Validation Report
July 2020

Tonga: Cyclone Ian Recovery Project

Reference Number: PVR-702
Project Number: 48192-001
Grant Number: 0389 and 0390

Independent Evaluation ADB

Raising development impact through evaluation

ABBREVIATIONS

ADB	–	Asian Development Bank
DRF	–	disaster response facility
EMP	–	environmental management plan
IEE	–	initial environmental examination
MET	–	Ministry of Education and Training
MFNP	–	Ministry of Finance and National Planning
MOI	–	Ministry of Infrastructure
O&M	–	operation and maintenance
OIREP	–	Outer Island Renewable Energy Project
PAM	–	project administration manual
PCR	–	project completion report
PMU	–	project management unit
PPER	–	project performance evaluation report
TPL	–	Tonga Power Limited

NOTE

In this report, "$" refers to United States dollars.

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PROJECT BASIC DATA

Project number	48192-001	**PCR circulation date**		5 December 2019
Grant numbers	0389 and 0390	**PCR validation date**		Jul 2020
Project name	**Cyclone Ian Recovery Project**			
Sector and subsector	Energy	Energy sector development and institutional reform		
Strategic agenda	Environment sustainable growth Inclusive economic growth			
Safeguard categories	Environment		B	
	Involuntary resettlement		C	
	Indigenous peoples		C	
Country	Kingdom of Tonga		**Approved** ($ million)	**Actual** ($ million)
ADB financing ($ million)	**ADF:** 4.52 (0389)	**Total project costs**	10.70	9.92
	OCR: 0.00	**Grant** 0389	4.52	4.47
		Borrower	1.91	1.82
		Beneficiaries	0.00	0.00
		Others	0.00	0.00
Cofinancier	Government of New Zealand	**Total cofinancing** 0390	4.27	3.63
Approval date 0389 and 0390	16 May 2014	**Effectiveness date** 0389 and 0390	24 Sep 2014	17 Sep 2014
Signing date 0389 and 0390	25 June 2014	**Closing date** 0389 and 0390	30 Jun 2018	18 Oct 2019
Project officers		**Location**	**From**	**To**
	M. Paniagua	ADB headquarters	Aug 2014	Dec 2014
	W. Y. Lee	ADB headquarters	Jan 2015	Oct 2015
	V. Narayan	Pacific Regional Office	Jan 2015	Dec 2019
IED review				
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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.
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I. PROJECT DESCRIPTION

A. Rationale

1. Category 5 Tropical Cyclone Ian hit Tonga's waters and passed directly over the northeast islands of Ha'apai on 11 January 2014. The cyclone caused substantial damage to homes, schools, electricity network, and other public infrastructure. About 5,000 people—66% of Ha'apai's population—were directly affected. The government declared a state of emergency on the same day. On 23 January, the government formally requested international assistance. The preliminary estimate of damage and losses was $55.3 million, equivalent to some 12.1% of Tonga's gross domestic product.[1] This was based on the Asian Development Bank (ADB) and

[1] ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Grant and Administration of Grant to the Kingdom of Tonga for the Cyclone Ian Recovery Project.* Manila.

the World Bank's joint rapid assessment and the government's review of the damage assessment, conducted with support from the United Nations' Pacific Humanitarian Team.

2. The government prepared the Tropical Cyclone Ian Response Plan[2] with the assistance of development partners. The response plan identified housing, schools, and main electricity network as recovery and reconstruction priorities. It adopted the "build back better" principle to ensure improved climate and disaster resilience of the reconstructed assets.[3]

3. On 7 February 2014, the Ministry for Finance and National Planning (MFNP) requested for ADB's support through the Disaster Response Facility (DRF) for post-cyclone reconstruction in the power and education sectors. With comparative advantage and ongoing projects in these sectors in Tonga, ADB would be able to conduct rapid inception, scaling up, and implementation of the reconstruction works. In response to the request, ADB prepared its emergency assistance as a stand-alone project that would reconstruct and climate- and disaster-proof the main electricity network and damaged school facilities in Ha'apai.

B. Expected Impact, Outcome, and Outputs

4. The project's expected impact was more climate- and disaster-resilient electricity and education services for the Ha'apai people. The intended outcome was restoration of electricity and resumption of normal education services at pre-Cyclone Ian levels.

5. The project's three outputs were (i) Ha'apai electricity network reconstructed and climate- and disaster-proofed; (ii) school buildings reconstructed and climate- and disaster-proofed; and (iii) asbestos from damaged buildings removed.

C. Provision of Inputs

6. The project, consisting of an ADB grant and the administration of a grant from the Government of New Zealand, was approved on 16 May 2014.[4] Both grant agreements were signed on 25 June 2014 and made effective on 17 September 2014.[5] The project was physically completed on 31 December 2017, with the financial closing on 18 October 2019, as planned. The implementation period of 3 years and 7 months, longer than the typical period of 2 years for emergency assistance projects, was justified in view of the complex design and reconstruction at various remote locations with improved disaster resilience under the build back better principle.

7. The total project cost at appraisal was $10.7 million, with an ADB grant of $4.5 million, a Government of New Zealand grant of $ 4.3 million, and counterpart funding of $1.9 million from the government and the Tonga Power Limited (TPL). The ADB grant had contingencies of $0.6 million and the Government of New Zealand grant included contingencies of $0.5 million. At completion, output 1's actual cost increased from $3.0 million to $3.4 million due to the additional mechanical and equipment cost required for enhancing climate resilience. Output 2's

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[2] Government of Tonga. 2014. *Tropical Cyclone Ian Response Plan*. Nuku'alofa.

[3] The "Build Back Better" concept signifies an ideal reconstruction and recovery process that delivers resilient, sustainable, and efficient recovery solutions to disaster-affected communities. The motivation behind this concept is to make communities stronger and more resilient following a disaster event. S. Mannakkara, S. Wilkinson, and T.R. Francis. "Build Back Better" Principles for Reconstruction. *Encyclopedia of Earthquake Engineering*. https://buildbackbetter.co.nz/wp-content/uploads/2017/02/Build-Back-Better-Principles-for-Reconstruction-Published-Chapter.pdf.

[4] Footnote 1.

[5] ADB. 2019. *Completion Report: Cyclone Ian Recovery Project in Tonga*. Manila.

actual cost remained largely the same as the estimated appraisal cost at $6.4 million. The cost increase in civil works and consulting services offset the cost saving in mechanical and equipment. For output 3, the cost decreased from $0.22 million to $0.15 million. With the reallocation of grant proceeds between cost categories including contingencies, the combined effect of cost variations slightly decreased actual project cost of $9.9 million. At completion, ADB grant's actual disbursement was $4.5 million and $3.6 million from the Government of New Zealand grant, totaling $8.1 million. The undisbursed balance of $0.7 million was canceled at financial closing in 2019.

8. The project's output 1 did not involve consultant recruitment because TPL had extensive in-house expertise and resources for delivering the technical works. For output 2, two individual international consultants—an architect and an engineer—were recruited, replacing the original plan of recruiting an international architect and a national architect to support the Ministry of Infrastructure (MOI) and the Ministry of Education and Training (MET). The change was due primarily to the delay in recruiting the project management unit (PMU) for ADB's ongoing Climate Resilience Sector Project (CRSP),[6] to which output 2 was designed to be linked. Another factor for the consultant arrangement was that the MOI staff was overstretched between several ongoing development partner-supported reconstruction projects.

9. The project was classified category B for environment. There were only small, temporary, and localized adverse impacts on the environment. These were readily mitigated by measures in the environmental assessment and review framework, two initial environment examinations (IEEs) and the contractor's environmental management plans (EMPs). The project was classified category C for both involuntary resettlement and indigenous people.

D. Implementation Arrangements

10. MFNP was the executing agency, responsible for project implementation. TPL was the implementing agency for output 1 and MOI was for outputs 2 and 3. MET, the Ministry of Public Enterprises, and the Tonga Energy Road Map Implementation Unit provided policy oversight support. This validation considers the implementation arrangements sound, replicating the implementation arrangements in two ongoing ADB projects in Tonga during the period.

11. The original design at appraisal was that the existing project management units (PMUs) under two ongoing ADB projects in Tonga—the Outer Island Renewable Energy Project (OIREP)[7] and the CRSP[8]—could be utilized to support the project. According to the project completion report (PCR), this arrangement was executed well with the OIREP PMU for output 1, but was unsuccessful in CSRP's case for outputs 2 and 3. The CRSP PMU consulting services contract was not signed until 17 months after project effectiveness in September 2014. Resources at MOI were already overstretched between several ongoing post-cyclone reconstruction works. To minimize delays, a national project coordinator was recruited under the CRSP. The project also used the services of the CRSP accountant and national social safeguards officer, but did not involve the full CRSP PMU staff even after they were recruited. The project mostly relied on the services of the international architect and the engineer to provide implementation support to MOI.

[6] ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Administration of Grant to the Kingdom of Tonga for the Climate Resilience Sector Project*. Manila.

[7] ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Grant and Administration of Grant to the Kingdom of Tonga for the Outer Island Renewable Energy Project*. Manila.

[8] Footnote 6.

II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

12. The PCR rated the project highly relevant as it was clearly needed to respond to the government's formal request for international assistance for post-cyclone reconstruction.[9] The project's intended outcome—electricity supply restored and normal education services resumed at pre-Cyclone Ian levels in schools for the Ha'apai people—was strictly aligned with the main electricity network, school, and housing reconstructions identified in the government's Tropical Cyclone Ian Response Plan, as well as the government's national action plan on climate change adaptation and disaster risk management.[10] It was also strategically aligned with ADB's Pacific Approach,[11] serving as the country partnership strategy for Tonga, in which managing risks from natural disasters and climate change impacts are defined as a strategic priority.

13. The project design was appropriate that enabled the intended outcome to be achieved. It was prepared through ADB's DRF as a stand-alone project, with outputs to address disaster response and recovery needs in the power and education sectors. The project covered these sectors because of ADB's comparative advantages and ADB had ongoing projects in these sectors in Tonga—the OIREP in the energy sector and the CRSP in the education sector. The project was designed to use the existing implementation arrangements established under these two projects to enable the project's rapid inception and efficient implementation. The Government of New Zealand's grant cofinancing also helped address the DRF allocation constraint and enabled more reconstruction needs to be met effectively. The project did not duplicate, but rather well complemented the emergency assistance of other development partners, such as the World Bank's housing reconstruction, and other bilateral donors' livelihood recovery programs.

14. The project's minor change in scope on the reconstruction of the public market, the Ha'apai courthouse, and the MOI workshop building, was a timely and appropriate response to the government's request.[12] The successful delivery of these reconstructed public buildings further enhanced the project's relevance in post-cyclone reconstruction. The project adopted the build back better principle to ensure that the reconstructed infrastructures achieved higher standard and became more disaster- and climate change-resilient. The PCR stated that outputs had innovative design and technical specifications with good replicability, scalability, and transformational effects. Examples included the design of classroom and staff quarters, cyclone shutters and folding partitions between classrooms, and the use of underground electricity connections to minimize the use of cyclone-susceptible overhead cables. Similar design and specifications were already replicated in the reconstruction works after Cyclone Gita in 2018.

15. The PCR-stated innovations appear to be the intuitive interventions that would be needed in cyclone-susceptible areas that the original construction unfortunately missed out. This validation assesses the project highly relevant, as it addressed the urgent need for reconstruction in the cyclone-ravaged country, with the flexibility of effecting a minor change in scope to respond to government needs, and with a general view of building back better infrastructure.

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[9] ADB. 2016. *Guidelines for the Evaluation of Public Sector Operations.* Manila.

[10] Government of Tonga. 2010. *Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management, 2010–2015*. Nuku'alofa.

[11] ADB. 2016. *Pacific Approach, 2016–2020.* Manila.

[12] According to the PCR, the reconstruction of the public market was originally in the scope of the World Bank's Tonga Cyclone Ian Reconstruction and Climate Resilience Project, but was dropped in view of cost overruns.

B. Effectiveness in Achieving Project Outcome and Outputs

16. The PCR rated the project highly effective because its intended outcome and output targets were met, and some were exceeded. According to the report and recommendations of the President (RRP), the intended outcome was electricity supply restored and normal education services resumed at pre-Cyclone Ian levels for the people of Ha'apai. The specific outcome targets that were expected to be achieved by end-2018 included (i) main electricity grid on Ha'apai reconstructed and upgraded and electricity supply resumed; (ii) education services resumed in the rebuilt and climate-proofed school buildings on Ha'apai; and (iii) materials containing asbestos removed from damaged buildings and disposed. All these targets were achieved substantially ahead of schedule, with outcome targets (i) and (ii) in 2016, and outcome target (iii) in 2015. As stated in the PCR's design and monitoring framework, an additional outcome attributable to the project was local agricultural goods trading and judicial services resumed in rehabilitated climate-proofed buildings. This additional outcome was generated through the additional project activities and outputs under the approved minor change in scope.

17. Output 1 of the project aimed to fully restore Ha'apai's electricity supply network and enhance its climate and disaster resilience. At completion, output achievements included (i) reconstruction of the distribution network and upgrading of its capacity from 6.6 kilovolts to 11 kilovolts; (ii) construction and climate-proofing of 16 kilometers (km) of high-voltage overhead bundle lines (target 15.2 km); (iii) construction and climate-proofing of 34.7 km of low-voltage overhead lines (target 34.7 km); (iv) reconnection and climate-proofing of underground cables to 1,010 households (target 1,000) and 27 commercial and government consumers (target 30) to TPL network; (v) installation and climate-proofing of 161 LED streetlights (target 161); (vi) distribution of temporary solar lanterns and community solar chargers to 610 households on the outer islands of Ha'apai (target 610); and (vii) construction and climate-proofing of a 1.5 km high-voltage cable to service the new Ha'apai hospital (target 2 km). All of these were achieved in early 2016 (originally scheduled at the end of 2017), with the exception of the cable in output (vii) completed in June 2018 due to the delay in design works for the hospital in Lifuka. The reduced length of the cable, from the initial estimate of 2 km to 1.5 km, was due to change in hospital location that shortened the cable route and the underground trenching to minimize climate disruptions.

18. Output 2 supported the reconstruction, restoration, and climate- and disaster-proofing of school infrastructure that the cyclone damaged in Ha'apai. The output's specific subcomponents included (i) constructing improved building structures, including classrooms and staff quarters; (ii) upgrading water and sanitation facilities; and (iii) installing necessary fixtures, furniture, and materials that were necessary to create a safe environment conducive to learning and reduce the number of days of school closure as a result of extreme weather and natural disaster. The target at appraisal was 10 primary schools and up to 6 secondary schools. At completion, the project reconstructed, climate-proofed, and equipped a total of 12 primary schools and 4 secondary schools,[13] all were reopened in 2016, ahead of the December 2017 timeline set at appraisal. The project also delivered unplanned additional deliverables under output 2 in May 2018 ahead of the original project closing date—rehabilitation of three public buildings in Lifuka, including the public market, the Ha'apai courthouse, and the MOI workshop building. The minor change in scope covered these deliverables that were well-aligned with the project's overarching objective to provide more climate- and disaster-resilient infrastructure and services to the people of Ha'apai.

[13] This validation notes that the school building types changed from what was targeted, although the targeted total of 16 buildings was still fulfilled.

19. Output 3 to remove and dispose asbestos-containing materials was completed in April 2015. According to the PCR, due to the limited local knowledge on safe handling and lack of disposal sites for asbestos in Ha'apai, an international asbestos removal specialist supervised all asbestos-removal activities and safely transported contaminated materials to a landfill in Tongatapu for disposal. The removal of asbestos created a safer working environment for the subsequent reconstruction of damaged buildings.

20. On compliance with grant covenants, all but one of the 43 loan covenants were complied. The only covenant that was partially complied with was the rationalization study of secondary schools to be reconstructed. It was delayed due to the government's focus on primary schools.

21. The project was correctly classified as category B for environment and category C for both involuntary resettlement and indigenous people in accordance with ADB's Safeguard Policy Statement (2009).[14] The project's safeguard performance was considered satisfactory. At project preparation, an environmental assessment and review framework was prepared. The two IEEs, including one for output 1 prepared in 2015 and one for output 2 prepared in 2014, were considered appropriate for the project scale and location. The mitigation measures in the IEEs were appropriate. The environmental management plans (EMPs) incorporated into the IEEs were considered commensurate with the scale of the environmental and social risks. As explained in the safeguards monitoring closure report prepared in 2018, the IEEs and EMPs were prepared during early implementation due to the project's disaster response nature. Following this, individual contractor's EMPs were prepared for each output before civil works commenced. The PCR and the safeguards monitoring closure report provided sufficient evidence to suggest that the project complied with ADB's requirements and implemented the contractor's EMPs.

22. The aforementioned evidences indicated above satisfactory achievement of project outcome, satisfactory output targets, and satisfactory safeguard performance. In particular, the early completion of some project components (para. 16) meant earlier restoration of infrastructure and, hence, also resulted in benefits that accrue to calamity-affected Tongans. The project was flexible to accommodate three additional buildings for rehabilitation (para. 18) contributing to outcome achievement and was commendable given the time constraints typically faced by emergency assistance projects. In this regard, despite the minor shortfall in reenergizing commercial and government consumers (27 of 30 targets), this validation, on the whole, assesses the project effective.

C. Efficiency of Resource Use

23. The PCR rated the project efficient in using resources to achieve the envisaged outcomes and outputs, as all three original outputs and the additional deliverables added to output 2 through the change in scope were delivered on budget and on or ahead of schedule. This implies that the PCR used process efficiency as the primary indicator. While it is not against the Guidelines for the Evaluation of Public Sector Operations, which allows a rating of efficiency to be established without an EIRR or unit cost analysis,[15] the PCR's discussion in this regard was inadequate and could have been more informative and elaborate.

24. The project's RRP made it clear that economic analysis for outputs 1 and 2 would be conducted before project implementation. The economic analysis would include demand analysis, alternatives and least-cost analysis, benefit–cost analysis, sustainability analysis, distribution

[14] ADB. 2009. *Safeguard Policy Statement*. Manila.
[15] Footnote 9.

analysis, and sensitivity and risk analyses. The with-project and without-project scenarios would be discussed clearly. It further pointed out that in case it was impossible to undertake an accurate benefit–cost analysis for output 2, least-cost analysis would be used to ensure efficient use of project resources. The project implementation plan formulated in the project administration manual (PAM) explicitly listed economic analysis for outputs 1 and 2 as part of the due diligence to be completed.[16]

25. The practice of not conducting economic and financial analyses at approval is common for emergency assistance projects. Only six out of the 40 ADB emergency assistance projects approved between 2004 and 2018 had completed economic analysis before Board approval.[17] Experience shows that the deferral of economic analysis was not identified as a primary reason for any subsequent delay in project implementation. Despite these facts, it is not clear to this validation whether and when the economic analysis for outputs 1 and 2 was conducted, and what were the outcomes of the cost–benefit analysis and/or cost-effectiveness analysis. The PCR did not provide this information, nor did it present any information relating to the reevaluation of the relevant economic performance indicators at completion.

26. The project achieved cost savings at completion, from the $10.7 million estimated project cost at appraisal to the actual project cost of $9.9 million. According to the PCR, the savings could be attributed to (i) the well-researched cost estimate and inclusion of contingencies for the additional transportation costs to reach outer islands; (ii) converting international competitive bidding packaging for output 2 works to shopping, direct contracting, and national competitive bidding expedited the procurement process and completion of works, thus minimized the risk of costs escalation over a longer construction period; and (iii) using good-performing and reliable local contractors that worked in the project-affected areas minimized mobilization costs. Another contributing factor was the use of an imprest account to quickly turn around contractor claims, which kept the contractors satisfied and engaged. This ensured that implementation was consistently on track and any delay and/or cost overrun was avoided.

27. In view of the emergency type of assistance, the project was able to immediately and rapidly restore damaged basic structures, infrastructure, and productive activities.[18] The fact that the outcomes and outputs (both the originally planned and the additional ones under the change in scope) were achieved on or ahead of schedule, and the project cost was well-controlled, strongly justified the efficiency of the project's use of available resources. This validation is of the view that the absence of information relating to economic analysis at appraisal and at completion is considered more of a PCR quality issue than a project performance issue. Based on these considerations, this validation assesses the project efficient.

D. Preliminary Assessment of Sustainability

28. The PCR rated the project likely sustainable. It assessed sustainability on output 1's electricity reconstruction and climate- and disaster-proofing. State-owned electricity utility TPL is responsible for power generation, distribution, retailing, maintenance, network expansion, and upgrade planning to ensure electricity supply to all consumers connected to Tonga's main grids. Regular inspection and maintenance of energy sector assets is an integral part of TPL's annual work plans. From this perspective, it is expected that TPL will regularly maintain the electricity network upgraded in Ha'apai for long-term sustainability.

[16] Project Administration Manual (accessible from the list of linked documents in Appendix 2 of the RRP).
[17] ADB. 2019. *Review of the 2004 Disaster and Emergency Assistance Policy*. Manila.
[18] ADB. 2004. *Disaster and Emergency Assistance Policy*. Manila.

29. However, the PCR did not assess output 1's financial sustainability. According to the RRP, financial analysis and evaluation was to be undertaken to determine the project's financial viability and sustainability. Specifically, for output 1, the RRP noted that a financial cost–benefit evaluation would assess the financial viability and a financial analysis would assess TPL's historical and projected financial statements and key financial performance indicators. The project's implementation plan formulated in the PAM also explicitly listed financial analysis for output 1 (and output 2) as part of the due diligence to be completed. The PCR did not provide information in this regard, either at appraisal or at completion.

30. The PCR assessed output 2—school buildings reconstruction and climate- and disaster-proofing—from the technical, institutional, and social perspectives. All rehabilitated schools and staff quarters were constructed with the necessary resilient features to withstand stronger cyclones. Design innovations helped ensure long-term sustainability of the school infrastructure. For example, cyclone shutters for classrooms and staff quarters can be easily placed over windows during cyclone alerts and annual school holiday, Tonga's peak season of cyclones. When not in use, the shutters can be stored right below the windows. The design of folding partitions between two classrooms enables easy creation of a mini hall for larger school events and regular meetings of parent–teacher associations. Similar designs and specifications have been replicated in the reconstruction of schools in Tongatapu after Cyclone Gita in 2018. The PCR indicated that the reconstructed school infrastructure should not require significant maintenance for the first 5 years. After 5 years, routine maintenance works will need to be done every 3 to 5 years, under the leadership of MET and MOI. The PCR also pointed out that the newly constructed and upgraded staff quarters created improved living conditions for teachers who will have stronger motivation to stay with the schools for longer time. Teachers and parents are also expected to look after the school premises and gardens.

31. As for output 2's financial sustainability, the RRP stated that financial analysis was to be conducted to assess the projected incremental recurrent costs associated with output 2 against the capacity to cover these costs. However, other than simply noting that MET receives annual budget allocations for operation and maintenance (O&M) of school infrastructure, the PCR did not provide further analysis, either qualitative or quantitative. Further validation, possibly through a project performance evaluation report (PPER), may be warranted in order to validate sustainability of reported outputs and outcomes, given the generally limited information in the PCR.

32. Financial sustainability is one sub criterion of a project's sustainability,[19] and this is applicable to TPL. The PCR lacked relevant details such as annual budgetary appropriations for O&M (applicable to both TPL and MET), preventing a thorough assessment on the likelihood of the financial viability and sustainability of the project's outputs being subject to material risks and the sufficiency of measures mitigating the risks. This validation has looked at TPL's *Annual Report 2019*.[20] In the said report, TPL's 2019 net profit totaled $2.2 million, down from $4.7 million in 2018. While TPL still registered positive income in 2019, the decrease may have an effect on the capacity to fulfill required annual O&M activities in the company work plan. Though this validation does not have additional information during this time, it can verify further. In the case of the rehabilitated school buildings completed in 2016, the PCR stated that maintenance will be needed starting 2021. Therefore, this validation infers that, based on available information, project outputs and outcomes could be sustainable in the short run.

[19] Footnote 9.

[20] Tonga Power Limited. 2020. *Annual Report 2019*. Nuku'alofa. http://www.tongapower.to/Portals/2/English%20Annual%20Report%202019.pdf.

33. While this validation cannot clearly ascertain long-term sustainability of the restored infrastructures due to lack of information in the PCR, it appears that these may be sustainable in the short run, based on the aforementioned evidences. Hence, this validation assesses the project likely sustainable, without prejudice to a further in-depth evaluation to determine the long-term sustainability.

III. OTHER PERFORMANCE ASSESSMENTS

A. Preliminary Assessment of Development Impact

34. The PCR rated the project's development impact satisfactory. The project successfully made its envisaged impact to provide more climate- and disaster-resilient electricity, education, and government services to the people of Ha'apai. For electricity, 100% of Ha'apai electricity network was fully restored and commissioned in February 2016. Consumer connections were realized when their individual properties were completed. For education, 12 primary and 4 secondary schools were reconstructed in 2016 and students were able to return to classes by end of 2016. These improved school facilities benefited a total of 1,355 students by end of 2019, exceeding the baseline of 1,293 students in temporary shelters in 2014. For government services, the public market was restored and handed over to provide a safe and clean marketplace for local farmers to sell their produce and crafts.

35. Apart from the envisaged impact on electricity and education services provision, the PCR indicated that the project also generated positive social, economic, and institutional impacts. The reconstruction works created employment opportunities, providing incomes to the workers and developing their skills and experience for future opportunities. Retail activities increased significantly due to the influx of workers. Small businesses were established to meet this increased demand. Some of them continued to operate, post-reconstruction. While the reconstruction-related economic boom was temporary, the restoration of a reliable electricity supply and reconstruction of school infrastructure and public buildings will generate long-term social and economic benefits for local people. Institutionally, TPL's experience of being the implementing agency for output 1 has proven useful for it to implement additional ADB energy projects. The capacity of MOI as the implementing agency for outputs 2 and 3 and that of MFNP as the executing agency was strengthened. Based on the above evidences provided in the PCR, this validation assesses the development impact of the project satisfactory.

B. Performance of the Borrower and Executing Agency

36. The PCR rated the performance of MFNP as borrower and executing agency satisfactory. Despite staffing limitations, the government provided sufficient support to the project while simultaneously dealing with multiple development partners on post-cyclone reconstruction. Responsible line agencies provided ADB with the needed data and information for project design and formulation. The borrower provided acceptable financial management arrangements and acceptable mechanisms for meeting counterpart funding needs.

37. TPL, as the implementing agency for output 1, mobilized its resources immediately upon grant effectiveness. It used direct contracting for repeat orders of supplies from its existing suppliers that were already competitively selected and frequently used, thereby effectively shortening the time required for procurement, transportation, and installation. The reconstruction works were delivered well ahead of planned schedule. As the implementing agency for outputs 2 and 3, MOI had a lower-than-expected responsiveness to ADB's requests at the initial stage of the project implementation, due to limited resources and overstretched capacity for the several

ongoing post-cyclone infrastructure rehabilitation and reconstruction initiatives. Following the recruitment of one architect and one engineer in early 2015, MOI became more responsive and was able to provide the required inputs on time. MOI delivered all activities and deliverables under outputs 2 and 3 ahead of schedule. Both TPL and MOI provided adequate support to project review missions and provided regular progress reports on implementation. Given these points, this validation assesses the performance of the borrower and executing agency satisfactory.

C. Performance of the Asian Development Bank and Cofinancier

38. The PCR rated ADB's performance satisfactory. ADB responded swiftly to the government's request after the cyclone. ADB and the World Bank carried out a rapid assessment to estimate the damages and losses. At a donor roundtable discussion, ADB successfully negotiated a cofinancing package with the Government of New Zealand. ADB provided strong support to and closely worked with the borrower, executing agency, and implementing agencies. It fielded three implementation assistance missions and seven review missions. During reconstruction, the ADB review teams undertook extensive site visits; worked closely with the government, consultants, and the contractors on key project implementation issues; and helped mitigate emerging issues. ADB gave timely feedback and approval on change in scope. ADB responded timely to and addressed the Government of New Zealand's concerns on output 2's delay—the change in procurement from international competitive bidding to direct contracting, shopping, and national competitive bidding, and change in disbursement arrangements which ensured that the cofinancing grant was disbursed before ADB financing—accelerated reconstruction progress. ADB worked with the World Bank on outputs 2 and 3.

39. ADB's safeguard work quality at appraisal is considered satisfactory. The project was correctly classified as category B for environment and category C for both involuntary resettlement and indigenous people. The translation of environmental and social requirements to grant agreement and PAM was adequate. The quality of the two IEEs and the EMPs was also adequate. ADB's safeguard work quality at supervision is also considered satisfactory. While mission reports contained limited reference to environmental issues and there were no references to the submission of the semiannual monitoring reports, the environmental impacts were limited and the asbestos removal, a key potential risk, was completed in 2015. The Safeguards Monitoring Closure Report in 2018[21] noted that, due to the disaster nature of the project, monitoring and reporting of safeguard compliance was conducted on a quarterly basis and incorporated into the project quarterly reports.

40. The PCR rated the cofinancier's performance satisfactory. The Government of New Zealand provided a cofinancing grant to support the project's output 2. Other than this grant, it provided separate bilateral assistance of $1.4 million immediately after the cyclone, restoring power lines and connection temporarily to priority consumers. This bought time for TPL to prepare a detailed plan and cost estimates for permanent repairs and climate-proofing of the affected network. As the cofinancier, the Government of New Zealand was highly committed to supporting the project. Disbursements of grant proceeds were timely. Their representatives joined in the project's inception mission and several review missions. Based on the above, this validation assesses both ADB's and the cofinancier's performance satisfactory.

[21] ADB. 2018. *Safeguards Monitoring Closure Report. Cyclone Ian Recovery Project in Tonga.* Manila.

IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

A. Overall Assessment and Ratings

41. The PCR rated the project highly successful, being highly relevant, highly effective, efficient, and likely sustainable. This validation assesses the project highly relevant, effective, efficient, and likely sustainable. Although an economic analysis was not discussed, the project was successful in achieving its targets within the budget and ahead of schedule in the context of emergency assistance, thereby justifying the project being efficient in resource use. Overall, this validation assesses the project successful.

Overall Ratings

Validation Criteria	PCR	IED Review	Reason for Disagreement and/or Comments
Relevance	Highly relevant	Highly Relevant	
Effectiveness	Highly effective	Effective	Validation notes some shortfall in reenergizing commercial and government consumers (27 out of 30 targeted) and slight change in school building types rehabilitated (from 10 primary/6 secondary, to 12 primary/ 4 secondary).
Efficiency	Efficient	Efficient	
Sustainability	Likely sustainable	Likely sustainable	
Overall Assessment	**Highly successful**	**Successful**	
Preliminary assessment of impact	Satisfactory	Satisfactory	
Borrower and executing agency	Satisfactory	Satisfactory	
Performances of ADB and cofinancier	ADB: Satisfactory Cofinancier: Satisfactory	ADB: Satisfactory Cofinancier: Satisfactory	
Quality of PCR		Less than Satisfactory	Para. 48.

Note: Cofinancier is the Government of New Zealand.
ADB = Asian Development Bank, IED = Independent Evaluation Department, PCR = project completion report.
Source: ADB (IED).

B. Lessons

42. The PCR identified five lessons. First, it is important for future post-disaster reconstruction projects to incorporate into the design the recruitment of separate project management consulting services even if there are ongoing ADB initiatives on the project sites. This will help expedite recovery efforts and may lessen the incidence of overstretching government capacity during the post-disaster period. Second, adequate attention to ascertain financial absorptive capacity of the government in crisis situations, given the possible deluge of development aid from various development partners, is also imperative. Coordination among displaced persons is also important, to streamline recovery interventions and avoid duplication. Third, using the procurement procedural flexibilities provided under ADB's Disaster and Emergency Assistance Policy can boost the effectiveness and efficiency of post-disaster response projects. Fourth, tapping into existing local knowledge and practices can effectively address the challenges of logistics and site conditions.

Fifth, innovative design features and practices with high replicability and scalability can maximize the benefits of the build back better approach to post-disaster reconstruction.

43. This validation agrees with the above lessons, which are highly relevant and useful to future ADB-supported operations in disaster and emergency assistance. This validation identifies two additional lessons at the project level: First, the use of an imprest account for regular and quick reimbursements of claims can effectively keep contractors/consultants satisfied and engaged, and therefore, avoid the risk of progress delay and/or cost overruns. Second, adequate flexibilities in project design and implementation to manage unexpected situations and meet reasonable requirements from the government, cofinanciers, and/or development partners are important to realize smooth progress and timely completion of reconstruction works, and foster and strengthen long-term partnerships in future emergency assistance projects.

C. Recommendations for Follow-Up

44. The PCR offered a general recommendation that development partners should encourage and assist smaller Pacific island countries to set up depositories to store important documents to facilitate project progress. This validation finds this recommendation reasonable and relevant.

45. As for project-related recommendations, this validation is of the same view with the PCR that MET and MOI should jointly conduct inspections starting in 2020 to ensure the regular maintenance of the rehabilitated school infrastructure. This validation suggests that the inspections should also cover the public buildings rehabilitated, which were additional outputs of the project—the public market, Ha'apai courthouse, and MOI workshop building. This validation also agrees that the PPER may be prepared in the near future, given that the major project outputs have already been in use since their delivery in 2016.

46. However, this validation disagrees with the PCR that no major ADB follow-up action is needed as all outputs were fully completed and already operational. The PCR failed to cover the economic and financial analysis-related information, despite clear statements in the RRP and PAM to conduct economic and financial analysis before project implementation. More details in this regard will help ascertain the project's performance with respect to efficiency and sustainability.

V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Reporting

47. The project progress was monitored and facilitated through a series of ADB's review missions and implementation assistance missions. The New Zealand High Commission joined some missions in Nuku'alofa. TPL for output 1 activities and MOI, with assistance of the consultant engineer, for outputs 2 and 3 prepared and submitted quarterly progress reports, covering implementation progress, procurement, disbursements, and compliance with safeguards. MFNP, as the executing agency, submitted audited financial statements to ADB as required.

B. Comments on Project Completion Report Quality

48. The PCR was consistent with the Project Administration Instruction 6.07A[22] and the Guidelines for the Evaluation of Public Sector Operations. It provided a comprehensive

[22] ADB. 2019. Project Completion Report for Sovereign Operations. *Project Administration Instruction* 6.07A. Manila.

description of the project design and implementation and presented a good assessment of the achievement of impact, outcomes, and outputs against the established criteria. Major implementation issues were clearly explained, such as the change in scope, delay, procurement, and disbursement, among others. The PCR identified relevant and useful lessons for ADB and its developing member countries, with respect to future ADB-supported operations in disaster and emergency assistance. The PCR's shortcoming is its inadequacy to substantiate its ratings for the project's efficiency and sustainability. It did not provide any information relating to economic and financial analysis; the RRP and PAM explicitly noted that such due diligence had to be conducted before project implementation. These shortcomings prevented a more comprehensive and better nuanced validation exercise; hence, this validation assesses PCR quality less than satisfactory.

C. Data Sources for Validation

49. Data sources for this validation include the PCR, RRP, minutes of staff review meeting, implementation assistance mission reports, review mission reports, safeguard assessment, national and ADB strategies, and ADB guidelines.

D. Recommendation for Independent Evaluation Department Follow-Up

50. It is recommended that IED's follow-up activities focus on the project's economic analysis and financial viability and sustainability analysis, which was explicitly included in the PAM's project implementation plan but not discussed in the PCR. This will be helpful in determining the project's performance with respect to efficiency and sustainability (para. 48). In particular, a PPER may be considered starting 2021 to further validate project outcomes and sustainability, as rehabilitated infrastructures were completed and already put to use in 2016. The PPER could provide additional value to ADB, as it can inform further on the utility of the emergency loan assistance modality employed for this project, such as, what worked and what did not.