Fiji: Suva–Nausori Water Supply and Sewerage Project
ABBREVIATIONS

ADB – Asian Development Bank
DMF – design and monitoring framework
EIRR – economic internal rate of return
FIRR – financial internal rate of return
HDI – Human Development Index
IRAP – institutional reform action plan
km – kilometer
ML – megaliter
MWE – Ministry of Works and Energy
NRW – nonrevenue water
O&M – operation and maintenance
PCR – project completion report
PMU-R – project management unit for reforms
PMU-W – project management unit for works
TA – technical assistance
WAF – Water Authority of Fiji
WSC – Water and Sewerage Corporation
WSD – Water and Sewerage Department

NOTE

In this report, “$” refers to US dollars.

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## PROJECT BASIC DATA

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ADB = Asian Development Bank; ADF = Asian Development Fund; IED = Independent Evaluation Department; IESP = Sector and Project Division; IETC = Thematic and Country Division; OCR = ordinary capital resources; PCR = project completion report.

\(^a\) Introduced in Loan 2603-FIJ, consistent with ADB Safeguard Policy Statement, 2009.

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I. PROJECT DESCRIPTION

A. Rationale

1. The Suva–Nausori urban corridor is in the central region of Viti Levu, one of the two largest islands of the Republic of Fiji. The 25-kilometer (km) corridor includes Suva and stretches from the western industrial areas of Lami municipality to the eastern more rural areas around Nausori municipality and encompassing the fast-growing Nasinu municipality. The corridor contained approximately 33% (262,000) of Fiji’s total population and almost 60% of the country’s urban population. Approximately 27% of the population of the corridor was at or below the poverty line. Piped water supply coverage was estimated at 97% and sewerage coverage at 27%. Frequent water supply disruptions were experienced and other problems included high water losses (55%), high level of unregistered connections, and a low bill collection rate (60%). These deficiencies were constraining economic and social development and the environment was being degraded. Fiji’s water supply and sewerage services were not being managed effectively.

2. To address the deficiencies in water supply and sewerage systems, the Asian Development Bank (ADB) and the Government of Fiji prepared a public sector investment project to enhance human development, particularly for the urban poor, by improving water supply and sewerage services and introducing incremental institutional reforms to improve the efficiency and sustainability of the improved services.¹ In January 2009, Fiji government asked ADB to provide supplementary financing (i.e., Loan 2603)² to cover anticipated cost overruns for the original loan (i.e., Loan 2055). The original project rationale remained valid as the provision of reliable and sustainable water supply and sewerage services, and improvement in public and environmental health, continued to be high priorities of the government.

B. Expected Impacts, Outcomes, and Outputs

3. The intended impact of the original loan was enhanced human development particularly for the urban poor. The following outcomes were presented: (i) increased coverage and quality of water supply in the Suva–Nausori area; (ii) increased coverage and effectiveness of wastewater collection and treatment services provided in the Suva–Nausori area; (iii) Improved quality of the water in the streams and foreshore waters of the Suva–Nausori region; and (iv) Capacity to deliver water and sewerage services in accordance with demand and mandated levels of service. Intended outputs were (i) a rehabilitated water supply system, increased water source supply, increased water production capacity and extended service area; (ii) a rehabilitated sewerage system, upgraded wastewater treatment plant, and extended sewerage system; (iii) institutional reform and development; (iv) implementation of a financial action plan including recommendations from the tariff study completed under the technical assistance (TA) associated with the loan; (v) affordable access program; and (vi) improved urban coastal area and stream water quality.

4. The intended impact of the supplementary loan was “improved living standards in the Suva–Nausori area, particularly for the urban poor.” The outcome was “increased coverage and improved delivery of water supply and sewerage services to the residents of the Suva–Nausori area.” Complementary outputs of the loan were (i) corporatized urban water and sewerage services; (ii) community education and awareness program implemented and community liaison.

officer recruited; (iii) Waila and Tamavua water treatment plants upgraded; (iv) Kinoya sewage treatment plant upgraded; (v) water supply network rehabilitated and augmented, water supply loss programs implemented, and capacity for leak detection and repair improved; and (vi) sewerage system expanded to new and "backlog" areas and existing network rehabilitated. The principal change in scope was the cancellation of the water supply augmentation through a new intake and pump station at Rewa River. At supplementary loan appraisal, this work was considered too expensive (with a total cost of $55 million) to fit within the project. The work was included in a subsequent ADB project.³

C. Provision of Inputs

5. Project costs during appraisal was at $72.40 million (with original loan), comprising loan funding of $46.98 million and borrower funding of $25.42 million. Actual total project costs were $106.92 million, with loan funding of $64.60 million and borrower funding of $42.32 million. By February 2009, the project cost estimate had risen to $111 million and the government decided to defer several project components to reduce the estimated cost to $89.50 million. By August 2009, despite the reduced scope, the cost estimate again rose to $95.6 million and the government requested supplementary financing (supplementary loan) to cover the estimated cost overrun.⁴ In December 2009, ADB approved additional financing of $23 million covering 85% of the estimated cost overrun that went to exchange rate impacts (16.7%), wage increases (8.6%), materials cost escalations (46.4%), and underestimation of the original appraisal cost for civil works (28.3%). At supplementary financing, the reduced total project (original and cost overrun estimate) was appraised at $100.1 million. Actual project cost at project completion was at $137.18 m.⁵

6. The original allocation of consulting services budget was $2.42 million. This budget was revised to $1.12 million and this was the amount disbursed. In Loan 2063-FIJ, the original allocation of consulting services budget was $3.31 million. This budget was revised to $1.71 million. The amount canceled was $0.52 million leaving $1.19 million, which was the amount disbursed. The reduced consultancy allocation is a result of government taking over some of the consultancy assignments and the agreed shift to recruitment of individuals rather than companies. The recruitment of mapping and computerization consultants was canceled in the supplementary financing due to the government’s decision to self-fund these activities. The recruitment of an inflow and infiltration study consultant and the study itself did not proceed due to already known priority attention areas in sewerage that could be accommodated under the project funding.

7. The project’s environmental category is B. An initial environmental examination (IEE) was prepared as part of the feasibility study⁶ that was completed in 1998 and the project was reassessed during the appraisal mission. The involuntary resettlement safeguard risks and indigenous people safeguards risk were not significant.⁷ The government requested an associated TA for capacity building in the provision of water supply, sewerage, and environmental

³ ADB. 2016. Report and Recommendation of the President to the Board of Directors: Proposed Loan and Grant to the Republic of the Fiji Islands for the Urban Water Supply and Wastewater Management Investment Program. Manila.
⁵ Footnote 4. Appendix 5.
⁷ Footnote 1. Appendix 13.
services. The cost of the TA was originally estimated at $978,000 comprising a foreign exchange cost of $661,000 and a local currency cost of $317,000. The TA grant was revised to $783,000.\footnote{ADB. 2003. \textit{Technical Assistance to Fiji for Capacity Building in Water and Sewerage Services}. Manila.}

D. Implementation Arrangements

8. The Ministry of Works and Energy (MWE) was the executing agency and its Water and Sewerage Department (WSD)/Water and Sewerage Corporation (WSC) was the implementing agency for the original loan (Loan 2055). MWE remained responsible for infrastructure-related services throughout the duration of the project. At the implementing agency level, and as intended, a project management unit for works (PMU-W) was established by MWE, while the project management unit for reforms (PMU-R) was also established in June 2005. Although both ADB and the government agreed there would be considerable benefit in extending the PMU-R contract beyond December 2006, a formal request was not made to ADB. Under the supplementary Loan 2603, the WSD/WSC was replaced by the Water Authority Fiji (WAF). Transfer of personnel from WSD to WAF started in September 2009, and government had fully transferred its WSD assets and liabilities to WAF by January 2010.\footnote{WSD remained operational on a smaller scale for a future technical role.} In addition, the government created a project steering committee as a subcommittee of the existing capital works committee. The MWE set up a joint-reforms steering committee (water and roads) in 2005 and the WAF Board took office in January 2010.

9. The related TA supplemented the resources under the reforms component of the original loan project (footnote 8). Closed in 2007, the TA supported the development of a trade waste program, health and safety procedures, environmental legislation and regulations, a community education and awareness program, and a tariff study. The trade waste program and the health and safety procedures were implemented by WSD and the environmental legislation and regulations were promulgated in 2006. WSD’s community awareness and education programs are being implemented by its community liaison officer.\footnote{Footnote 2, para. 29.}

10. The original loan’s conditions for effectiveness included (i) a WSD organization and staffing plan; (ii) appointment of a WSD head and a change manager; (iii) establishment of a PMU-W and a PMU-R; and (iv) adoption of reorganization plan and targets acceptable to ADB, i.e., the Institutional Reform Action Plan (IRAP). Although the change manager and WSD head were appointed in December 2003, effectiveness was delayed due to protracted IRAP negotiations and slow recruitment of the PMU-R. Effectiveness was granted after the government appointed interim heads for both PMU-W and PMU-R and had committed to complying with the other conditions. The supplementary financing agreement did not include such conditions of effectiveness. While the government generally complied with loan covenants, there were some delays in compliance, including the failure to submit the 2005 audited project financial statement which led to loan suspension until the statement was submitted. Notable cases of noncompliance include (i) the PMU-R was not maintained throughout the project, (ii) water losses were not reduced to below 30%, and (iii) participation of women in the project did not increase significantly.\footnote{Evidence of gender impact is not provided in the PCR.}
II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

11. The project completion report (PCR) rated the project as highly relevant on the ground of being highly in line with the government’s and ADB’s strategic plans. At the time of original project design, the government had acknowledged the need for service delivery improvements and the sustainability of these improvements. The government’s Strategic Plan 2003–2005 and MWE Corporate Plan (2002) laid out a framework for moving ahead as follows: (i) carefully plan the transition to corporatization, (ii) retrain and redeploy staff rather than make them redundant, and (iii) avoid substantial tariff increases until services can be improved. The original project design was consistent with the Plan and responsiveness to the concerns of MWE. Consistency was reflected in the sector road map which was discussed and agreed in principle with the government as a component of loan preparation. The supplementary project remained consistent with the government’s emerging planning strategies and its public health, poverty alleviation, and environmental objectives. The project works under the original loan (loan 2055) were part of a water and sewerage master plan developed through ADB assistance. Consistency with ADB country and sector strategies was maintained in the supplementary project including continuing to be consistent with ADB’s water policy and with ADB’s country reengagement and operations strategies.

12. The validation is of the view that the project design was based on thorough problem and opportunity analyses including lessons learned in similar projects. The associated TA was well-conceived and highly relevant but was constrained by the lack of appropriate counterpart staff. The change in the implementation agency with the formation of Water and Sewage Department (WSD) to Water Authority of Fiji (WAF) during the implementation contributed to implementation delays with cost escalation consequences including reduced project scope. Despite the goal and impact statements including specific reference to the urban poor, the respective project framework and the design and monitoring framework (DMF) of the loans included only health indicators and targets, and the generalized Human Development Index (HDI) indicator as a proxy indicator of urban poverty.

13. Overall this PVR assesses the project relevant.

B. Effectiveness in Achieving Project Outcomes and Outputs

14. The PCR rated the project as effective. As no data is made available at outcome level this effectiveness assessment is based on outputs achieved and not achieved. The PCR makes very limited reference to performance targets established in the project framework and DMF of the loans. Major achievements included:

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13 Footnote 1. Supplementary Appendix B. Appendix 1.
(i) Component A1: Water Supply
(a) Replaced more than 56 km of main distribution pipes and rehabilitated Tamavua reservoir and Upper Waimau pump station.
(b) Constructed 4 new pumps stations, upgraded 3 major pump stations, and constructed 12 new reservoirs and 60.5 km of additional mains.
(c) Rehabilitated Tamavua and Waila water treatment plants (WTPs) with increased production capacity from 110 megaliters (ML) to 160 ML per day; and
(d) Constructed Waila WTP 6 ML reservoir and installed level and pressure sensing at key reservoirs and pump stations.

(ii) Component A2: Sewerage
(a) Replaced 10 km of sewer mains and associated pumps, with 5 major sewer pump stations rehabilitated;
(b) Upgraded Kinoya Wastewater Treatment Plant;
(c) Laid a total of 52 km sewer mains (Samabula North area and Domain and Suva Point area, with total sewer connections increased from 29,627 in 2014 compared to 15,639 in 2005 and 9,500 at appraisal; and
(d) Constructed pump maintenance and National Water Quality Laboratory in Kinoya.

(iii) Component B: Institutional reform—The government has remained committed to most the proposed reforms and the government enacted the Environmental Management Act in 2005 and the Public Health and Pollution Control Act in 2006.

15. Although the number of water supply outputs was achieved (particularly, 56 km of main pipes were replaced over the planned 50 km), other output targets were not achieved:
   (i) Water loss reduction:
(a) Only 10,000 water meters were replaced by 2010 against a target of 27,000;
(b) WAF’s 2014 report to its board indicated nonrevenue water (NRW) to be around 50%, against a target of 41%;
(c) WAF’s draft corporate plan for 2016 reports NRW has been reduced to around 46%.

   (ii) Optimization and augmentation of distribution:
(a) increased storage capacity by 18.6 ML but 29 ML had been targeted; and
(b) provided approximately 5,000 new connections against a target of 13,000.

   (iii) Augmentation of Sources—The new intake and pump station at Rewa River was removed from the project to reduce cost overrun.

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21 WAF. 2016. Corporate Plan Draft. Unpublished. Suva. Cited in PCR but not seen by the PVR validator. This information is available in the PCR where it noted better NRW reduction performance (i.e., in para. 5, water losses fell to less than 40% at the end of 2015, though still higher than the 30% target at appraisal). WAF management has confirmed continued commitment of resources to a water loss reduction program.
22 This work is included in a subsequent ADB project. Please see, ADB. 2016. Report and Recommendation of the President to the Board of Directors: Proposed Loan and Grant to the Republic of the Fiji Islands for the Urban Water Supply and Wastewater Management Investment Program. Manila.
16. The project’s key objective of transferring the responsibility for managing water and sewerage services from WSD to WSC was met through the formation of WAF. Implementation of the tariff reforms recommended by the TA’s water tariff review was delayed. The recommendations were made in 2006, which coincided with the December 2006 coup and closure of the PMU-R and the TA. The recommended updated tariff was not introduced and remains largely as it was set in 2000. Consequently, WAF remains heavily subsidized by the government. In 2012, WAF engaged an international consulting firm to review and update the TA tariff recommendations. Although approved by the WAF board, the revised tariff has yet to be approved by the Fiji Commerce Commission. WAF’s 2016 draft corporate plan includes the intention to request government permission to implement the revised tariff and achieve a level of cost recovery as originally proposed by the project. Similarly, the draft WAF 2016 corporate plan proposes implementation of the trade waste policy including tariffs.

17. Similarly, although sewerage outputs were achieved (coverage increased from 27% in 2003 to 42% in 2008) and some targets were significantly exceeded (in terms of network coverage to unserved areas by more than 25% of the original target), the following output targets were not achieved:

(i) Construction of new trunk mains, rising mains, and pump stations for Navitoka Housing Authority Subdivision: This progressed to bid document stage, but was cancelled at supplementary appraisal to avoid the risk of conflict with the preliminary subdivision earthworks expected to commence in 2011.

(ii) Trade Wastewater Program: Initial works were carried out in 2005–2006 but were not finalized until 2013 by WAF and comments from the Fiji Commerce Commission are awaited before further government consideration; and

(iii) Upgrading of the National Pump Workshop and the National Water Quality Laboratory and improved management systems: An asset register was prepared by the PMU-R in 2006. Upgrading of computers and equipment for the National Pump Workshop and National Water Quality Laboratory and the development of a geographic information system were canceled at supplementary appraisal, as the government decided to fund these activities with its own resources.

18. The project was classified as Category B for environment and an initial environmental examination was prepared under the 1998 feasibility study, and reassessed during the appraisal mission. At supplementary financing, ADB noted environmental monitoring and management plans were being incorporated in contracts and monitored. An environment monitoring closing report was prepared in 2013. The project included several activities to improve the environmental performance: (i) introducing an appropriate environmental management framework and promulgation of its Code of Environmental Practice,23 (ii) establishing an in-house environmental section; and (iii) upgrading the National Water Quality Laboratory.

19. At appraisal, the project’s resettlement impact risk was assessed as “not significant.” Following ADB’s adoption of its Safeguard Policy Statement (2009), the project was classified as category B for involuntary resettlement at supplementary financing. ADB prepared a land acquisition and resettlement plan to be updated by the executing agency; the plan was complied with at supplementary financing. In late 2010, ADB fielded a special review mission to assess compliance with the land acquisition and compensation procedures under the project. Submitted project progress reports lacked information on land acquisition and resettlement. In January 2010, WAF established a lands management unit, received an ADB briefing, and completed a land

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23 Fiji’s Code of Environmental Practice sets out minimum environmental standards and the appropriate procedures to reduce the environmental impact of various activities related to road works and services.
acquisition and resettlement plan for the ongoing project components. A land acquisition resettlement closure report was completed in 2012 and is disclosed on the ADB website.  

20. It is noted that indicators of the impact on the urban poor were limited to the HDI which is too general to be a useful performance indicator for this project. Overall evidence of the achievement of outcome targets has not been provided in the PCR; many components achieved seemed less than the original targets. However, after the initial circulation of draft PVR, the operations provided further information, which were not provided in the PCR. Latest information provided as follows: WAF increased production to serve a population increase of 65,000 people in the greater Suva area. The project supported WAF’s efforts to connect at least an additional 13,635 households, and most likely significantly more (initial target 13,000). Although PCR itself did not provide full details on this critical point, only noting that 5,000 additional households had been connected by 2007, a further 8,635 connections were made between 2012 and the project closing. This expansion was due to 7 pump stations being constructed or upgraded (initial target 4); 60 km of mains being completed (target 40 km); and storage increased by 18.6 ML (below target 29 ML, as it turned out the full project design not required). The only significant project output under the water component that was not completed was the new Rewa water intake, which was dropped because of cost escalations (from an original estimate of $6 million to about $30 million). This has been included in the new Suva urban water multitrancher financing facility (the Rewa intake will be financed by the Green Climate Fund and was the first investment in the Pacific or by ADB to secure GCF funds).

21. The Independent Evaluation Department (IED) initially questioned the achievement of overall sewerage outcomes given that a trade wastewater program and the upgrade of the National Pump Workshop and Water Quality Laboratory were not ultimately funded by the program. Although not fully detailed in the PCR, the operations responded that government has funded all of these activities from its own resources. The national pump workshop and water quality laboratory are now operational and, since the PCR was completed, Cabinet has now endorsed for implementation the trade waste policy developed under the project. With these additional information, the validation views the project effective.

C. Efficiency of Resource Use

22. The PCR rated the project as less efficient. The PCR cited the recalculated economic internal rate of return (EIRR), the substantial cost overrun, extended implementation period, and lower than anticipated NRW reductions as justifications for this rating. By updating the supplementary appraisal assessment, the recalculated EIRR is less than 12%, with 10.3% for water supply (26.2% at appraisal), 9.6% for sewerage (12.7% at appraisal) and 10.1% combined (18.5% at appraisal). The scale of the cost overrun and the delays had a significant impact on project performance. Although the recalculation methodology was not presented in the PCR, it is likely that the water supply EIRR decreased mainly due to substantially increased costs and

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25 The project successfully achieved its target of increasing water production to 160 ML per day. Project investments, including the new Waila reservoir and rehabilitation of two treatment plants (the largest single contract under the project) were completed (although with delays). NRW losses were reduced from 55% of total supply at the start of the project to 35% at project closing, and 31.6% as of today (only slightly missing the project target of 30%), with 56 km of mains (target 50 km) and 10,000 water meters replaced. Unplanned supply disruptions were reduced from 2,000 annually at the start of the project to 5 in 2014, essentially meeting the goal of providing 24/7 service.
failure to achieve the expected NRW reductions to date. The sewerage EIRR also decreased mainly due to delayed implementation and benefits.

23. Loan 2055-FIJ was approved in December 2003 and was effective in December 2004. This 12 months’ delay was due to the late approval of WSD, PMU-W, and PMU-R staffing by the Public Service Commission. Loan closure was planned for June 2009 and actual closure was in September 2013. Implementation progress from 2006 to 2010 was constrained by limited staffing and capacity of the PMU-W and use of a reimbursement-only procedure for disbursement. The December 2006 coup also contributed to the delay as the government suspended contract awards and loan disbursements pending an independent review of the Public Works Department’s capital works programs. By late 2007, implementation improved due to adoption of direct payment procedures, increased budget allocations, and a new PMU-W project manager. PMU-R start-up was delayed by 18 months due to late recruitment and hiring of PMU-R contractors. The reform process also lost momentum after the 2006 coup and cessation of the PMU-R. Although the establishment of WAF in March 2007 should have facilitated implementation of planned reforms, WAF did not commence operations until January 2010. Overall, this validation concurs the project less than efficient.

D. Preliminary Assessment of Sustainability

24. The PCR rated the sustainability of the project’s benefits and development impacts likely. However, although WAF could fund operations and maintenance (O&M) in the project area as it was heavily subsidized by the government, the continuing financial capacity of WAF is questionable. Although both the government and WAF appear to be motivated to improve its services the risk of inadequate financial resources for O&M is greater for projects that rely on the government’s budget allocations and subsidies than for those that generate sufficient revenues from users. The willingness of WAF to ensure adequate O&M capacity (funds and skills) is reflected in WAF’s strategic objectives which include round-the-clock water supply, NRW reduction, customer complaint resolution, tariff collection, and staff training (enhancing institutional sustainability). To support these activities, the WAF budget includes an allocation for further investment of F$3 million for information and communication technology infrastructure upgrades and WAF is in the process of establishing an asset management system and is twinning with a well-performing water utility from Australia.

25. The prospects for increased demand for services and products are strong with reported population growth in the project area. However, there is little information available by how far the project is accepted by project beneficiaries, especially the urban poor (e.g., local communities and stakeholders with a view to their participation in O&M). The sewerage investments especially will have beneficial effects on natural resource management through reduced pollution. It is difficult to gauge the sustainability of the operation, as there is no financial internal rate of return (FIRR) analysis in the PCR, and with government’s lack of approval for revised tariffs (para. 16) and various continuing challenges (institutional and financial) surrounding the WAF (detailed in Appendix 4 of the PCR paras. 8–14), the project is rated less than likely sustainable.

26 In the first year of WAF’s operation in 2010, the government provided a grant of 38.4 million Fiji dollars (F$) in addition to WAF’s revenue of F$26.2 million. In the 2016–2017 national budget, the government has increased its allocation to WAF to F$308.6 million, which includes F$229.4 million for capital projects.

27 The PCR notes that a free water allowance is in place for households earning less than F$30,000 per annum; that WAF employment of women is increasing slowly; and it monitors and reports customer satisfaction. However, no sources are provided and this information is not explained elsewhere in the PCR.
III. OTHER PERFORMANCE ASSESSMENTS

A. Preliminary Assessment of Development Impact

26. Despite the goal statement including specific reference to the urban poor, the project framework of Loan 2055 did not include specific poverty reduction indicators. The DMF of Loan 2603 did include the United Nations Development Programme’s Human Development Index as an indicator. The HDI assessment for all of Fiji indicated a substantial 7.2% rise from 0.678 in 2000 to 0.727 in 2014.\(^{28}\) As the population in the Suva–Nausori corridor makes up around one-third of the total Fiji population, the significant HDI increase is an indicator of improved living conditions within the project area but not a reliable indicator of the contribution of the project nor of the specific impact of the project on urban poverty reduction.

27. Deaths from gastroenteritis made up just over 10% of the total infant deaths in Fiji.\(^{29}\) Health data obtained from the Ministry of Health in May 2016 show that the incidence of diarrhea in 0–4 year-olds in the Suva–Nausori corridor peaked at 300 to 400 cases per year in 2009–2011 before declining to fewer than 60 cases per year in 2013–2014.

28. Overall, this validation considers that the project’s output achievements were such that positive development impacts are likely. This consideration is reinforced by the government’s apparent willingness to continue the reform process. A rating of satisfactory is recommended.

B. Performance of the Borrower and Executing Agency

29. The PCR rated the performance of the borrower and executing agency partly satisfactory. Although most of the project’s anticipated civil works and reforms were achieved, there were significant delays,\(^{30}\) cost overruns, and reduced scope due to cost overruns. The government and executing agency were slow to comply with the conditions for loan effectiveness and a prevailing incapacity to provide government staffing or sufficiently competent government staffing. The WSD and PMU-W remained understaffed and underfunded. In the early implementation period, the PMU-W lacked the capacity to implement a number of civil works concurrently.

30. The contributions of the PMU-R and the TA ended just as counterpart staff were becoming available, but the government declined the use of loan funds for extension of the TA. The executing agency did not maintain a PMU-R throughout the project as indicated in the loan agreement, and this possibly delayed the establishment of WAF and the implementation of the expected reform outcomes. WAF is now fully operational with a good organization structure in place, and in 2014 it updated its infrastructure master plan and is working closely with ADB on possible new investments. This validation assesses the performance less than satisfactory.

C. Performance of ADB and Cofinanciers

31. The PCR rated the performance of ADB as satisfactory. In addition to the appraisal and the loan negotiation missions, ADB conducted 12 loan review missions, a midterm technical

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\(^{30}\) One large contract was delayed by approximately 5 years due to rebidding after mis-procurement (Contract Water and Sewerage Corporation 23/04, $8.5 million, 22% of total project cost at appraisal). The Public Work Department’s Tender Board issued a letter of contract acceptance to a bidder, which was contrary to the ADB approved recommendation of the executing agency in the bids evaluation report.
review mission, four special loan review missions, and a safeguards review mission. For the supplementary loan, ADB conducted eight loan review missions, a procurement review mission, a special loan review mission, and a safeguards review mission. Altogether 425 person days were contributed by ADB in this way (279 person days for Loan 2055 and 146 person days for Loan 2603).

32. The original loan was initially administered and supervised by the Pacific Operations Division from ADB Headquarters. At the commencement of supplementary loan, administrative responsibility for both loans was transferred to the Pacific Subregional Office immediately after WAF assumed the implementing agency role in January 2010. The transfer of administrative responsibility to the Pacific Subregional Office resulted in closer and more frequent communications with the government and WAF.

33. Before appraisal, ADB prepared a sector road map and updated the IRAP prepared by the earlier TA (footnote 16). During early implementation, ADB helped the government comply with conditions of effectiveness and loan covenants, and the PMU-W prepared timely project cost forecasts up until supplementary financing. ADB consistently warned that understaffing and limited capacity of the PMU-W was a substantial risk and cause of implementation delays. A project implementation seminar held in November 2006 included training for members of the public tender board. ADB has continued to support WAF through the Knowledge and Innovation Support for ADB’s Water Financing Program TA project and by facilitating a twinning partnership between WAF and Hunter Water whereby much needed technical guidance are provided to WAF. This partnership initiative proposes to focus on NRW reduction and business management training. This validation views ADB’s performance satisfactory.

D. Others

34. No evidence is made available for an analysis of the impact on beneficiaries, including a gender analysis and an adequate poverty reduction impact analysis. The original Report and Recommendation of the President estimated that 27% of the population of the corridor was at or below the poverty line, and using a comparable poverty line definition, it should have been possible to estimate the proportion of the population below the poverty line at completion along with associated economic development indicators. The numbers and characteristics of beneficiaries would also be useful.

IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

A. Overall Assessment and Ratings

35. The project is considered relevant with outcomes aligned with country development priorities and ADB country and corporate strategies. The project has been rated effective for enabling the government to fund from its own resources the National Pump Workshop and Water Quality Laboratory. Likewise, the cabinet has endorsed the implementation of a trade waste policy. The project achievement was less than efficient in terms of resource use, with a recalculated EIRR of 10.1%. The scale of the cost overrun and the delays had a significant impact on project performance. The WAF operations still need substantial subsidy from the government with population growth still expected (but PCR had no FIRR calculation) and WAF must prioritize achieving a cost recovery tariff, combined with revenue retention. Therefore, it is rated as less than

likely sustainable. Overall a rating of less than successful is recommended (with a rating score of 1.5).

### Overall Ratings

<table>
<thead>
<tr>
<th>Validation Criteria</th>
<th>PCR</th>
<th>IED Review</th>
<th>Reason for Disagreement and/or Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance</td>
<td>Highly relevant</td>
<td>Relevant</td>
<td>Although intended project outcomes were aligned with country development priorities and ADB country and corporate strategies, there was significant overconfidence in the availability and capacity of counterpart staff. This design deficiency, along with inappropriate disbursement arrangements, led to implementation delays with cost escalation consequences including reduced project scope.</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Effective</td>
<td>Effective</td>
<td>Except the replacement of the main water pipes and sewerage output achieved the original target, most others did not.</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Less efficient</td>
<td>Less than efficient</td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td>Likely sustainable</td>
<td>Less than likely sustainable</td>
<td>PCR does not have FIRR analysis for post-completion (and financial outlook looks bleak foreseeable future), and the WAF operation needs substantial subsidy from the government.</td>
</tr>
<tr>
<td>Overall Assessment</td>
<td>Successful</td>
<td>Less than successful</td>
<td></td>
</tr>
<tr>
<td>Preliminary Assessment of Impact</td>
<td>n/a</td>
<td>Satisfactory</td>
<td></td>
</tr>
<tr>
<td>Borrower and Executing Agency</td>
<td>Partly satisfactory</td>
<td>Less than satisfactory</td>
<td></td>
</tr>
<tr>
<td>Performance of ADB</td>
<td>Satisfactory</td>
<td>Satisfactory</td>
<td></td>
</tr>
<tr>
<td>Quality of PCR</td>
<td>Satisfactory</td>
<td>Less than satisfactory</td>
<td>See para 41.</td>
</tr>
</tbody>
</table>

ADB = Asian Development Bank, FIRR = financial internal rate of return, IED = Independent Evaluation Department, PCR = project completion report.

Note: From May 2012, IED views the PCR's rating terminology of "partly" or "less" as equivalent to "less than" and uses this terminology for its own rating categories to improve clarity.

### B. Lessons

36. Lessons learned reported in the PCR are agreed, including those reflecting consistency with ADB’s 2013 special evaluation study. In addition, this validation gives emphasis to the following:

(i) The need to confirm the executing agency’s commitment in terms of capacity and resources at appraisal. A more rigorous stakeholder analysis would have identified

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potential weaknesses and more emphasis could have been given to capacity development from the outset.

(ii) Project performance monitoring and evaluation capacity building would have been helpful, possibly enhancing overall project performance; and

(iii) The PMU-R had defined procedures for organizational empowerment and accountability, but the PMU-R was not available throughout the project to guide implementation of these measures. Continuation of the TA (which was implemented from 2003 to 2006) on capacity development would have been helpful.

C. Recommendations for Follow-Up

37. The validation agrees with the PCR recommendations and in particular the recommendation to build on the relationship established between ADB and WAF. Additional recommendations of this validation include:

(i) A rigorous stakeholder analysis should be undertaken in the early stage, for a problem and opportunity analysis that would identify potential weaknesses and to introduce capacity development initiatives as necessary.

(ii) Capacity development TA resources should be exhausted before institutionalization of recommendations is complete—a flexible approach to financing could enhance their usefulness; and

(iii) Capacity development on project monitoring and evaluation should be intensified, including for government PCR preparation. This could be initially undertaken early in project implementation to clarify the purpose of the DMF.

V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Reporting

38. The project framework of Loan 2055 was prepared in 2003, before significant strengthening of the preparation of ADB DMF\(^{33}\) and the results chain is not well-designed with overlapping outcome and output level indicators and targets. Despite the goal and impact statements including specific reference to the urban poor, the respective project framework and DMF of Loans 2055 and 2603 included only health indicators and targets and the generalized HDI indicator as proxy indicators of urban poverty. These are not adequate to look at project specific impact.

39. The executing agency produced and submitted a PCR in August 2015.\(^{34}\) The report is a good record of events but the assessments of relevance, effectiveness, efficiency, and sustainability are weak with evident misunderstandings of monitoring and evaluation requirements for these core performance criteria. This is despite the covenant that in consultation with ADB, the PMU-W shall establish and maintain a project performance monitoring system following the structure of the project framework.

40. Throughout the project, progress reports were submitted late and missed reporting on some key indicators, including population served, availability of water supplies, NRW, billing and collection efficiency, degree of completion of detailed design work, award of contracts, disbursements, and cost recovery.

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\(^{33}\) The adequacy of the logframe was questioned at the February 2003 Management Review Meeting with the request that it be made more specific: May 2003 Back-to-Office-Report Appraisal Mission.

B. Comments on Project Completion Report Quality

41. This validation finds the quality of the PCR less than satisfactory. The PCR contains a number of deficiencies: (i) the recommended PCR relevance rating is too high as the project had design deficiencies, the initial results chain was not sound, and there was no significant demonstration value for other projects or transformative effects; (ii) the effectiveness assessment makes very little reference to project performance targets, there are problems with internal consistency, with NRW performance measures in particular, and some post-completion EIRR performance claims are not supported with evidence presented in the PCR, including reduced disruption in water supply; (iii) the efficiency assessment provides no details of the methodology of the EIRR recomputation; (iv) no FIRR analysis; and (v) the impact assessment lacks information about the impact on beneficiaries.35

B. Data Sources for Validations

42. This validation is based on reviews of the PCR and, for Loans 2055 and 2603, the report and recommendation of the President, back-to-office reports, loan review mission reports, internal memos, and the government’s PCR.

C. Recommendation for Independent Evaluation Department Follow-Up

43. Timing of project performance evaluation report. The evaluation report should be undertaken in 2018 to better determine the development impact of the project and the sustainability of the project’s outcomes.

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35 In addition, cited health statistics include the total number of reported cases of typhoid in Fiji increasing in the Northern Division and Suva urban area from 2004 to 2009, with, among the reasons given, contamination of non-piped water supplies, reaching a peak in 2010 and declining until 2014, when it peaked again slightly. The implications of this on the project’s impact are not explained.