

**Pacific  
Framework for Action  
on  
Drinking Water  
Quality  
and  
Health**



**Nadi, 10th February 2005**



## Workshop on Drinking Water Quality Standards and Monitoring in Pacific Island Countries

7-10 February 2005  
Nadi, Fiji

This Framework for Action was developed at the WHO Regional Workshop on Drinking Water Standards and Monitoring in Pacific Island Countries held 7-10 February 2005. The framework was prepared in response to the recommendations by the Pacific Island Countries' participants and supports the implementation of drinking water quality actions envisioned in the overarching Pacific Regional Action Plan on Sustainable Water Management.

### *Pacific Regional Action Plan on Sustainable Water Management*

*3<sup>rd</sup> August 2002  
Sigatoka, Fiji*



The Ministers of Health for the Pacific Island Countries through the Samoa Commitment have recommended this framework for implementation at their meeting in **Apia xx March 2005**.

Participating Pacific Island Countries in the WHO workshop (Nadi, 2005): **American Samoa, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Federated States of Micronesia, Republic of Marshall Islands, Nauru, New Caledonia, Niue, Papua New Guinea, Republic of Palau, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu.**

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# **PACIFIC FRAMEWORK FOR ACTION ON DRINKING WATER QUALITY AND HEALTH**

## **1. INTRODUCTION**

The importance of safe drinking water for health and development has been reflected in the outcomes of many international policy forums, from the International Conference on Primary Health Care (Alma Ata, 1978) to the World Summit on Sustainable Development (Johannesburg, 2002). Under the Millennium Development Goals, countries have committed themselves to achieving inter-related targets for sustainable access to safe drinking water, basic sanitation and reduction in child mortality by 2015. Most recently, the United Nations General Assembly declared the period from 2005 to 2015 as the International Decade for Action, "Water for Life."

Pacific Island countries, through the Regional Action Plan on Sustainable Water Management (Sigatoka, Fiji, 2002) outlined actions needed to achieve sustainable management of water resources and to improve water services through collaborative efforts by water sector authorities and inter-sectoral partners. Parallel with this initiative, Ministers of Health for the Pacific Island Countries called upon Member States, national, regional and international partners through the Tonga Commitment (2003) *inter-alia* to strengthen national drinking water quality standards and monitoring capabilities.

The WHO Workshop on Drinking Water Quality Standards and Monitoring in Pacific Island Countries (Nadi, Fiji; 7-10 Feb. 2005) developed the Framework for Action on Drinking Water Quality and Health in Pacific Island Countries, designed to support the implementation of drinking water quality actions envisioned in the overarching Regional Action Plan on Sustainable Water Management. The workshop brought together senior officials responsible for drinking water quality and health from 18 Pacific island countries, technical experts from within the region and beyond, regional and international organizations (SOPAC, SPC, PWA, WHO and others), non-governmental organizations, and donors (AusAID and JICA). The Workshop consolidated the recommendations of earlier WHO meetings on drinking water quality (Nadi, 2001; and Kuala Lumpur, 2003) and identified actions needed to implement them.

The resulting Framework for Action on Drinking Water Quality and Health in Pacific Island Countries responds to the Tonga Commitment's call for action towards improving environmental health conditions in the region through inter-sectoral cooperation. The WHO/AusAID Partnership for Accelerating Effective Water, Sanitation and Hygiene Management for Health in Asia-Pacific provides support for regional initiatives such as this. Additional support will be needed however from countries themselves as well as other external support agencies.

The participants of the WHO Workshop on Drinking Water Quality Standards and Monitoring in Pacific Island Countries (Nadi, 2005) request that WHO and other regional partners continue to support the ongoing development and implementation of the Framework for Action and to seek its endorsement at ministerial level through appropriate inter-governmental forums in order to reinforce its utility as a tool for mobilizing national and external resources and setting priorities for action.

## **2. RECOMMENDATIONS AND ACTIONS**

Participants in the WHO Workshop on Drinking Water Quality Standards and Monitoring (Nadi, 7-10 Feb. 2005) developed a series of recommendations, consolidating recommendations from other recent WHO-sponsored workshops, and identified key actions needed to implement those recommendations.

The recommendations and actions are structured under six thematic areas, corresponding to the six themes of the Regional Action Plan (RAP) for Sustainable Water Management. Hence, the Framework for Action builds on and supports the implementation of drinking water quality activities envisioned in the RAP.

The six themes are:

1. Water Resources Management
2. Island Vulnerability
3. Awareness and Community Participation
4. Technology
5. Institutional Arrangements
6. Financing

### **THEME 1: WATER RESOURCES MANAGEMENT**

#### **Needs**

There is a need to develop risk management approaches in assuring the safety of drinking water in PICs. Many countries need to rationalize their approaches and strengthen their capacity for monitoring drinking water quality as a means of verifying the safety of drinking water. A few countries have no national standards and little or no water quality monitoring capacity. There is also a need in most countries to strengthen capacity for monitoring access to safe and sustainable sources of drinking water, safe and sustainable sanitation (both are Millenium Development Goals or 'MDG's) and to strengthen capacity to analyse disease trends in relation to water supply and sanitation services.

#### **Recommendation No. 1**

Protection of water sources such as springs, rivers, groundwater and rainwater catchments from contamination and overuse must be a priority to ensure quality and quantity.

**Actions:**

- Form a national water task force (NWTF) that will develop and over see the implementation of a water safety plan in partnership with all key stakeholders that include Works, Health, NGO's, local communities, private sector and other relevant agencies Plan and implement monitoring and surveillance programmes and adopt the HACCP approach (in those)
- Employ participatory approach to actively involve local communities in monitoring and treatment to ensure safe drinking water
- Empower local communities with legal ownership to foster sustainable use and management of local water sources
- Provide information on appropriate land-use practices along the water catchment to avoid contamination of water medium.

**Recommendation No. 2**

Technical support should be provided to develop national drinking water quality standards that are dynamic and implemented in stages as necessary.

**Actions:**

- Develop terms of reference for technical assistance
- Develop and amend existing acts and regulations
- Establish an agency to enforce regulations on drinking water promulgated by each country or state and establish a grant programme as an incentive to comply
- Identify entities that can inspect and certify water laboratories

**Recommendation No. 3**

The use of Water Safety Plans should be encouraged in the Region, and countries should be supported with manuals, guidelines and training on the use and implementation of this tool.

**Actions:**

- Organise training for technical persons form each country
- Identify priority parameters at different water sources to be monitored
- Develop water safety plans for different water sources or systems
- Develop standards for risk assessment and risk management

**Recommendation No. 4**

Effort should be expanded at regional and national level to assess risks posed by toxic chemicals and pathogens in drinking water.

**Actions:**

- Support Provincial Health managers to have an active role in providing finance for transporting samples to laboratories
- The National water committee should educate rural communities and the general public on the use of pesticides/fertilisers and its input on water quality and other water quality issues, using indigenous languages where applicable.
- Lessons to be learned and adapted from rural landowners about the current practices and water quality issues at different times of the year
- Prioritise tests chemicals and pathogens
- Organise refresher workshops for water specialists with assistance from technical partners including WHO

**Recommendation No. 5**

Human resources should be developed for drinking water safety, including drinking water quality monitoring, data management and information systems.

**Actions:**

- Capacity building in drinking water safety, monitoring, data management in the Pacific
- Find training for existing staff (or new staff) to ensure efficiency in data management and reporting
- Draw up water quality monitoring programs for urban and provincial centres
- Draft drinking water quality standards to be drawn up by local water groups (Ministry of Health, Department of Water and Sewerage, Department of Environment, University of the South Pacific, Ministry of Trade and Commerce, Fiji School of Medicine, Fiji Institute of Technology, etc.)

**Recommendation No. 6**

Research should be promoted and supported, and the scientific knowledge base should be strengthened to support the development of effective, efficient, and equitable policies and plans related to drinking water quality and health.

**Actions:**

- City councils & rural councils to financially support 'Rivercare', 'Landcare', and local groups
- Request assistance for in-country and external support for scientific research and appropriate field test kits

**THEME 2: ISLAND VULNERABILITY****Needs**

Most PIC's have a need to develop and implement water source protection measures in order to prevent the contamination of both surface water and groundwater sources, and especially to protect groundwater lenses in atoll and outer islands.

**Recommendation No. 7**

Emergency preparedness plans should adequately address drinking water quality issues, and water safety plans should address risks posed by potential emergencies.

**Actions:**

- The health department and water agencies and other relevant bodies (e.g. NGO's) to develop national water quality standards and get it legislated and enforced
- Create a database for water and diseases by the water suppliers and health
- Develop a water safety plan
- Establish emergency water sources and develop disaster preparedness plans for water suppliers
- Conduct research by a team of national specialists on water contaminants and intrusion of contaminants with the assistance from WHO experts

- Incorporate the national water safety plan into the national emergency response or disaster preparedness plans

**Recommendation No. 8**

The fragile environments of very small islands and their role in managing source water quality and quantity should be respected and protected.

**Actions:**

- Assess vulnerability of water lenses on atolls and recommend appropriate protective measures
- Establish partnerships with health departments, resources departments, public works and other agencies to collaborate in the protection of water resources
- Encourage the (National) disaster management offices in collaboration with all relevant bodies to draw up disaster preparedness plans for water quality emergencies

**THEME 3: AWARENESS**

**Needs**

In rural and remote communities knowledge is poor concerning the health risks posed by unsafe drinking water, especially the risk to children's health. There is also a need to educate the heads of households concerning sanitary measures related to individual water systems. In rural and remote communities and where public water supplies are intermittent, there is a need to educate parents and children alike concerning household water treatment and safe storage options.

**Recommendation No. 9**

Human resources should be developed to strengthen countries capacities for raising community awareness related to water quality and health risks, source water protection, household-level water treatment and safe storage.

**Actions:**

- Organise in-country workshops to upgrade skills on health and water quality monitoring
- Production of awareness materials (IEC, posters, pamphlets etc) on water quality management.
- WHO and others to assist Pacific island countries in conducting community workshops

**Recommendation No. 10**

Community awareness and community-based action programmes on safe water supply and sanitation should be developed and expanded in rural and remote areas and in urban areas alike (e.g. Healthy Islands Programme, etc.).

**Actions:**

- List available awareness officers in various departments
- Organise training of trainers for extension officers
- Conduct workshops and empower communities on the bases of "healthy homes" leading to "healthy communities" and "healthy nations"

- Conduct community based demonstrations and show best practices e.g water storage
- Conduct participatory learning and action on sanitation and hygiene in communities
- Create detailed community awareness plans on fragility of catchments
- Approach provincial councils for inclusion and implementation of water safety plans at village, district and provincial level

**Recommendation No. 11**

Community-based water quality testing and source protection programmes should be supported in rural and remote areas as well as in urban areas.

**Actions:**

- Develop drinking water monitoring plans
- Assist rural and independent communities in preparing water safety plans (community ownership)
- Establish community-based monitoring programmes including absence-presence bacteria testing (e.g. H<sub>2</sub>S test) in rural areas

**Recommendation No. 12**

Government awareness should be raised and political commitment should be strengthened to support actions for safe water supply and sanitation.

**Actions:**

- Call meeting with stakeholders to raise awareness on safe water supply and sanitation
- Develop proposals for government support for equipment, training and funding of community monitoring
- Incorporate political leaders in critical decisions on water quality and health
- Conduct workshops organised by the national water quality committee to sell ideas and concepts to the politicians
- Calculate and communicate to government decision makers the cost due to morbidity and mortality from unsafe water
- Include water quality safety education in the school curricula
- Educate leaders and management on the importance of water quality

**THEME 4: TECHNOLOGY**

**Needs**

Technology is essential to ensure safe drinking water supplies. Pacific Island communities currently do not have sufficient equipment to do this. Appropriate equipment is needed for water quality and system control, monitoring and data management in both urban and remote rural island communities. Equipment is also needed for water treatment and disinfection. There is a further urgent need to invest in wastewater technologies due to the impact of wastewater on drinking water quality.



**Recommendation No. 13**

Technical assistance and training should be provided for strengthening drinking water quality management (including monitoring, operation, calibration and maintenance of any related equipment).

**Actions:**

- Identify all different tests currently performed by departments or laboratories and need for any additional tests to be conducted periodically
- Organise training of field workers in monitoring procedures and appropriate tests
- Support technology and human resources for treatment of “Hard-Water”
- Mobilise overseas funding for capital cost or human resources
- Provide input for storage of water quality data

**Recommendation No. 14**

Adequate equipment for drinking water quality management (particularly field test kits for remote areas, hardware/software for data management) should be provided.

**Actions:**

- Provide testing kits to be used in fields
- Organise workshops on water quality data collection and information with technical assistance from outside experts
- Assist regional universities to be reference laboratories for water analysis
- Consult with partners to standardise equipment
- Upgrade local hospitals to detect specific disease causing organisms
- Evaluate most effective field kits (e.g. through WHO and GEMS)

**Recommendation No. 15**

Research should be supported to develop appropriate field-test kits for use in remote and rural areas.

**Actions:**

- Evaluate field water test kits currently used in Pacific Island Countries
- Collect water borne related disease data and information
- Use data and information on water borne diseases to develop appropriate field-test kits

**Recommendation No. 16**

Adequate equipment for water and wastewater treatment should be provided.

**Actions:**

- Further develop research on water and wastewater treatment and provide financial and technical assistance where required
- Promote the use of appropriate technologies such as e.g. solar water supply systems or simple wastewater treatment systems for outer islands and remote areas
- Establish training programs for innovative treatment systems

**Recommendation No. 17**

Rainwater harvesting programmes should be supported by improving water quality through approaches such as “first-flush” devices and community-based water quality testing.

**Actions:**

- Address and prioritise response to long-term water shortages
- Encourage governments to subsidise infrastructure for individual household water supplies through rainwater harvesting
- Develop and disseminate awareness materials for operation and maintenance of water storage tanks

**THEME 5: INSTITUTIONAL ARRANGEMENTS****Needs**

There is a need for governments to develop and implement appropriate regulatory frameworks, compliance and enforcement requirements to secure the provision of safe drinking water. Implementation of water safety plans needs active cooperation between agencies and all other stakeholders (Local communities, NGO's, international and regional organisations and private sector).

**Recommendation No. 18**

National and regional partnerships should be build to develop standards and guidelines and legislation in order to ensure provision of safe drinking water, and to establish national water quality committees that could oversee development of water safety plans.

**Actions:**

- Identify and list the key agencies and stakeholders involved with the management of water, wastewater and environmental health, their roles and responsibilities, the activities they undertake in water, wastewater and environmental health, and a lead agency for specific national activities
- Establish a National Water Quality Committee and develop their Terms of Reference
- Seek political approval
- Develop a framework to implement actions (review, consult, draft)
- Review the national laws, regulation and standards related to water quality monitoring and management
- Develop water safety plans and legislation where applicable
- List priority water quality parameters to be monitored
- Develop and formalise drinking water quality standards
- Establish a regional testing and certifying agency
- Encourage the enforcement of water quality regulations

**Recommendation No. 19**

Communication and information exchange between agencies involved with water quality data collection should be strengthened. This should include exchange and joint analysis of drinking water quality data and disease surveillance data between water supply agencies and health authorities.

**Actions:**

- Annual workshops should be carried out including all stakeholders as a means of keeping updated and networking.
- Evaluate existing water and sanitation programmes for improvement to meet water quality standards.
- Institutional strengthening programme for all stakeholders in water management.
- Establish database to monitor the water quality trends to set benchmarks

**THEME 6: FINANCING****Needs**

Financial resources are needed to secure the safety of drinking water supplies as targeted in the Millennium Development Goals (MDG's) and endorsed as a top priority in recent international (e.g. the World Summit on Sustainable Development, WSSD and CSD 12 & 13 and Mauritius) and regional meetings (e.g. Tonga Declaration and the Sigatoka Communiqué).

**Recommendation No. 20**

Governments should, as a priority, develop and implement appropriate financial mechanisms to support sustained supplies of safe drinking water and sanitation services to both rural and urban communities to fulfil the MDG target on water and sanitation.

**Actions:**

- Develop a corporate action plan to fulfil the MDG target on water and sanitation
- Provide data that link water and environment hazards
- Increase political will through advocacy such as showing the "Walkerton case study" to legislators / congress
- Create public awareness and advocacy on the need for sustained supplies of safe drinking water at the national level
- Civil society must rally and lobby to politicians to obtain funding for water quality and hygiene and educate government officials and politicians on the importance of water quality

**Recommendation No. 21**

External agencies should be encouraged to support specific activities in the region where governments are unable to sustain provision of safe drinking water and sanitation services.

**Actions:**

- External agencies should be included in discussion and planning phases
- Write proposal to external agencies for financial and technical assistance in specific activities
- NGO committees to work together to identify research opportunities that can be facilitated by external agencies
- Communities first need to identify problems and prioritise them, then take the ideas to NGOs who will help to do the work