rise in elevation.
- The limited freshwater supply in small Pacific islands is used for various purposes, including for towns, industrial activities, agriculture and forestry, tourism, environmental needs and mining. Non-consumptive uses include hydropower generation (e.g. in Fiji, Samoa and Vanuatu), navigation and recreation.
- To meet growing demand, naturally occurring water resources are supplemented with non-conventional ones. The former are surface water, groundwater and rainwater collection; the latter include desalination, imports, wastewater recycling and use of seawater or brackish water for selected purposes where potable water is not needed.
- Some islands, including in Fiji and Tonga, have imported water as an emergency measure during severe drought. In some instances, people move from water-scarce islands to others nearby with more water. On many small islands, local or imported bottled water is an alternative for drinking water, although it costs more than water supplied by local water authorities.
- Many small islands, particularly coral atolls and small limestone islands, generally do not have sufficient water resources for irrigated agriculture, or suitable soil conditions. Irrigation on small islands thus tends to occur on a relatively minor scale except in cases like that of Fiji, where agriculture – primarily water-intensive cultivation of sugar cane as a cash crop – is the largest water user.

The section "Did You Know...?" is taken from the 3rd World Water Development Report "Water in a Changing World": <http://www.unesco.org/water/wwap/wwdr/wwdr3/>





selected water websites

ADB Water for All
<http://www.adb.org/water/>

Asia Pacific Knowledge Hub (APKH)
<http://www.apwf-knowledgehubs.net/>

AusAID
<http://www.ausaid.gov.au/>

Australian development Gateway
<http://www.developmentgateway.com.au/jahia/Jahia/lang/en/pid/9>

Cap-Net
<http://www.cap-net.org/>

Climate Front Lines
<http://climatefrontlines.org/>

Co-operative programme on water and climate
<http://waterandclimate.org/>

East-west center
<http://www.eastwestcenter.org/>

ESCAP
<http://www.unescap.org/esd/water/activities/>

European Union
<http://www.euwi.net/>

FSM IWRM Website
<http://www.fsmpio.fm/FSMIWRM/index.html>

GEF Pacific IWRM
<http://www.pacific-iwrm.org/>

Gender and water alliance
<http://www.genderandwater.org/>

Global Water Partnership
<http://www.gwforum.org/servlet/PSP>

IRC International Water and Sanitation Centre
<http://www.irc.nl/>

Island Climate Update
<http://www.niwa.co.nz/our-science/pacific-rim/publications/all/icu>

IWCAM
<http://www.cep.unep.org/iwcam>

Japan Water Forum
<http://www.waterforum.jp/eng/>

Niue IWRM Website
<http://vainiue.gov.nu/>

NIWA
<http://www.niwa.co.nz/>

NZAID
<http://www.nzaid.govt.nz/>

Pacific ENSO Update
<http://www.soest.hawaii.edu/MET/Enso/>

Pacific Water Association
<http://www.pacificwaterassociation.org>

PI-GOOS
<http://www.pi-goos.org/>

SIDSNET
<http://www.sidsnet.org/>

SOPAC water
<http://www.pacificwater.org/>

SPC
<http://www.spc.int/corp/>

SPREP Pacific Adaptation to Climate Change
http://www.sprep.org/climate_change/PACC/index.asp

Stockholm International Water Institute
<http://www.siwi.org/>

The International Commission on Irrigation and Drainage (ICID)
<http://www.icid.org/>

UN-Water
<http://www.unwater.org/flashindex.html>

UNEP
<http://www.unep.org/themes/freshwater/>

UNESCAP
<http://www.unescap.org/>

UNESCO
<http://www.unesco.org/water/>

UNFCCC
<http://unfccc.int/2860.php>

USGS
<http://hi.water.usgs.gov/>

UNU
<http://www.inweh.unu.edu/>

USP
www.usp.ac.fj

Water Governance Facility
<http://www.watergovernance.org/>

Water Virtual Learning Center(WVLC),
University of the South Pacific
<http://www.usp.ac.fj/index.php?id=4043>

WHO
http://www.who.int/water_sanitation_health/en/

WMO
http://www.wmo.int/pages/themes/water/index_en.html

World Bank
<http://www.worldbank.org/html/extdr/thematic.htm>

World Water Council
<http://worldwatercouncil.org/>

WSSCC
<http://www.wsscc.org/>



water calendar 2010

Date 2010	Event	Location	Details
19-22 April	Sustainable Solutions for Small Water and Wastewater Treatment Systems	Girona, Spain	The main objective of the conference is to jointly discuss recent aspects related to sustainable solutions for small water and wastewater systems (SWWS) within a framework of sharing experiences from the scientific, engineering, operation and governance points of view within an international scope. The definition of small was initially related to those treatment systems serving less than 2000 p.e. Nevertheless, in the last years that definition has been expanded to include industrial water and wastewater systems with loading rates similar to small urban systems. http://s2small2010.udg.edu/iwa/
22 April	World Earth Day	Worldwide	For the 40th anniversary of Earth Day in 2010, the world is in greater peril than ever, but there is also unprecedented opportunity to build a new future. Earth Day has the power to bring about historic advances in climate policy, renewable energy and green jobs and catalyze millions who make personal commitments to sustainability - A Billion Acts of Green™ – mobilizing the power of people to create change by taking small steps in our homes, our schools and our businesses that add up to an enormous collective action. Earth Day 40 is a pivotal opportunity for people, corporations, and governments to join together to create a global green economy. Our coordinated efforts now will be recognized by future generations as a turning point. http://www.earthday.net/node/77
17-22 May	WSSCC National Coordinators Planning Meeting	Geneva, Switzerland	
22 May	International Day for Biodiversity	Worldwide	The United Nations proclaimed May 22 The International Day for Biological Diversity (IDB) to increase understanding and awareness of biodiversity issues. The theme for this year is “Biodiversity for Development”. The first and foremost purpose of all related Action Days, therefore, is to raise public and political awareness, at the national and international levels, of the significance of ecosystems and biodiversity for human well-being. The International Year of Biodiversity 2010 provides excellent opportunities to scale up this approach and create a global mosaic of the value and meaning of ecosystems to humankind. Simultaneous Biodiversity Action Days in up to 50 countries will broaden public awareness of the CBD and its objectives, and will stimulate the political debate around options for its preservation and sustainable use.
5 June	World Environment Day	worldwide.	Commemorated yearly on 5 June, World Environment Day is one of the principal vehicles through which the United Nations stimulates worldwide awareness of the environment and enhances political attention and action http://www.unep.org/wed/2009/english/index.asp
8 June	World Oceans Day	Worldwide	World Ocean Day is an opportunity every year to honor the world's ocean, celebrate the products the ocean provides, such as seafood, as well as marine life itself for aquariums, pets, and also a time to appreciate its own intrinsic value. The ocean also provides searoutes for international trade. Global pollution and over-consumption of fish have resulted in drastically dwindling population of the majority of species. The Ocean Project, working in partnership with the World Ocean Network, has been promoting WOD since 2003 with its network of over 900 organizations and others throughout the world. These groups have been working to build greater awareness of the crucial role of the ocean in our lives and the important ways people can help. World Ocean Day provides an opportunity to get directly involved in protecting our future, through a new mindset and personal and community action and involvement – beach cleanups, educational programs, art contests, film festivals, sustainable seafood events, and other planned activities help to raise consciousness of how our lives depend on the ocean http://theoceanproject.org/wod/index.php

continued next page...



water calendar 2010

Date 2010	Event	Location	Details
28 June - 2 July	Singapore International Water Week	Singapore, Singapore	The Water Convention, under the theme 'Sustainable Water Solutions for Cities – Clean and Affordable Water' aims to bring together researchers, industry leaders, and practitioners to share and learn a wide range of areas, such as water technology solutions, planning and management of water resources, utility practices, and water quality and protection of public health. In particular, the theme this year has been chosen to focus on the financing and governance aspects of the water industry. The themes and topics in the Water Convention will be designed to examine specifically the trends and challenges facing East Asia, Asia-Pacific, and the Middle East regions. http://www.siwv.com.sg/
28 June	Asia Pacific Water Ministers	Singapore	The outcome of the APWMF will be a summary of the event highlights and key ideas (akin to SIWW's publications -"Solutions" and "Blue Paper"), and is proposed to be presented at the 2nd Asia Pacific Water Summit.
5-7 July	Young Water Professionals Conference	Sydney, Australia	The YWPC2010 will provide a forum for young researchers and professionals working in water and wastewater research, technology and management to present their work and meet their peers from all over the world. The Conference will consist of papers and posters presentations, career development workshops for all sectors of the water/ wastewater industry and unparalleled networking opportunities. The attendees also will have the opportunity to discover the many unique aspects of this area in New South Wales. http://www.iwa-ywpc.org/templates/ld_templates/layout_670267.aspx?ObjectId=679496
19-23 July	EU and GEF IWRM combined Regional Steering Committee Meeting19		The Regional Steering Committee (RSC) meeting for both the EU and GEF Integrated Water Resources Management (IWRM) programme will be held simultaneously in Palau from the 19-23 of July 2010. The RSC meeting will be an opportunity for the countries to meet with the Programme Managers to discuss the progress made and ways forward. This will be combined with targeted training and presentations from the countries involved in the project.
26 August	World Rivers Day		World Rivers Day is a global celebration of the world's waterways, observed every last Sunday in September. Established in 2005, it highlights the many values of rivers and strives to increase public awareness while encouraging the improved stewardship of rivers around the world. World Rivers Day occurs annually on the last Sunday in September.
5-11 September	World Water Stockholm, Sweden		The World Water Week in Stockholm is the annual meeting place for the planet's most urgent water-related issues. Organized by the Stockholm International Water Institute, it brings together experts, practitioners, decision makers and leaders from around the globe to exchange ideas, foster new thinking and develop solutions. The thematic scope frames the key issues and discussion points related to the 2010 theme "The Water Quality Challenge - Prevention, Wise Use and Abatement". The intention is to deepen the understanding of, stimulate ideas on, and engage the water community around the challenges related to water quality. http://www.worldwaterweek.org/
13-15 September	Pacific Water Conference		www.pacificwaterassociation.org
19-24 September	IWA World Water Congress & Exhibition		The International Water Association (IWA) World Water Congress & Exhibition is a high profile international event attracting thousands of water professionals and organizations from across the globe. It is a biennial event organised by the IWA. This event attracts 3,000 researchers, academics, utility managers and water technology suppliers and provides a unique opportunity to learn of the latest research findings and operational practices from around the world through a series of scientific sessions and workshops. Although most utilities face similar problems, it is exciting to learn of the different solutions that have been found and implemented in other parts of the world. http://www.cwwa.ca/IWA%20World%20Water%20Congress_e.asp
4-6 November	WHO IWA Water Conference		International Network of Drinking-Water Quality Regulators: Announcement Call for Planning Committee Representation - WHO-IWA Water Safety Conference, 2010

