

INTER OFFICE MEMO

To : CLP Manager, Director, Deputy Director, SOPAC Water Sector.
From : Davendra Nath, Water Safety Plans Officer,
Date : 15/05/06
Subject : Vanuatu - Water Safety Plans Programme Mission Report.

MISSION REPORT

Subject: Vanuatu –Water Safety Plans Programme Scoping Mission Report.

Place visited: Port Vila and Loganville, Vanuatu

Dates: 2nd-9th May 2006

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Title of project: Pacific Water Safety Plans Programme

Participating agencies: Ministry of Lands and Natural Resources
Ministry of Health
Ministry of Works and Public Utilities
South Pacific Applied Geo-science Commission (SOPAC)
World Health Organization (WHO)

Source of funds: AusAID/SOPAC

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Vanuatu

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PURPOSE OF MISSION

The WHO/SOPAC scoping mission to Vanuatu from 2nd-9th May 2006 was arranged to assess the commitment of the Vanuatu government and to identify partners for a possible Water Safety Plans project. The mission team comprised Mr. Davendra Nath, SOPAC Project Officer, Mr. Tasleem Hasan, SOPAC Laboratory Officer, and the writers Mr Mitesh Mudaliar and Mr. Steven Iddings of WHO. The team's terms of reference were as follows:

1. Brief the Ministry of Lands and Natural Resources, Vanuatu on the Pacific Water Safety Plans Programme;
2. Consult with and engage all relevant government agencies (including water, health and environment) and NGOs;
3. Complete visits to potential project sites;
4. Propose with government partners a workable project management structure and steering committee for the implementation of pilot project(s) and co-ordination of in-country activities;
5. Evaluate country commitment and the potential for 'ownership' of a Vanuatu 'Water Safety Plans' pilot project.

The mission was jointly fielded by the Director, South Pacific Applied Geoscience Commission (SOPAC) and the WHO Representative - South Pacific following the request from the Ministry of Lands and Natural Resources, the SOPAC focal point in Vanuatu as well as the Ministry of Health

BACKGROUND

Water Safety Plans (WSP) is the nameplate for WHO's new risk-assessment / risk-management approach to ensuring safe drinking water. This approach was introduced to Pacific island countries (PICs) in a February 2005 workshop in Nadi, Fiji. That gathering of 18 countries and territories also completed a 'Framework for Action on Drinking Water Quality and Health in Pacific Island Countries' to guide future activities and gather donor support. The meeting of Pacific Islands Health Ministers in Apia, Samoa, endorsed this 'Framework' two months later with a statement in the 'Samoa Commitment'. Three Pacific-wide water quality programmes have since been proposed and funded.

The 'Pacific Water Safety Plans Programme' began in late 2005 under AusAID funding to SOPAC and WHO. This two-year joint programme will pilot Water Safety Plans in at least four PICs. Vanuatu was among the four PICs selected according to the programme's selection criteria and is the only Melanesian country of the four.

This WHO/SOPAC scoping mission was proposed to determine the scope and interest and secure the commitment of key government counterparts including the Ministry of Lands and Natural Resources (MLNR), the Ministry of Health (MoH), the Ministry of Infrastructure and Public Utilities and other potential partners including NGO's. The MLNR applied to WHO/SOPAC for support under the Pacific WSP Programme and requested the scoping mission.

Vanuatu has six main island groups which comprise the country's six provinces. The population of about 200,000 remains 80% rural, with only two urban centers. Port Vila the capital (pop. 36,000) on the island of Efate in Shefa Province, and Luganville (pop. 12, 000), the other urban

center, is on Vanuatu's largest island, Espirito Santo, and part of Sanma Province. Vanuatu's islands are of raised limestone and/or of volcanic origin.

Some 69 islands are inhabited with rural populations generally found in coastal villages or near provincial centers. Water supply is normally from groundwater via open wells and bores, and from surface water sources. Rainwater collection is also common. Vanuatu's agriculture industry leads export earnings. Tourism, second in foreign earnings, is centered mainly on Port Vila and a few outer islands including Espirito Santo in the north and Tanna in the south. Situated in the tropics (between 10 and 20 degrees South latitude) in an active seismic zone with several live volcanoes, Vanuatu experiences frequent natural disasters including cyclones, volcanic eruptions and earthquakes.

Water supply falls under several authorities in Vanuatu. The Department of Rural Water Supply within the Ministry of Lands and Natural Resources has responsibility for rural water supply systems countrywide. The Public Works Department under the Ministry of Public Utilities and Infrastructure is responsible for the Luganville town piped water supply and for a number of provincial centers countrywide. UNELCO is a French-owned private utility contracted by government to provide electricity to the two urban centers. For 12 years UNELCO has also managed and operated the Port Vila water supply system. The Ministry of Health (MOH) is responsible for water quality surveillance of all water supply systems, reinforced by the 1994 Public Health Act.

WHO and SOPAC have each supported water supply-related activities in Vanuatu. SOPAC support has included hydro-geologic training and groundwater investigations through the Department of Geology, Mines and Water Resources. WHO has supported environmental health initiatives including response to Cyclone Ivy (2004) and the Ambae Island volcanic eruption (2005-06) with water quality monitoring approaches and guidance, mostly directed through the Ministry of Health?

ACTIVITIES AND FINDINGS

Activities

The WHO/SOPAC team visited Port Vila, Vanuatu from 2-9 May 2006, including a visit to Luganville on the Island of Espirito Santo. The mission was hosted by the Department of Geology, Mines and Water Resources (Ministry of Lands and Natural Resources) which organized meetings with government and development partners including NGOs. The programme for the mission and the full list of officials contacted appear in annexes 1 and 2, respectively. A number of relevant books and documents were provided to potential partners agencies and officials, Annex 4.

Findings

Tuesday 2 May

10.30am

The authors met with Dr. Corinne Capuano, WHO Country Liaison Officer for Vanuatu. Dr. Capuano was briefed on the purpose of the mission and the Pacific Water Safety Plans and two related water quality programme. Dr. Capuano registered interest and noted the timely support for Vanuatu. She expressed concern for rural populations and in particular those communities (e.g. Tanna, Ambrym and Ambae) affected by volcanic gases and ash. She assured the mission that the WSP programme will receive her full support.

2.00pm

The team met with Mr. Erickson Sammy, Water Resources Manager, Department of Geology, Mines and Water Resources. The programme for the mission was discussed and amended. The team also visited the water resources laboratory upgraded with NZAID and CUSO support in 2002. A recent evaluation of Tanna water supplies was recalled and noted as a cause for concern.

Wednesday 03 May

8.30am

The team, with Mr. Ericsson Sammy, Water Resources Manager met with Mr. Martin Sokomanu, Acting Director General and Corporate Manager, Ministry of Lands and Natural Resources. After a briefing on the Pacific WSP Programme, the team was informed about the national and provincial 'Water Resource Management Advisory Committees' established each 'World Water Day' under the 2002 Water Resource Management Act. The committees comprise stakeholders including NGOs, the Ministry of Health Environment Unit and the Department of Public Works and are chaired by the Department of Geology, Mines and Water Resources. Provincial Water Resource Advisory Groups (e.g. Luganville) report to the National Committee. The National Committee notably had the required mix of authorities and stakeholders to act as the National Steering Committee for WSP pilot project implementation. The Ministry of Lands and Natural Resources expressed interest in the WSP programme opportunities and for leading implementation of both urban and rural pilot projects in Vanuatu.

9.40am

The team with Erickson Sammy met with Dr. Myriam Abel, Director General, Ministry of Health, Mr. Len Larivonda, Director of Public Health, Ms. Nellie Muru and Mr. Pakoa Rarua, Environmental Health Officers, MoH plus Dr. Corinne Capuano, WHO Country Liaison Officer, Vanuatu. After a briefing on the Pacific WSP Programme, Dr. Abel strongly advised the WSP Programme to work within one of the existing committees as a new committee or steering group could prove ineffective in the long term. She proposed that the National Water Resource Management Advisory Committee serve in the National Steering Committee role. Rural water supply services, water sources and alternatives including the newly introduced desalination units were discussed. The special needs of urban settlements and of volcano-affected island communities were raised by both MOH and WHO. The Ministry of Health expressed strong support for the proposed WSP pilots for Vanuatu and indicated willingness to work closely with all stakeholders to implement pilot projects in Vanuatu.

Wednesday 03rd May - 10.50am

The WHO/SOPAC team and Mr. Erickson Sammy met with Mr. John Chaniel, Managing Director, Mr. Frédéric Petit, Water Manager and Mr. Theophile Gaston, Lab Technician at the UNELCO Vanuatu Ltd office in Port Vila. After a briefing on the Pacific WSP programme opportunity for Vanuatu, the UNELCO Managing Director emphasized that urban systems served 20% of Vanuatu's population, while 80% rural majority relied upon much less safe drinking water. UNELCO noted their contractual obligations under the Ministry of Public Works and Utilities to provide water in Port Vila, while the Department of Public Works provides water in Luganville and several provincial centers. UNELCO stated an interest in taking part as they now do in water sector activities such as the National Water Resource Advisory Committee while maintaining good working relationships with key government agencies.

UNELCO adheres to international 'best practices' in water supply management and follows French standards or WHO water quality guidelines where possible. UNELCO is aware of risk assessment and risk management, but have not yet adopted a systematic approach. UNELCO expressed interest, while noting that the WHO/SOPAC programme would best be directed towards more needful areas than Port Vila. UNELCO would consider a WSP approach for the Port Vila urban water supply system with their own programme, resources and timeframe, but meanwhile agreed to support and participate in any country-based WSP activities. The selection of Luganville for the urban WSP pilot would be agreeable.. An interest in finding appropriate water quality course for the UNELCO lab technician, Mr. Gaston Theophile was also expressed. The visit concluded with a tour of the UNELCO water quality laboratory.

2.00pm

The team met with the Director of the Department of Geology, Mines and Water Resources and four key staff from two water related programme, Rural Water Supply and Water Resource Management. Rural water supply systems comprise wells and boreholes, surface water catchments, rainwater collection and desalination (very limited). The focus has been on improved access or 'coverage' though an interest in shifting towards improved rural water quality through the WSP approach was expressed, in order to fill gaps in field and lab work plus follow-up requirements. Three monitoring areas were established for assessing source water quality in each island/province. According to 2004-05 business plans, however, only one area, Tanna has been monitored to date. The Water Resources Management Act (2002) led to formation of the National Water Resource Management Advisory Committee. Provincial and local water committees have also been established. It was agreed these committees, rather than new ones, could serve as the prescribed National Steering Committee for the WSP pilot projects.

Thursday 4th May

8.30am

The team met with Mr. Michele Kalworai, Secretary General of the Shefa Provincial Council, Mr. Eric Tawney, Engineer/Planner (Peace Corps Volunteer) Shefa Council, and Mr. Tony Ata, Senior Environmental Health Officer, Port Vila Municipality. The team was given a detailed presentation on the catchment management programme for the Tagabe River catchment - the main source for the water supply in Port Vila. The Tagabe River Management Committee was formed in January 2003 to coordinate the Tagabe River Management Programme. Protection Zones (1, 2 and 3) have been established to regulate activities in the catchment with very good cooperation among landowners and relevant government bodies. The zoning plans have been endorsed and fully supported by the Ministry of Lands and Natural Resources. Agro-forestry and other compatible economic activities are promoted through the zoning plans.

Thursday 4th May

10.00am

The team joined a special meeting of the National Water Resources Management Committee convened for the mission. Ten members - representing Shefa Council, Port Vila Municipality, UNELCO, Live & Learn and the host Water Resources and Rural Water Supply staff - were introduced to the risk assessment / risk management concept through a NZ MOH video as a lead-in to discussions. The topics included the limited availability of the already occupied staff to implement new projects, the need for the proposed WSP activities to link and synergies with existing programme and committees, and the National Water Resources Management Advisory Committee in particular, and with NGOs, including Live & Learn and Wan Smol Bag, already active in community education and awareness. The 'River Care' initiative of Live & Learn was a specific example. UNELCO re-stated their interest, though within their water supplier's contractual commitment, in adopting on their own WSP concepts and continuing to provide laboratory services and technical support. UNELCO will support and participate in a national WSP programme, but do not wish to be the main implementing agency.

Friday 5th May

9.00am

The team divided for visits to the Luganville department of Public Works, and the Northern District Hospital laboratory with the Sanma Province Environmental Health Officer. The ND Hospital laboratory had been provided the capacity for water analysis with a Trawas kit delivered in June 2004. However the scheduled follow-up commissioning and training from the EHO officer did not eventuate. The kit had been borrowed by PWD and returned, as the consumables had expired. Currently neither the hospital lab manager nor the Sanma Environmental Health Officer was able to undertake quantitative water analysis, but both were willing if provided needed support and training.

11.30am

The team visited the Luganville water system including the existing protected spring source constructed in WW2. The water supply is currently treated with manual chlorination as the automatic chlorine metering pumps were still on order from overseas. About 14,000 consumers are served by the Luganville piped system. The team was also taken to see the proposed new well field for Luganville. The 60Ha site in an old coconut plantation has been negotiated with a view to develop a well field with a catchment area protected from new development and agriculture pressures as experienced currently at the existing source.

2.00pm

The team joined a specially convened meeting of the Luganville Water Resources Advisory Committee hosted by the Luganville Town Council. The Luganville Council's Environmental Health Officer chaired the meeting. Some 16 persons attended including the Director of the Public Works Water Supply Department, Provincial Environmental Health office and staff from Lands and Survey, Luganville. A video presentation to outline the risk assessment /risk management approach was shared, and the meeting was encouraged to consider the WSP approach. The possibility of a WSP urban pilot project was very well received by the group and the possible benefits and implications were discussed. It was noted that the Ministry of Public Works and Utilities ownership and involvement at the national level would be essential for a Luganville WSP pilot to be successful and replicable. The meeting gave a strong endorsement for the urban WSP project to be piloted in Luganville.

Monday 8 May

8.00am

The team divided to meet separately with the Ministry of Health, EHO Nellie Muru, the Director General, Ministry of Lands and Natural Resources and the NGO 'Live & Learn'.

11.30am

The team and host officer Mr. Erickson Sammy met with Mr. Johanson Binari Iauma, Acting Director General, Ministry of Public Works and Utilities and Mr. John Pello, European Union Technical Advisor in the Project Management Unit. The WSP Programme was briefly outlined with considerable interest shown by the Ministry, including for the possibility of Luganville being selected as an urban WSP pilot activity. The Ministry promised to take part in the afternoon roundtable meeting and would send Mr Pello and two other relevant staff to attend.

2.00pm

The roundtable meeting of stakeholders was attended by some 18 representatives, including two Directors General, from the Ministry of Lands and Natural Resources and the Ministry of Health. Directors and/or staff from the Ministry of Works and Public Utilities, UNELCO, Port Vila Municipality, Shefa Provincial Council, NGOs Live & Learn and Wan Smol Bag, plus the WHO Country Liaison Officer also attended and took part. Discussions followed the presentation by the scoping mission team of the main findings and proposed structure for a WSP project.

It was useful to clarify that the proposed pilot projects would have two sides, an urban pilot proposed for Luganville and a rural pilot to address communities and household water quality issues at the village level. The possible outputs and products from such pilots were shared, and the mechanisms for proceeding - including a formal request by Vanuatu and a national training and planning workshop for key personnel – were discussed. The Director General of Lands and Natural Resources suggested developing Vanuatu standards or standard approaches for improving water quality practice at three levels, urban, peri-urban and rural. The results of the discussions are reflected in the slides which appear in Annex 3.

Tuesday 9th May

8.00am

A 'wrap-up meeting' was hosted by the Director General of the Ministry of Lands and Natural Resources, with the Director and staff of the Department of Geology, Mines and Water Resources and the Manager, Rural Water Supply attending. The WHO Country Liaison Officer and the full scoping mission team also attended. Discussions centered on the next steps and means for cooperating to implement the water safety plans pilot projects in Vanuatu.

The venue, timing and participation for a proposed national WSP training and planning workshop were discussed as was the channels for communications in light of government ministries problems with email. The WHO/CLO offered on-going support from the WHO office in printing and sharing hard copies. The Director General expressed appreciation for the WSP mission noting he felt the programme provided good 'added value' for the efforts by his ministry. The details of the discussions are reflected in the slides from the wrap-up meeting in Annex 3.

Conclusions

1. Water quality in both urban centers of Port Vila and Luganville is generally very good with only calcium hardness to note. Neither currently requires treatment other than chlorination. However, in both cases aquifer levels are thought to be decreasing while pumping demands are slightly increasing;
2. Both aquifers are under increasing pressure from agriculture, housing and other developments within the catchment protection zones that have been established. The protection zones are the result of very good efforts to protect these catchments, with SPREP (Pacific Regional Environment Programme), UNDP, SOPAC and US Peace Corps support and encouragement, but mainly through government's own initiative.
3. Strong interest exists among the Department of Geology, Mines and Water Resources, the Ministry of Health, and the Department of Public Works to work together to establish WSP pilots. Cooperation among these three key agencies is essential. All three expressed interest and willingness to support the proposed WSP project(s) in Vanuatu.
4. The 'National Water Resource Management Advisory Committee' could take on the responsibilities of the required WSP National Steering Committee as it has the right composition of stakeholders. Almost all officials consulted were quick to note the opportunity for building on the existing committee instead of starting a new one.
5. There is good scope for a WSP approach in Port Vila and in Luganville, and in other smaller urban systems such as Lenekel on Tanna and Malekula.

Port Vila

6. UNELCO, the Shefa Provincial Council and the Port Vila Municipality expressed interest in a Port Vila WSP pilot. UNELCO, however, would be the key agency to in apply a WSP approach to the Port Vila water system. UNELCO would, as a private utility under a service contract, do this only within their own programme, resources and timeframe.
7. UNELCO has achieved good success with leak reduction and consumer metering is near 100 percent. UNELCO would consider a shift of focus towards ensuring quality, e.g. through WSP's, but suggested that the scoping mission consider directing WHO/SOPAC support towards more needful consumers outside of Port Vila, including the possibility of Luganville as the urban pilot for Vanuatu;
8. The useful work underway through the Tagabe River Management Committee includes catchment management, protection and zoning, and could be built upon by a Port Vila WSP. The Tagabe catchment protection activities have no government coordinator and only one full-time professional, departing in July, provided through the US Peace Corps;

Luganville

9. The strong interest expressed by the special meeting of the Luganville Water Resources Advisory Committee was useful for the scoping mission. (This committee was formed on World Water Day in 2004 with support from the Department of Geology Mines and Water Resources, and has been active in efforts to protect Luganville's municipal water catchment.) The Director of the Luganville Water Supply, Department of Public Works, the Luganville Municipal Clerk and Environmental Health Officer all expressed strong support for selecting Luganville for Vanuatu's WSP pilot during the special meeting;

Rural WSPs

10. Rural supplies are more variable with many unprotected sources affected by pollution, and in some cases contaminated by volcanic ash and gas emissions. The rural water supply focus has been on 'coverage' but this could begin to shift towards improved 'quality';
11. There is good consensus among agencies on the usefulness of developing a community and household risk management WSP approach that would address villages and settlements country-wide, including the recommendation by MoH to supporting volcanic ash and gas affected communities.

Laboratories

12. Six existing laboratories were visited: UNELCO, MoH, VC Hospital, the Department of Geology, Mines and Water Resources (Port Vila), the Department of Public Works (Port Vila), the Northern District Hospital (Luganville). All (except UNELCO) had problems with expired consumables, low volume of activity in water analysis and insufficient capacity/operator skills. Each have (or have had) water quality analysis capacity. None are very sophisticated; each use at best membrane filtration and incubation for coli form counts. There's a clear need to rationalize/support/coordinate this array of labs and their functions.

Recommendations

1. A Water Safety Plans (WSP) project for Vanuatu should be formally requested by the Ministry of Lands and Natural Resources with a letter to the Director of SOPAC to request that Vanuatu be included as one of four Pacific WSP pilot countries. The request should also refer to key partnerships agreed upon during the mission.
2. The needed National WSP Steering Committee should be incorporated into, or created within, the authority of the existing 'National Water Resources Advisory Committee'. A sub-group could be formed within the Committee to ensure inter-agency cooperation and that work is accomplished.
3. The on-going catchment wide protection activities in Port Vila and Luganville should be captured and supported by the WSP pilot projects.
4. The proposed National WSP Project, the project management group, project design, training and planning workshop, etc developed with partners during the mission (under 'next steps' Annex 3) should be considered an opportunity for the National Water Resources Advisory Committee to continue and expand their role in a needed area.
5. Participation and ownership of high-level officials in the three key government agencies should be maintained.
6. Practical instructions and water and hygiene awareness tools for rural communities - such as rainwater catchment system care and management, household water treatment options, etc - should be an outcome of the WSP Project. Peri-urban settlements and communities affected by special hazards such as volcanic ash and gas emissions should be included when developing these materials.

7. The number of labs undertaking water quality analysis – and poorly supported in terms of consumables and training and volume of analysis – is noteworthy in Vanuatu (as in other Pacific island countries). The Pacific WSP programme and the Pacific Water Quality Monitoring programme should address this;
8. The Ministry counterparts should liaise with the SOPAC/WHO WSP Programme to fix the dates, programme, participant list and other details for the suggested four to five day training and planning workshop. The last week of August or the first week of September 2006 was suggested. The WSP Programme will ensure financial support; facilitator(s) and expert(s) are available.
9. The Ministry should compile an inventory of existing research, studies, planning reports and other documents relevant to water quality in Vanuatu so that the project can build on such existing research, knowledge and documentation.
10. The WSP project should, as an output, support the development of national drinking water standards with guidelines for application at urban, peri-urban and rural levels. The project should also encourage the Vanuatu government to commit to improving access to safe drinking water for the most needful, the 80% in rural areas.

ACKNOWLEDGEMENTS

The kind cooperation of the staff of the Ministry of Lands and Natural Resources, the Ministry of Health and the Department of Public Works, Luganville is greatly appreciated. In particular the mission team wishes to thank the Director General Health, Ms Myriam Abel, the Director General Lands and Natural Resources, Mr. Russel Nari, the Director of the Department of Geology Mines and Survey, Mr. Chris Ioan, and the Manager of Water Resources and Rural Water Supply, Mr. Erickson Sammy, for their kind hospitality.

Officials contacted

PORT VILA

Shefa Provincial Council

Mr. Michel Kalworai	Acting General Secretary
Mr. Eric Tawney	Engineer/Planner (Peace Corps Volunteer)

Port Vila Municipality

Mr. Tony Ata	Senior Environmental Health Officer
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Meteorology Department

Mr. Robson Tiguna	Scientific Officer
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**Ministry of Lands and
Natural Resources**

Russel Nari	Director General
Martin Sokomanu	Manager of Corporate Services

Department of Geology, Mines and Water Resources

Mr. Christopher Ioan	Director
Mr. Erickson Sammy	Manager, Water Resources
Mr. Kalpram Gersham	Engineer, Rural Water Supply
Mr. Morris Stephens	Water Technician
Ms. Rosette Kalmet	Hydro-geologist
Mr. Thomas Steele	Asst. Water Technician

Live & Learn

Ms. Annie Shem	Project Manager
Mr. Fremden Shachrack	Project Officer
Mr. Amos Kab	Project Officer

UNELCO

Mr. John Chaniel	General Manager
Mr. Frederic Petit	Manager, Water Supply
Mr. Theophile Gaston	Lab Technician

Ministry of Health

Ms. Myriam Abel	Director General
Mr. Len Larivonda	Director, Public Health
Ms. Nellie Muru	Environmental Health Officer
Mr. Pakoa Rarua	Environmental Health Officer

LUGANVILLE

Public Works Department

Mr. Charlie Tari	Manager, Water Supply
Mr. James Hakwa	Civil Engineer
Mr. Moli Ravo	Water Supply Officer

Luganville Municipality

Mr. Andrew Alla	Environmental Health Officer
Mr. Denis Savoie	Town Clerk
Mr. Harry Tete	Town Planning Officer

Ministry of Health

Mr. Keith Jacobs	Environmental Health Officer, Sanma Province
Mr. Visan Konkon	Lab Manager, Nothern District Hospital

SANMA Provincial Council

Mr. Peter Lulu	Rural Water Supply Officer, SANMA
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Department of Lands and Survey

Mr. Benuel Tabi	Lands Officer
Mr. Philip Koroka	Survey Officer
Mr. Albert Bue	Surveyor

Programme

Annex 2

Tuesday 02 May	AM	Arrival in Port Vila Briefing with WHO Country Liaison Officer, Vanuatu
	PM	Mission programme details and scheduling
Wednesday 03 May	AM	A/Director General, Ministry of Lands and Natural Resources Director General, Director of Public Health and Environmental Health Officers of the Ministry of Health with WHO/CLO Managing Director and Water Manager, UNELCO Vanuatu, Ltd
	PM	Department of Geology, Mines and Water Resources staff
Thursday 04 May	AM	Secretary General, SHEFA Provincial Council and Port Vila Municipality Special meeting with the National Water Resource Management Advisory Committee
	PM	Visit UNELCO bore field and pumping station, Port Vila Travel to Luganville, Espirito Santo Island
Friday 05 May	AM	Laboratory Manager, Northern District Hospital with the Environmental Health Officer, Sanma Province Visit the existing and proposed Luganville water sources
	PM	Special meeting with the Luganville Water Resources Advisory Committee at Luganville municipal office
Saturday 06 May		Preparations for Monday's roundtable meeting
Sunday 07 May		Report draft and final meeting preparations
Monday 08 May	AM	Live & Learn Director General and technical advisor, Ministry of Works and Public Utilities
	PM	Roundtable meeting at the Department of Geology, Mines and Water Resources
Tuesday 09 May	AM	Wrap-up meeting with the Director General, Lands and Natural Resources and WHO/CLO Depart Port Vila for Nadi, Fiji