



**PACIFIC ISLANDS APPLIED GEOSCIENCE
COMMISSION**

REPORT

PACIFIC WATER SAFETY PLANS PROGRAMME

**NATIONAL TRAINING AND PLANNING
WORKSHOP**

COOK ISLANDS

Convened By

**SOUTH PACIFIC APPLIED GEOSCIENCE COMMISSION
(SOPAC)**

AND

WORLD HEALTH ORGANIZATION (WHO)

14 -TO -18 August, 2006

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SUMMARY

The workshop on Training and Planning for the Pacific Water Safety Plans was conducted in the Cook Islands from 14 -18 August, 2006. at the Edgewater Resort, Rarotonga.

The objectives of the workshop were as follows:

- To improve participants understanding of the water safety planning processes, through practice.
- To prepare draft water safety plans for urban (Rarotonga) and pilot rainwater systems.
- To prepare a draft National Plan for implementation of Water Safety Plans in Cook Islands.
- To engage all relevant government agencies, NGOs and other potential partners in preparation of draft Water Safety Plans as well as the draft national Plan.

As Cook Islands is one of the four selected Pacific Island countries for the Water Safety Plans programme it is necessary to train and plan for the formulation and implementation processes. Twelve participants representing five government and non-government agencies attended the workshop.

There were thirteen participants from various sectors such as government departments community members, Non –government departments and private business for the Cook Islands workshop. The resource persons were from South Pacific Geoscience Commission (SOPAC), World Health Organisation (WHO) and New Zealand Ministry of Health (MoH-NZ). The participants were from Water Suppliers, Ministry of Health, Department of Environment and Non-governmental organizations. The participants were higher level technical officers and were involved in water sector on various aspects.

The workshop comprised of group work supported by technical sessions led by invited experts from New Zealand Ministry of Health. A field assessment was conducted for the three intakes Avana, Tupapa and Takuvaine water system on Rarotonga Island. The participants identified key actions needed for the development and implementation of WSPs in Cook Islands. These actions and recommendations are a major component of the draft National Plan.

The Pacific Water Safety Plans Programme is an outcome of forums such as Tonga Commitment and the Regional Action Plan (RAP) on sustainable water management which provides for the overall policy framework for improving drinking water quality in the Pacific region through inter-sectoral collaboration

1. INTRODUCTION

1.1 Background

A major focus of World Health Organisation (WHO) in the field of Water and Sanitation has been the development and dissemination of guidelines related to drinking Water quality. Special emphasis has been given to the development of guiding document including Water Safety Plans. The Guidelines emphasize the multi- barrier principle, establishing a systematic process for hazard identification and effective management procedures for their control through application of a preventive Water Safety Plan (WSP) that comprises all steps in water protection, from catchment to consumer.

Countries of the South Pacific face special circumstances, including costly communications and logistics. Physical isolations often prohibit routine monitoring mechanisms such as laboratory analysis and feedback from being effective. Therefore, approaches that are less dependent on laboratories and specialised equipments and more tuned towards trained observations, sanitary surveys and practical controls are needed. The risk to scarce water resources from increasing population and development is a major concern. A coordinated inter-country approach engaging various development partners, including donor and non-governmental organisations active in the Pacific, would help countries to meet the challenges of their isolations and other special circumstances.

The main drinking water source in urban areas in Rarotonga is surface water and for rural areas rainwater. The water is directly piped to the household without any extensive treatment such as sedimentation or chlorination. Households also keep water tanks to collect rain water and also fill water from the government mains.

Responsibility for water supply distribution, operation and maintenance in urban areas and of village committees in rural areas is that of the Department of Water Works, Ministry of Water Works. Monitoring of mains water is carried out by the Department and also by the Ministry of Health.

Data from Ministry of Health suggests that there has been an increase in water related diseases since 1996. Reported cases of diarrhoea and gastro-enteritis have increased. All samples in the capital and the other urban centres are tested for salinity, total and faecal coliform, and residual chlorine in the distribution system. The water samples results indicate high presence of faecal coliform in all catchments.

Three important regional initiatives form the background for the workshops objectives. The Samoa commitment issued by the Minister of Health of Pacific Island Countries in March 2005, calling inter alia for the establishment of Water Safety Plans to ensure safe quality drinking water for Pacific communities. The second is the Regional Action Framework on Drinking Water Quality Monitoring (Nadi, 2005) which was endorsed by Health Ministers of PICs in the Samoa Commitment. The third is the Regional action Plan for Sustainable Water Management in the Pacific (Sigatoka 2002), which

was developed by the South Pacific Applied Geo-science Commission with support from the Asian Development Bank. The Regional Action Plan was endorsed by 18 countries and signed by 16 Heads of State

1.1 WATER SAFETY PLANS

Water Safety Plans (WSP) can be termed as such approaches that provide the most effective means of consistently ensuring the safety of a drinking water supply through the use of a comprehensive risk assessment and risk management. It draws on many of the principles and concepts from other risk management approaches, in particular the multiple barrier approach and HACCP as used in the food industry.

Growing segments of the population are continuously at risk of waterborne disease through polluted drinking, coastal as well as surface waters. This is compounded by the lack of information needed for resource development and protection as well as a lack of awareness of the problem associated with contaminated water. General recognition of the problem is at hand, but action for increasing the capacity of Pacific Island Countries to develop and implement Water Safety Plans that address the issues is greatly needed in order to secure safe drinking water.

The delivery of safe drinking water is vital for protecting public health and promoting more secure livelihoods of the Pacific communities. Very often, however, assessment of water safety is limited to occasional tests of water quality and insufficient attention is paid to proactive management of drinking water.

Water safety plans place an emphasis on ensuring that processes used to produce safe water are controlled and function in such a way that hazards are excluded from water before delivery to consumers. They are catchment to consumer approach, with actions taken from source protection through treatment, storage and distribution

The importance of safe drinking water for health and development has been reflected in the outcomes of many international forums. Under the millennium development goals countries have committed themselves to achieving inter-related targets for sustainable access to safe drinking water. Pacific island countries through the regional action plan (Sigatoka, Fiji 2002) outlined actions needed to achieve sustainable water management through a collaborative effort. The introduction of Water Safety Plans conception in the Pacific Island Countries will address all aspects in drinking water such as abstraction, storage and distribution.

A Water Safety Plan comprises as a minimum the three essential actions that are the responsibilities of the drinking water supplies in order to ensure that the drinking water is safe. These are system assessment, operational monitoring and management.

The main objectives of the Water safety Plans are to prevent contamination of source waters, to treat the water efficiently to reduce contamination and to prevent recontaminations during storage and distribution.

1.2 Objectives.

The objectives of the workshop were that at the end of the workshop, the participants were able:

1. To improve participants understanding of the water safety planning process, through practice.
2. To prepare draft water safety plans for Rarotonga and pilot rain water systems.
3. To prepare a draft National Plan for implementation of Water Safety Plans in Cook Islands.
4. To engage all relevant government agencies, NGOs and other potential partners.

1.3 Participants

There were 12 participants from all the relevant government organizations such as Ministry of Water Works, Ministry of Health, Department of Environment, Dept of Lands and Survey, and NGOs. There is one major NGO such as CIANGO who work closely with the community in Cook Islands. The participants were technical persons and top level managers who had good knowledge of the water problems in Cook Islands. The participants showed great interest in the workshop and were present at all sessions. They freely expressed their views on the subjects discussed and their output and experience was seen as an encouragement. A list of participant and resource persons is attached in Annex 1.

1.4 Organization

The workshop programme is attached as Annex 2
The officers for the workshop were:

Mr .Davendra Nath, Project Manager, Water Safety Plans Programme, from South Pacific Applied Geoscience Commission (SOPAC), Fiji

Mr. Mitesh Mudaliar, Project Assistant. World Health Organization, (WHO), South Pacific.

Mrs Judy Williamson, Resource person Water Assessor, MoH-New Zealand.
Mr. Matt Molloy Resource Person, Water Assessor, MoH. New Zealand.

The workshop comprised group work and two groups of six participants did exercise and discussion and presented their ideas. Some lectures and instruction were also given by the resource persons. A field trip for the urban and rural supplies was made for the risk assessment exercise for the participants. The field trip session was assisted by the Department of Water Works who briefed on catchments and existing water supply system. Butcher paper was used to record group discussion and then it was placed on the wall for reference. The workshop progressed as per the plan and a rapporteurs Mr Adrian Teotahi was chosen from Department of Water Works to record the days proceedings.

1.5 Opening Remarks

The opening ceremony was attended by all the participants and the resource persons and the opening speech was delivered by Hon .Ms Maua ,Minister for Works who stressed on the importance of having a safe drinking water for the people of Cook Islands in order to avoid ill health and promote economic development.

On behalf of WHO/SOPAC, Mr Mitesh Mudaliar introduced the Pacific Water Safety Plans programme.

Ms Judy Williamson from Ministry of Health New Zealand also introduced the concept of Water Safety Plans and outlined the objectives of the workshop.

1.6 Technical Inputs:

The two New Zealand Ministry of Health experts Ms Judy Williamson and Matt Molloy as resource persons provided technical expertise and conducted the workshop as per the programme and covered all relevant topics so that the participants grasp the concepts and knowledge in order to compile the water safety plans for their respective areas.

Many group exercises were done and video session were used to show the formulation of Water Safety Plan in New Zealand context but similar approach can be used for the other Pacific Island countries. This video was suitable for the participants as they will be preparing the plans and their inputs was necessary as they looked at the situation from different perspective while coming from different work experience. Information was provided by Department of Water Works and the Ministry of Health on many relevant aspects of the water supply. The participants were also provided with handouts on specific topics.

2: PROCEEDINGS:

2.1 :Workshop Presentations:

Day 1 .Monday, 14/08/06

Session: 1

The registration for the participants commenced at 08.30 and the file and name tags were issued. An attendance sheet was prepared where the participants had to sign each day.

The opening ceremony was from 09.30 and the opening speech was made by Ms Maua, Minister for Works who stressed on the importance of the safe drinking water supply and its significance to the public health. He thanked the participant, resource personnel and the supporting organizations and requested the participants to benefit from the training and planning workshop. He also urged all the stakeholders to collaborate in order to full fill the workshop objectives.

The project assistant Mr Mitesh Mudaliar briefed on the Water Safety Plan and its objectives and thanked the participants and the supporting organisation.

Judy Williamson outlined the workshop programme for the week and emphasised on the importance of having National Water Safety Plans for the country.

Session: 2

Introduction to Rarotonga Water supply session was done by Judy Williamson whereby the participants outlined the urban and rural water supply system. The group work involved the plotting of the supply system on the white board and later it was copied on the butcher paper for recording the participant's view of current roles and responsibilities

Session; 3

This session was conducted by the two water assessors from New Zealand i.e. Judy Williamson and Matt Molloy. Their topics for discussion were on the Introduction of water safety plans and Water Safety Planning processes. Issues such as risk assessment and importance of Water safety plans were discussed. Judy Williamson did group exercise with the participants on Water Safety Planning processes. The two groups were given hexagon shapes and phrases that describe the water safety planning processes and a set of key questions used in water safety planning.

Session: 4

Judy Williamson presented on the Introduction to Rarotonga National Implementation Plan for Water Safety Plans programme. The plan records the decisions how to develop and implement a WSP programme in Cook Islands. It maps out how to progress from now to the desired future and identifies the inputs, roles and responsibilities.

The participants expressed their views by writing on sticker papers and later clustering the like ideas which became headings in the plan.

Day 2 Tuesday 15/08/07

Session: 5

A field assessment was made for the three catchment area at Avana. Tupapa and Tukavaine and information were collected that will help answer the key question in particular the risk assessment. Such issues as the supply of safe drinking water and improvement opportunities were considered. The participants moved together to visit the catchment sites the dam and piping systems.

Session: 6

This session involved the group recall, description and analysis of the catchment system. The participants in two groups mapped the two water supplies on the butcher paper and discussed on the risks in the system. All activities in the area were noted and structures plotted.

Session: 7

This session was for risk identification and ranking where the participants ranked the risk in priority on the butcher paper. The participants were given red dot stickers to vote on each priority.

Day: 3 Wednesday 16/08/06

Session: 8 and 9

This session were taken by Judy Williamson and supported by Matt Molloy which mainly dealt with planning to manage the risks in the water supply system in all three intakes.

Session: 10 and 11

The three New Zealand experts conducted this session on activity matrix. The participants used five sheets of paper for designing the WSP in each category for the water supply system. This session considered the more technical elements of Water Safety Planning.

Day 4 Thursday 17/08/06

Session: 12 and 13

These sessions mainly dealt with the activity matrix designing for the Water Safety Plans programme implementation and were taken by Judy Williamson and Matt Molloy

Sessions 14 and 15

These sessions were based on the developing of activity matrix for Water Safety Plans Programme Review and Evaluation and preparation of the Cook Islands National Implementation plan. Whiteboard was used to draw the matrix plotting the departmental responsibilities.

The participants grouped to complete the draft National Plan. They identified the roles and responsibilities of each agency, government and non-government, towards the implementation of WSPs in Cook Islands. The participants also decided on what aspects of the workshop and the outcomes need to be presented to the National Committee.

Day 5 Friday 18/08/06

Sessions: 16 and 17

These sessions were on the planning for officers from the implementing agencies for the presentation to government agencies and the steering committee. The participants contributed on their departmental roles and next steps were planned. The session was taken by Mr. Davendra Nath and the findings were captured by Mr. Mitesh Mudaliar for records. The outcome of this planning discussion was presented to the steering committee. It was informed in this session that all the reports, information and letters are now with the Department of Water Works and the Steering committee should be active to pursue the necessary matters in regards to the formulation of the Water Safety Plans.

Sessions: 18 and 19

This wrap up session was with the staff of Water Works and the steering committee. The discussion was based on the future activities involved in

formulating the National Plan and the compilation of Water Safety Plans for Rarotonga.

On behalf of the participants Mr. Ben Parakoti thanked the resource people and urged the participants and the National Steering Committee to endorse the National Plan and continue the process that began during the workshop.

Mr. Matangaro ,Mayor of Teatonga District, presented the Draft National Plan to the Minister of Works on behalf of the participants. The Minister stated that she would present the National Plan at a cabinet session in the following week to get the endorsement for the implementation of the plans.

Closing Ceremony

The last session was closing ceremony and the Minister of Works as chief guest delivered the closing address. She addressed the importance of the entire organisation to work together in formulating the necessary plans to ensure safe water for both urban and rural communities. All participants were thanked for their contribution and were awarded with the certificate of participation. Mr Terrence Thompson also appreciated the work of the organization involved and the resource persons and concluded that the workshop was a success with a vote of thanks by the Director of Water Works Mr Ben Parakoti the workshop ended at 1230 pm

3. Recommendation:

1. Mobilising the steering committee with the involvement of all departments to complete the National Plan.
2. Prioritise all actions and identify those that can be acted upon immediately and incorporated into departmental plans and budgets.
3. Preparation of proposals for funding and assistance where departmental budgets are insufficient for the proposed improvement to the water supply system.
4. Evaluating progress as per the national plan
5. Soliciting continuous support from regional organization and expert advice to complete the Water safety Plan.
6. Involvement of various government departments and the NGOs in public awareness in regards to ensuring supply of safe water for human consumption and use.

7. It was also agreed in the planning and closing sessions that a national water committee is formed which may have legal powers to make decisions in the disaster and for management of water supply.
8. Regular monitoring of both urban and rural water supply to be conducted by Department of Water Works and Ministry of Health and all information to be recorded and shared.

4. CONCLUSION

The work shop was conducted in a very congenial and efficient manner whereby the participants freely expressed their views on the many subjects discussed in the sessions. The resource person's deliverance was appropriate and the group work was done to make the workshop interesting. The workshop proceeded as per the programme and all sessions were completed. The use of butcher paper and the sticker paper to capture the imagination of the participant views was well accepted and produced maximum out put. The group exercises focussed the attention of the participants on how to draw the plans and carry out necessary assessment of the water supply systems.

The participants from the various departments agreed to work together with the guidance of the Department of Water Works as leading agency with other stake holders.

WORKSHOP OUTCOMES

WORKSHOP OBJECTIVES

- To train the participants on the formulation of Water Safety Plans for the Rarotonga water supply system
- To plan for the implementation of the water safety plans.
- To do the preliminary risk assessment and management exercise for the Rarotonga water intakes and rain water catchments.
- To engage all relevant government agencies, NGOs and other potential partners during training and planning of national activities.

OUTCOMES

Draft Water Safety Plan for Avana Intake.

Supplies water to about 10,000 people, located inland; there is chance for improvement of the intake. Catchment and water storage can be increased. Necessary measures were to be taken to reduce contamination at source.

Draft Water Safety Plan for Tukavaine Intake

Supplies water to a major commercial area and there are existing storage tanks. Human activities common (farming) .Water gets contaminated as test results show high levels of coli form bacteria

Draft Water Safety Plan for Tupapa Intake

Intake supplies a big population of residential and commercial areas . the supply is easily accessible to public trekking and picnicking in the area. The intake can get contaminated by human activities. There has been put mechanical filters on this system to remove bacteria and dirt in the water.

Draft National Implementation Plan

As a working document to help prepare the initial WATER SAFETY PLAN

WHO NEEDS TO BE INVOLVED?

The following agencies have a key role to play in the further development of the WSP Programme in Tonga:

- Tonga Water Board
- Ministry of Health
- National Environment Service
- CIANGO and other NGOs

- Village Water Committees
- Lands & Survey, MAFF, Min. of Agriculture
- Emergency & Disaster Office
-

NEXT STEPS

1. Mobilizing of Steering Committee
2. Steering Committee completes the National Plan
3. Actions are prioritized to identify those that can be acted on immediately
4. Agencies incorporates these actions into their plans and budgets
5. Prepare proposals for external assistance when departmental budgets are not sufficient to complete actions
6. Periodically check progress of actions against the National Plan
7. As soon as relevant actions are complete, begin preparing Water Safety Plans

SUPPORT

SOPAC & WHO will continue supporting National Activities
 NZ MoH will provide expertise as required (and when requested by the Steering Committee)

WHAT THE PARTICIPANTS HAD TO SAY

‘we have been concerned with sustainability of water resources for a long time, but for the first time we have been discussing water safety’

‘Water Safety Plan is a very important programme to leave unfinished, so I hope the agencies will do their best to continue the work that was initiated at this workshop’

‘the methodologies used during the workshop was very INCLUSIVE and it was good because it made us feel that whatever we are contributing has some relevance to the process’

‘I had not realized that Water Supply is such a multi-sectoral issue and now appreciate that for better management of water supply, all key stakeholders need to be involved’ ANNEX: 2

ANNEX: 2

**NATIONAL PLANNING AND TRAINING WORKSHOP
PACIFIC WATER SAFETY PLANS PROGRAMME
14TH – 18TH AUGUST 2006**

**PARTICIPANTS LIST:
COOK ISLANDS**

NAME	ORGANISATION	ADDRESS
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9. David Ngatae	CIANGO	ciango@oyster.net.ck
10. Teariki Matenga	Local Government	kmatenga@oyster.net.ck
11. Madelene Sword	Pacific Spring Waters	drink@water.co.ck
12. Joseph Brider	National Environment Service	joe@environment.org.ck
13. Matangaro Winchester	Local Government	

RESOURCE PERSONS

1. Ms Judy Williamson, Coordinator , Health Promotion Officer, Water Assessor , MoH-NZ
2. Matt Molloy , Water Assessor ,Health Promotion Officer, MoH-NZ
3. Davendra Nath, Programme Manager, Water Safety Plans Programme, SOPAC, Fiji
3. Mitesh Mudaliar, Programme Assistant ,Water Safety Plans Programme, WHO, Fiji

OBSERVER

1. Mr. Terrence Thompson, Regional Advisor, WHO, Manila

PACIFIC WATER SAFETY PLAN PROGRAMME

ANNEX: 3

NATIONAL TRAINING & PLANNING WORKSHOP

Cook Islands
14 – 18 August 2006

Workshop Programme

Monday 14th		Tuesday 15th		Wednesday 16th		Thursday 17th		Friday 18th	
8.30	<u>Registration</u>	8.30	Field Trip Rarotonga Water Supply and Distribution Morning Tea	8.30	Planning to Manage the risks	8.30	Developing Activity/ Responsibility Matrix for WSP Implementation	8.30	Preparations for Presentation to Cook Islands Steering Comm. and Govt. Delegation
9.00	<u>Workshop Opening</u>								
10.30	<i>Morning Tea</i>			10.30	<i>Morning Tea</i>	10.30	<i>Morning Tea</i>	10.30	<i>Morning Tea</i>
11.00	Introduction to Rarotonga Water Supplies			11.00	Planning to Manage the Risks (Cont...) Improvement Schedule	11.00	Developing Activity/ Responsibility Matrix for WSP Implementation (cont...)	11.00	Presentation of National Plan and next steps to the Steering Comm. And Govt. Delegation
								12.30	<u>Workshop Closing</u>
1.00	<i>Lunch</i>	1.00	<i>Lunch</i>	1.00	<i>Lunch</i>	1.00	<i>Lunch</i>	1.00	<i>Lunch</i>
2.00	Introduction to Water Safety Plans	2.00	System Description and Analysis	2.00	Developing Activity/ Responsibility Matrix for WSP Preparation	2.00	Developing Activity/ Responsibility Matrix for WSP Review and Evaluation		<i>End of Day</i>
3.00	<i>Afternoon Tea</i>	3.00	<i>Afternoon Tea</i>	3.00	<i>Afternoon Tea</i>	3.00	<i>Afternoon Tea</i>		
3.30	Introduction to Water Safety Planning Process	3.30	Risk Identification and Ranking	3.30	Developing Activity/ Responsibility Matrix for WSP Preparation (Cont)	3.30	Preparations for Presentation to Cook Islands Steering Comm. and Govt. Delegation		
				4.00	Technical Presentations				
4.30	<i>End of Day</i>	4.30	<i>End of Day</i>	4.30	<i>End of Day</i>	4.30	<i>End of Day</i>		