How are we doing?

The Pacific Island Countries have started working at different stages of the IWRM process, whether it is revising policy and legislation, forming a water coordination committee, developing a Water Safety Plan, creating water protection areas or catchment management committees, raising awareness on water and health, promoting sustainable alternatives for sanitation and wastewater, setting up hydrological monitoring programmes, or looking at economic efficiency of water use. The EU-funded IWRM National Planning Programme will support the different countries based on their specific situation and needs.

Challenges and opportunities for Water Governance

Kiribati, Fiji and the Solomon Islands were chosen to pilot governance processes for integrated and sustainable water management with support from the regional Programme for Water Governance (PfWG) funded through the European Union (2005-2007). The programme helped the three countries to initiate a process for effective water governance.

Kiribati

The main challenges to IWRM identified for Kiribati include politicised resource management approaches, lack of government awareness and political will, and the dispersed nature of the land and population, all leading to delay in adoption of draft national water plans, policies and legislation. This was partly addressed by supporting the reformation of the Kiribati Water Supply and Sanitation Coordinating Committee under the Office of the President to avoid intersectoral competition. It was also recognised that capacity needs to be built in a wide range of areas supporting IWRM, from policy making to technical expertise and community participation in decision-making. The challenge of geography could be met by grouping the islands in its route from raindrop to coastal waters.

Fiji

Through the PfWG process, Fiji developed a draft water policy and a draft Water Resources Act. Fiji also formed a National Water Committee and formulated a draft strategy to support the IWRM process. The Cabinet has since adopted the draft Policy as Interim, subject to an ongoing consultation process. The future IWRM process in Fiji will need to raise awareness and understanding of IWRM to ensure political commitment to dealing with complex issues such as water ownership. There is a risk that urgent issues such as flooding and access to water supplies will 'take over' overarching policy processes, resulting in a disjointed and fragmented approach to the resource and its management, and a lack of attention to the interconnected nature of land and water.

Solomons

The Solomon Islands has faced periods of political instability, which has made it difficult to focus government attention on a single issue such as water. Water resources management has been fragmented due to a lack of national policy and community awareness. Through the PfWG, key government representatives got the chance to exchange experiences with Samoa, which has already come far in the process of improving water governance. Solomon Islands drafted a National Water Resources Policy and a National Water Resources Legislation, formed a temporary water group and drafted terms of reference for a National Steering Committee to support the IWRM process. The government has provided a budget allocation for the IWRM process and are currently focusing on consultation and review of the National Water Resources Act. Solomon Islands are faced with challenges such as resolving water ownership issues (especially in the view of increased mining activities) and raising awareness of water resources management (specifically links to land-use practices) taking into account low literacy rates in communities.

What? The Pacific Integrated Water Resources Management (IWRM) Programme will assist Pacific Island Countries to establish and implement effective IWRM and Water Use Efficiency (WUE) plans based on best practices and demonstrations. It consists of two main projects: 1) The EU funded “IWRM National Planning Programme” and 2) the GEF funded “Sustainable Integrated Water Resources and Wastewater Management Project in Pacific Island Countries” (Pacific IWRM Project).


Why? To help Pacific Island Countries:

- Balance conflicting uses of scarce freshwater resources
- Improve public and environmental health by ensuring consistent water availability and quality
- Reduce effects of soil erosion, inadequate sanitation and other harmful activities on the quality of fresh and coastal waters
- Reduce vulnerability to droughts, floods, landslides and pollution
- Implement the seventh Millennium Development Goal (www.un.org/millenniumgoals/) on environmental sustainability including the aim “all countries to develop Integrated Water Resources Management and Water Use Efficiency plans by 2020” and the Pacific Regional Action Plan on Sustainable Water Management endorsed by the governments of 14 Pacific Island Countries

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BOPAC Secretariat, Private Mail Bag OPO, Suva, Fiji. Tel: (679) 338 1377. Fax: (679) 337 0040; Email:iwrm@sopac.org
Web: www.pacificwater.org or www.sopac.org
Integrating sectors

As we can see in the table below, water connects and links to the responsibilities and activities of actors from many different sectors and interest groups. It is therefore important that national development planning involves and coordinates all these sectors and groups in order to avoid duplication of effort and make sure that all aspects of water management are covered in a cost-effective manner.

This can be facilitated by IWRM planning processes (see diagram on facing page) where representatives from different sectors and stakeholder groups can outline common plans, strategies, policies and legislation for how to manage water.

Common strategies and planning can help governments to better coordinate the responsibilities of different institutions, the contributions of externally funded projects and collaboration with non-governmental organisations and other stakeholders.

Tourism & Trade
- Plan tourism activities with consideration for increased water use and wastewater load
- Regulate export or import of bottled water considering local water needs and increased waste load from bottles

Utilities & Energy
- Install and maintain infrastructure for water supply and sewerage to ensure that water gets from source to intended use in good quality and sufficient quantity, and to prevent wastewater pollution
- Monitor water availability and use in order to match water supply to demand
- Mitigate effects from hydropower installations on ecosystems and communities through integrated watershed management, and balance water demands for energy generation and public supply
- Regulate export or import of bottled water considering local water needs and increased waste load from bottles

Fisheries & Marine
- Monitor effects from run-off and land-based activities on coastal ecosystem health and fisheries production
- Protect important fisheries spawning and nursery areas in coastal waters and rivers

Agriculture & Forestry
- Adapt agricultural and forestry practices (species, land-use practices and agrochemicals) to rainfall, land features, soil quality and water availability, in order to ensure effective water use, soil conservation and reduction of runoff of sediment nutrients, pesticides, etc.
- Monitor and protect the health of water environments and create protection areas where necessary
- Regulate impacts of developments on water resources (e.g. in Environmental Impact Assessments)
- Consider water resources in urban, rural and land-use planning, and minimise flooding
- Include water harvesting and wastewater standards in building codes

Environment & Planning
- Regulate extraction of mineral resources to protect aquifers, ensure effective water use and reduce polluted run-off
- Regulate extraction and allocation rights to ground water
- Survey and monitor groundwater resources

Mineral Resources
- Protect healthy water environments and create protection areas where necessary
- Regulate impacts of developments on water resources (e.g. in Environmental Impact Assessments)
- Consider water resources in urban, rural and land-use planning, and minimise flooding
- Include water harvesting and wastewater standards in building codes

Education
- Integrate the basics of water resources management into the school curriculum
- Cater for the education of technical experts to support water management
- Survey and monitor groundwater resources

Finance
- Integrate the economic value of water into national finance planning
- Allocate budget and develop tariff systems to cover costs for water resources management, including services, monitoring, research, planning and governance

Health & Social Welfare
- Control safety of public water supply
- Promote basic understanding of sanitation and hygiene
- Ensure easy access to water to ensure more time for other activities

How does IWRM work?

Integrating Scale
Water resources need to be managed both on the local, catchment and national level, and even internationally in cases when rivers, lakes or aquifers cross national borders (and on island levels in the Pacific).

This can include both traditional and conventional governance frameworks. The IWRM process should ensure effective communication and coordination between interests, institutions, legislation and policies on all these levels.

How will the EU-funded IWRM National Planning Programme help?

When? 2008-2010
Who? Executed by SOPAC and funded by the European Union through the European Commission Water Facility
How? By supporting the development of IWRM planning processes and Water Use Efficiency strategies in all 14 Pacific island countries, including legislation, policies, intersectoral coordination committees, watershed partnerships, awareness, consultation, advocacy, expertise, exchange, best practice, etc. depending on the needs and situation of each country.

The IWRM planning process

The process for IWRM planning includes stages that can be undertaken in different order or simultaneously depending on the specific needs and situation. The process is adaptive and iterative in order to accommodate for changing needs and situations. It takes a participatory and gender balanced approach, striving to include stakeholders from all ages and social groups.

Planning Tools for IWRM

Water Use Efficiency Planning is a development tool for countries to make the most of their water resources through:
(i) Technical efficiency – water demand management to reduce leaks and wastage to maximise resource use, and
(ii) Allocative efficiency – assessment of how to prioritise the uses of water to optimise economic benefits whilst maintaining social equity and the environment.

Water Demand Management Planning is similar to water use efficiency and focuses on reduction of water wastage in the water supply system, balancing supply versus demand, and in some cases setting up metering and pricing schemes for cost-recovery to ensure sustainable water supply and management.

Water Safety Planning focuses on ensuring consistent and safe water supply to protect human health, by assessing and minimising risks for water contamination and supply cuts.
How will the GEF-funded Pacific IWRM Project help?

Watersheds

- Watershed or catchment is the total land area that contributes water to a river, stream or lake. Land-use practices such as forestry, agriculture, hydroelectric power and other developments can affect run-off of water, soil and nutrients into rivers and seas.
- If mismanaged, this can lead to increased soil erosion, flooding events, contaminated water supplies and degraded freshwater and marine ecosystems (often referred to as pollution or pollution problems). Management therefore needs to reflect linkages between upstream activities and downstream effects (e.g. 'hilltop-to-oceans' or 'field-to-coast' approaches).

Coastal & Marine Waters

- Water runoff and run-up from land carries minerals, sediments and pollutants that impact coastal ecosystems. Change in sea run-up can cause a high cost to coastal communities, bringing consequences of falling water levels, destruction of coastal and flooding by the sea. Flooding can also increase the area, and change the size and shape of the land. Mangroves usually depend on a specific flow of water for their survival, and if this changes, they may be destroyed. Plants in the area may also be destroyed.
- To address the effects of land-based activities and pollution on the coastal environment and resources, it is therefore necessary to integrate coastal water and resources management.

Water Supply Systems

- In small islands, the water supply is usually provided by community wells or by piped water from a catchment area. An integrated water supply system is required to ensure that water is available and of good quality to users in all inhabited areas. This system is more sustainable and independent of seasonal variations in rainfall.
- A reliable and sustainable water supply system can improve the health and well-being of the population, increase education, improve productivity and enhance the economic development of the islands. The system can be improved through the provision of rainwater harvesting, desalination, etc.

Groundwater

- Groundwater is water that flows through the soil and is stored in underground reservoirs called aquifers. Water is an essential natural resource that is important in the provision of clean and healthy water for domestic use and for the protection of the environment.
- It is important to monitor rainfall and groundwater levels, water salinity and water quality to prevent contamination of the water. The quality of water needs to be monitored to ensure that it is safe for consumption. By monitoring surrounding water systems, the quality of water can be ensured.

Rainwater

- Rainwater harvesting involves the collection and use of rainwater. It is a simple system that can be used on a small or large scale. Rainwater harvesting systems can be used to reduce the demand for water, and can also be used as a backup system in case of water shortages.

Wastewater

- Wastewater is the water used for drinking, cooking, bathing, washing, sanitation, and other uses. Wastewater can contain a variety of substances, including pollutants and microbial contaminants.

For more Information:
Ulrika Gunnarsson, James Dalton or Rhonda Robinson, SOPAC IWRM Program, ulrika.gunnarsson@un.org or james.dalton@un.org or rhonda.robinson@un.org
Policy: - Participatory ecological and socio-economic...
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IWRM in Pacifi c Island Countries

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Not existing – for IWRM; not formally adopted, functions outlined, fully intersectoral or proactive

Formally adopted, fully intersectoral and active

CI - Cook Islands, FSM - Federated States of Micronesia, FJ - Fiji, KI - Kiribati, RMI - Republic of Marshall Islands, NR - Nauru, NI - Niue, PA - Palau, PNG - Papua New Guinea, SA - Samoa, SI - Solomon Islands, TO - Tonga, TV - Tuvalu, VA - Vanuatu

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Where?

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