

Validation Report
August 2020

Solomon Islands: Transport Sector Flood Recovery Project

Reference Number: PVR-704
Project Number: 48293-001
Loan Number: 3152
Grant Number: 0403



Raising development impact through evaluation

ABBREVIATIONS

ADB	–	Asian Development Bank
CAC	–	community advisory committee
CPIU	–	central project implementation unit
DMF	–	design and monitoring framework
DSC	–	design and supervision consulting
EIRR	–	economic internal rate of return
GAP	–	Gender Action Plan
GDP	–	gross domestic product
km	–	kilometer
LARF	–	land acquisition and resettlement framework
MID	–	Ministry of Infrastructure Development
MOFT	–	Ministry of Finance and Treasury
NTF	–	National Transport Fund
O&M	–	operation and maintenance
PCR	–	project completion report
RRP	–	report and recommendation of the President
SDR	–	special drawing rights

NOTE

In this report, “\$” refers to United States dollars and “SI\$” refers to Solomon Islands dollar.

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PROJECT BASIC DATA

Project number	48293-001	PCR Circulation Date	16 July 2019	
Loan and grant numbers	3152 and 0403	PCR Validation Date	Aug 2020	
Project name	Transport Sector Flood Recovery Project			
Sector and subsector	Transport	Road transport (non-urban)		
Strategic agenda	Environmentally sustainable growth Inclusive economic growth			
Safeguard categories ^a	Environment		B	
	Involuntary resettlement		B	
	Indigenous peoples		C	
Country	Solomon Islands		Approved (\$ million)	Actual (\$ million)
ADB financing (\$ million)	ADF: 13.22	Total project costs	15.58	14.70 ^a
	OCR:	Loan		
		L3152	6.61	5.95
		G0403	6.61	6.56
	Borrower	2.36	1.44	
Approval Date	13 Aug 2014	Effectiveness date	10 Dec 2014	9 Oct 2014
Signing Date	11 Sep 2014	Closing date	31 Dec 2017	30 Sep 2018
Project Officers	H. Uusimaa P. Indrawansa A. Salgado	Location ADB headquarters PLCO PLCO	From Jun 2014 Sep 2014 May 2017	To Aug 2014 Apr 2017 Sep 2018
IED review Director Team Leader	N. Subramaniam, IESP S. Shin, Senior Evaluation Specialist, IESP ^b			

ADB = Asian Development Bank, ADF = Asian Development Fund, IED = Independent Evaluation Department, IESP = Sector and Project Division, OCR = ordinary capital resources, PCR = project completion report, PLCO = Pacific Liaison and Coordination Office.

^a Including additional financing from grant 0243 amounting to \$0.75 million.

^b Team members: R. Brockman (quality reviewer), F. De Guzman (Senior Evaluation Officer), and A. Gezen and E. Raven (consultants).

I. PROJECT DESCRIPTION

A. Rationale

1. Solomon Islands is one of the most vulnerable countries to natural disasters in the world. In April 2014, tropical cyclone Ita caused severe flooding in the capital Honiara and nearby Guadalcanal Province.¹ The storm damaged and destroyed roads, bridges, houses, water supply systems, and other major infrastructure. At the request of the Government of Solomon Islands, the Asian Development Bank (ADB) and other development partners conducted a rapid assessment of the impacts of the flood and the estimated total cost of rehabilitation was \$107.70 million, equivalent to 9.2% of the nation's gross domestic product (GDP). Priority was

¹ ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Grant to Solomon Islands for the Transport Sector Flood Recovery Project*. Manila.

given to repairing roads, bridges, and culverts so as to minimize secondary impacts on the economy and restore connectivity to essential services. The government developed a recovery plan based on the rapid assessment, which included total reconstruction costs for the transport sector, estimated at \$34.66 million.

2. Emergency funding of \$1.39 million to temporarily restore connectivity was provided from the government's National Transport Fund (NTF), and through contributions from Australia, Japan, and New Zealand. In addition, the government requested access to ADB's Disaster Response Facility.² In August 2014, the ADB Board approved a loan in various currencies equivalent to SDR4.29 million (equivalent to \$6.61 million) and a grant of up to \$6.61 million, both from its special funds, for the Transport Sector Flood Recovery Project. The government committed \$2.36 million as counterpart funding.

3. The government prioritized the reconstruction of transport sector infrastructure and adopted the building-back-better principle, requiring that damaged assets be constructed to a higher standard of climate and disaster resilience than before. The government initially identified 19 subprojects at an estimated cost of \$17.22 million and the Ministry of Infrastructure Development (MID) committed to finance a number of subprojects separately. Fifteen subprojects were submitted to ADB for financing. Detailed design and economic feasibility were undertaken after ADB Board approval, and MID selected eight priority subprojects for bidding with civil works costing \$10.96 million.³ The civil works contract awarded in May 2016, amounted to \$9.11 million, lower than the original estimate. Due to the savings realized, a contract variation was executed in December 2016 to add seven additional subprojects under ADB financing. During a review mission of ADB, two subprojects—Sasa low-level bridge and Arulingo box culvert—were seen to have not started and completion would be beyond the ADB project completion date.⁴ These subprojects were dropped, leaving 13 subprojects remaining under the project.

4. The project was funded under ADB's sector modality, which was appropriate since it allowed the government to lead in identifying, prioritizing, and implementing subprojects under a coordinated approach with development partners. In this way, the government was able to respond to key reconstruction needs, post-flood.

B. Expected Impact, Outcome, and Output

5. The impact of the project, as set out in the design and monitoring framework (DMF) in the report and recommendation of the President (RRP) was socioeconomic activities restored to at least pre-flood levels.⁵ Its outcome was restored and more resilient connectivity, while the output was transport infrastructure in priority locations reconstructed, and climate- and disaster-proofed.

C. Provision of Inputs

6. The ADB Board approved the loan and grant in August 2014 and both became effective in October 2014. According to the project completion report (PCR), the project was completed in June 2018, 6 months after the target completion date of December 2017, a project period of 3 years and 3 months.⁶ The financial closing date was extended by 9 months to September 2018, allowing 6 months for physical completion and 3 months for financial closure. The extension was

² ADB. October 2012. *Piloting a Disaster Response Facility*. Manila. The policy became effective on 1 January 2013.

³ ADB. 2004. *Disaster and Emergency Assistance Policy*. Manila.

⁴ ADB (Pacific Department). 2017. Review Mission to Solomon Islands: Transport Sector Flood Recovery Project. Memorandum of Understanding. 23 June (internal). Para. 7, 19, and 20.

⁵ Footnote 1, Appendix 1.

⁶ ADB. 2019. *Completion Report. Transport Sector Flood Recovery Project in Solomon Islands*. Manila.

due to the delay in completing the feasibility study and the procurement of civil works, adverse weather conditions, and land disputes within several subprojects. Additional time was also required, due to the addition of seven new subprojects; late completion of topographic, geotechnical, and hydrologic investigations and traffic surveys; and regulatory clearance of the environmental report. The project performance was rated a “potential problem” in the first quarter of 2015 and the second quarter of 2016, reflecting the initial delays in starting works.

7. The project was estimated to cost \$15.58 million at appraisal, including environment and social mitigation expenditures. ADB’s loan and grant were to cover 84.9% of the cost and the government was to contribute 15.1% for administrative services, office space, audit fees, counterpart staff, exemption from taxes and duties, and temporary and/or permanent land acquisition and compensation. At completion, the cost was \$14.70 million with ADB loan financing of \$5.95 million, grant financing of \$7.31 million, when including additional financing of \$0.75 million, and \$1.44 million from the government. Due to currency fluctuations, \$0.70 million was lost from the loan amount, but with \$0.75 million financed through uncommitted funds, the overall project financing was not significantly affected. The reduced project cost, which was 5.6% lower than estimated, was mainly due to lower expenditures for environment and social mitigation, and financing charges during implementation.⁷

8. At appraisal, the design and supervision services were to be combined under one consulting contract. The design envisaged consultancy services of 38 person-months—26 person-months of international and 12 person-months of national consultants to be funded from uncommitted funds of the Transport Sector Development Project. This project would engage the consultants to prepare the feasibility study, detailed engineering design, and to tender civil works. During implementation, the same consultants would provide 100 person-months—55 person-months of international and 45 person-months of national experts for construction supervision.⁸ The total services for design and supervision consulting (DSC) was estimated to be 129 person-months at appraisal—71 person-months of international and 57 person-months of national experts. The PCR indicated that 233 person-months were provided—88 person-months of international and 145 person-months of national experts.⁹ The breakdown between design and supervision was not provided. The 9-month extension of loan and grant closing date (para. 6) resulted in higher level-of-effort for DSC services.

9. The project was categorized B for involuntary resettlement and environment, and C for indigenous peoples. The socioeconomic survey and community consultations concluded that the project did not affect indigenous peoples.¹⁰ The project prepared an environmental assessment and review framework and a land acquisition and resettlement framework (LARF) that followed ADB’s Safeguard Policy Statement 2009 and appropriate government laws and regulations.¹¹ MID’s Central Project Implementation Unit (CPIU), responsible for project implementation, prepared and submitted semi-annual environmental and social safeguards monitoring reports for public disclosure on the ADB website. With support of ADB, CPIU strengthened its safeguards

⁷ ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Grant and Administration of Technical Assistance Grant for Solomon Islands for the Transport Sector Development Project*. Manila. The cost of the feasibility study and detailed design consultancy services was financed through uncommitted funds from the Transport Sector Development Project amounting to \$0.75 million. This amount was not included in the project’s financing plan in the RRP. However, the actual ADB financing was reported as \$13.26 million in the PCR and included this amount.

⁸ ADB. 2014. *Project Administration Manual, Solomon Islands: Transport Sector Flood Recovery Project*. Manila. Section VI-F.

⁹ ADB. 2019. *Completion Report: Transport Sector Flood Recovery Project in Solomon Islands*. Manila.

¹⁰ Government of Solomon Islands, MID. 2018. *Resettlement Plan: Transport Sector Flood Recovery Project in Solomon Islands* (prepared for ADB).

¹¹ ADB. 2009. *Policy Paper: Safeguard Policy Statement*. Manila.

procedures through in-house embedded safeguards staff in MID, implementation of an environmental management system for works, and an approved Safeguards Procedures Manual. ADB acknowledged “the large gains that have been made in respect of safeguards”.¹²

10. All subprojects required the temporary use of land, six required temporary land access, and one required land acquisition. Memoranda of agreement were executed with landowners or affected persons, and compensation paid for damaged or lost crops, trees, and minor structures in accordance with the approved LARF. Some 0.48 hectares of land were acquired for the Mberande Bridge subproject. Nevertheless, the PCR noted delays in payments to the affected people of three subprojects—Mberande Bridge, Mbalasuna Bridge, and Selwyn Bridge—where construction began before compensation was paid. Upon ADB’s request, the executing agency paid compensation for two of these subprojects, but land acquisition was not completed for Mberande Bridge subproject due to a legal dispute over land ownership. Compensation was deposited in an escrow account, with payment subject to a final court ruling identifying the legitimate owner.

11. The project was classified as effective gender mainstreaming and a Gender Action Plan (GAP) was prepared during appraisal. The CPIU, with support from DSC, implemented the GAP and monitored progress. According to the PCR, 24 activity targets were included in the GAP, of which 17 were achieved, five were partially accomplished, and two were not. The project revised the GAP during an ADB review mission in June 2017, upon the request of the government, and adjusted two indicators. This involved the removal of the requirement to engage 50% women facilitators for community advisory committee (CAC) meetings. The GAP also reduced the requirement to employ at least 30% women laborers to 10%, since women in the project area were discouraged from working on construction sites due to responsibilities at home and cultural obligations.¹³ Project interventions incorporated gender-sensitive designs, which include the high-level bridges with footpaths, railings, and pathway for access to the river. The project encouraged contractors to employ local workers and use women laborers in labor-intensive activities. At project closing, the project achieved the revised GAP targets.¹⁴

D. Implementation Arrangements

12. MID was the executing and implementing agency through its CPIU. The oversight body was the Ministry of Finance and Treasury (MOFT) and Ministry of Development Planning and Aid Coordination. Implementation arrangements followed those agreed at appraisal. The CPIU was headed by a full-time director and supported by the deputy director-technical and full-time staff. The CPIU, supported by the DSC, prepared the design and feasibility study; undertook overall coordination, management, and monitoring of project implementation; and recruitment and procurement. The CPIU submitted progress reports to ADB, detailing progress, safeguards, land acquisition, environmental management, and safety.

13. The project established nine CACs to discuss the project interventions, encourage local community participation, and establish an effective complaint and grievance procedure. All the tribal chiefs, landowners, and the parties to the memorandum of agreement for temporary land use or access were nominated as CAC representatives, along with the contractor’s representatives and the community liaison officer from the DSC. The implementation arrangements were effective except for starting works in three subprojects before full compensation was paid to affected persons (para. 10).

¹² Footnote 4, para. 35.

¹³ Footnote 4, para. 34.

¹⁴ Footnote 6, para. 16.

14. According to the PCR, 33 of the 41 project covenants were complied with. One was partially complied with—the commencement of works in three subprojects before compensation was paid but was partially addressed later at the request of ADB. Six were being complied with—on-going obligations, including four related to principal and interest payments for the ADB loan and two for removal of debris and operation and maintenance of subproject facilities after project implementation. One was not complied with—the establishment of a project website. MID clarified that an additional project website was not required since all project-related information, including the invitation for bids, notice for expressions of interest, and contract awards were published on the MID and MOFT websites. This validation notes that the covenant for operation and maintenance (O&M) of roads was not complied with since overall road condition is deteriorating due to lack of maintenance and now requires immediate remediation and weather proofing.

II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

15. The PCR rated the project relevant at appraisal and completion. It was consistent with ADB's country strategy and transport sector framework.¹⁵ ADB has supported the government to develop and improve the transport sector since 2000 under several projects.¹⁶ The National Transport Plan 2011–2030 and the establishment of the NTF,¹⁷ prepared under an ADB technical assistance, set out the policy framework to develop and maintain transport infrastructure and improve the capacity of government agencies and private sector accordingly.¹⁸ The project outcome was fully aligned with the country's development priorities and ADB country strategies.

16. ADB approved the emergency assistance project in 2014 to reconnect the main east–west road on Guadalcanal after the severe flooding. The intervention adopted a sector-based approach, although specific subprojects were not identified during project appraisal. The rapid assessment of flood damage, conducted by ADB and other development partners, provided the basis for this assistance. The preliminary list of subprojects was appropriate to achieve the intended outcome. The subprojects were critical in restoring connectivity to essential services and minimizing secondary social and economic impacts. The project design and modality were relevant at appraisal and completion.

¹⁵ ADB. 2012. *Country Partnership Strategy for Solomon Islands (2012–2016)*. Manila; and ADB. 2014. *ADB Sustainable Development Working Paper Series: Toward a Sustainability Appraisal Framework for Transport*. Manila.

¹⁶ ADB. 2000. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Solomon Islands for the Post-Conflict Emergency Rehabilitation Project*. Manila; ADB. 2006. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant to Solomon Islands for the Road Improvement (Sector) Project*. Manila; ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant to Solomon Islands for the Emergency Assistance Project*. Manila; ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant and Administration of Grant to Solomon Islands for the Domestic Maritime Support (Sector) Project*. Manila; ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant and Administration of Grants to Solomon Islands for the Second Road Improvement (Sector) Project*. Manila; ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Grant and Administration of Technical Assistance Grant to Solomon Islands for the Transport Sector Development Project*. Manila; and ADB. 2016. *Report and Recommendation of the President to the Board of Directors: Proposed Results-Based Loan and Administration of Technical Assistance Grant to Solomon Islands for the Sustainable Transport Infrastructure Improvement Program*. Manila.

¹⁷ ADB. 2010. *Solomon Islands: National Transport Plan*. Manila.

¹⁸ ADB. 2004. *Technical Assistance to Solomon Islands for Institutional Strengthening of the Ministry of Infrastructure and Development*. Manila.

17. The project was implemented according to the loan and grant financing agreement and the DMF remained relevant throughout implementation. Despite an initial delay of 6 months, largely due to late completion of the feasibility study and the delay in procuring civil works, the project substantially achieved its output targets. The project's design was sound and helped achieve its impact of restoring socioeconomic activities to at least pre-flood levels. This validation assesses the project relevant at appraisal and completion.

B. Effectiveness in Achieving Project Outcome and Outputs

18. The PCR rated the project effective in achieving its outcome and outputs. DSC conducted baseline and post-project household surveys of the communities living in the areas around the subproject sites. The baseline survey was undertaken in 2015 after the mobilization of the DSC, and its results were included in the social impact assessment report.¹⁹ The post-project survey was conducted in June 2018 and its output contained in the government's PCR.²⁰

19. The first outcome indicator, travel time to markets, schools, and health care facilities restored to pre-flood levels by 2017 was achieved. The post-project survey found that the average travel time fell by about 5% compared with pre-flood levels. The second outcome indicator, transport cost to socioeconomic services restored to pre-flood levels by 2017 was also achieved. The PCR indicated that the post-project average transport cost per household increased by 2%. However, government's PCR shows that the average monthly transport expenditure per person increased by 7.2%, from SI\$970 in 2013 before the flood to SI\$1,040 by 2018.²¹ However, it is unclear if the expenditure is expressed in current or constant prices. Adjusting the 2018 figure to constant 2013 prices shows an increase of 9.4% in the consumer price index or a decrease of 2.2% in the constant average monthly per person transport expenditure from pre-flood to post-project years.²²

20. The output performance indicators included: (i) at least three high-level bridges reconstructed and climate- and disaster-proofed, (ii) at least five small stream crossings reconstructed, (iii) 1.6 kilometers (km) of all-weather bridge approach roads reinstated, (iv) 80 meters (m) of cross culverts reconstructed, (v) 1 km of bridge and approach road protection work completed, and (vi) 300 m of river-training works completed. The project also targeted that all reconstruction work would incorporate gender-conscious designs, all bridges would include footpaths and railings, and at least 50% of bridges would include pathways to access the river. Six output targets were fully achieved, and three targets mostly achieved, which include minor differences in some physical measurements of subprojects as a result of more accurate measurement during design and construction. An example was two box culverts with gabion protection work and approach road constructed instead of completing a bridge.

21. The safeguard categorizations of the project—B for land acquisition and involuntary resettlement, and for environment; and C for indigenous peoples—were appropriate, and all plans and measures were compliant with ADB and country safeguard policies. The project was classified as effective gender mainstreaming, a GAP was prepared during appraisal, and the

¹⁹ Government of Solomon Islands, MID. 2015. *Social Monitoring Report: Social Impact Assessment of the Transport Sector Flood Recovery Project in Solomon Islands*. Honiara.

²⁰ Government of Solomon Islands, MID. 2018. *Borrower's Completion Report: Transport Sector Flood Recovery Project in Solomon Islands (TSFRP)*. Honiara. Appendix 13. Post-project Household Survey Report. Although the PCR states that the same questionnaire was used for both household surveys, the scope of reported data in the PCR is significantly different from the 2015 Social Monitoring Report.

²¹ Footnote 4, Appendix 13 Table A12.2.

²² ADB. 2019. *Key Indicators for Asia and the Pacific 2019*. Manila. Country Tables: Solomon Islands consumer price indexes.

measures to promote gender equality and women's empowerment in the design were implemented. The GAP indicators were later adjusted downwards with 17 of the 24 GAP activities achieved, five partially achieved, and two—conduct gender-road capacity development trainings and ensure community awareness and skills training program—were not achieved because of the lack of funds. The GAP required gender-related provisions in the bidding and contract documents for civil works. The project enhanced benefits for women, particularly improving safe access. The project achieved a 10% women participation in jobs created by the project and CACs were established with the participation of 15 women.

22. The project had problems in the implementation of the LARF—commencement of works in three subprojects without full payment to affected persons—and with the achievement of the GAP targets. However, as most outcome and output targets were met, this validation assesses the project effective.

C. Efficiency of Resource Use

23. The PCR rated the project highly efficient. Emergency assistance projects required rapid implementation to restore services at least to pre-emergency levels. The loan and grant closing date was extended by 9 months because of the initial delays in completing the feasibility study and procuring civil works, adverse weather conditions, and additional delays in resolving land disputes. ADB twice rated the performance of the project as potential problem.

24. At appraisal, economic analysis was not included in view of the need for emergency intervention to restore damaged infrastructure. It was agreed that MID would undertake subproject feasibility, including economic evaluations, and select those that met the selection criteria included in the RRP.²³ Subprojects needed to be economically viable in accordance with ADB's guidelines.²⁴

25. DSC conducted economic evaluation for each of the 19 subprojects before construction.²⁵ The economic evaluation considered the do minimum option, which recovers the asset to its pre-flood condition and two additional options as incremental investments to build-back-better by rebuilding damaged assets to a higher standard of climate and disaster resilience. It used the world price numeraire with standard exchange rate factor of 1.0. Costs included initial investment and annual recurrent O&M costs. The economic evaluation did not consider land acquisition or resettlement costs. The conversion factor from financial (nominal) to economic cost for tradeable goods was 0.8, to exclude the domestic taxes. The economic evaluation was silent on shadow wage rate and used a conversion factor of 0.8 from financial (nominal) to economic cost. This implies a shadow wage rate of 0.8 if unskilled labor and material portion on civil works is equally split. Benefits included the difference between without project—do nothing—and do minimum option as incremental savings for each subproject's O&M cost, accident cost, vehicle operating cost, and revenue loss due to disruption of access. For the two additional options, the benefits were incremental from the do minimum option. The initial economic evaluation used a 50-year economic life. All costs and benefits were expressed in US\$. The project's overall economic internal rate of return (EIRR) for the 19 subprojects was 11.9% with EIRRs ranging from –27.9%

²³ ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Grant to Solomon Islands for the Transport Sector Flood Recovery Project*. Subproject Eligibility and Selection Criteria (accessible from the list of linked documents). Manila.

²⁴ ADB. 1997. *Guidelines for Economic Analysis of Projects*. Manila.

²⁵ ADB. 2015. *Transport Sector Flood Recovery Project in Solomon Islands: Feasibility and Economic Evaluation Report*. Consultant's Report. Manila (Loan 3152 and Grants 0403/0243). At the beginning, the economic evaluation was done for 19 subprojects in anticipation of these projects being covered with the ADB funds.

to +21.4%. Sensitivity and risk analyses were also conducted. The estimation of benefits was not adequately explained in the PCR for their validation.

26. Economic reevaluation at completion was prepared for all 13 subprojects under the project and the four funded by the government. Reevaluation was made for the entire project and not for each subproject. Costs and benefits were expressed using a world price numeraire as of May 2019 in US\$. Shadow wage rate was set at 0.80, standard exchange rate factor at 0.97, and the conversion factor from financial (nominal) to economic cost for tradeable materials 0.8 to remove domestic taxes. The reevaluation used a 30-year period from 2015 to 2044. Cost streams were actual investment costs and recurrent annual O&M costs divided into domestic and foreign items. Direct project benefits were computed using data from baseline and post-project household surveys. These included transport time savings for households and transport cost savings. The reevaluated EIRR was 29% for the overall project.

27. This validation notes that the Microsoft Excel worksheet provided as a basis for the reevaluated EIRR contains numerous arithmetic and formula errors and a number of inconsistencies. First, post-project household survey estimated that on average each household saved 5% time. This value was multiplied by \$9,652 in 2018 with no explanation on how it was calculated.²⁶ It appears to be average household income in 2018, but valuation of time saved should only take into account the time of travel during the day since travel saved during non-work (leisure) hours does not have as high an economic value as income-earning work hours. Second, as a proxy for transport cost savings, the earnings of public transport operators was estimated by multiplying average household public transport expenditure of \$9.99 per month from the survey by the number of households in the catchment (project impact) area. This value is total earnings, not the incremental earnings of operators from without project conditions. Third, although recurrent (O&M) costs should be annual, the reevaluation assumed these costs to incur every other year. Fourth, the PCR also incorrectly stated that the transport costs per trip increased by 2% from the pre-flood to post-project year, whereas this validation estimates that the average household transport cost decreased by 2.2% (para. 19). To avoid using a negative benefit (i.e., disbenefit), the reevaluation used the increase in earnings of public transport operators as a proxy for the user's willingness to pay.²⁷ Fifth, the number of households in the catchment area used in the Microsoft Excel worksheet is numerically wrong and should be 11,224 instead of 11,244. Sixth, the reevaluation should have been undertaken separately for the 13 subprojects as in the economic evaluation.

28. Considering that the reevaluated EIRR contains arithmetic and formula errors, an inconsistent methodology and differences between the approach, scope, and assumptions for the EIRRs at appraisal and completion, this validation assesses the project less than efficient.

D. Preliminary Assessment of Sustainability

29. The PCR rated the project likely sustainable indicating that sustainability depended on the capability of MID to maintain project assets. Although flooding is an annual occurrence, the existing institutional arrangements, including the NTF established under ADB technical assistance, should ensure development and maintenance of the transport infrastructure and improvement of the capacity of concerned government agencies and private sector. Efficient management of NTF and a good asset management system are commitments of MID for continued sustainability of the project. Annual appropriations would be made to the NTF to cover

²⁶ The validator's inquiry to the PCR originator on this matter was not answered.

²⁷ Based on the Microsoft Excel worksheet provided by the relevant ADB operations department in support of the reevaluated EIRR.

O&M expenses in compliance with covenants 19 and 20. The subprojects are important contributors to the region's GDP and it is well understood that any flood damage or lack of funds for regular maintenance causing an interruption to the movement of traffic along the Honiara–Guadalcanal network would have serious adverse impacts on socioeconomic development. Repairing damaged infrastructure was a high priority for the government. Based on the discussion above, this validation assesses the project likely sustainable.

III. OTHER PERFORMANCE ASSESSMENTS

A. Preliminary Assessment of Development Impact

30. The PCR rated the development impact of the project positive. The DMF performance target was by 2022. Solomon Islands' GDP growth restored to at least pre-flood levels of 3% per annum. The DMF indicates that the baseline 2014 GDP growth was expected to be –1%.²⁸ The project components alone cannot be credited as sole contributor to the national GDP—other factors impact on national economic performance. In the post-project period, GDP growth rates were 3.4% in 2016, 3.2% in 2017, and 3.0% in 2018.²⁹ The project enabled the government to rehabilitate or reconstruct the damaged infrastructure, and reestablish connectivity of approximately 100 km of the east-west road network on Guadalcanal. The post-project household survey also confirmed improved socioeconomic conditions for the communities. Household produce-based, post-project income increased by 0.7%–2.7% compared to pre-flood levels for 12 production categories and corresponding work-based household income increased by 1%. This validation assesses the development impact of the project satisfactory.

B. Performance of the Borrower and Executing Agency

31. The PCR rated the performance of the borrower and executing agency satisfactory. MID displayed a strong commitment to the project and it was implemented efficiently although there were delays over the feasibility study and procurement, and in the payment of compensation. Innovative actions were taken when necessary. For example, the CPIU faced a shortage of mid-level engineers early on and implemented a short-term project-specific graduate recruitment program where eight graduate engineers were hired, trained, and employed under the project. The MOFT approved the procurement contracts and made funds available without delays. This validation assesses the performance of the borrower and executing agency satisfactory.

C. Performance of the Asian Development Bank and Cofinanciers

32. The PCR rated the performance of ADB satisfactory. ADB's safeguard work quality at appraisal was satisfactory. The project was appropriately categorized in compliance with ADB's environment policy (2002) and Environmental Assessment Guidelines (2003). Environmental and social requirements were appropriate in the RRP, financing agreement, and project administration manual. The project was classified as effective gender mainstreaming and a GAP was prepared during appraisal. ADB's Pacific Liaison and Coordination Office in Sydney administered the project from 2014 to 2016 before handing it over to ADB's extension office in Solomon Islands in September 2016. ADB officers provided proactive support for project implementation, acting quickly to reallocate funds to avoid delays in civil works and consultant payments.

²⁸ Footnote 22, Table 2.2.11: Growth Rates of Real Gross Domestic Product (%). Page 105, actual GDP growth rate of Solomon Islands in 2014 was +1.8%.

²⁹ ADB. 2019. *Asian Development Outlook 2019: Strengthening Disaster Resilience*. Manila.

33. ADB conducted a series of missions including fact-finding, project inception, midterm review, three loan and grant reviews, and a project completion mission. ADB processed approvals and no objection reviews efficiently and provided timely guidance and recommendations. It released loan and grant funds on time and advised the executing agency throughout project implementation. This validation assesses performance of ADB satisfactory.

IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

A. Overall Assessment and Ratings

34. The PCR rated the project successful. The project design was relevant to emergency interventions to restore connectivity to essential services and minimize adverse socioeconomic impacts caused by flooding. It rated the project effective in achieving the outcome. All seven output targets were substantially met with minor differences in some physical measurements. The economic reevaluation showed the project to be viable and was rated highly efficient and likely sustainable.

35. This validation assesses the project successful. It was relevant, effective, and likely sustainable. This validation however found that the reevaluated EIRR was problematic with arithmetic and formula errors, an inconsistent methodology, and substantial differences in the approach, scope, and assumptions at appraisal and completion. These limitations resulted in the project being less than efficient.

Overall Ratings

Validation Criteria	PCR	IED Review	Reason for Disagreement and/or Comments
Relevance	Relevant	Relevant	
Effectiveness	Effective	Effective	
Efficiency	Highly efficient	Less than efficient	Basis for the reevaluated EIRR contains arithmetic and formula errors; an inconsistent methodology; and differences between the approach, scope, and assumptions at appraisal and completion.
Sustainability	Likely sustainable	Likely sustainable	
Overall Assessment	Successful	Successful	
Preliminary Assessment of Impact	Satisfactory	Satisfactory	
Borrower and executing agency	Satisfactory	Satisfactory	
Performance of ADB	Satisfactory	Satisfactory	
Quality of PCR		Satisfactory	Para. 43.

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

Source: ADB (IED).

B. Lessons

36. The PCR noted a number of issues and lessons and included recommendations.

37. Despite the completion of 13 subprojects, some sections of the east–west road not included under the project deteriorated and required immediate maintenance, especially the approach roads for the three high-level bridges. For future projects, involving bridge and culvert construction, the PCR noted the importance of ensuring that roads are constructed or rehabilitated as an integral part of bridge construction, and that they should be properly maintained.

38. The PCR also emphasized that since flooding is an annual concern, there is a need to protect and maintain river training work and manage floating debris, including logs, during the annual rainy season, and ensure sustainability through proper maintenance. Furthermore, when the CPIU faced a shortage of mid-level engineers, a short-term, project-specific, graduate recruitment program was implemented under which eight graduate engineers were engaged. This proved beneficial in Solomon Islands, with its shortage of trained professional staff.

39. The PCR also outlined issues and lessons to consider for future project design, including the time frame for implementing projects in the Pacific, implementation modalities, and the capacity of government institutions to design and implement transport projects. The PCR also noted lessons on the establishment of measurable indicators for assessing project achievements and related pre- and post-project surveys, and considering the country's vulnerability, the need to incorporate climate change and resilience components into future projects.

40. This validation offers additional lessons.

- (i) **Country-level lesson.** The PCR indicated that delays in completing construction is standard for Solomon Islands.³⁰ To counter this, project implementation requires frequent ADB supervision. The establishment of the ADB extension office in Solomon Islands was an appropriate measure that enabled more frequent monitoring and timely implementation. Assigning properly trained staff to the extension office would provide the assistance required.
- (ii) **Sector-level lesson.** The project did not include funding for rehabilitation or annual maintenance requirements, adversely affecting full utilization of subprojects. Securing funding for associated facilities, and mandating the executing agency to comply, are important contributors to the successful operation of transport sector projects.
- (iii) **Project-level lesson.** Attributing national GDP growth to the project impact was inappropriate since the planned interventions were not the only factors contributing to economic growth. Furthermore, the target of 30% labor in the GAP for women was not attainable because of the unique socioeconomic conditions within the project area. A more realistic labor participation rate should have been considered reflecting these realities. Establishing more valid indicators or defining a more appropriate impact is a lesson for future projects.

C. Recommendations for Follow-Up

41. The PCR recommended that socioeconomic household surveys in the project area be completed after road maintenance and rehabilitation so that the project's impact could be updated. The design for future similar projects should also include detailed topographical and land use surveys, assessment of upstream and downstream watersheds, and potential climate change effects. Taking these into account could result in a higher construction cost. However, life-cycle

³⁰ Footnote 6, para. 29.

costs would be lower. Also, ADB should continue coordinating with the government and monitor progress in resolving the legal dispute regarding land ownership concerning the construction of Mberande Bridge. This validation has no further recommendations.

V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Reporting

42. The project's DMF guided the monitoring and evaluation of the project. The executing agency demonstrated the ability to complete the project, although it should have anticipated delays in completion of the feasibility study and procurement during appraisal.

B. Comments on Project Completion Report Quality

43. This validation assesses PCR quality satisfactory since it is clear and generally follows ADB's Project Administration Instructions.³¹ However, there were issues with the economic reevaluation. Also, some lessons in the PCR seemed to be implementation issues, rather than lessons and the relevant PCR section includes both lessons and issues, contributing to this confusion.

C. Data Sources for Validation

44. Data sources for this validation included the RRP, PCR, mission reports, ADB Memoranda of Understanding, project background reports, the executing agency's completion report, and data files supporting the PCR.

D. Recommendation for Independent Evaluation Department Follow-Up

45. The PCR recommends ADB's Independent Evaluation Department to consider preparing the project performance evaluation report in 2022 when the maintenance should have been completed under the Sustainable Transport Infrastructure Improvement Program. This validation recommends further Independent Evaluation Department follow up accordingly.

³¹ ADB. 2009. Project Completion Report for Sovereign Operations. *Project Administration Instructions*. PAI 6.07A. Manila.