GEF PACIFIC IWRM PROJECT RESULTS

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Managing Honiara City Water Supply and Reducing Pollution via IWRM Approaches

Top 5 Project Results

1. Increased land-owners, community awareness and project support on the importance of water catchments through dissemination of key findings and results from catchment surveys specifically at the Kovi/Kongulai catchment and general public awareness on water resources management through wise water use and conservation through targeted water consumers and educational campaigns.

2. Increased collaboration with primary stakeholder (SIWA) through the Leakage Team to implement water demand management (WDM), water use efficiency (WUE) activities at Mbokonavera 1-5 zone.

4. Formulation of a Water Safety Plan (WSP) for Honiara City’s water supply through collaboration between major stakeholders as the Ministry of Health & Medical Services (Environmental Health), Solomon Islands Water Authority (SIWA), Ministry of Environment & Conservation, Ministry of Mines & Energy (Water Resources) and Honiara City Council (EHD).

5. Formulation of the IWRM-based National Water Resources and Sanitation Policy and Plan (WATSAN) with planned Cabinet endorsement before end of 2013.

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1. **PROJECT OBJECTIVE**

The objective of the project is to promote best water management strategies and protection measures for Honiara city water resources to ensure there is sustainable reliable water supply and wastewater services in the Honiara City through the following mechanisms: IWRM Management Strategies, Policy and Legislative review and formulation; Water Safety Plan, Water Use Efficiency and Demand Management and Water Catchment Management.

2. **RESULTS: PROCESS**

Prior to project implementation was the consent agreement by the landowners of Kovi and later Kongulai to carry out a hydrological assessment of the Kovi stream, some 2 kilometres upstream of Honiara’s main water intake. The aim was to monitor the flow over seasons on the water resources there in case the water provider (SIWA) needs to develop it in the future. With the IWRM project realized, the Kovi/Kongulai Community Group (KKCG) was established with 15 members, two of which are with the Project Steering Committee (PSC). The KKCG represents the Kovi/Kongulai water catchment through which the project works with. Up to 2011 most of the Kovi/Kongulai catchment surveys were completed and resulted in data and information about the catchment disseminated through community awareness. The community supported the project by involving them in field surveys and hydrological monitoring activities. Their interest was reinforced by assisting them to look at catchment conservation and in line with an eco-tourism business; to protect the catchment for the sake of water resources and at the same time generating income by promoting nature’s beauty to people.

**(2) INDICATOR#1: Sectoral engagement in formal multilateral communication on water issues**

A target of the project was to increase engagement. This was achieved establishment of the Kovi/Kongulai Community Group (KKCG) and active response to workshops and meetings. The project had the opportunity to talk with the KKCG at every gathering commencing from the time of consent to enter their land until the launching of an Eco-tourism Plan for the community. Although men were represented more, women did take part and shared their views and opinion during each meeting.

![Figure 1: Kovi/Kongulai Catchment Group (KKCG)](image)

**Figure 1: Kovi/Kongulai Catchment Group (KKCG)**

**(2) INDICATOR #2: Proportion of community engaged in water related issues**

Communities from Kovi and Kongulai were involved in workshops to gauge the people’s perspective on how they interact with land and water from this important catchment; it supplies about 60% of Honiara’s water supply. This culminated to a series of assessments with them to show them the value of land and water resources of which they are custodians hence the need to protect.
Facilitated by the Women Development Division and Honiara City Council, women from selected church and NGOs in Honiara took part in workshops on water demand management and water use efficiency at household level.

Awareness information to water consumers was distributed to water provider (SIWA) and during important national and international events. The on-going dissemination of information on importance of water sources, water use efficiency, demand management and water safety were part of mass media project campaigns. Although feedbacks from such distributions are not evident, it was envisaged that water users will make practical steps using the information provided if they were serious about water scarcity and water bills.

Figure 4: Women’s workshops on Water Demand Management and Water Use Efficiency

(2) INDICATOR#3: Project Design and PM&E plan implemented
The IWRM Pilot Project for Honiara City was endorsed by Cabinet in late 2009 with a cabinet decision to implement over 5 years. This resulted in the approval by government regarding its financial support during this period and the establishment of the Project Steering Committee comprising 15 members from government and civil society, land owners and an NGO. The Project Steering Committee (PSC) during the course of the project further established its sub-committees to oversee specific activities. A catchment assessment sub-committee and a water safety sub-committee were members of the PSC.

Figure 5: Members of the IWRM (Honiara City) Project Steering Committee

(2) INDICATOR #3: Multi-sectoral APEX Body in place
Prior to the project there was integrated coordinating body for the management of water resources in Honiara. The target of the project was to implement a National APEX Body with multi-sectoral membership. The establishment of the Project Steering Committee (PSC) is the precursor to the establishment of a National Intersectoral Water Coordinating Committee (NIWCC). The NIWCC has a Terms of Reference upon which to establish and work from. Membership is a representation of government, NGO’s and civil society. This will be the platform for dialogue and coordination of IWRM planning and implementation advice and recommendations. The NIWCC is endorsed by Cabinet in 2012. The NIWCC, facilitated by an international consultant has produced the draft National IWRM Policy and a Plan in September 2013 and now planned for Minister’s approval prior to a cabinet paper submission for government endorsement.
(2) INDICATOR #4: Best IWRM and WUE approaches defined

As part of the Regional Action Plan (RAP) 1999, countries were chosen to formulate a new Water & Sanitation Outlook of which Solomon Islands was one. Formulation of the National Water Outlook (NWO) 2011 was completed with the help of a Professional Intern through the IWC’s IWRM Masters Program. The NWO 2011 was a result of discussions and endorsement by the interim NIWCC (mostly PSC members) over a three month period.

Past projects regarding WUE and WDM were carried out to some extent. The IWRM Project in this case further considers the gaps in past projects and now targets additional zones. The project also takes into account water safety as part of the project intervention. In early 2012 the Project worked with the water provider (SIWA) to implement WUE/WDM at one its highest leakage zones in Honiara, Mbokonavera 1-4 residential area. Using past reports a leakage detection program was planned and completed. Funds were allocated to SIWA for this activity.

(3) INDICATOR #5: National staff across institutions with IWRM knowledge and experience

Before the implementation of the IWRM project there was limited knowledge amongst staff in Honiara of IWRM practices and concepts. There was limited capacity of SIWA staff to undertake the necessary activities to detect and respond to leaks. The project aimed to increase this capacity and knowledge base across national staff.

A Leakage Detection Team was established and on-going capacity is part of the project's intervention. Upcoming project activities at additional areas are anticipated with qualified and swift work completion in this area. Additional recruitment by SIWA is now in place to increase the number of staff while previous trainees now have the confidence to carry out leak detection activities and further train new staff under the Leakage Detection Team.

Personnel from SIWA and Environmental health participated in Water Safety Plan assessment training. Staff are now confident in describing the water supply distribution systems and identify the hazards and risks associated with the supply from source to consumer. Participants also included members of the water safety sub-committee who produced systems descriptions and completed hazards/risks identification assessments for Honiara City’s water supply critical points.

Additional funding from another donor that runs concurrently with this project resulted in a staff from the Water Resources Division, Ministry of Mines and Energy who completed a postgraduate qualification in IWRM from the International Water Centre (IWC), Brisbane, Australia. This raises the number of qualified staff in the water resources sector.

Future plans to introduce IWRM as part of program at tertiary level at the national scale was also made in 2012 through the Solomon Islands National University (former SICHE). The curriculum panel, to which the Ministry is a member, has now included IWRM as part of a proposed Diploma course in Climate Change and Resources Management once approved by the University Board.
Figure 7 & 8: SIWA and EHD team on WSP fieldwork – systems description and hazards assessment.

(2) INDICATOR #6: Honiara Water Safety Plan
Prior to the IWRM project there were no water safety plans (WSP) for Honiara water supply. The target of the project was to formulate the plan and have it endorsed by the SIWA Management and implemented by end of project. The Water Safety Planning Sub-Committee for the project undertook necessary training to complete water systems assessment that will form the basis of the WSP. These system descriptions and hazard/risks assessments have been completed for all water sources. A draft WSP document is now completed led by SIWA with inputs from the WSP sub-committee.

(2) INDICATOR #7: Lessons learned incorporated into other projects and/or regulations
Prior to the project there was little sharing of knowledge gained in one sector with another or of applying lessons learned between projects. The target of the project is to demonstrate some aspect of replication by the end of project life. The coordination of the Kovi Kongulai Catchment Committee enhanced the understanding of the need to establish a management mechanism with a constitution or terms of reference for implementing plans or project such as the IWRM. Through this experience efforts are now being made to assist identification of donors and resource personnel for the implementation of the new Ecotourism Plan.

Additionally, the IWRM concept is now being used as the approach to prepare a project proposal on water sector adaptation to the impacts of climate change and variability at national level for six sites. As a prerequisite, the IWRM approach has been incorporated into the full project document and implemented upon approval of the project.

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(3) INDICATOR #1: Population with access to safe water supply
Honiara residents had limited access to safe water supply prior to the implementation of the IWRM project. The target of the project was to cover 90% of residents with safe access to water supply.

Water Use Efficiency & Demand Management: Leakages Detection
Much of the water supply in Honiara is lost through high levels of leakage. Two night flow step tests confirmed very high leakages in both distribution and service lines within the pilot areas. A total of 414 connections were identified and confirmed in the project area. Only 33% of the connections were found to have operational water meters while the remaining 67% are suspicious; 21% buried or unidentified, 22% are direct lines, 15% disconnected, 4% vacant and 4% are illegal connections. It was found that out of 8 zones that were isolated with valves, three priority areas have leakages of more than 100 litres per minute.

A total of up to 500m of distribution pipes of distribution pipeline at Kaibia, part of the Mbokonavera zone was located as producing the highest leakage on the distribution system. These old galvanized pipes have been replaced with high pressure PVC pipes. Additionally new water meters at residential homes and those with no meters and illegal connections have been installed in the pilot areas.

Follow up step test at these sites, now designated as demand management areas (DMAs) are now being established. SIWA is now using the DMAs as permanent sites to continually monitor water flow in distribution pipelines and determine fluctuations associated with daily water use, leakages and illegal connections.
WUE and WDM: Increased water supply hours and pressure

In high elevation areas of Skyline Ridge and Tehamurina, water hours have been increased from between 5 and 9 to 15 hours a day. Low-lying areas at Mbokonavera have been increased from 10 to 19 hours a day through a combination of reduction in leaks and increased pressure. Indirectly non revenue water (NRW) was reduced as a result of installation of new meters for non-operational and non-registered consumers.

Water Safety Plan: Water Quality Monitoring

Through weekly sampling of water supply sources and consumer taps, the Environmental Health Division and Public Health Lab monitor both chemical and microbiological status of water supply to confirm SIWA’s weekly disinfection program under the Environmental Health Act and Regulations. From a regulatory perspective, SIWA is notified of all days, sampling points and the presence, if any, of total coliforms and *e.coli* in tap water to ensure timely corrective actions are taken.

Fig 9 & 10: Meter replacement for Mbokonavera 1-5 by SIWA staff

Figure 11: SIWA Staff carrying out day & night leak detection tasks

Fig 12 & 13: Water sampling and analysis surveillance for Honiara water supply