

Independent evaluation of Phase 2 of the Australian Aid Program's urban water program in Solomon Islands

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Acknowledgments

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Disclaimer: The views expressed in this report are those of the authors and do not necessarily reflect the position of the Government of Australia or any other party.

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Summary

Australia's aid program has provided two phases of support to Solomon Water:

Phase 1: AUD2.2 million for the implementation of the *Recovery Strategy and Action Plan (RAP) 2011-2013*. The RAP's key priorities were to stabilise Solomon Water's financial capacity and improve service levels.

Phase 2: AUD10.1 million for the implementation of the *Solomon Water Development Plan 2013-2017*. The objective of the Development Plan is to improve levels of service (in terms of quantity, quality and reliability) to a larger proportion of people in the existing service area, based on a sound financial position.

This evaluation was commissioned by Australia's Department of Foreign Affairs and Trade (DFAT) to assess the overall performance of the Development Plan and DFAT's support for its implementation.

Overall conclusions

The evaluation finds that Phase 2 of Australia's urban water program in Solomon Islands has successfully built on previous support to Solomon Water. The objective of the Development Plan has been largely achieved. In particular, significant achievements in the supply of water to residents of Honiara have occurred as a result of the implementation of the Development Plan supported by Australia under Phase 2.

Stabilisation of Solomon Water's financial position has also been a notable achievement of the Development Plan. Some of the organisational improvements, such as a more proactive approach to debt recovery and greater customer responsiveness, have laid a platform for future success.

Nonetheless, there are real risks to the sustainability of the outcomes achieved so far:

- › While Solomon Water's immediate financial position is sound, a net operating surplus becomes a *deficit* once donor contributions are deducted. Phase 2 of Australia's support is set to conclude in mid-2017 following the completion of its allocated funding for Development Plan implementation. The completion of Australia's support will likely see Solomon Water move back to a financially stressed situation if other donor transfers are not identified. This underscores the need for the transition from Australian to possible European Union (EU) support to be as seamless and well-planned as possible.
- › Ongoing success for the utility will be determined by further improvements in areas such as work ethic, professional development, leadership, management and customer care capacity. Moreover, Solomon Water needs to move from a reactive to proactive maintenance culture that focuses on preventative maintenance. Solomon Water management will need to pursue cultural change within the organisation, ensuring that there is engagement and support from all levels of staff. Technology can help but will not succeed without such cultural change.

The upcoming strategic planning process provides a valuable opportunity for Solomon Water to lead conversations with stakeholders around significant long-term service provision considerations - such as improvements in its existing service areas, expansion into new service areas in the Provinces, improved and expanded sewerage services, and strategies for addressing the growing need in peri-urban and squatter settlements around Honiara.

Key findings

- › Solomon Water has made considerable progress in improving the quality, quantity and reliability of water supply across Honiara as a result of the implementation of the Development Plan.
- › While water quality has improved since 2013, there are some concerns over the regular supply of chlorine and the frequency of testing for residual chlorine. The lack of regular independent water quality testing removes an important pillar for a reliable water quality monitoring program. Updating and implementing the draft Drinking Water Safety Plan for Honiara prepared in 2013 would assist in ensuring appropriate water quality monitoring procedures are in place.
- › The financial position of Solomon Water has improved significantly in recent years, as a result of DFAT support and a rigorous approach to debt collection. However, some of the financial indicators are giving an unrealistic impression of Solomon Water's fiscal position – its operating surplus continues to be contingent upon donor contributions.
- › The impact of the Development Plan on organisational change and capacity building within Solomon Water has been less than anticipated. While on-the-job and supplier training was undertaken for specific activities, a more structured development and capacity building program needs to be undertaken in future.
- › There has been an increase in the effectiveness of billing and debt recovery. Improved customer care and communications have increased consumer confidence in Solomon Water. The provision of a safe, reliable water supply has improved the image of Solomon Water but this needs to be supported by further improvements in customer care processes. More effective communication, especially with regard to disconnection policy, advice to customers of water quality risks and billing/meter reading issues, would be appreciated by customers.
- › The proposed trial of cash meters is a positive step to improve cash flow, will be welcomed by most customers, and is strongly supported by this evaluation.
- › Australia's budget support mechanism has been an effective way for Solomon Water to manage DFAT funding and has provided a high level of accountability. Long-term technical assistance for in-line positions has also been valuable to Solomon Water and has provided the necessary organisational capacity for other donors to provide support to the organisation.
- › DFAT procedures for recruitment and performance management of in-line management positions were not entirely suitable. Recruitment and performance management for these positions should ideally be driven by the Board and/or General Manager to whom they are responsible.
- › The lack of a strong, dedicated Project Management Unit within Solomon Water resulted in some delays in implementation of the Development Plan. This may also impact on future capital works programs.
- › Issues of land acquisition/leasing for proposed water supply facilities and right of way for existing pipelines and facilities have caused delays to some components of the Development Plan. While these issues will not be quickly resolved, Solomon Water needs to build into the planning process the necessary time and procedures to resolve land issues well in advance of project implementation.

- › Reduction of non-revenue water is a critical issue for the long-term sustainability of Solomon Water.
- › For Solomon Water to expand further in the Provincial capitals, financial sustainability of its current operations needs to be assured and the Solomon Islands Government's (SIG) policy support for expansion and the user-pay principle is needed.
- › Governance oversight provided by a functional Board is critical to the on-going success of Solomon Water.
- › Continued dialogue between Solomon Water management and Board, relevant SIG Ministries and, as appropriate, DFAT is needed to ensure that mutual obligations are understood and commitments upheld.
- › A gradual and well-planned exit phase is required for the completion of Australian funding so that Solomon Water is well-prepared to access European Union funding in a way that maximises outcomes to date and mitigates against risks.

Recommendations

- i Solomon Water undertakes more frequent water quality testing. Solomon Water liaises with the Ministry of Health to bring about more frequent independent water quality testing.
 - ii Solomon Water update, approve and operationalise the draft Drinking Water Safety Plan in the near future.
 - iii Solomon Water undertake further customer education about the communication process and the responsibilities of Solomon Water and customers, especially related to water pricing, service disruptions, water quality, billing and payment and disconnections. This should be outlined in the Communications Plan and understood by all Solomon Water staff.
 - iv Solomon Water implement the key areas identified for strengthening organisational capacity.
 - v Solomon Water develop a stakeholder consultation strategy to support the strategic planning process. The consultation strategy should support Solomon Water to strengthen future co-ordination and engagement with key partners in the water sector.
 - vi Solomon Water establishes a project management capability (in-house or outsourced) to oversight construction and non-construction projects, especially those involving donor funding.
 - Vii For future capital works programs, Solomon Water ensures that the appropriate safeguard policies and activities are undertaken during the project preparation phase in advance of implementation.
 - viii DFAT consider alternative approaches for the recruitment and performance management of in-line management positions to those used for long term and short term technical advisers.
 - ix Solomon Water management and Board and, where appropriate, DFAT or other donors, encourage SIG to adhere to SOE regulations.
 - x DFAT use donor co-ordination mechanisms to advocate for the design of the EDF 11 support to Solomon Water to, as far as possible, build on the successful implementation of the Development Plan.
 - xi DFAT, Solomon Water management and Board agree on (i) DFAT considers to fully or partially fund the General Manager and Finance and Administration Manager positions beyond June 2017; and (ii) a timeframe for discussions with the EU regarding transition planning.
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1 Background

1.1 Program overview

Reliable, sustainable and equitably-priced water supply is critical for growth and human development in Solomon Islands. The Solomon Islands Water Authority, trading as Solomon Water since 2013, is the state-owned enterprise responsible for water and sewerage in urban areas.

Australia has provided two phases of support to Solomon Water:

Phase 1: Recovery Strategy and Action Plan 2011–2013

From 2000 to 2010, the operating conditions of SIWA steadily deteriorated due to a combination of political instability, governance and organisational capacity challenges, and inappropriate tariffs. By 2010, the organisation owed SBD37 million to its electricity supplier, and the service was approaching a state of collapse.

In August 2010, the Solomon Islands Government (SIG) replaced the Solomon Water Board, which then changed over most of the management. With funding support from Australia, an expatriate General Manager and Finance and Administration Manager commenced work in Solomon Water in April 2011. They developed a Short-Term Recovery Strategy and Action Plan (RAP) with Australia funding its implementation.

The RAP's key priorities were to stabilise Solomon Water's financial capacity and improve service levels. Australia provided AUD2.2million for the implementation of the RAP and placement of technical advisers within Solomon Water. The RAP saw significant improvements to Solomon Water's financial performance, organisational effectiveness and services. Key achievements of the RAP period included an agreement that settled Solomon Water's debt to the Solomon Islands Electricity Authority in May 2012, reform of water tariffs and introduction of Community Services Obligation payments from SIG to cover losses on Solomon Water's provincial operations. Solomon Water went from having an operational loss of SBD30 million in 2010 to an operating surplus of SBD10 million in 2012.

Phase 2: Solomon Water Development Plan 2013–2017

The Solomon Water Development Plan is a medium term plan that builds on the achievements of the RAP. It aims to target a number of critical issues that must be addressed to ensure the sustainable development of the business into the future. The overall purpose of the Plan is to move Solomon Water to a position where its infrastructure is capable of supporting an acceptable level of service to the population, and which is based on a firm financial position.

Similar to the RAP, Australia is providing direct funding support to Solomon Water for the implementation of the Development Plan (up to AUD7 million), as well as technical assistance through the Solomon Islands Resource Facility (SIRF) to manage long and short term advisers and consultants for Solomon Water (up to AUD3.1 million) (Table 1).

Table 1 Technical assistance provided 2011-2017

<i>Position</i>	<i>Dates</i>
General Manager (former)	1 July 2011 – 31 January 2015
General Manager (current)	1 July 2015 – 30 June 2017 (est)
Finance and Administration Manager (former)	1 January 2012 – 30 June 2013
Finance and Administration Manager (current)	1 July 2013 – 30 July 2017 (est)
Program Manager (former)	1 July – 16 December 2014
Program Manager (current)	1 July 2015 – 30 September 2016 (est)
Water Supply Systems Technical Coordinator	10 May – 16 December 2014
Procurement advisor	23 July 2013 – 2 June 2015
Water Supply Operations advisor	29 Sep 2014 – 30 Jun 2015
Water Supply Maintenance advisor	27 Nov 2014 – 31 May 2017 (est)

The purpose of Australia's support is to provide a safe and reliable water supply service to an increased share of the population in Solomon Water's current service areas, based on a sound financial position. The key desired outcome areas are:

- improved levels of service for water supply;
- improved customer care and communications;
- improved organisational capacity;
- strengthened financial management and administration; and
- improved strategic planning.

The Development Plan was initially intended to be completed by June 2015. However, delays in procurement and expenditure early in the Development Plan's implementation, as well as unexpected vacancies in Solomon Water's General Manager and Program Manager positions, meant that the Plan was not fully delivered on time. As a result, in March 2015, Solomon Water and Australia agreed to extend the Development Plan until December 2016, with a deferral of Australia's final funding commitment to 2016 to support the extension. In May 2016, Solomon Water and Australia agreed to further extend the Development Plan until June 2017, to enable the completion of some major reservoir works.

With Australian support, Solomon Water will develop a 30-year Sewerage and Water Strategic Plan with an associated Five-Year Action Plan (5YAP) to replace the Development Plan from 2017 onwards, underpinned by a Tariff Review. Donor support will be needed to implement the 5YAP. The EU is considering a significant package of budget support for the Solomon Islands water sector, which could include Solomon Water as a primary implementing partner. The scope and nature of support is expected to be decided in 2017, and commence in early 2018.

1.2 Purpose and scope

This evaluation assesses the overall program performance of the Development Plan (2013–2017) and DFAT’s support for its implementation (direct support to Solomon Water and technical assistance through the SIRF). This evaluation has a two-fold purpose:

- a) Program assessment:
 - › To evaluate the program and the extent to which DFAT funding has enabled Solomon Water to achieve its objectives under the Development Plan.
- b) Program improvement:
 - › To review lessons that the program has learnt, which can be useful in further improving the program and Solomon Water’s service delivery.
 - › To confirm the program’s relevance to SIG’s strategy and DFAT’s priorities and recommend strategies for DFAT to support Solomon Water’s transition to longer term EU support.

This evaluation will be used to inform DFAT Honiara, Solomon Water Board and management, and relevant SIG ministries of Solomon Water’s progress through the implementation of the Development Plan. It provides evidence-based findings to guide DFAT Honiara and Solomon Water in the final stages of implementation of the Development Plan.

The evaluation limited its scope to activities implemented under the Solomon Water Development Plan since 2013. This includes the design, performance and management of technical assistance. This report also provides future-looking recommendations based on the evaluation’s findings.

1.3 Evaluation questions

The terms of reference for the evaluation are at Appendix A. The following questions guided the evaluation¹.

First priority

- a) To what extent have the **objectives** of the Development Plan, and of DFAT’s support for its implementation, been achieved? Do they still correspond to the SIG’s medium and long term development policies and priorities? Does the program of support align with DFAT’s priorities in the Solomon Islands Aid Investment Plan (2015), such as economic growth, private sector development, human development and gender equality?
- b) How effective, efficient and well-managed were DFAT’s **funding and support modalities** for the Development Plan (direct support to Solomon Water and technical assistance)? Did they produce the expected results? How can DFAT support Solomon Water to transition to longer term EU support in a way that: (1) protects the outcomes achieved since 2011—for both urban water supply and Solomon Water’s organisational capacity; (2) prepares Solomon Water for transition to budget support that may not include technical assistance; and (3) protects DFAT’s reputation during the transition?
- c) To what extent has implementation of the Development Plan influenced the **organisational capacity** of Solomon Water? What capacity issues will need to continue to be addressed beyond 2016?

¹ These were amended during the writing of the evaluation plan to include consideration of how DFAT could support Solomon Water to transition to longer term EU support given the completion of DFAT’s funding to Solomon Water at the end of existing commitments. Solomon Water was not advised of this change at the time of writing the evaluation plan - the evaluation team provided the updated evaluation questions during the in-country consultations.

Second priority

- d) Did the Development Plan have the right **mix of projects and activities**, supported by the right mix of short and long term advisers, to achieve its objectives? What caused delays to the implementation of the Development Plan, and have these been addressed where possible? Are risks being addressed? How might they be better managed in the future?
- e) How **sustainable** are the Development Plan's outcomes? What factors increased or decreased their sustainability? What would happen to Solomon Water and Solomon Islands' water supply services without donor funding and/or international technical assistance? How feasible are alternative sources of funding?
- f) How sufficient are the **monitoring and evaluation** mechanisms, for both Solomon Water and DFAT, to measure immediate and long term changes, and to learn and improve in the process?

1.4 Methodology

The evaluation objectives are both summative (assessing the extent of progress towards results) and formative (improving management and implementation). The evaluation design therefore includes a mix of methodologies to assess achievements and capture learning for improvement². A detailed methodology is at Appendix B. This section summarises the main features.

Data collection and analysis was undertaken in three main phases:

- 1 **A review of the key documents** provided an overview of contextual factors and enabled the evaluation team to make preliminary assessments of progress against the Development Plan outputs and objective and the status of implementation of activities. This informed the lines of enquiry for the data collection phase of the evaluation.
- 2 The evaluation team travelled to Honiara 2-12 May 2016 to **collect and validate data** through individual interviews, site visits and small group discussions. The evaluation team met with ~50 stakeholders including: Solomon Water management, staff and Board members; DFAT officials; SIG officials; civil society representatives; Solomon Water customers (individuals, hotels, hospital); and the Solomon Islands office of the Japan International Cooperation Agency (JICA). A list of people consulted is available at Appendix C.
- 3 **Analysis of the data** occurred on an ongoing basis during the data collection phase. The evaluation team recorded and tracked analytical insights and set aside time each day to briefly discuss their major observations, impressions and emergent sense-making of the data.

In the latter part of the in-country mission, the evaluation team conducted a half-day 'lessons learned' session with Solomon Water to discuss lessons learned, and identify strategies and actions to ensure the lessons are applied. The lessons are fully documented in a separate report.

Limitations

Precise details of the proposed EU funding for the water sector in Solomon Islands are yet to be designed. This has limited the evaluation's ability to identify specific activities that would prepare Solomon Water for transitioning to EU funding. Instead, some general recommendations and considerations have been put forward in this report.

² The evaluation plan summarises the evaluation design.

2 Context

2.1 Solomon Water

The Solomon Islands Water Authority is a state-owned enterprise (SOE) wholly owned by SIG. In 2013, SIWA began using Solomon Water as a trading name; however Solomon Islands Water Authority or SIWA remains the legally constituted name for the organisation and is used in all contracts and legal documents. For the purpose of this evaluation report, the organisation is referred to as 'Solomon Water'.

Solomon Water has an independent Board of Directors responsible for the prudent and transparent governance of the organisation. The Ministers of Mines, Energy and Rural Electrification (MMERE) and of Finance and Trade (MOFT) are the Accountable Ministers (AMs) under the SOE Act responsible for ensuring the satisfactory operation of Solomon Water in accordance with the relevant legislation. The current Board members were appointed in 2010, and their terms of office have expired. A recruitment process to replace or reappoint members has been underway for some time³.

Solomon Water has 142 staff and turnover of approximately SBD96 million. It is mandated to operate as the provider of municipal water and wastewater services in Solomon Islands by the Solomon Island Water Authority Act of 1992. Solomon Water provides water services to customers in Honiara and three Provincial centres (Auki, Noro and Tulagi). Wastewater services are provided to parts of Honiara only⁴. As a SOE it is also subject to the State-Owned Enterprise Act of 2007 and the Regulations of 2010. A summary of Solomon Islands legislation relating to SOEs and water supply and sewage management is provided at Appendix D.

2.2 Relevant Government and local authorities

Table 2 Government and local authorities with responsibilities that affect provision of water and wastewater

<i>Local and Central Government Institution</i>	<i>Relevant Activities</i>
Honiara City Council	Urban growth planning and enforcement of the relevant legislation and bylaws for managing growth
Ministry of Development Planning and Aid Coordination	Preparation and monitoring of the National Development Strategy and the National Infrastructure Investment Plan, and co-ordination of development partner aid programs
Ministry of Environment, Climate Change, Disaster Management & Meteorology	Responsible for environmental assessment

³ Board member tenures have progressively expired in 2014 and 2015, and one member resigned. The outcome of the recruitment processes to replace and/or reappoint members is awaiting approval from the Accountable Ministers.

⁴ Solomon Water estimates it provides wastewater services to around 30 per cent of Honiara.

Ministry of Finance and Treasury	Administration of SOE Act financial requirements, including responsibility with MMERE for provision and payment of Community Service Obligations (CSO), appointment of Board members, review and acceptance of Statement of Corporate Objectives (SCO)
Ministry of Health and Medical Services	Water supply and sanitation in rural areas; coordinate and assess demands coming from provincial governments; compile and document demands.
Ministry of Lands, Housing and Survey	Secure and manage access to certain customary lands used for water catchment and source provision
Ministry of Mines, Energy and Rural Electrification (MMERE)	Responsible for water resources assessment and management, plus hydrogeological surveys and management of groundwater reserves
Provincial governments --- Water Units	Water supply in rural areas and provincial towns; assess villages' demands and transmit requests to Ministry of Health; design, implement and maintain rural water schemes
Solomon Water	Responsible for water supply and sanitation in urban areas of Honiara, Auki, Tulagi and Noro.

2.3 Water supply challenges

The water supply and sanitation sector in Solomon Islands faces many challenges. The most urgent of these is being able to upgrade the water supply system, and wastewater management and disposal system that will serve Honiara for at least the next 30 years. EU funding for the water sector, currently under development, could assist in providing rural water and sanitation in some areas, as well as potentially assisting Solomon Water with its growth needs.

The Solomon Islands National Water Policy (WATSAN) was drafted in 2013 under the Pacific Action for Water Governance and is still awaiting final approval and adoption by SIG.

Honiara's water supply comes from a combination of surface water sources and boreholes. The boreholes were built and completed by JICA in 2014. However, the boreholes are more expensive to operate as the water needs to be pumped from depth and some boreholes are at risk of contamination from squatter settlements. With an extreme El Niño weather event in 2015, and customary landowners blocking access to one of Honiara's key spring water sources, Solomon Water is facing ever increasing water supply challenges.

Major challenges identified by Solomon Water include:

- › ability to continually meet the ever increasing requirement for safe and adequate water and sanitation for a rapidly increasing population which will require:
 - guaranteed permanent access to current sources
 - alternative and additional sources are to meet the growing demand
- › combined effect of financial losses (from non-revenue water through pipe breakages and illegal connections, and customer debts)
- › the impact of high energy costs on establishing tariffs that are both realistic and affordable
- › the presence of uncontrolled, informal settlements that:
 - prevent access to easements in order to service wells
 - result in illegal connections into the reticulation system
 - make extending the sewerage systems extremely difficult and expensive
 - represent a potential threat to the cleanliness of nearby ground and surface water sources

3 Findings

This chapter discusses the extent to which the objective and outputs of the Solomon Water Development Plan have been achieved. This chapter also examines DFAT support for implementation, modalities, and risk management. It concludes with a brief discussion on the adequacy of the monitoring and evaluation mechanisms.

3.1 Achievements against the Solomon Water Development Plan objective and outputs

3.1.1 *Objective: Improved levels of service (in terms of quantity, quality, reliability) to a larger proportion of people in the existing service area, based on a sound financial position.*

The specific achievements related to improved levels of service are detailed in section 3.1.2 and show that considerable progress has been made in improving the quality, quantity and reliability of water supply across Honiara as a result of the implementation of the Development Plan.

Solomon Water has had mixed success providing these improved services to a **larger proportion of people** within the existing service area. While the number of service connections within the existing service area increased between 2013 and 2014, it decreased significantly to 7,195 in 2015 (Figure 1) as result of a structured and more rigorous approach to disconnecting overdue accounts in 2015⁵. Encouragingly the number of new connections has been gradually increasing during the period of the Development Plan (Figure 1).

Figure 1 Service connections 2013-2015

<i>Year</i>	<i>Number of new connections</i>	<i>Total connections at year end</i>
2013	200	7 890
2014	289	9 845
2015	312	7 195
Total	801	

The financial position of Solomon Water has improved significantly in recent years from an operating loss of SBD 30 million in 2010 to a surplus of SBD 7.17 million in 2015.⁶ However, the true financial

⁵ Solomon Water data shows 2 533 disconnections for January – November 2015. Solomon Water estimates ~50 per cent of these have reconnected (with a higher reconnection rate for commercial compared with residential customers).

⁶ SIWA 2015 Financial Statement, and Review of Effectiveness of Recovery and Action Plan - 2011 to 2013

position is distorted somewhat by donor support, without which an operating loss of about SBD 12 million would ensue (section 3.1.4 details).

The status of the sewerage system in Honiara, and water supply and sewerage systems in the Provincial centres continues to be unsatisfactory. These areas were not included as specific targets of the Development Plan, although some support was provided to the Provincial operations through the provision of uniforms, vehicles, staff training and systems as well as some new pumps for the Auki water supply system. It is critical that the sewerage system in Honiara and the water supply systems in Provincial centres be addressed in the not-too-distant future.

Overall, the implementation of the Development Plan is likely to be substantially completed by the first quarter of 2017. However, under-estimation in the original Development Plan budget⁷ will see some capital works components, including the East Kola Reservoir and distribution pipeline improvements, not being completed within the current budget. Solomon Water will require additional funding to complete these works.

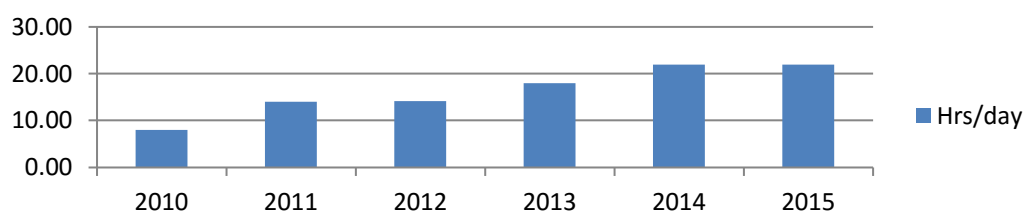
The low disbursement of funds thus far⁸ is mainly due to construction not having yet commenced on a large capital works project - the Titinge-East Kola transmission main. The need to re-align budgets due to the original under-estimate of this transmission main as well as the need to address right of way issues have contributed to some delays. Nevertheless, while behind the original schedule (details at Appendix E) the Development Plan can be considered on track to largely meeting its objectives.

3.1.2 *Output: Improved levels of service for water supply*

The improved levels of service in terms of quantity, quality in the water sector are borne out by the following performance indicators, which largely reflect the water supply situation in Honiara:

The duration of supply has increased from eight hours per day in 2010 to 22 hours per day in 2015 (Figure 2). Continuity of service increased in two steps between 2010 to 2011 and 2012 to 2014 which correspond to the development of new boreholes by JICA (2010-2011) and the new pumping facilities at the Kongulai source (RAP under DFAT) and provision of standby generators by DFAT under the Development Plan (2013-2014). Continuity of service has continued to be 22 hours/day on average since 2014 which reflects the greater difficulty and cost of reaching continuous supply across the entire service area. Solomon Water reported a 24-hour supply of water to all but four water supply zones in 2015⁹.

Figure 2 Average hours per day of service across Honiara



⁷ While the full extent of under-budgeting of the Development Plan will not be clear until current tenders and contracts for work are negotiated, early estimates from Solomon Water indicate a shortfall of ~AUD 2.5 to 3 million to complete the full scope of work envisaged under the Development Plan.

⁸ Currently running at less than 50 per cent of the original budget after 3.5 years of implementing the original two year plan.

⁹ Program Steering Group Report, 14 April 2016.

The quantity of water sold has increased from 3.46 to 4.5 mega-litres per day from 2010 to 2015¹⁰. Without exception, stakeholders interviewed for the evaluation advised that quantity and duration of water supply from Solomon Water had improved dramatically over the past 2-3 years. The increased quantity of water and duration of supply provided can be attributed to new pumps provided at the main Kongulai source under the DFAT-funded RAP, standby generators provided under the Development Plan and new boreholes and pumping installations provided under the JICA project. The transmission pipeline, still to be implemented under the Development Plan, will further improve water services to the East of Honiara when completed. This, along with further improvements in reducing non-revenue water (NRW) will be required to move closer to continuous supply to the existing service area. These improvements will be further enhanced once deferred activities from the Development Plan such as the East Kola Reservoir and the distribution system improvements are able to be implemented.

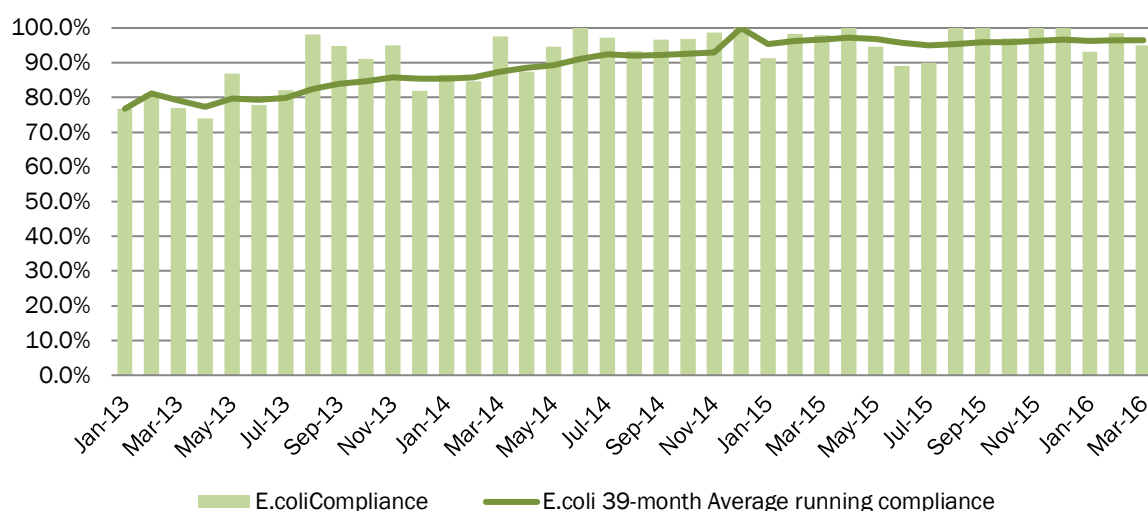
The increased quantity and duration of supply has in turn significantly improved the **reliability of the service**. Measurements of reliability also include the extent of service disruptions and the efficiency of addressing any disruptions. The provision under the Development Plan of standby generators at seven critical sites (including water sources) and a mobile compressor for bore maintenance have reduced interruptions in water supply resulting from electricity power outages. Generators still need to be provided for the Mataniko Depot and the two sewage pumping stations as proposed in the Development Plan, although funding for these is still to be sourced. Customers advised that disruptions were less frequent than previous years and that the response time of service teams had improved significantly. The increased fleet of service vehicles, provided under the Development Plan, has likely contributed to this improvement. It is notable that the length of distribution mains renewed has increased regularly from 2 km/year in 2010 to 37 km/year in 2015. The number of pipe breaks recorded has increased from 472 to 807 between 2010 and 2015, which is largely a reflection of the more active maintenance team and improved reporting from the public rather than a less reliable system. It is also a reflection of increased pressure in the system resulting in more pipe bursts.

The quality of water provided by Solomon Water has improved during the period of the Development Plan (Figures 3 and 4). The percentage of tests complying with World Health Organisation (WHO) microbiological water quality standards (total coliforms and *E. coli*)¹¹ has increased: *E. coli* compliance has increased from about 80 per cent in 2013 to almost 100 per cent in 2016 (Figure 3) while total coliform compliance has increased from 80 per cent to 90 per cent during the same period (Figure 4).

¹⁰ Solomon Water data for Pacific Water and Wastewater Association (PWWA) benchmarking.

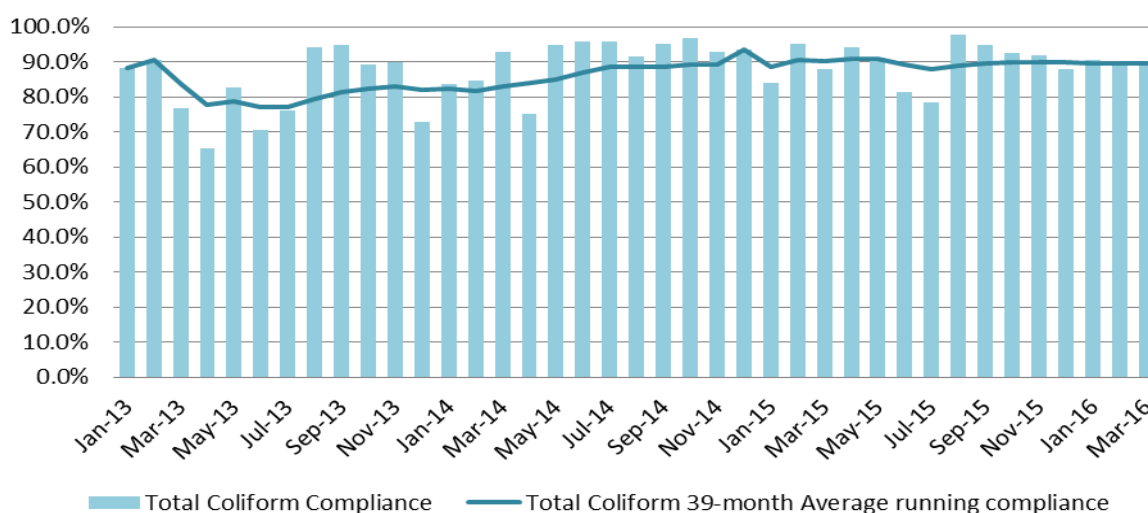
¹¹ WHO standards for bacteriological contamination of drinking water are (i) *E. coli* not detectable in any 100 ml sample; (ii) total coliform not detectable in 95 per cent of samples from the distribution system.

Figure 3 Percentage of E. coli tests compliant with WHO standards



Source: Solomon Water Report to Program Steering Group, April 2016

Figure 4 Percentage of coliform tests compliant with WHO standards



Source: Solomon Water Report to Program Steering Group, April 2016

The 2013 PWWA benchmarking report notes 81 per cent of samples tested by medium sized utilities (which include Solomon Water) complied with WHO standards for microbiological water quality. This was about the same compliance that Solomon Water achieved at this time, but as noted above significant improvement has occurred since that time. This improvement can be attributed to activities undertaken during the RAP including the provision of new chlorine dosing equipment and the change from calcium hypochlorite powder to sodium hypochlorite liquid which has improved the efficiency of the dosing procedure. It was reported that compliance with WHO microbiological standards was as low as 40 per cent prior to the improvements provided under the RAP.

Ideally, Solomon Water should aim to achieve the Pacific benchmark of 100 per cent compliance with WHO microbiological water quality standards. This is likely to require an improvement in procurement procedures to ensure supplies of chlorine are always available, rehabilitation of the distribution system to prevent the risk of cross contamination from sewage and drainage and a water quality monitoring program, especially for residual chlorine, in accordance with standard requirements. It is understood that Solomon Water is considering gas chlorination. This may improve the efficiency of

disinfection, but would need to be accompanied by a comprehensive training program to mitigate the safety risks of operating a gas chlorination system.

In 2013 the average compliance across the Pacific for the number of tests for residual chlorine in treated water carried out and passed¹² was 62 per cent overall and 75 per cent for medium sized utilities. In 2013 Solomon Water was at 65 per cent compliance - slightly below the PWWA average for medium sized utilities. This has further fallen to 50 per cent in 2015. The reason given by Solomon Water for this lower compliance is that the utility ran out of chlorine for periods during 2015 and was forced to reduce the chlorine dosage which resulted in lower concentrations of residual chlorine. The total coliform and e-coli compliance dipped during May-July 2015 (Figures 3 and 4) which may correlate with the periods of shortage of chlorine.

With regard to the frequency of testing, Solomon Water's Water Quality Analyst advised that 16 samples are analysed each week for total coliform and e-coli which is greater than the WHO recommendation.¹³ On the other hand since 2013, Solomon Water has been unable to meet the recommended frequency of tests for residual chlorine¹⁴ (Table 3). They have tended to concentrate on the elements of the system more at risk from bacteriological contamination such as surface sources. However, this does not necessarily protect against contamination from within the pipeline which can occur irrespective of the water source.

Table 3 Tests of treated water for residual chlorine 2013-2015

<i>Year</i>	<i>Required number of tests</i>	<i>Number of tests carried out</i>	<i>Number of tests passed</i>
	per year	per year	per year
2010	2,184	2,500	2,100
2011	1,825	1,825	1,460
2012	1,993	1,993	1,334
2013	5,840	1,530	1,517
2014	5,840	859	859
2015	2,920	860	412

Source: Solomon Water for PWWA Benchmarking

The Environmental Health Division of the Ministry of Health and Medical Services (MHMS) is responsible for undertaking bacteriological testing on water as an independent quality assurance on the water provided by Solomon Water. The aim is to conduct weekly water sampling at random points across the city but this is now irregular due to logistical issues and lack of laboratory equipment and reagents. If MHMS could maintain weekly random testing, this would suffice as a satisfactory health safeguard. Where current MHMS testing reveals water quality issues, Solomon Water is advised.

Consumer confidence

Most consumers raised the issue of the physical quality of the water supplied after heavy rains when it becomes turbid. Consumers considered that this was a relatively frequent occurrence during the

¹² The requirement is that 0.2 mg/l of Free Residual Chlorine (FCR) is available in the sample.

¹³ WHO suggests one sample per 5,000 people served/month or about 12-16 samples per month. Solomon Water sampling is undertaken twice a week on Tuesdays and Wednesdays, comprising eight samples at random sites and another eight samples at fixed sites. Samples are also taken from the boreholes and water sources.

¹⁴ The recommended standard for residual chlorine testing is one sample/day/chlorination facility or 56 samples per week for the Honiara system.

rainy season. During these periods, Solomon Water provides only borehole water to consumers where possible. However, some consumers have no access to borehole supplies and can only receive surface water supplies. Depending on the frequency of these events, it may be appropriate to provide some treatment downstream of the surface intakes which could be bypassed during the dry season.

Despite the improvements in water quality stakeholders interviewed commented they think people generally prefer to drink bottled water or rainwater rather than water supplied through the distribution system. This may be attributed to a historical mistrust of the water quality or it may be that consumers prefer the taste of bottled water or rainwater. Some consumers commented that the taste of Solomon Water supplied water had improved in recent years.

The hardness of the water causes some concern for some industries and larger hotels, some of which provide additional treatment for the water. While this has a cost to industry, it is a preferable situation to Solomon Water providing additional treatment which would come at a cost to domestic consumers (for whom the level of hardness is likely to be acceptable).

Over the past decade the global drive to implement drinking water safety planning has been promoted in the Pacific by agencies such as WHO, the Secretariat of the Pacific Community's Geoscience Division (formerly SOPAC) and DFAT. Guidelines for the preparation of Water Safety Plans have been developed by those three agencies¹⁵ to assist water supply operators and managers improve the day-to-day management of water supply with the objective of providing safe drinking water for consumers. One of the activities in the Development Plan was the preparation of a Drinking Water Safety Plan. A draft Plan for Honiara was prepared in 2013 by Solomon Water in collaboration with the Honiara Water Quality Monitoring Committee¹⁶, but was not finalised or approved. The draft Plan appears to be comprehensive and reflects the approach to Water Safety Plans developed by WHO. Implementation of this plan, as part of Solomon Water's standard operations procedures, would address some of the water quality monitoring issues raised above.

3.1.3 *Output: Improved customer care and communication*

Solomon Water has introduced a number of customer care and communication initiatives both during the RAP period and under the Development Plan. Initiatives include: the conduct of a weekly radio program; visits of the communication team to schools and communities and working with World Vision on WASH awareness programs; the establishment of a call centre; additional outlets for water bill payments; option to receive bills through email; a website has been developed for Solomon Water and a Facebook page is regularly used to communicate with the public.

Most customers interviewed remarked that customer care and communication by Solomon Water had improved markedly over the past few years. However, there were some concerns that information was lacking regarding disconnections and when water quality might be compromised. Some customers complained that bills were not received in a timely manner, that meters were not read regularly and that the estimates used for the billing were excessive. Consumers appear to lack confidence in the quality of water supplied by Solomon Water for drinking purposes. This might be addressed through improved communication regarding the scale of testing and results. Solomon Water has prepared a draft Communication Plan which is currently being reviewed by management and which may address some of these issues. Further activities, such as customer surveys, market research and analysing

¹⁵ Drinking Water Safety Planning – A Practical Guide for Pacific Island Countries, WHO, AusAID, SOPAC.

¹⁶ The Honiara Water Quality Monitoring Committee included representatives from the Integrated Water Resource Management (IWRM) Project, Water Resource Division of the Ministry of Mines, Energy and Rural Electrification, the Ministry of Health, Honiara City Council and the National Public Health Laboratory.

data from the new customer relations system would give Solomon Water management a better understanding of what is needed to further address public concerns related to water supply.

Key government and non-government stakeholders noted good collaboration with staff in Solomon Water, citing examples of Solomon Water staff consistently participating in relevant fora. Stakeholders also noted they would welcome more regular consultation with Solomon Water regarding strategic water supply issues and policies - many noted the upcoming strategic planning process as an optimal time to engage with Solomon Water on solutions to specific challenges in the water sector.

3.1.4 Output: Strengthened financial management and administration

The financial position of Solomon water has improved significantly in recent years from an operating loss of SBD30 million in 2010 to a surplus of SBD7.17 million in 2015.¹⁷ Furthermore, unqualified external audits of the financial statements have been delivered since 2013.

The reasons for the improved financial position are several, the most significant one being a proactive approach to debt collection. Solomon Water has prioritised debt collection, especially from its largest SIG and commercial customers. A rigorous approach to disconnecting customers with overdue accounts, as well as lodging legal proceedings to recover debt have been critical elements in this approach. This has resulted in improvements in the average collection rate within the 30 days payment terms (Table 4). It is likely that changes to billing services provided to customers have also contributed to better collection rates. Customers interviewed said they paid attention to the watermarks on their bills that are triggered when an account is overdue. Improved financial management particularly with respect to improved operational controls and processes around financial transactions and accurate financial reporting is also likely to be contributing to the improved financial position of Solomon Water.

However, some of the financial indicators are giving an unrealistic impression. The financial position is masked somewhat by the donor support without which an operating loss of about SBD 12 million would ensue¹⁸. The recovery rate is currently showing as 105 per cent, but is inflated due to recent recovery of long-standing debts. A preferable indicator is the collection rate within the invoice period (30 days). The collection rate within the invoice period in 2015 was 34 per cent, up from 26 per cent in 2014. Return on capital declined from 22 per cent in 2013 to 4 per cent in 2015 following a revaluation of assets in 2015 which saw a dramatic increase in the value of assets. The original targets of 10-12 per cent for return on capital appear reasonable.

Table 4 Key financial indicators

<i>Indicator</i>	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual
Return on capital	8%	10%	22% ^a	12%	16% ^b	4% ^b
Operating cost recovery	105%	115%	125%	120%	97%	101%
Operating cost recovery – adjusted to exclude donor contributions	-	-	-	-	89%	93%
Collection ratio (recovery rate) : Actual cash vs. billed revenue ¹⁹	82%	90%		92%	89%	105%
Average collection rate within invoice period					26% ^b	34% ^b
Accounts receivable (days) ²⁰	92	88	74	85	63	41

^a Program Steering Group Report, 30 September 2014

^b Program Steering Group Report, 14 April 2016

¹⁷ SIWA 2015 Financial Statement and Review of Effectiveness of Recovery and Action Plan - 2011 to 2013

¹⁸ On the assumption that Solomon Water would cover capital expenditure and the personnel costs for the General Manager, Chief Financial officer and international advisers which are currently provided by DFAT.

¹⁹ PWWA benchmark F2

²⁰ PWWA benchmark F3

The Community Service Obligation (CSO)²¹ was not received from SIG in 2015 which would have helped cover losses experienced in the Provincial operations, although a SBD 4.7 million CSO has been committed for 2016.

Steady cash flow continues to be an on-going issue for Solomon Water's financial stability. 'Cash meters' are now being trialled which, if successful, could significantly address Solomon Water's cash flow situation. Most interviewees expressed strong support for the introduction of such meters, often referring to their positive experiences of Solomon Power's *Cashpower* meters.

3.1.5 Improved organisational capacity

Progress against intended outcomes

Solomon Water has come through a tumultuous period of significant change in the recent past. Major disruptions such as trade union disputes and significant gaps in senior management were not anticipated when the elements to strengthen organisational capacity were being designed under the Development Plan. It is therefore not surprising that **strengthening human resource (HR) management** within Solomon Water has not fully progressed according to the original intentions set out in the Development Plan. The development of a HR plan²² did not occur. The lack of the HR plan, combined with the other factors mentioned above, meant subsequent recruitment, training, retirement and career/succession plans also did not occur as intended.

Learning and development activities under the Development Plan have been of an ad-hoc and opportunistic nature. A basic training plan was developed, though it was not substantively implemented. A range of formal and on-the-job training has occurred under the Development Plan and through assistance from other donors (Appendix F).

Much of the training is related to core functions of various roles throughout Solomon Water, and the evaluation team heard from some staff about the effectiveness of some of the training, for example, JICA's on-the-job technical skills strengthening. The evaluation also heard of the benefits of the leadership training delivered by the Australia-Pacific Technical College in helping create linkages and networks between Solomon Water staff and other organisations. Despite a high turnover of staff in 2015, many of the key technical positions in Solomon Water continue to be filled by personnel who have benefitted from training under the Development Plan. However, the evaluation heard the unavailability of suitable, technically qualified staff continues to affect Solomon Water operations and organisational capacity. This situation is not unique to Solomon Water²³.

Using short term advisers to deliver training has not been effective, with little progress made in this area. To be effective, this training needed to be very specific with technology transfer provided to specific recipients. This did not appear to occur, for example with the network modelling where skills were not adequately transferred.

Solomon Water is using suppliers to deliver training as part of their contracts – for example, training to strengthen the capacity of NRW task force. It is too early however to make definitive judgements about the effectiveness of this model as key training activities, such as training electronic technicians

²¹ Community Service Obligations (CSOs) are non-commercial goods or services which Government purchases from State-Owned Enterprises (SOEs) for delivery to the Solomon Islands community on its behalf.
<http://www.mof.gov.sb/GovernmentFinances/CommunityServiceObligations.aspx> accessed 23 May 2016.

²² The HR plan was expected to define Solomon Water's needs in terms of skills, qualifications and numbers.

²³ For example, the evaluation heard from Solomon Power about their comprehensive personnel development activities needed to upskill staff.

in the Supervisory Control and Data Acquisition (SCADA) system and training of supervisors in quality pipeline construction and repair, are yet to occur.

Progress in relation to occupational health, safety and welfare policies is lacking. Planned short term advisory support was not fielded, instead responsibility for occupational health, safety and welfare policies was incorporated into the responsibilities of an existing adviser. However, time constraints and competing priorities have resulted in the deferral of activities such as the Workplace and Safety Manual. Occupational health, safety and welfare policies remain a priority area for Solomon Water to address in future.

The most progress has been with **improving organisational effectiveness, and assets and facilities:**

- › Asset management – some progress is being made in regards to management of both infrastructure and business assets. An asset management plan has not yet been fully devised and implemented. However, the revaluation of assets undertaken in 2015 has provided Solomon Water with a complete list of assets which will support the foundation work for asset management systems and an asset management system is planned to be introduced later in 2016.
- › Rather than designing and building a new billing system, Solomon Water took a more cost effective and efficient option of cleaning the existing databases and upgrading the existing system. Simple enhancements to existing functionality have allowed Solomon Water to make quick improvements in areas such as emailing invoices and the printing of a water mark “overdue” on customer invoices.
- › Solomon Water has increased capacity to receive and respond to customer complaints through its new automated call system and after hours contact service. The customer relations management system, implemented at the beginning of 2016, allows for recording and tracking of complaints. This is an important first step for Solomon Water to efficiently manage complaints and further improve its customer care.
- › A range of information and technology (IT) equipment was procured to support core functions and provide effective back-up capacity for Solomon Water, particularly in the event of disasters or disruptions to business. The fit-out of a new office in central Honiara has provided improved office space for the finance, administration, communication and customer care units of Solomon Water and includes features for improving efficiency, such as a basic biometric system for staff to sign in/out. In addition to the benefits for Solomon Water employees, customers interviewed noted the advantages to having a more readily accessible Solomon Water office in town where they can pay bills and lodge requests or complaints. Notwithstanding these improvements, Solomon Water faces longer-term issues with its physical premises, such as the poor condition of its operations depot and the lack of suitable central stores. A project to refurbish the Mataniko depot to address these issues is in the planning stage, with options for the site to be reported in mid-2016.
- › Solomon Water staff noted the 19 vehicles, complete with tracking devices to monitor use, purchased under the Development Plan has had a noticeable impact on their ability to undertake their core tasks.

The Development Plan’s support for **strengthening corporate management** through the provision of in-line positions (General Manager and Finance and Administration Manager) has enabled change processes to be successfully implemented. However, many stakeholders interviewed remarked that the gap between the previous and current General Manager had a significant and detrimental impact on Solomon Water (and its ability to continue its progress under the Development Plan).

Some of the proposed capacity building outputs of the Development Plan have not provided their intended benefits, for example strengthening staff capability in network analysis. This is an example

of where Solomon Water could consider outsourcing highly specialised technical functions rather than building internal capacity. There was also no evidence of any useable output from short-term advisory assistance for procurement improvements. A Procurement Manual is currently being prepared with support from the Maintenance Adviser.

Future focus for strengthening Solomon Water's organisational capacity

The implementation of the capacity building elements of the Development Plan came after heavy restructuring of Solomon Water during the RAP period. Solomon Water is now looking at a slower path of organisational change focused on consolidating changes and enhancing professionalism. Around 37 job descriptions have been completed, covering just over 80 roles within the organisation.

The consolidation of these organisational changes will take considerable time as Solomon Water has a number of areas that are still being developed, but improved capability is noted in areas such as finance and billing; customer care; operations and maintenance. Encouragingly, many Solomon Water staff and a range of other stakeholders talked of an increase in staff morale which is translating to better performance and better public perceptions of the organisation. Solomon Water is in a position to consolidate and build on its stronger organisational platform.

Successful strengthening of Solomon Water's organisational capacity in future will require a focus on the following key areas (many of which are already underway):

- › Finalising the organisational structure and completing workforce planning - the overall architecture of the organisation needs to be bedded down. Solomon Water is building a solid understanding of appropriate job roles/sizes and related remuneration packages. Further work is needed on ensuring the organisational structure supports new work practices deriving from operational changes (e.g. the SCADA system and NRW).
- › Focusing on management, leadership and incentives/deterrents to professionalise Solomon Water's work culture. Identifying a range of professional development strategies to address the different capacity constraints across the organisation and support changes in workplace culture. Implementing an effective training plan (which ideally would be linked to the performance management system). More emphasis could also be placed on coaching and mentoring in providing for organisation capacity building and sustainability.
- › Building contract and project management capability (to be developed in-house or outsourced). Enhancing procurement policy and practice, and operations and maintenance planning, budgeting and implementation.
- › Annual plans for operation and maintenance activities and estimates prepared based on prioritised work items, placed in the annual budgets and the Operations and Management Division held accountable for expenses in accordance with budget.

3.1.6 Improved Strategic Planning

The Development Plan proposed the following strategic planning initiatives:

- › Five Year Strategic Plan for Solomon Water development, including improvements in the operations in Provincial Centres
- › Water Sector Master Plan for Honiara
- › Master Plan for Municipal Wastewater Collection and Treatment
- › Strategy for institutional arrangements for Solomon Water including options available for private sector involvement

- › Water Regulation and Tariff Reform Study.

Solomon Water is currently in the tendering process for the following:

- › 30 Year Strategic Plan (2017-2047) for Solomon Water's continued development as a SOE to meet the projected demands for drinking water supply and wastewater management services.
- › 5 Year Action Plan for 2017-2022 as the first stage of implementing the Strategic Plan.
- › Tariff review, including the development of a tariff model for ongoing use by Solomon Water.

This work is expected to commence by end of June 2016 and be completed by February 2017. It will more than meet the requirement of the Development Plan. Currently the intention is for Solomon Water to continue as a SOE and the consideration of options for further private sector involvement are not part of the terms of reference for the Strategic Plan. Stakeholders consulted for this evaluation emphasised the importance of the strategic planning work, not only for Solomon Water's future but also as an opportunity for needed discussions around urban/peri-urban water supply and wastewater services throughout Honiara and Provincial centres. Extensive consultation with government, consumers, industry and other key stakeholders in the sector will be essential during and after the preparation of the 30 Year Strategic Plan.

Key findings

Solomon Water has made considerable progress in improving the quality, quantity and reliability of water supply across Honiara as a result of the implementation of the Development Plan.

While water quality has improved since 2013, there are some concerns over the regular supply of chlorine and the frequency of testing for residual chlorine. The lack of regular independent water quality testing by DOH removes an important pillar for a reliable water quality monitoring program. Updating and implementing the draft Drinking Water Safety Plan for Honiara prepared in 2013 would assist in ensuring appropriate water quality monitoring procedures are in place.

The financial position of Solomon Water has improved significantly in recent years, as a result of DFAT support and a rigorous approach to debt collection. However, some of the financial indicators are giving an unrealistic impression of Solomon Water's fiscal position – its operating surplus continues to be contingent upon donor contributions.

The impact of the Development Plan on organisational change and capacity building within Solomon Water has been less than anticipated. While on-the-job and supplier training was undertaken for specific activities, a more structured development and capacity building program needs to be undertaken in future.

There has been an increase in the effectiveness of billing and cost recovery. Improved customer care and communications have increased consumer confidence in Solomon Water during the Development Plan period. The provision of a safe, reliable water supply has improved the image of Solomon Water but this needs to be supported by further improvements in customer care processes. More effective communication, especially with regard to disconnection policy, advice to customers of water quality risks and billing/meter reading issues, would be appreciated by customers.

The proposed trial of cash meters is a positive step to improve cash flow, will be welcomed by most customers, and is strongly supported by this evaluation.

Recommendations

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| i | Solomon Water undertakes more frequent water quality testing. Solomon Water liaise with MHMS to bring about more frequent independent water quality testing. |
| ii | Solomon Water update, approve and operationalise the draft Drinking Water Safety Plan in the near future. |
| iii | Solomon Water undertake further customer education about the communication process and the responsibilities of Solomon Water and customers, especially related to water pricing, service disruptions, water quality, billing and payment and disconnections. This should be outlined in the Communications Plan understood by all Solomon Water staff. |
| iv | Solomon Water implement the key areas identified in section 3.1.5 for strengthening organisational capacity. |
| v | Solomon Water develop a stakeholder consultation strategy to support the strategic planning process. The consultation strategy should support Solomon Water to strengthen future co-ordination and engagement with key partners in the water sector. |
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3.2 Funding and implementation support

3.2.1 Budget support

The Board and management of Solomon Water confirmed that the direct budget support model has been an efficient and cost-effective mechanism. The flow of funds has proceeded smoothly and appropriate oversight of the account has mitigated fraud risks. The mechanism also allowed sufficient flexibility to respond to the unpredictability of Solomon Water's access to cash for its contributions to the Development Plan.

This direct budget support model however requires Solomon Water to have substantial contract management capability. While the Development Plan set out specific roles for technical assistance to booster organisational capability, it did not specifically address how or when Solomon Water would ensure it had the necessary management capability (i.e. setting up a dedicated capital works/major projects team either from existing staff or insourcing additional personnel). This, along with the interim absence of a General Manager and Program Manager, has affected the timing of results achievement under the Development Plan.

3.2.2 Technical assistance

The use of long term²⁴ technical assistance (TA) has been largely effective with in-line and advisory positions providing increased capacity in organisational leadership, and financial and operational support. This increased capacity resulted in effective management of DFAT's budget support to Solomon Water. As noted by JICA's representative to Solomon Islands, it also provided a level of confidence and leadership for other donors to provide funding to Solomon Water.

However lessons have been learned regarding DFAT management and Solomon Water oversight of long and short term TA which impacted the implementation of the Development Plan, including:

- › In the event of the short notice departures of key advisers DFAT's systems to recruit, contract and mobilise international advisers were not able to recruit quickly, resulting in significant gaps which impacted Solomon Water.

²⁴ DFAT defines long term technical assistance as an Adviser engaged for a continuous period of more than six months.

- › DFAT applied the same recruitment and performance management processes²⁵ for the in-line management positions at Solomon Water as for the long and short term advisory roles. For sustainability and good governance principles, future models for recruitment and management should have as an outcome the strengthening of the normal recruitment and performance management systems for in-line management positions²⁶. The evaluation heard that the working relationships between DFAT and Solomon Water had, at times, been affected by issues related to adviser recruitment and management.
- › The effectiveness of some of the short-term advisory positions was diminished by (i) the absence of a General Manager and Program Manager during 2014/2015 which saw a lack of strategic oversight to inputs; (ii) the need for Advisers to take on roles outside their specific terms of reference (for example following the floods in 2014); and (iii) short-term Advisers not consistently producing useful, sustainable outputs as expected.

3.2.3 Mix of projects and activities

Flexibility in management of the implementation of the Development Plan has been vital in ensuring the relevance and appropriateness of various projects and activities. For example, the IT solutions proposed in the Development Plan would have required business knowledge in how to build and use a new system. However, Solomon Water and DFAT agreed that upgrading the billing system and HR database was a more cost effective, appropriate and efficient use of funds. DFAT's budget support mechanism and management arrangements meant Solomon Water was able to implement this approach instead.

Some activities implemented under the Development Plan were not appropriate. For example, the in-house development of the network model may have been more appropriately outsourced.

Some of the training activities were not undertaken as proposed in the Development Plan; particularly the formal technical training of operations and maintenance personnel. Most technical training was on-the-job training. A basic training plan was developed in the absence of thorough analysis of training needs and was subsequently not used. Some training funding was re-aligned to adviser time and hardware.

Solomon Water management is giving considerable attention to how the different experiences of delivering training are helping the organisation. Early indications are that the preferred approaches for future learning and development are: using twinning arrangements with other water utilities for enhancing technical skills of Solomon Water staff; linking a learning and professional development approach to performance management; focusing on leadership, management and ethics training to support a change in the work culture; upskilling staff – particularly new graduates; and linking with other organisations (for example, Solomon Power) for joint training opportunities.

The introduction of new systems, for example SCADA and GIS, requires significant consideration of the operating costs and skills required to operate them. This is an area that could be strengthened.

²⁵ DFAT, via its managing contractor for the Solomon Islands Resource Facility, undertook recruitment and contracting of all TA. DFAT officers at Post directly manage the performance assessment of all TA.

²⁶ The use of alternative recruitment and management systems need not preclude the use of the Adviser Remuneration Framework for determining the remuneration of commercially contracted international advisers.

3.2.4 Factors affecting implementation

The status of each of the proposed activities in the Development Plan is shown in Appendix E. Originally a two-year plan, implementation will have extended to 4.5 years once completed.

Several factors have affected implementation, including:

- › The cost of the Titinge-East Kola transmission main was substantially underestimated which has required a re-alignment of the budget resulting in the de-prioritisation of some of the proposed activities. The most significant of these was the deferral of distribution system improvements and the East Kola reservoir which will impact upon the reliability of the water supply service and the NRW reduction.
- › Discontinuity in senior leadership, brought about by the unexpected departure of the Program Manager and General Manager in late 2014, delayed implementation and affected organisational capacity and leadership to implement a reform agenda across key operational areas of the organisation.
- › Solomon Water's financial situation is sensitive to cash payments, which has meant at various times the organisation did not have cash available to support its nominated contributions to the Development Plan.
- › Issues such as land acquisition, resettlement and environmental impact of major projects such as the transmission mains were not fully addressed during project planning and development which meant that implementation was delayed while these safeguard issues were being undertaken and negotiations with landowners continued.
- › The floods in Honiara in April 2014 affected the operations of Solomon Water, and necessarily delayed the implementation of the Development Plan.

Key findings

The budget support mechanism has been an effective way for Solomon Water to manage DFAT funding and has provided a high level of accountability. Long-term technical assistance for in-line positions has also been valuable to Solomon Water and has provided the necessary organisational capacity for other donors to provide support to the organisation.

DFAT procedures for recruitment and performance management of in-line management positions were not entirely suitable. Recruitment and performance management for these positions should ideally be driven by the Board and/or General Manager to whom they are responsible.

The lack of a strong, dedicated Project Management Unit within Solomon Water resulted in delays in implementation of the Development Plan. This may also impact on future capital works programs.

Issues of land acquisition/leasing for proposed water supply facilities and right of way for existing pipelines and facilities have caused delays to some components of the Development Plan. While these issues will not be quickly resolved, Solomon Water needs to build into the planning process the necessary time and procedures to resolve land issues well in advance of project implementation.

Recommendations

- vi Solomon Water establishes a project management capability (in-house or outsourced) to oversight construction and non-construction projects, especially those involving donor funding.
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vii	For future capital works programs, Solomon Water ensures that the appropriate safeguard policies and activities are undertaken during the project preparation phase in advance of implementation.
viii	DFAT consider alternative approaches for the recruitment and performance management of in-line management positions to those used for long term and short term technical advisers.

3.3 Risk management

A number of risks were identified in the Development Plan, several of which have eventuated. With the exception of Solomon Water's report to the Program Steering Group in 2016 there does not appear to be routine formal reporting of risks and risk management. DFAT and Solomon Water indicated they have regular discussions about major risks and ways to address them.

Major risks experienced include:

- › Solomon Water had insufficient in-house skills to support the delivery of the Development Plan.
- › Land issues and disputes affected water sources (particularly Kongulai), impacted the Panatina bore field strategy and are currently impacting the Titinge-East Kola transmission main works.
- › Mixed commitment from SIG to provide leadership in the water sector and uphold SOE reforms: for example, delays in confirming Board nominations; delays in approving the National Water Policy; upholding agreements for tax exemptions of donor-funded goods and services; provision of CSOs; advocating user pays approaches which could enable expansion of Solomon Water service areas in Provincial centres.

3.4 Alignment with Australian and Solomon Islands priorities

The Solomon Islands Government recognises the urgent need for improvements in water supply and sanitation in Honiara and urban centres. During the provincial consultation process for developing the National Development Strategy, access to water supply and improved sanitation was highlighted as the highest priority need, particularly in rural areas. However, as noted above, there has been mixed commitment from SIG to engage in the water sector and uphold various elements of SOE reforms that are necessary for the proper functioning of Solomon Water.

Urban water supply continues to be a relevant area of investment for donors in Solomon Islands given the significant investment costs that are required to get new infrastructure in place and/or existing infrastructure upgraded.

Australia's aid program in Solomon Islands focuses on three strategic objectives: supporting stability, enabling economic growth, and enhancing human development²⁷. Australia recognises the importance of water and sanitation for building the foundation for a healthier population in Solomon Islands. Evidence was not available at the time of this evaluation to assess the impact of improved water quality on the health of Honiara residents; however, the evaluation heard that an assessment of water, sanitation and hygiene coverage may be conducted in Honiara in future²⁸. The importance of water supply to support economic growth is also of interest to Australia's aid program. The evaluation

²⁷ DFAT's Aid Investment Plan for Solomon Islands, 2015-16 to 2018-19.

²⁸ A baseline assessment of rural water, sanitation and hygiene coverage has already been undertaken in December 2015, led by the MHMS Environmental Health Division in collaboration with civil society organisations.

heard from some hotels and a construction company about the benefits of improved supply and quality of water – although these benefits could not be quantified.

3.5 Monitoring and evaluation mechanisms

The monitoring and evaluation (M&E) system being used for the Development Plan is not considered entirely suitable. A set of performance measurement tables in the Development Plan set out the indicators and, where possible, baselines and annual targets for performance assessment. These performance measures require some modification to ensure all indicators are measurable and useful, and that reporting supports learning and improvement. To this end, some populated performance measurement tables with explanatory notes, for the objective and outputs are included at Appendix G.

Monitoring to provide information for continuous improvements is not part of the current culture within Solomon Water. The water quality data should be used for pro-active maintenance to ensure that failures can result in corrective action through, for example, improved treatment processes and dosing quality and reliability. There is a need for all Solomon Water staff to understand how monitoring and measurement instrumentation, including the SCADA system, will contribute to more systematic and efficient operation.

4 Sustainability and transition arrangements

4.1 Sustainability

4.1.1 Non-revenue water (NRW) reduction

Reduction of NRW is a critical issue for the long-term sustainability of Solomon Water. The pilot zones introduced with JICA support and the initial development of four District Metering Area (DMA) zones have delivered good results in terms of NRW reduction. However, this has been a relatively labour intensive process delivered on a project basis by a Task Force with support from the JICA advisers. Continuing the same process for the remaining 24 DMA zones will place significant additional demand on the resources of Solomon Water. Solomon Water found the JICA target of 25 per cent²⁹ for NRW to be difficult to achieve and has set a target of 30 per cent.

If this NRW target is to be reached in all 28 zones, the NRW program may need to be converted from a project activity into a 'Business as Usual' activity and become part of the normal operations of the Operations and Maintenance Division. The NRW activities do not appear to be well understood across the Division. Staff will need to be advised of the cost/benefit of reducing NRW, provided with additional training and workforce arrangements re-organised. An alternative would be to continue NRW reduction as a project activity, but outsource the activity with a performance based approach as is done with some utilities internationally. The rate at which NRW can be reduced will also be impacted upon by the progress in rehabilitating the distribution system. This activity, planned under the Development Plan, was deferred for budgetary reasons, but funding needs to be prioritised for this work if NRW reductions targets are to be met in the near future.

4.1.2 Source development

Maximum effort should be given to optimising existing sources through NRW reduction and demand management. Water consumption by Honiara households is higher than the PWWA benchmark³⁰. Consumer education programs to reduce household consumption (both through better use of water as well as knowing how to address leakages) could assist with demand management. Solomon Water advocacy for rainwater harvesting may also be suitable to reduce stress on groundwater and surface water sources. Planning for new source development should however continue in parallel with efforts to maximise existing sources.

4.1.3 Financial and organisational capacity to sustain and expand services

Currently, Solomon Water's net operating surplus is contingent upon donor funding. At this stage it appears the only alternative source of donor funding is the EU's EDF 11³¹. The Pacific Water and

²⁹ 25 per cent is also the PWWA benchmark.

³⁰ Water consumption by Honiara households, based on billed supply, is in the order of 180 litres/capita/day (lpcd) compared with the PWWA benchmark of 150 lpcd.

³¹ EDF 11 is not likely to be channelled directly to Solomon Water. EU budget support is provided to SIG through its Treasury. Solomon Water would need to request appropriation of any agreed funds from SIG.

Waste Management Association and the Australia Water Partnership offer opportunities for Solomon Water to harness technical expertise from other water utilities in the region. These mechanisms however do not provide funds for capital works.

As mentioned above, NRW and water source development need to be prioritised as a basis for long-term viability of the utility. Consolidating organisational changes and bedding down a professional work culture is also critical for the sustainability of gains made by Solomon Water during the Development Plan period. There are strong indications that Solomon Water has created goodwill with its customers through improvements in service delivery. Sustaining the positive image that Solomon Water has been cultivating in the last few years is contingent upon the continued reliability and affordability of water supply for customers.

An equitable, affordable tariff structure is essential for Solomon Water's financial viability. A cost of service study and tariff review to be completed in conjunction with the Strategic Planning process will enable Solomon Water and SIG to better understand Solomon Water's cost structure, cost drivers, and the revenue requirements that need to be reflected in appropriate tariff levels and non-tariff charges. It is anticipated a new tariff structure and tariff setting mechanism would be submitted for SIG approval by the end of 2016.

With future improved financial sustainability, Solomon Water will need to consider how it could address sewerage and sanitation in Honiara, expand services to peri-urban areas in Honiara, improve of services in Auki, Noro and Tulagi and possibly expand into other Provincial centres (notwithstanding consumer unwillingness to pay and Provincial Government unwillingness to charge in some centres).

4.1.4 Governance and political commitment

The current Board arrangement has served Solomon Water well during the period of the Development Plan, however the terms for the current Board members have expired with no confirmation from SIG as to when membership for the new Board will be finalised. It is imperative that Solomon Water has surety of its Board arrangements. The Board and Solomon Water management also need to progress current plans for recruiting a position for the governance support role for the Board. This role is critical for completing tasks such as the approval of delegations between the Board and Solomon Water.

As mentioned above, the evaluation heard examples of mixed commitment from SIG in upholding the SOE regulations. The issues raised require continued dialogue between DFAT, Solomon Water management and Board, and relevant SIG Ministries to ensure that mutual obligations are understood and commitments upheld.

4.2 Transition arrangements

Australia's support for the Development Plan included neither an exit strategy for eventual withdrawal of support nor a process for the normalisation of Solomon Water organisational and financial management without donor support. The completion of DFAT's program of support for Solomon Water brings with it an urgent imperative to carefully plan an exit strategy for Australian funding, and for Solomon Water to transition to alternative funding sources for capital works and other expenditure which it cannot meet. A key focus of this should be Solomon Water returning to 'business as usual' with regards to senior management recruitment and financial oversight.

The current lack of certainty regarding future donor funding is of concern for Solomon Water management and Board – not necessarily because donor funds are needed in the long term (Board members indicated an independent financial position is Solomon Water's ultimate aim) but because

there has not been advance planning for how Solomon Water and its Board will take over financial contributions or certainty around key management positions going forward.

DFAT, Solomon Water management and Board should discuss the implications of the completion of DFAT's funding, including, among others:

- › Continuity of Solomon Water management and key advisory positions: DFAT to confirm funding availability and develop detailed timeframes (including handover periods) for recruitment and/or continuation of existing contracts. It is imperative that DFAT agree with the Solomon Water Board arrangements for Solomon Water to take over responsibility for funding the General Manager and Finance and Administration Manager positions – specifically when Solomon Water will be able to fully fund the positions. It may be that DFAT will need to consider fully or partially funding these two positions post June 2017.
- › Future recruitment processes for the General Manager and technical advisers: the priority should be the normalisation of recruitment and performance management process for the General Manager and Chief Financial Officer at the end of their current contracts. Options for recruitment include use of both Board sub-committees and outsourcing to HR companies to provide necessary support to Board for international recruitments. DFAT and Solomon Water can look to other SOEs and private companies who have undertaken international recruitments for their General Managers as examples. Prior to these discussions DFAT should consider whether support for the Board's recruitment process and/or salary supplementation is possible.

Solomon Water management and Board should discuss with the EU implications of EDF 11 funding to Solomon Water, including:

- › Financing mechanisms, contract/project management arrangements and any risks associated with these.
- › Application of lessons learned from DFAT funding arrangements to the proposed EDF 11 support.
- › Current Solomon Water strategic planning, 5YAP and tariff review critical for the organisation positioning itself for the future (and ability to strategically and effectively use donor support to achieve its long-term goals).
- › Arrangements for the design of the EU program of support and whether a detailed transition plan needs to occur separately to an EU design process.

Key findings

Reduction of non-revenue water is a critical issue for the long-term sustainability of Solomon Water.

For Solomon Water to expand further in the Provincial capitals, financial sustainability of its current operations needs to be assured and SIG policy support for expansion and user-pay principle is needed.

Governance oversight provided by a functional Board is critical to the on-going success of Solomon Water.

Continued dialogue between Solomon Water management and Board, relevant SIG Ministries and, as appropriate, DFAT is needed to ensure that mutual obligations are understood and commitments upheld.

A gradual and well-planned exit phase is required for the completion of Australian funding, so that Solomon Water is well-prepared to access European Union funding in a way that maximises outcomes to date and mitigates against risks.

Recommendations

- ix Solomon Water management and Board and, where appropriate, DFAT or other donors, encourage SIG to adhere to SOE regulations.
 - x DFAT use donor co-ordination mechanisms to advocate for the EDF 11 support to Solomon Water to build on the successful implementation of the Development Plan.
 - xi DFAT, Solomon Water management and Board agree on (i) DFAT considers to fully or partially fund the General Manager and Finance and Administration Manager positions beyond June 2017; and (ii) a timeframe for discussions with the EU regarding transition planning.
-

5 Lessons and conclusions

5.1 Lessons

A separate, comprehensive lessons learned document has been developed to accompany this evaluation report as a result of a workshop held with Solomon Water management and international advisers. Some of the key lessons identified include:

- › Donor funded development programs need appropriate program design with sufficient stakeholder consultation, including staff, to adequately scope the activities. Adviser roles should be carefully considered in the context of the absorptive capacity of the organisation with short term advisers only considered for specialised tasks. Donors should also consider providing basic templates, manuals or toolkits to enable recipient agencies to implement projects in accordance with the donor requirements for safeguard issues such as environmental assessment and resettlement.
- › Senior management support and continuity over the duration of a donor program is critical to obtain full effectiveness of advisory support and program activities.
- › Organisational recovery can be a slow process, is often unpredictable and needs significant analysis and planning. Financial recovery does not always lead immediately to organisational strengthening.
- › Availability of skilled personnel is critical for success of Solomon Water operations and long term capacity cannot be created through the use of expatriate staff alone. There needs to be a long term capacity building strategy including engaging with training institutions, development of graduate programs, associations with professional organisations and implementation of leadership development programs. Where appropriate, consideration could be given to recruiting personnel with skill levels below what is theoretically needed and providing training to bring them up to the required level.

5.2 Conclusions

The evaluation finds that Phase 2 of Australia's urban water program in Solomon Islands has successfully built on previous support to Solomon Water. The objective of the Solomon Water Development Plan has been largely achieved. In particular, significant achievements in the supply of water to residents of Honiara have occurred as a result of the implementation of the Development Plan.

Stabilisation of Solomon Water's financial position has also been a notable achievement of the Development Plan. Some of the organisational improvements, such as a more proactive approach to debt recovery and greater customer responsiveness, have laid a platform for future success.

Nonetheless, there are real risks to the sustainability of the outcomes achieved so far:

- › While Solomon Water's immediate financial position is sound, a net operating surplus becomes a *deficit* once donor contributions are deducted. Phase 2 of Australia's support is set to conclude in mid-2017 following the completion of Development Plan implementation. The completion of

Australia's support could see Solomon Water move back to a financially stressed situation if other donor transfers are not identified. This underscores the need for the transition from Australian to European Union (EU) support to be as seamless and well-planned as possible.

- › Ongoing success for the utility will be determined by further improvements in areas such as work ethic, professional development, leadership, management and customer care capacity. Moreover, Solomon Water needs to move from a reactive to proactive maintenance culture that focuses on preventative maintenance. Solomon Water management will need to pursue cultural change within the organisation, ensuring that there is engagement and support from all levels of staff. Technology can help but will not succeed without such cultural change.

The upcoming strategic planning process provides a valuable opportunity for Solomon Water to lead conversations with stakeholders around significant long-term considerations - such as improvements in its existing service areas, expansion into new service areas in the Provinces, improved and expanded sewerage services and strategies for addressing the growing need in peri-urban and squatter settlements around Honiara.

Appendix A: Terms of Reference

BACKGROUND

Context: Urban water in Solomon Islands

1. Reliable, sustainable and equitably-priced water supply is critical for growth and human development in Solomon Islands. Australian support has played a major part in improvements to the management and quality of water supply. However, services remain relatively expensive and access outside major centres, including in peri-urban areas, is limited.
2. The Solomon Islands Water Authority (SIWA, trading as Solomon Water) is the state-owned enterprise responsible for water and sewerage in urban areas. The current focus of Australia's funding to SIWA is to improve its core operations to eventually enable expansion. Around one third of Honiara residents do not have domestic water connections (People's Survey 2013) and outside of Honiara, Solomon Water only services three provincial towns (Auki in Malaita Province, Tulagi in Central Province and Noro in Western Province).
3. Honiara's water supply comes from a combination of surface water sources and boreholes. The boreholes were built and completed by the Japanese International Cooperation Agency (JICA) in 2014. However, the boreholes are more expensive to operate as the water needs to be pumped and some boreholes are at risk of contamination from squatter settlements. With an extreme El Niño weather event in 2015, and customary landowners blocking access to one of Honiara's key spring water sources, SIWA is facing ever increasing water supply challenges.

Program overview

Phase 1: Recovery Strategy and Action Plan 2011–2013

4. From 2000 to 2010, the operating conditions of SIWA steadily deteriorated due to a combination of political instability, governance and organisational capacity challenges, and inappropriate tariffs. By 2010, the organisation owed SBD37 million to its electricity supplier, and the service was approaching a state of collapse. There was a serious risk that the already poor water and wastewater services in Honiara would largely cease to function with significant adverse impacts on human health and the local economy.
5. In August 2010, the Solomon Islands Government (SIG) replaced the SIWA Board, which then changed over most of the management. With funding support from Australia, an expatriate General Manager and Finance and Administration Manager commenced work in SIWA in April 2011. They developed a Short-Term Recovery Strategy and Action Plan (RAP). SIWA did not have the financial capacity to implement the RAP and so, following a request from SIG, Australia agreed to fund its implementation.
6. The RAP's key priorities were to stabilise SIWA's financial capacity and improve service levels. The RAP proposed a series of measures and investments designed to halt SIWA's decline, stabilise the operation and delivery of water and enable SIWA to achieve a position from which

it was able to begin the long process of improvement. Australia provided AUD2.2million for the implementation of the RAP and placement of technical advisers within SIWA.

7. The RAP saw significant improvements to SIWA's financial performance, organisational effectiveness and services. Key achievements of the RAP period included an agreement that settled SIWA's debt to the Solomon Islands Electricity Authority in May 2012, reform of water tariffs and introduction of Community Services Obligation payments from SIG to cover losses on SIWA's provincial operations. SIWA went from having an operational loss of SBD30 million in 2010 to an operating surplus of SBD10 million in 2012.

Phase 2: Solomon Water Development Plan 2013–2016

8. The Solomon Water Development Plan is a medium term plan that builds on the achievements of the RAP. It aims to target a number of critical issues that must be addressed to ensure the sustainable development of the business into the future. The overall objective of the Plan is to move SIWA to a position where its infrastructure is capable of supporting an acceptable level of service to the population, and which is based on a firm financial position.
9. Similar to the RAP, Australia is providing direct funding support to SIWA for the implementation of the Development Plan (up to AUD7 million), as well as technical assistance through the Solomon Islands Resource Facility (SIRF) to manage long and short term advisers and consultants for SIWA (up to AUD3.1 million). The purpose of Australia's support is to provide a safe and reliable water supply service to an increased share of the population in SIWA's current service areas, based on a sound financial position. The key desired outcome areas are:
 - improved levels of service for water supply;
 - improved customer care and communications;
 - improved organisational capacity;
 - strengthened financial management and administration; and
 - improved strategic planning.
10. The Development Plan was initially intended to be completed by June 2015. However, delays in procurement and expenditure early in the Development Plan's implementation, as well as unexpected six-month vacancies in SIWA's General Manager and Program Manager positions, meant that the Plan was fully delivered on time. As a result, in March 2015, SIWA and Australia agreed to extend the Development Plan until December 2016, with a deferral of Australia's final funding commitment to 2016 to support the extension.

Current situation

11. Australian support to SIWA since 2011 has seen a dramatic turnaround in the performance of the organisation. SIWA advises that the average proportion of water samples that pass World Health Organization bacteria standards increased from less than half in 2011 to 94 per cent in 2014. Daily average hours of water supply across the country have increased to 20 hours, up from 14 in 2011. Around 87 per cent of Honiara had 24 hour water supply in 2014, compared to 39 per cent in 2013. By the end of 2014, 9,845 households (around 69,000 people) had water connections—a 25 per cent growth from 2013.

12. Nonetheless, progress remains fragile. SIWA's financial position remains uncertain, particularly with increasing challenges in non-revenue water, and debt recovery and collection. SIWA is forecasting an operating surplus of around SBD3 million in 2015, down from initial forecasts of SBD11.5 million. The decrease is mainly due to unexpected accommodation costs to store valuable assets, recuperation of unbilled electricity services and SIG's decision not to pay SIWA its 2015 community service obligations (amounting to SBD3.9 million).
13. While organisational capacity has improved substantially, there are still significant improvements to be made, for example in procurement, tariff collection, billing, results monitoring and records management. By end of 2015, many of the larger projects under the Development Plan were not yet completed by SIWA, including the Tariff Review, implementation of a Supervisory Control and Data Acquisition (SCADA) system and the engineering feasibility work for the construction of a Honiara East-West pipeline. Delays have largely been due to slow procurement and expenditure in the Development Plan's first year of operation, followed by unexpected changes and extended vacancies in SIWA's senior management, as well as industrial action by staff, in 2015.
14. Given these and other ongoing implementation challenges, SIWA and Australia are reviewing the remaining scope of the Development Plan. With Australian-funded advisory support, SIWA will develop a 25-year Sewerage and Water Strategic Plan with an associated Five-Year Action Plan (5YAP) to replace the Development Plan from January 2017 onwards. It is almost certain that donor support will be needed to implement the 5YAP.

EVALUATION

Purpose of evaluation

15. Independent evaluations are mandatory for all Australian aid investments over AUD10 million, and the second phase of Australia's support to Solomon Water amounts to AUD10.1 million. This will be a final evaluation to assess overall program performance of the Development Plan (2013–2016) and DFAT's support for its implementation (direct support to SIWA and technical assistance through the SIRF). Progress in implementing the Development Plan has been significantly slower than anticipated. This evaluation should help DFAT and SIWA understand why this has happened and what this means going forward.
16. This evaluation has a two-fold purpose:
 - a) Program assessment
 - To evaluate the program and the extent to which DFAT funding has enabled SIWA to achieve its objectives under the Development Plan, based on the evaluation questions outlined below.
 - b) Program improvement
 - To review lessons that the program has learnt, which can be useful in further improving the program and SIWA's service delivery.
 - To confirm the program's relevance to SIG's strategy and DFAT's priorities and recommend strategies for DFAT to support SIWA's transition to longer term EU support.

17. This evaluation will be used to inform DFAT Honiara, SIWA management and relevant SIG ministries of SIWA's progress through the implementation of the Development Plan. It will provide evidence-based findings to guide DFAT Honiara and the SIWA General Manager in the final stages of implementation of the Development Plan, and inform DFAT Honiara's and DFAT Canberra's considerations of the future of any Australian assistance to the urban water sector in Solomon Islands.
18. This will be the first independent evaluation of Australia's support to SIWA. SIWA's former General Manager submitted a final report of his views on the implementation of the RAP, but an independent evaluation was not undertaken.

Scope of evaluation

19. The evaluation will limit its scope to activities implemented under the SIWA Development Plan since 2013, and DFAT's program of support to it. This includes the design, performance and management of technical assistance. It is expected the evaluation team will also provide future-looking recommendations based on the evaluation's findings.
20. The following questions are intended to guide the evaluation. Additional questions may be added as the evaluation progresses.

First priority

- a) To what extent have the **objectives** of the Development Plan, and of DFAT's support for its implementation, been achieved? Do they still correspond to the SIG's medium and long term development policies and priorities? Does the program of support align with DFAT's priorities in the Solomon Islands Aid Investment Plan (2015), such as economic growth, private sector development, human development and gender equality?
- b) How effective, efficient and well-managed were DFAT's **funding and support modalities** for the Development Plan (direct support to SIWA and technical assistance)? Did they produce the expected results? How can DFAT support SIWA to transition to longer term EU support in a way that: (1) protects the outcomes achieved since 2011—for both urban water supply and SIWA's organisational capacity; (2) prepares SIWA for transition to budget support that may not include technical assistance; and (3) protects DFAT's reputation during the transition?
- c) To what extent has the implementation of the Development Plan influenced the **organisational capacity** of SIWA? What capacity issues will need to continue to be addressed beyond 2016?

Second priority

- d) Did the Development Plan have the right **mix of projects and activities**, supported by the right mix of short and long term advisers, to achieve its objectives? What caused delays to the implementation of the Development Plan, and have these been addressed where possible? Are risks being addressed? How might they be better managed in the future?

- e) How **sustainable** are the Development Plan's outcomes? What factors increased or decreased their sustainability? What would happen to SIWA and Solomon Islands' water supply services without donor funding and/or international technical assistance? How feasible are alternative sources of funding?
- f) How sufficient are the **monitoring and evaluation** mechanisms, for both SIWA and DFAT, to measure immediate and long term changes, and to learn and improve in the process?

Evaluation team

21. The evaluation team will comprise:

- a) Team leader: with strong experience and expertise in monitoring and evaluating complex aid investments, preferably in the Pacific. The team leader will be responsible for the timely submission of high quality reports.
- b) Infrastructure specialist: with urban water sector expertise, preferably in a Pacific context. The infrastructure specialist will provide technical inputs and support to the team leader.

22. SIWA and DFAT representatives may join the mission as observers for some meetings and visits.

Reporting requirements

23. The evaluation team will review relevant documents and conduct an in-country evaluation mission to inform its development of the following documents:

- a) **Evaluation Plan** – to outline the methods and timeframe the evaluation team will use to meet the purpose and scope set out in these terms of reference, including:
 - an evaluation methodology and matrix based on the evaluation questions above, drawing on DFAT's broader evaluation criteria as appropriate;
 - a process for information collection and analysis;
 - identification of any substantial challenges to achieving the evaluation purpose;
 - allocation of tasks among the evaluation team; and
 - key timings and milestones.
- b) **Aide Memoire** (up to three pages, in dot point format) – to present the evaluation team's initial findings at the end of the in-country evaluation mission.
- c) **Draft Evaluation Report** – to consult with SIWA and DFAT on the evaluation team's draft analysis, findings and recommendations.
- d) **Final Evaluation Report** (up to 20 pages, excluding annexes) – to present the evaluation team's final analysis, findings and recommendations for publication on DFAT's website.

24. The timing for submission of each of these documents is outlined below. The evaluation team will seek DFAT input on all documents before their final submission. DFAT will coordinate SIWA input on the documents. Revisions may be required and will be negotiated as appropriate.

25. All elements of the evaluation must meet DFAT's monitoring and evaluation standards.

Key stakeholders

26. The following list of possible key stakeholders to meet is provided as a guide. The evaluation team will confirm persons and organisations with which it wishes to meet in the Evaluation Plan. DFAT Honiara Post and SIWA will help to facilitate meetings with key stakeholders and propose a draft schedule for the in-country evaluation mission.

- DFAT Honiara Post: Minister Counsellor Development; Counsellor – Economics and Growth; First Secretary – Economic Infrastructure; and Program Manager – Economic Infrastructure
- DFAT Canberra (teleconference will suffice): Pacific Infrastructure Specialist; and Director – Water, Sanitation and Hygiene Section
- SIWA management (including international advisers and consultants)
- SIWA staff (male and female)
- SIWA Board Chairman and Directors
- SIG ministries: Ministry of Mines, Energy and Rural Electrification; Ministry of Development, Planning and Aid Coordination; and Ministry of Finance and Treasury
- Other donors engaged in the sector: JICA; and the European Union
- Community representatives (male and female)
- SIWA customers (male and female)

Key documents

27. DFAT will provide the evaluation team with the following key documents at the commencement of the assignment:

- Australia's Aid Investment Plan for Solomon Islands
- Investment concept/design documents for the urban water program
- DFAT-SIWA Direct Funding Agreement
- Terms of reference for DFAT-funded long term advisers to SIWA
- DFAT Economic Infrastructure Strategy
- DFAT Health for Development Strategy
- DFAT Gender Equality Strategy
- DFAT-UTS Solomon Islands Water and Sanitation Health Sector Brief 2012
- DFAT monitoring and evaluation standards
- DFAT investment quality reports on the water program
- Solomon Islands Democratic Coalition for Change Policy Statement
- Solomon Islands Water Policy
- SIWA Development Plan 2013–2016
- SIWA Short Term Recovery Strategy and Action Plan 2011–2013
- Review of the effectiveness of the RAP by former SIWA General Manager
- RAP and Development Plan audit reports
- SIWA Annual Reports
- SIWA monitoring reports
- People's Survey 2013
- Pacific Water and Wastewater Utilities Benchmarking Report 2013

Appendix B: Methodology

The Development Plan sets out four levels for performance measurement (Table xx). A set of performance measurement tables in the Development Plan set out the indicators and, where possible, baselines and annual targets for each of these four levels. These performance measurement tables were used to assess achievement and sustainability of the Development Plan objective, outputs and activities. Populated performance measurement tables are at Appendix xx.

Table 5 Levels for performance measurement

<i>Performance measurement level</i>	<i>Performance measures</i>
Development Outcomes	<ol style="list-style-type: none"> 1 Improved human health 2 Improved business environment and public services 3 Lower and more predictable fiscal costs to SIG
Programme objective	Solomon Water provides improved levels of service (in terms of quality, quantity and reliability) to a larger proportion of the population in the existing service areas, based on a sound financial position
Outputs	Activities
1. Improved levels of service for water supply	<ol style="list-style-type: none"> a. Developing operational and technical support b. Reducing non-revenue water c. Improving the capacity of the network d. Improving the connectivity and reliability of water supply e. Water production f. Non-revenue water
2. Improved customer care and communications	<ol style="list-style-type: none"> g. Improving customer care h. Improving the image of Solomon Water
3. Strengthened financial management and administration	<ol style="list-style-type: none"> i. Billing j. Debt collection k. Cost & management accounting l. Inventory management m. Audit
4. Improved organizational capacity	<ol style="list-style-type: none"> n. Strengthen human resource management o. Strengthen corporate management p. Improving organisational effectiveness q. Improved organisational capacity
5. Improved strategic planning	<ol style="list-style-type: none"> r. Formulation of the Five Year Plan

The evaluation was implemented in five phases:

1. Briefing and evaluation plan

The evaluation team, in consultation with DFAT Honiara, developed an evaluation plan which sets out: an evaluation methodology and matrix based on the evaluation questions above, drawing on DFAT's

broader evaluation criteria; a process for information collection and analysis; identification of challenges to achieving the evaluation purpose; allocation of tasks among the evaluation team; and key timings and milestones.

The evaluation team was briefed by DFAT staff in Honiara and Canberra. The evaluation team leader consulted with the SIWA General Manager prior to in-country consultations.

2. Document review

The evaluation team reviewed the key documents provided by DFAT Honiara and Solomon Water. The review:

- › Provided an overview of contextual factors relevant to the program.
- › Made a preliminary assessment of progress towards Development Plan outputs and objective.
- › Made a preliminary assessment of the status of implementation of activities/projects under the Development Plan.
- › Described the common challenges experiences by the program.

The evaluation team also reviewed literature regarding budget support approaches. The review informed the lines of enquiry for the data collection phase of the evaluation.

3. Data collection and analysis

Data collection

The evaluation team travelled to Honiara 2-12 May to collect and validate data.

The evaluation team collected, triangulated and reviewed additional data through individual interviews, site visits and small group discussions. The evaluation team met with ~50 stakeholders including: Solomon Water management, staff and SIWA Board members (n=4); DFAT officials; Solomon Islands Government officials; Civil society representatives; SIWA customers (individuals, hotels, hospital); and, JICA.

The evaluation team undertook small group and individual interviews with SIWA management, SIWA Board members and DFAT technical advisers.

Interview guides steered the semi-structured interviews, which were conversational in nature. The guides acted as prompts to ensure major topics were explored and were adjusted throughout the process to pick up new trails of data, where they emerged and tested them in subsequent interviews.

The evaluation team gathered personal accounts by asking all non-Solomon Water interviewees to share their experiences of changes in water supply/water quality/customer relations in their homes, communities and workplaces.

Data analysis

Analysis of the data occurred on an ongoing basis during the data collection phase. The evaluation team recorded and tracked analytical insights during the data collection phase, and set aside time each day to briefly discuss their major observations, impressions and emergent sense-making of the data.

The evaluation team took extensive notes of all interviews. They coded the interview notes and transcribed them into a matrix against the key evaluation questions, emerging themes and other comments.

In the latter part of the in-country mission, the evaluation team conducted a half-day 'lessons learned' session with SIWA management. The purpose of this session was to discuss the lessons that had been captured throughout the data collection phase in an interactive and engaging process. In collaboration with SIWA staff, the evaluation team prioritised the lessons and identified the strategies and actions that are necessary to ensure each lesson is utilised and applied. The lessons are fully documented in a separate report.

Upon conclusion of the in-country mission the evaluation team presented initial findings and identified gaps for further follow-up. The evaluation team then gathered further necessary data to address gaps and do a final analysis of the data against the key evaluation questions and develop recommendations for discussion with DFAT and Solomon Water.

4. Report writing and feedback

At the conclusion of the in-country mission, the evaluation team presented an **Aide Memoire** to DFAT and Solomon Water (including one Board member). The Aide Memoire presented the evaluation team's initial findings and identified gaps for further follow-up, including the need for discussion with the European Union representatives.

5. Limitations

Precise details of the proposed EU funding for the water sector in Solomon Islands are yet to be designed. This has limited the evaluation's ability to identify specific activities that would prepare Solomon Water for transitioning to EU funding. Instead, some general recommendations and considerations have been put forward in this report.

Appendix C: People consulted

NAME	POSITION	ORGANISATION
Judy Tarailopo Arumae	Senior Program Manager, Economic Infrastructure	Australian High Commission, Honiara
Jasmine Cernovs	Counsellor, Economics	Australian High Commission, Honiara
Alexandra Hutchison	First Secretary, Economic Infrastructure	Australian High Commission, Honiara
Scott McNamara	Former First Secretary, Economic Infrastructure	Australian High Commission, Honiara
Tanya Morjanoff	Second Secretary, Economics and Growth	Australian High Commission, Honiara
Marcus Howard	Director Water Sanitation Hygiene Section	Department of Foreign Affairs and Trade
Peter Kelly	Director Pacific Infrastructure Advice, Pacific Division	Department of Foreign Affairs and Trade
Ray Andresen	Strategy and Planning Manager	Solomon Water
Benjamin Billy	Team Leader/NRW Coordinator, Technical & Operations Division	Solomon Water
Liam Eaton	Water Supply and Maintenance Adviser	Solomon Water
Ian Gooden	General Manager	Solomon Water
Debbie Johnsen	Finance and Administration Manager	Solomon Water
Marista Kapini	Technical & Operations Division	Solomon Water
Susan Auto Makabo	Water Analyst, Technical & Operations Division	Solomon Water
Chris Meriko	Coordinator STPM, Technical & Operations Division	Solomon Water
Joe Sanga	Human Resources Manager	Solomon Water
Yaxley Solomon	Technical & Operations Division	Solomon Water
Sophie Tango	Communications Assistant	Solomon Water
Scravin Tongi	Operations Manager	Solomon Water
Nemani Waqanivalu	Program Manager	Solomon Water
Phil Bradford	Chairman, Solomon Water Board	Solomon Water Board
Antoinette Wickham	Former Board Member	Solomon Water Board
Ethel Francis	Board Member	Solomon Water Board
David Laurie	Board Member	Solomon Water Board
Salome Faásu	Representing White River	Solomon Water Customer
Kortis Pade	Representing Vura 1	Solomon Water Customer

Mary Roko	Representing Vura Heights	Solomon Water Customer
Silas Savara	Representing Kombivatu	Solomon Water Customer
Dennis Meone	Chief Executive Officer	Chamber of Commerce
Jay Bartlett	Business Development	Hatanga Ltd
Sanjay Bhargava	General Manager	Heritage Park Hotel
Eddie Ngava	Deputy Mayor	Honiara City Council
Fred Jones Warereau	Deputy City Clerk	Honiara City Council
Yoshihiko Nishimura	Project Formulation Advisor	Japan International Cooperation Agency
William Chipu	WASH Officer	Live and Learn, Solomon Islands
Elma Sese	Country Director	Live and Learn, Solomon Islands
Mr Hidano	Assistant General Manager	Mendana Hotel
Rose Tungale Kitua	Undersecretary (NAO Projects)	Ministry of Development Planning and Aid Coordination
Mathew Walekoro	Principal Planning Officer	Ministry of Development Planning and Aid Coordination
Rexson Ramofafia	Economic Reform Unit	Ministry of Finance and Treasury
Tina Rinaldo	Economic Reform Unit	Ministry of Finance and Treasury
Tom Nanau	Director Environmental Health	Ministry of Health and Medical Services
Alan Mcneil	Chief Technical Adviser	Ministry of Lands, Housing and Survey
Isaac Lekelalu	Deputy Director Water Resources	Ministry of Mines, Energy and Rural Electrification
Dr Steve Aumanu	Chief Executive Officer	National Referral Hospital
Erin Anderson	Facility Manager	Solomon Islands Resource Facility
Pradip Verma	Chief Executive Officer	Solomon Power
Amy Dysart	Country Director	Water Aid Solomon Islands
Angeline Hirita Bataanisias		World Bank
Adrian Koochew	Public Financial Management Specialist, Health, Nutrition & Population	World Bank
Julianne Oge	Honiara Area Manager	World Vision International
Emma Aquila	Urban wash project coordinator	World Vision International

Appendix D: Summary of relevant Solomon Islands legislation

<i>Legislation</i>	<i>Summary</i>
Solomon Islands Water Authority Act 1992	The Solomon Islands Water Authority is Mandated to operate as the provider of municipal water and wastewater services in Solomon Islands by the Solomon Islands Water Authority Act 1992
State Owned Enterprises Act 2007	Solomon Islands Water Authority is a scheduled State Owned Enterprise (SOE). The SOE Act specifies the principles governing the operation of state owned enterprises, accountability requirements and the responsibility of ministers
The Environmental Health Act 1998	The Environmental Health Act mandates that in every urban sanitary district, the local authority shall be responsible for the construction, repair and maintenance of all public sewers and public drains, and a local authority may within its district construct sewage disposal works on any land
The Environment Act 1998	The transport, collection, storage and disposal of liquid, solid and gaseous wastes are regulated under the Environment Act 1998. The Act aims to minimise the discharge of pollutants to the air, water or land and to reduce the risks to human health and prevent the degradation of the environment
The Environment Regulations 2008	The Environment Regulations lists prescribed premises, including waste management and disposal systems that require an environmental impact statement for development approval and a licence to discharge waste to the environment
State Owned Enterprises Regulations 2010	These Regulations implement provisions of the State Owned Enterprises Act 2007 with respect to, among other things: appointment of directors and other matters regarding directors of state-owned enterprises such as appointment, duties and accountability of directors; economic regulatory functions of state-owned enterprises; community service obligations of state-owned enterprises prescribed by the Minister.

Appendix E: Solomon Water Development Plan

Implementation Status

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
1. Operations and Technical Support								
1.1	Assessment of SCADA and Telemetry Needs		30,000		425,000		Assessments done and specifications prepared.	
1.2	Monitoring Equipment at source, reservoirs etc		100,000				Flow and pressure meters installed at reservoirs and pump stations. Control equipment will be included as part of SCADA installation.	
1.3	SCADA System	RTUs, SCADA, PC (CCT)	200,000				Installation to commence in June 2016. Currently will only include reservoirs and pump stations, but a proposal has been received to include PRVs and flow meters under NRW project.	Delays to complete assessment and undertake procurement process
1.4	Electronics Technician to maintain SCADA (recruitment and training)		15,000	Part of HR budget	Part of HR budget		Two staff trained at two sets of training. Additional training to be provided during implementation. Staff witnessed factory testing. Still planning to recruit engineer with high level IT skills to manage system.	Organisation has one very capable Electrical Engineer but needs additional support and back-up
1.5	Development of an O&M Plan detailing SOPs for day to day system operation and maintenance.		50,000				Adviser assistance in providing budgeted O&M Plan and updating of some SOPs.	Costed O&M Plan needs to be prepared for effective budgeting
1.6	Training of Operations staff to monitor system performance in accordance with SOPs system and guide day to day operation	4 Staff x 3 months	40,000	Part of HR budget	Part of HR budget		OJT provided by Maintenance Adviser.	
1.7	Recruitment of maintenance technicians to establish fully skilled maintenance team	3 technicians	SW Budget				Not recruited	

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
1.8	Maintenance Vans	4 vans	Vehicle budget					
1.9	International Maintenance Specialist	6 months	180,000	?	Now under separate Adviser budget		Appointed for 9 months until August 2015 and extended to June 2016 with probable further extension.	Outputs delayed by need to re-locate store, machinery delivered with inadequate documentation, problems with existing equipment.
1.1	International Operations Specialist	6 months	180,000	?	Under separate Adviser budget		Appointed for 7 months - extended to 9 months until August 2015	Outputs delayed by need to assume responsibility of GM/Program manager
	Sub-Total for Item 1		795,000		425,000	130,148		
2.	Hydraulic Modelling of the Network							
2.1	Modelling software with 2 year license		20,000		69,924		Water GEMS purchased in March 2014	
2.2	Training in modelling and software		10,000				Training provided to 2 persons who will need to complete Auki and Noro networks as Technical Coordinator resigned.	Training not considered effective as model not able to be used to establish network needs.
2.3	Develop network model	3 month consultant input	80,000				Network modeller recruited in April 2015 and working model developed.	Not sure of model was ever calibrated. Model not being used. Likely that any future modelling activities will be outsourced.
	Sub-Total for Item 2		110,000		69,924	63,425		
3.	Reducing Non-Revenue Water						Through JICA project, SW capability to reduce NRW has reportedly been achieved.	

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
3A	Pressure Management						Six DMAs need to be created with pressure management. Two DMAs commissioned. Remaining four DMAs to be commissioned by end July.	
3A.1	Procure PRVs		30,000		594,360	369,251	Pressure Reducing Valves procurement was delayed which has impacted on NRW program. Tendering for PRVs is in progress and installation should be completed by end July. Some PRVs have been procured for first batch of DMAs.	Caused by changes in the specifications for the valves. Sizes were reduced from 80mm and 100mm to 40mm.
3A.2	Procure electromagnetic flow meters	11 locations	30,000				Procurement and installation complete	
3A.3	Construct by-pass and chamber		300,000				Chamber construction in progress. 4 DMAs operational. 6 DMAs in progress. Chamber construction expected to be completed by end October.	
3A.4	Conduct customer awareness campaigns	13 zones	SW Budget				Not reported	
3A.5	Set up selected supply zones as DMAs. Procurement and installation of district meters	13 Zones	100,000				22 Non-pressure managed DMAs expected to be commissioned by October 2016.	
3A.6	Procure and install GSM data loggers		25,000					
3A.7	Training of NRW Task Force		20,000				Technical and managerial capability to reduce NRW has been achieved. Significant training provided under JICA project. O&M manual provided for PRV operation.	
3A.8	Geo-spatial referencing of connections		SW Budget				Completed	
3A.9	Establish Map info database link to billing database		5,000					
3B	NRW Reduction							

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
3B.1	Prepare standard specs for materials and modify procurement procedures		SW Budget		1,611,767	786,649	Currently in progress together with preparation of Procurement Manual	
3B.2	Training of supervisors in pipeline construction and repair		20,000				No training has been conducted recently with regard to pipeline construction and repair.	
3B.3	Develop procedures related to illegal connections		SW Budget				This has been achieved.	
3B.4	Meters fitted to all connections		260,000				It is proposed that 3,600 meters will be replaced. 500 domestic meters replaced from September 2014 to March 2016. Another 670 meters replaced as part of the 4 DMA NRW program. Cash meters are also being trialled.	Meter replacement will proceed with the NRW reduction program.
3B.5	Pipes, fittings for leakage repair, replacement of mains		650,000				In progress with 40% expenditure. Expected completion October 2016	This will proceed in accordance with the NRW reduction program.
3B.6	Additional staff for NRW program	Leak repair, disconnection, data input, meter repair	SW Budget				NRW Task Force has been established in accordance with the recommendations of the JICA NRW program.	
	Sub-Total for Item 3		1,440,000		2,206,127	1,155,900		
4	Network Capacity Development						Funds for this component have been re-aligned to the East Kola Pipeline and Reservoir Project	Insufficient budget for all works to proceed and transmission pipeline was prioritised. Some of the distribution works rehabilitation will be done as part of the NRW reduction activities.
4.1	Select appropriate design standards		60,000					
4.2	Relocate up to 200 worst case meters		SW Budget					
4.3	Develop distribution upgrading/rehab program,		SW Budget					
4.4	Commence replacement of distribution mains	2 years at 6km/year	1,500,000					
	Sub-Total for Item 4		1,560,000		0	0		

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
5	Improving the Connectivity and Reliability of Water Supply						Projected production from JICA bores not achieved	
5.1	Replacement of transmission main from Titinge to Vavaya Ridge	1200 m of 250 mm dia main	450,000		3,498,525	272,864	Final Engineering Design presented at end of March and review in progress. Contract packaging and tender documents for transmission main in progress. Design for East Kola Reservoir complemented – not tendered yet (additional financing needed for the Reservoir). EIS submitted. Negotiations regarding land in progress. Reservoir capacity increased to 4 ML as a result of modelling.	Delays in consultant procurement for design and need to re-align funds from other components. Land issues and encroachments on pipeline route are potential for further delays. New reservoir is located on Government land.
5.2	Main configuration/valving operations		30,000					
5.3	New service reservoir at East Kola	1.5 ML Storage Reservoir	700,000					
5.4	Feed from Skyline Reservoir to East Kola Reservoir	2000m of 250mm dia	650,000					
5.5	Main configuration works		20,000					
5.6	Panatina Bore field Rehabilitation	2 new bores 200mm dia, 60 m deep, drainage and access road improvement	400,000		0	0	This component deleted and re-aligned to transmission main. Land issues and encroachments on Panatina wellfield present a risk to the sustainability of additional investment.	Access to Panatina bores restricted by illegal settlements. Water quality deteriorating.
5.7	Mobile Compressor		9,000		93,283	93,227	A compressor for bore maintenance has been supplied in April 2016	
5.8	Standby generators for pumping stations and buildings		645,783		752,604	743,681	All generators have been procured. Standby generators have been installed at seven operational sites.	Generator capacity at Mataniko Depot is still insufficient and will be considered in June once review of budget is undertaken.
5.9	Electrical engineering advice for pump installation at Kongulai source	2 months Electrical Engineer	60,000		0	0	A volunteer Electrical Engineer provided assistance for some time.	
5.10	Vehicle with hydraulic crane		40,000		121,203	114,791	Vehicles, backhoe and 8 tonne truck procured in 2014	Issues related to O&M, lack of operating manuals.

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
5.11	Security fencing at operational sites		50,000		58,270	0	Bids received for construction of fences are currently being evaluated. Construction work is scheduled to commence in May.	Additional budget from SIG.
	Sub-Total for Item 5		3,054,783		4,523,885	1,224,563		
6	Improving Water Quality							
6.1	Improvements in water quality management	Control of dosing rates and breakdown management	SW Budget				Deleted	Cannot be done until SCADA in place. Will be funded under subsequent budget
6.2	Water quality monitoring	Extension of sampling program	SW Budget				TBD	
6.3	Storage facility for sodium hypochlorite		SW Budget				New storage facility provided (ventilated shed)	
6.4	Catchment Area Management	Impact of development on borehole water quality	Volunteer water quality scientists				Not implemented	
6.5	Drinking Water Safety Plan		Prepared by Water Quality Team of SW				A draft Water Safety Plan was prepared under the IWRM Project in 2013, but was not approved. No further activities conducted under the Development Plan	
7	Protecting the Environment							
7.1	Rehab of Point Cruz and King George VI Sewage PS		200,000			18,990	Specifications prepared for temporary improvements. Awaiting delivery of new pumps and control panels. A-Framed tripod to be procured to enable maintenance. Construction of	Awaiting proposals in Wastewater Master Plan.

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
							new wet well and screens being considered.	
	Sub-Total for Item 7		200,000		145,676	18,990		
8	Improving Customer Care							
8.1	Introduce a Customer Relations Management System		SW Budget				Some improvements resulting from training by Business Process Adviser. Internal CRM system upgraded.	
8.2	Enhance the ease of water bill payments		SW Budget				Email billing now being implemented on request	Consumers report paying of bills much easier than in past. Some anecdotal evidence of disconnection without notice due to late or non-receipt of bills.
9	Improving the Image of Solomon Water							
9.1	Communications Campaign Planning		SW Budget				Weekly radio show developed. Communications programs developed regarding non-payment of bills. Partnership with World Vision communication program. Communication Plan prepared and being reviewed by GM.	
9.2	Development of website for Solomon Water		20,000				Website developed and operational	
9.3	Customer Surveys and Market Research		Volunteer				Customer surveys undertaken	
	Sub-Total for Item 9		20,000		0	0		
10	Improving Financial Management							
10.1	Purchase new customer billing system	Server and billing system	165,000				Decision taken by management to upgrade existing billing system, not procure new system.	Approach supported by Evaluation Team. Upgraded system more effective at this point in time.
10.2	Improved debt collection activity	Includes vehicles	SW Budget and				Much more rigorous debt collection system pursued.	S\$25 million in back accounts received up from \$ 1 million

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
			Vehicle budget					
10.3	Accounting training							
10.4	Cost and Inventory System	Part of IT Integration Plan					Inventory module within accounting system to be implemented by end of 2016.	
10.5	Procurement Advisor	3 months Advisor for Procurement Plan and Procurement Manual					Short term Procurement Adviser was provided, but outputs are unclear. Procurement Manual is being prepared by current Maintenance Adviser.	
10.6	Internal and External Audits						2014 and 2015 Financial Statements issued as Unqualified by Auditor-General	
	Sub-Total for Item 10		165,000		0	0		
11	Improved Organisational Capacity							
11.1	Strengthening of Human Resource Management	HR Plan, Strengthening of People Management Group (PMG), Learning and Development					HR Plan development still in progress	
	International Advisor		60,000				No records of inputs from Advisers or Train the Trainers Programs. There is a HR database in place but does not appear to be being used effectively.	
	Train the Trainers for PMG Membership		30,000					
	HR Database Software		78,000					
	Performance Management Adviser		60,000					

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
	Learning and Development Activities		200,000		179,534	132,014	There does not appear to be a formal Training Plan although there is a database of training undertaken.	
	International Adviser - Health and Safety		60,000		0		Adviser does not appear to have been fielded	
11.2	Strengthening Corporate Management							
	General Manager						Has continued to be provided under the Program and currently contracted until June 2016	
	Finance/Administration Manager						Has continued to be provided under the Program and currently contracted until June 2016	
	Operations and Technical Manager						Appointed for 7 months - extended to 9 months until August 2015	
11.3	Improving Organisational Effectiveness							
	IT Hardware	15 new terminals, 10 network printers	57,000				9 printers, five computers and server procured.	
	Software	Billing software, network modelling, SCADA, GIS, HR/payroll, asset management, supply chain mgmt.	629,000		367,105	149,613	Limited asset management capability available. Approach taken to not use integrated system but to upgrade existing systems which works best for the current status of SW.	Awaiting preparation by maintenance adviser for upgraded asset management software. Proprietary software will be procured.
11.4	Assets and Facilities							
	Vehicles		670,000		948,576	1,025,046	19 vehicles have arrived. All vehicles have been delivered.	
	Office Accommodation		75,000		77,216	88,644	Project is virtually completed.	Operations depot still in poor condition. Major

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
								effort now focussed on finding alternative location for stores after unplanned loss of stores
	Sub-Total for Item 11		1,919,000		1,572,431	1,395,317		
12	Improved Strategic Planning							
	Preparation of 5 Year Strategic Plan	Water Supply Consultant - 2 months	60,000				Tendering in progress.	Significantly higher budget provided
	Master Plan for Wastewater Collection and Treatment	Wastewater Consultant - 2 months	60,000				Tendering in progress.	Significantly higher budget provided
	Institutional Arrangements and PPP Potential	Consultant - 1 month	30,000				No record of this consultant input	
	Water Sector Regulation and Tariff Reform	Consultant - 1 month	30,000				Tendering in progress.	Significantly higher budget provided
	Sub-Total for Item 12		180,000		0	0		
13	Cross-Cutting and Safeguard Issues							
	Gender						Water awareness programs delivered to two women's groups	
	Environment							
	Access to Water for the Disadvantaged							
	Land Use Issues							
14	Risk Management						Ongoing	
15	Monitoring and Evaluation							
	Programme Management	Programme Steering Committee, Evaluation Mission, Procurement Advisor, Audit					Ongoing.	

Ref	Item	Details	Original Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Excluding SIWA	Revised Budget (AUD) - Including SIWA	Current Expenditure (AUD) Including SIWA	Status	Reasons for Delay/Comments
	Programme M&E Framework	Development Outcomes, Objectives, Outcomes, Activities					Ongoing.	Some changes needed to M&E framework.
	TOTAL		9,443,783		8,943,043	3,988,343		

Appendix F: Summary of training, 2013-2015

TITLE OF TRAINING	DATE OF TRAINING	COST OF TRAINING	COURSE DURATION	SHORT TERM OR LONG TERM TRAINING	TRAINING PROVIDER	NUMBER OF ATTENDEES
2013						
Leading & Empowerment	5 th February, 2013	\$500.00	6 Hours	Short Term Training	USP Solomon Islands Campus	5
Change Management	6 th February, 2013	\$500.00	6 Hours	Short Term Training	USP Solomon Islands Campus	1
Motivation & Rewards Management	8 th February, 2013	\$500.00	6 Hours	Short Term Training	USP Solomon Islands Campus	2
Diploma in Finance	February to June – Semester 1, 2013.	\$2,400.00	Twelve hours per week for classes and tutorials.	Long term training.	Solomon Islands College of Higher Education (SICHE)	2
IT Helpdesk System Training	6 th February, 2013	Nil	1 Hour	Short Term In-house Training	SIWA IT Team	13
Microsoft Excel Training – Basic Level	21 st March, 2013	Nil	2 hours	Short term In-house Training	SIWA IT Team & Louis Downing	19
JICA C/Ps Training Program, Japan	8 th to 23 rd April, 2013	Sponsored by JICA but SIWA pay outfit and transit expenses	12 days	Overseas Training	Training organised and run by JICA in Japan	4
Microsoft Excel Training – Intermediate Level	15 th - 22 nd April, 2013	Nil	7 hours	Short term In-house Training	SIWA IT Team & Louis Downing	17
On-the-Job Training Program on Borehole Pumps	23 rd to 25 th April, 2013	Nil	9 hours	Short Term In-house Training	Conducted and run by Suda of JICA	15
Microsoft Excel Training – Intermediate Level (Noro)	23 rd to 25 th April, 2013	Nil	6 hours	Short term In-house Training	John Smith	1
Microsoft Excel Training – Intermediate Level (Auki)	23 rd to 25 th April, 2013	Nil	6 hours	Short term In-house Training	John Smith	1
Microsoft Excel Training – Intermediate Level (Tulagi)	23 rd to 25 th April, 2013	Nil	6 hours	Short term In-house Training	John Smith	1

TITLE OF TRAINING	DATE OF TRAINING	COST OF TRAINING	COURSE DURATION	SHORT TERM OR LONG TERM TRAINING	TRAINING PROVIDER	NUMBER OF ATTENDEES
Tank Lining Techniques & Procedures	21 st & 22 nd May, 2013	Nil	14 hours	On-the-Job Training	Conducted by an Australian Expert at Lower West Kola Tank Construction	7
HR Database Training	22 nd June, 2013	\$3,232.96 for the group who attended the training	6 hours	Short Term Training	Conducted by Rodney, Solbrew's Human Resource Coordinator at the SIWA Conference Room	8
Attaché' Payroll Training	5 th July, 2013	\$2,020.60 for the group who attended the training	5 hours	Short Term Training	Conducted by Rodney, Solbrew's Human Resource Coordinator at the SIWA Conference Room	7
Certificate IV in Training & Assessment (Block 1)	: 22 nd July – 2 nd August, 2013 ()	AU\$29,436.84 for the full training attended by the group below	10 days	Short Term Training	Conducted by Ronald Birch of Sunshine Coast TAFE in collaboration with Australia Pacific Technical College (APTC), Honiara.	12
International Audit Standards	14 th August, 2013		6 hours	Short Term Training		1
First Aid Training	27 th – 28 th August, 2013	\$500.00	6 hours	Short Term Training	Conducted by Solomon Islands Red Cross at Solomon Water Conference Room	19
Risk Management & Internal Controls Training	28 th August, 2013		8:30 to 4:30	Short Term Training	Conducted by Sue Morrison, Ministry of Finance Internal Audit Department	1
Certificate IV in Training & Assessment (Block 2)	: 2 nd – 13 th Sept, 2013 (10 days)		10 days	Short Term Training	Conducted by Ronald Birch of Sunshine Coast TAFE in collaboration with Australia Pacific Technical College (APTC), Honiara.	11

TITLE OF TRAINING	DATE OF TRAINING	COST OF TRAINING	COURSE DURATION	SHORT TERM OR LONG TERM TRAINING	TRAINING PROVIDER	NUMBER OF ATTENDEES
Attaché' Payroll Training	3 rd September, 2013	\$2,020.60 for the whole group who attended the training	6 hours	Short Term Training	Conducted by Rodney of Solbrew at Solomon Water Conference Room	5
Project Management Training	9 th – 13 th September, 2013	\$2,000.00	4 days	Short Term Training	Conducted by USP SI Campus	1
JICA On-the-Job Training – Soft Component	23 rd – 25 th September, 2013	Nil	3 hours	Classroom Training in preparation for On-the-Job Training	Conducted by JICA at the Solomon Water Conference Room	15
Health & Safety Training	4 th October, 2013	Nil	2 hours	In-house Training	Conducted by Megg & Silas at SIWA Conference Room	10
JICA NWR Training, Japan	7 th – 25 th October, 2013	Funded by JICA but SIWA paid US\$1,000.00 for outfit and transit expenses	19 days	Short Term Training	Conducted by JICA in Japan	4
Benchmarking Workshop & Pacific Water Conference & Expo, Cook Islands	11 th – 15 th November, 2013	Fully funded by SIWA	4 days	Workshop & Conference	Pacific Water Association, Cook Islands	3
2014						
Customer Service Training	12 th February, 2014	\$500.00	9:00am – 4:00pm (6 hours)	Short Term - Locally	USP SI Campus and held at Bokolo Building.	28
Team Building Training	13 th February, 2014	\$500.00	9:00am – 4:00pm (6 hours)	Short Term - Locally	USP SI Campus and held at Bokolo Building.	22
MS Excel Training (Intermediate Level)	11 th March, 2014	Nil	9:30am – 3:30pm (5 hours)	In-house Training	Smith Daffe (IT Team Leader)	11
Basic Computer Training	12 th March, 2014	Nil	9:00am – 12:00pm (3 hours)	In-house Training	Smith Daffe (IT Team Leader)	9
WASH Conference	24 th to 28 th March, 2014	Funded by Aust. Gov't & SW pay for outfit allowance	5 days	Conference	Held in Brisbane, Australia	1
Counselling Training	28 th & 29 th April, 2014	\$3,000.00	9:00am – 4:30pm	Short Term Training - Locally	Helen Ferguson, Hyundai Mall	2
Certificate III in Plumbing, APTC	9 th June – 25 th July, 2014 and 7 th July – 22 nd August, 2014	Scholarship funded by Aust. Gov't.	10 weeks	Overseas - Long term training done in blocks	APTC Campus, Samoa	2

TITLE OF TRAINING	DATE OF TRAINING	COST OF TRAINING	COURSE DURATION	SHORT TERM OR LONG TERM TRAINING	TRAINING PROVIDER	NUMBER OF ATTENDEES
Occupational Health and Safety Training	29 th May 2014	Nil	10:am – 12:00pm (2 hours)	In-house Training	Joshua Torenn, Water Quality Analyst, SW Conference Room	6
Meter Reading, Billing & Tariff Collection Training	3 rd – 18 th June, 2014	Funded by JICA and SW pay for outfit allowance and transit expenses.	15 days	Overseas Training	Conducted by JICA at JICA International Centre in Japan	4
Inspector Training – Module 1	16 th – 20 th June 2014	\$1,000.00	8:00am to 4:30pm	External Training - Locally	Conducted by SIEA at its Training Room at the Ranadi Complex	2
Water Supply Administration for Better Management of Water Supply Service Training	29 th June – 12 th July 2014	Funded by JICA and SW pay for outfit allowance and transit expenses.	14 days	Overseas Training	Conducted by JICA at JICA International Centre in Japan	1
Induction Training	4 th July, 2014 or 18 th July, 2014 or 17 th October, 2014	Nil	1 day	In-house Training	Conducted by Learning & Development Coordinator at the SW Conference Room	67
Management of Water Resources and Water Supply Services for Pacific Island Countries	9 th July to 30 th August, 2014	Fully funded by JICA but SIWA pay for outfit allowance and transit expenses	6 weeks	Overseas Training	Conducted by JICA at JICA International Centre in Japan	1
Change Management Class Module 1	22 nd July – 24 th July 2014	\$3,500.00	2 days	External Training - Locally	Conducted by Bill Synnot & Taito Tabaleka of Bill Synnot & Associates at Monarch, IBS, Honiara	40
Corporate Governance and Business Management Training	1 st & 2 nd October, 2014	Nil	2 days	External Training - Locally	Conducted by ADB at Hyundai Mall	1
Non-Revenue Water Management Training	4 th November to 12 th December 2014	Fully funded by JICA but SIWA pay for outfit and transit expenses	5 weeks	Overseas Training	Conducted by JICA in Japan	1
Attaché' Training Course	1 st to 5 th December, 2014	Nil	4 days	Overseas Training	Conducted by South Pacific Software Services in Brisbane, Australia	1

TITLE OF TRAINING	DATE OF TRAINING	COST OF TRAINING	COURSE DURATION	SHORT TERM OR LONG TERM TRAINING	TRAINING PROVIDER	NUMBER OF ATTENDEES
2015						
Inspector Training Module 2	9 th to 13 th February, 2015	\$1,000.00	4 days	Short Term	Conducted by SIEA at its Training Room	2
Introduction to Counselling Training	16 th to 18 th February, 2015	\$5,000.00	2 days	Short Term	Conducted by Helen Ferguson	13
Defensive Driving (4WD) Training	3 rd March, 2015 - 13 th March, 2015		1 day	Short Term	Conducted by Joel Neilsen of Safe Drive Training (Aust) Pty Ltd	61
SOPAC Conference 2015	15 th to 18 th March 2015		4 days	Conference	Sydney, Australia	1
Practical Interview and Statement Taking Symposium	14 th to 16 th April 2015		3 days	Short Term Training	Conducted in Honiara by B. Hay of Fraud and Cyber Crime Group, State Crime Command, Queensland State Police, Australia	1
Australia Award Fellowship - WASH	8 th June to 3 rd July, 2015		4 weeks	Short Term Training	Conducted by Queensland University of Technology in Brisbane, Australia	1
Magnet Office Software Training	30 th June to 5 th July, 2015	\$1,000.00	5 days	Short Term Training	Conducted by Position Partners of Brisbane, Australia at SINU's Institute of Technology	2
Management of Water Resources and Water Supply Services for Pacific Island Countries	8 th July to 5 th September, 2015		6 weeks		Conducted by JICA in Okinawa, Japan	2
Operation and Maintenance of Urban Water Supply System (Water Quality)	13 th July to 14 th August, 2015		4 weeks		Conducted by JICA in Kobe, Japan	1
Leadership Empowerment & Management Training	24 th August 2015	\$600.00	1 day	Short term Training	Conducted by William Parairato of USP Solomon Islands Campus	12
Managing Workplace Conflict	25 th August, 2015	\$600.00	1 day	Short Term Training	Conducted by William Parairato of USP	11

TITLE OF TRAINING	DATE OF TRAINING	COST OF TRAINING	COURSE DURATION	SHORT TERM OR LONG TERM TRAINING	TRAINING PROVIDER	NUMBER OF ATTENDEES
					Solomon Islands Campus	
QGIS Training	5 th to 9 th October, 2015		5 days	Short Term Training	Conducted by Expert from JICA NRW Team	9
Database Training	10 th November, 2015		1 day	Short Term Training	Conducted by IT Team Leader	14
Roles, Duties & Responsibilities of Security Guards; Code of Ethics & Professional Standards; General Operating Procedures; and Effective Communication Skills	18 th & 20 th November, 2015		2 days	Short Term Training	Conducted by Nathaniel of NDL Ltd trading as Solomon Islands Security Training Academy	5

Appendix G: Performance Assessment Tables

Indicators and/or targets marked 'TBC' were expected to be confirmed at the first Program Steering Group Meeting. However, this does not appear to have occurred. The Solomon Water Development Plan also includes indicators for activities. Only indicators for development outcomes, the objective and outputs are included here.

Development Outcomes	Indicator(s)	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual	<i>Explanatory notes</i>
Improved human health	Incidence of diarrhoea disease among children aged less than five years old ³²	9.4% ³³	TBC	N/A	TBC	N/A	N/A	
Improved business environment and public services	Reliability of supply measured as: average hours of water supply per head of population (Hrs/day/capita) ³⁴	14.2 hrs/capita (2012)	18.8 hrs/capita	18 hours ³⁵	21.5 hrs/capita	22 hours ³⁶	22 hours ³⁷	PWWA indicator definition is: "Average hours of service per day for water supply, under normal circumstances".
	Water quality – bacteriological compliance with WHO recommendations. (% of samples with Nil e-coli and nil coliform) ³⁸	73%	90%		97%			

³² Source is Solomon Islands Demographic Health Survey (last conducted in 2007 with next survey due in 2014).

³³ Baseline is 9.4% in the 2 weeks prior to the survey in 2007.

³⁴ Pacific Water and Wastewater Association (PWWA) benchmark O2

³⁵ Solomon Water PWWA Benchmark Data, 2010-2015

³⁶ Solomon Water PWWA Benchmark Data, 2010-2015

³⁷ Solomon Water PWWA Benchmark Data, 2010-2015

³⁸ PWWA benchmark HE2

Development Outcomes	Indicator(s)	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual	<i>Explanatory notes</i>
Lower and more predictable fiscal costs to SIG	Return on capital	8%	10%	22% ³⁹	12%	16% ⁴⁰	4% ⁴¹	The Return on Capital (RoC) had a significant change following the revaluation of assets undertaken in 2015. A valuation had not been carried out for some time, resulting in earlier RoC figures being overstated.
	Operating cost recovery ⁴²	105%	115%	125%	120%	97%	101%	
	Operating cost recovery – adjusted to exclude donor contributions	-	-	-	-	89%	93%	Profit adjusted to reflect estimated employment costs of personnel funded by DFAT; and removes donor income for operational activities

Objective	Indicator(s)	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual	<i>Explanatory notes</i>
Solomon Water provides improved levels of service (in terms of quality, quantity and reliability) to a larger proportion of the population in the existing service areas,	Continuity of water supply service: average hours available per head of population (Hrs/day/head)	14.2 hrs/capita (2012)	18.8 hrs/capita	18 hours ⁴³	21.5 hrs/capita	22 hours ⁴⁴	22 hours ⁴⁵	PWWA indicator definition is: "Average hours of service per day for water supply, under normal circumstances".
	Level of Service measured as: % of registered customers receiving water supply at pressures between 3 and 7 bar	not available	TBC		TBC			Data has not been reported against this indicator

³⁹ Program Steering Group Report, 30 September 2014

⁴⁰ Program Steering Group Report, 14 April 2016

⁴¹ Program Steering Group Report, 14 April 2016

⁴² PWWA benchmark F1

⁴³ Solomon Water PWWA Benchmark Data, 2010-2015

⁴⁴ Solomon Water PWWA Benchmark Data, 2010-2015

⁴⁵ Solomon Water PWWA Benchmark Data, 2010-2015

Objective	Indicator(s)	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual	Explanatory notes															
based on a sound financial position.	at the property boundary on a 24 hour basis																						
	Water supply coverage % of population	68.5% ⁴⁶ (2012)	TBC	65% ⁴⁷	TBC	78% ⁴⁸	55% ⁴⁹	<p>The number of service connections decreased significantly in 2015 as result of a structured and more rigorous approach to disconnecting overdue accounts in 2015. Solomon Water data shows 2 533 disconnections for the January – November 2015 period. Solomon Water estimates around half of these have reconnected (with a higher reconnection rate for commercial customers compared with residential customers).</p> <p>The number of new connections has been gradually increasing during the period of the Development Plan:</p> <table><tr><th>Year</th><th># new connections</th><th>Total connections at year end</th></tr><tr><td>2013</td><td>200</td><td>7 890</td></tr><tr><td>2014</td><td>289</td><td>9 845</td></tr><tr><td>2015</td><td>312</td><td>7 195</td></tr><tr><td>Total</td><td>801</td><td></td></tr></table>	Year	# new connections	Total connections at year end	2013	200	7 890	2014	289	9 845	2015	312	7 195	Total	801	
	Year	# new connections	Total connections at year end																				
	2013	200	7 890																				
	2014	289	9 845																				
	2015	312	7 195																				
Total	801																						
Water quality – bacteriological compliance with WHO recommendations. (%age of samples with Nil e-coli and nil coliform)	73%	95%	See Figure 3 (p. 12) and	97%	See Figure 3 (p. 12) and	See Figure 3 (p. 12) and																	

⁴⁶ Solomon Water PWWA Benchmark Data, 2010-2015

⁴⁷ Solomon Water PWWA Benchmark Data, 2010-2015

⁴⁸ Solomon Water PWWA Benchmark Data, 2010-2015

⁴⁹ Solomon Water PWWA Benchmark Data, 2010-2015

Objective	Indicator(s)	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual	Explanatory notes
				Figure 4 (p. 13)		Figure 4 (p. 13)	Figure 4 (p. 13)	
Solomon Water provides improved levels of service (in terms of quality, quantity and reliability) to a larger proportion of the population in the existing service areas, based on a sound financial position.	Return on capital	8%	10%	22% ⁵⁰	12%	16% ⁵¹	4% ⁵²	The Return on Capital (RoC) had a significant change following the revaluation of assets undertaken in 2015. A valuation had not been carried out for some time, resulting in earlier RoC figures being overstated.
	Operating cost recovery	105%	115%	125%	120%	97%	101%	
	Operating cost recovery – adjusted to exclude donor contributions	-	-	-	-	89%	93%	Profit adjusted to reflect estimated employment costs of personnel funded by DFAT; and removes donor income for operational activities

Outputs	Indicator(s)	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual	Explanatory notes
Improved levels of service for water supply	Reliability of supply measured as: average hours of water supply per head of population (Hrs/day/head) ⁵³	14.2 hrs/capita (2012)	18.8 hrs/capita	18 hours ⁵⁴	21.5 hrs/capita	22 hours ⁵⁵	22 hours ⁵⁶	PWWA indicator definition is: "Average hours of service per day for water supply, under normal circumstances".

⁵⁰ Program Steering Group Report, 30 September 2014

⁵¹ Program Steering Group Report, 14 April 2016

⁵² Program Steering Group Report, 14 April 2016

⁵³ PWWA benchmark 02

⁵⁴ Solomon Water PWWA Benchmark Data, 2010-2015

⁵⁵ Solomon Water PWWA Benchmark Data, 2010-2015

⁵⁶ Solomon Water PWWA Benchmark Data, 2010-2015

Outputs	Indicator(s)	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual	Explanatory notes
	Level of Service measured as: % of registered customers receiving water supply at pressures at the property boundary of between 3 and 7 bar	Not available	TBC		TBC			
	Water quality – bacteriological compliance with WHO recommendations. (%age of samples with Nil e-coli and nil coliform) ⁵⁷	73%	95%		97%			
	Estimated % of population with registered water connections	68.5% ⁵⁸ (2012)	TBC	65% ⁵⁹	TBC	78% ⁶⁰	55% ⁶¹	See explanatory note above re. number of new connections.
Improved customer care and communications	Complaints ratio: Complaints/1000 registered customers ⁶²	199	120		70			
	Customer satisfaction level – through market research	Not available	TBC		TBC			
	Customer perceptions - through market research	Not available	TBC		TBC			

⁵⁷ PWWA benchmark HE2

⁵⁸ Solomon Water PWWA Benchmark Data, 2010-2015

⁵⁹ Solomon Water PWWA Benchmark Data, 2010-2015

⁶⁰ Solomon Water PWWA Benchmark Data, 2010-2015

⁶¹ Solomon Water PWWA Benchmark Data, 2010-2015

⁶² PWWA benchmark CM2

Outputs	Indicator(s)	Baseline	Year 1 (2013) Target	2013 Actual	Year 2 (2014) Target	2014 Actual	2015 Actual	<i>Explanatory notes</i>
Strengthened financial management & administration	Return on capital	8%	10%	22% ⁶³	12%	16% ⁶⁴	4% ⁶⁵	The Return on Capital (RoC) had a significant change following the revaluation of assets undertaken in 2015. A valuation had not been carried out for some time, resulting in earlier RoC figures being overstated.
	Operating cost recovery	105%	115%	125%	120%	97%	101%	
	Operating cost recovery – adjusted to exclude donor contributions	-	-	-	-	89%	93%	Profit adjusted to reflect estimated employment costs of personnel funded by DFAT; and removes donor income for operational activities.
	Collection ratio : Actual cash vs. billed revenue ⁶⁶	82%	90%		92%			
	Accounts receivable (days) ⁶⁷	92	88		85			
Improved organizational capacity	TBC	TBC	TBC		TBC			
Improved strategic planning	Proportion of the Study's total Terms of Reference completed	0%	60%		100%			

⁶³ Program Steering Group Report, 30 September 2014

⁶⁴ Program Steering Group Report, 14 April 2016

⁶⁵ Program Steering Group Report, 14 April 2016

⁶⁶ PWWA benchmark F2

⁶⁷ PWWA benchmark F3

Abbreviations

CSO	Community service obligation
DFAT	Department of Foreign Affairs and Trade
EDF	European Development Fund
EU	European Union
JICA	Japan International Cooperation Agency
MEF	Monitoring and evaluation framework
MMERE	Ministry of Mines, Energy and Rural Electrification
NRW	Non-revenue water
PWWA	Pacific Water and Wastewater Association
RAP	Recovery Strategy and Action Plan
SBD	Solomon Islands dollar
SCADA	Supervisory Control and Data Acquisition
SOE	State-owned enterprise
SIG	Solomon Islands Government
SIWA	Solomon Islands Water Authority
TA	Technical assistance
WASH	Water, sanitation and hygiene
WHO	World Health Organisation

References

- Australia's Aid Investment Plan for Solomon Islands
- Investment concept/design documents for the urban water program
- DFAT-SIWA Direct Funding Agreement
- Terms of reference for DFAT-funded long term advisers to SIWA
- DFAT Economic Infrastructure Strategy
- DFAT Health for Development Strategy
- DFAT Gender Equality Strategy
- DFAT-UTS Solomon Islands Water and Sanitation Health Sector Brief 2012
- DFAT monitoring and evaluation standards
- DFAT investment quality reports on the water program
- Solomon Islands Democratic Coalition for Change Policy Statement
- Solomon Islands Water Policy
- SIWA Development Plan 2013–2016
- SIWA Short Term Recovery Strategy and Action Plan 2011–2013
- Review of the effectiveness of the RAP by former SIWA General Manager
- RAP and Development Plan audit reports
- SIWA Annual Reports - 2014
- SIWA reports to Program Steering Group 2014, 2015, 2016
- People's Survey 2013
- Pacific Water and Wastewater Utilities Benchmarking Report 2013
- Solomon Islands Aid Management and Development Cooperation Policy. Ministry of Development Planning and Aid Coordination.
- Solomon Islands National Development Strategy
- Drinking Water Safety Planning – A Practical Guide for Pacific Island Countries, WHO, AusAID, SOPAC