FINAL REPORT

Review and Evaluation of the Performance of Sustainable Transport Infrastructure Improvement Program (STIIP) and the National Transport Fund (NTF) in the Solomon Islands

December 2022

REVIEW SUMMARY

Background

Building on lessons learned from its Transport Sector Development Project (TSDP), the Asian Development Bank (ADB) commenced implementation of the five-year Sustainable Transport Infrastructure Improvement Program (STIIP) in 2016. STIIP closed on 30 June 2022, one year later than planned.

The STIIP budget was USD78 million (approx. AUD115 million) with financing to be provided through: a results-based loan from the ADB (USD21 million); a grant from the Government of Australia (GOA; USD 23 million); and budget allocations from the Solomon Islands Government (SIG; USD34 million). The implementing partner was the Ministry of Infrastructure Development (MID) Central Project Implementation Unit (CPIU).

Funding was channelled through the Ministry of Finance and Treasury (MOFT) to the National Transport Fund (NTF), the mechanism through which the CPIU procured transport infrastructure contracts aligned to the priorities of the *National Transport Plan 2017-2036* (NTP) and the *Medium-Term Transport Action Plan 2016-2021* (MTTAP). The STIIP budget included a technical assistance package (TA) for the CPIU, and the GOA complemented the TA with three additional advisers (procurement adviser to GOA, governance adviser to the NTF Secretariat, and finance specialist).

The goal of STIIP was to improve transport system efficiency and sustainability. There were three expected outcomes:

(i) Transport infrastructure rehabilitated and maintained with improved access for all users (through improved safety, gender responsiveness, and climate and disaster resilience).

(ii) Country systems strengthened to finance and implement the NTP.

(iii) MID's management and supervision capacity strengthened.

In early 2022, MID and development partners agreed to undertake a review (the Review) of the approach to infrastructure maintenance implemented under STIIP through the NTF. The review team was tasked to:

- assess the extent to which the STIIP goal and outcomes were achieved.
- identify NTF system improvements attributed to STIIP, and constraints that impacted the performance of STIIP.
- identify lessons learned for improved performance of the NTF for consideration by SIG and development partners.

Key Findings of the Review

Outcome 1: Transport infrastructure rehabilitated and maintained with access for all users, with safety, gender responsiveness, and climate and disaster resilience improved

Two of five performance indicators for this outcome were met. The length of unsealed and sealed roads maintained or rehabilitated under STIIP was 693km and 156km respectively. This exceeded the target, albeit late. Funding constraints meant the length of unsealed roads upgraded from unsealed to sealed was 4.1km against the target 30km. Only 36 bridges were actively maintained against the target of 130 by 2020. Only 15 wharves of the target 33 were maintained in 2020. During implementation funds were not available within NTF to maintain the bridges and wharves (to the target level) as the Government prioritised roads. Funding constraints also explain why no wharves were reconstructed against the target of four by 2020. Six gender-responsive facilities were constructed by December 2021, later than the 2019 target. None of the targeted 10 traffic calming and/or signage measures were implemented as planned.

Contract management

A total of 135 projects were procured with NTF funding under STIIP between 2016 and 2022, with a total value of SBD612 million (AUD111 million). The total actual funding available in the NTF as at 30 June 2022 was SBD609.7 million[1] (including SBD91.1 million carried forward from TSDP). Total disbursements under STIIP amounted to SBD532 million[2]. SIG contributed SBD258.5 million (AUD47 million), the ADB contributed SBD164.5 million (AUD29.1 million), and GOA contributed SBD109 million (AUD19.7 million)[3].

The GOA contributions ceased in 2020 due to high levels of uncommitted funding in the NTF with only one year remaining on the program. There were significant delays in delivering the works plan, in part due to a slow start-up and high turnover of consultants under the TA. At program close, 29 contracts were still active.

In summary, the contracted maintenance tasks did not deliver a serviceable year-round road condition level. Contract terms fixed the contractors to a prescribed work task list and set a regime involving frequency of task execution. Specifications called for maintenance task units only. Therefore, the contracted maintenance tasks did not and could not meet the actual maintenance needed, during the entire year, for the entire road length. The maintenance framework did not allow for peak increases or seasonal impacts on road sections and infrastructure – important considerations for drainage.

No screening or pre-qualification of contractors was involved, thus limiting the ability of the program to leave behind a small group of strong and capable road maintenance contractors. This appears to be an important value add opportunity lost over both TSDP and STIIP.

[1] Based on exchange rates at the time of disbursement of funds from AUD or USD to SBD.

[2] Based on exchange rates at the time of disbursement of funds from AUD or USD to SBD.

[3] GOA contributed 57 percent of its earmarked contribution. SIG did not contribute above its agreed base allocation, as expected, and so did not leverage the GOA incentive funding.

Safeguards

Most of the 135 transport infrastructure projects procured through NTF under STIIP constituted road maintenance works. Only three involved significant rehabilitation or reconstruction activities. The environmental risks and impacts of the program were therefore low and manageable.

Through STIIP, MID engineers recognised the value to recruit community support and avoid environmental and social impacts. The grievance redress mechanism fostered improved working relationships between MID and target communities. The Safeguards Procedure Manual (SPM) was broadly considered an excellent tool to assist safeguards management by international partners and SIG.

However, a persistent lack of coordination between the safeguards team and job managers (including procurement personnel) exacerbated non-conformance to safeguards procedures affecting environmental management. The safeguards team was often not consulted during bid document preparation, and on occasion bid documents were released without the inclusion of safeguard requirements. Contracts were often executed with inappropriate safeguard conditions and/or inadequate budgets to service safeguards requirements. Frequently, construction commenced prior to the preparation, review, and approval of construction environmental management plans (CEMP).

Timely release of funds to pay invoices, and delayed contract variation approvals, were the most significant implementation constraints. No imprest account was established to fund operational expenditure including travel and per diems for CPIU/MID resources for works scoping, safeguards management, works measurement and verification of contractor claims for payments. This constrained the supervision function and thereby negatively impacted the quality of works. It also led to a concentration of activities on Guadalcanal as well as delays in project implementation and non-compliance with safeguards requirements. This impediment was first identified in a 2016 semi-annual monitoring report, but no effective action was taken to remedy.

Climate and disaster resilience

All NTF projects delivered under STIIP were screened for climate change risks. However, climate change adaptation issues were not specifically addressed in respect of road maintenance projects during STIIP, neither was this a requirement of the SPM. However, for the design of Tier 3 projects (new structures such as bridges, wharves and/or significant road rehabilitation projects), of which there were only three, the impacts of climate change and disaster resilience were addressed as part of the feasibility study designs.[4] It is not clear the extent to which MID's *Climate Change Manual* was used during STIIP. Despite these challenges the CPIU safeguards team persisted to advance implementation as much as possible.

Gender responsiveness

The Gender Action Plan (GAP) for STIIP included 28 actions and 13 targets to improve gender mainstreaming with project implementation. The Review team found that some targets outlined in the GAP were unrealistic given the local context and the absence of direct support.

[4] The feasibility study for Mbokokimbo-Aola road (28km length) considered an increase in intensity and frequency of extreme rainfall events, sea level rise, more intense tropical cyclones, more hot days, and warm nights. The Tanahua road (Honiara) detailed design was screened for climate risks. This will be a priority road section in future MID projects and included in MTTAP 2021-25. Climate risk assessments considered the likelihood of an adverse event and its consequence; the event being the climate hazard, and the consequence depending on exposure and sensitivity of the infrastructure.

At program close, 80 percent of GAP activities (23) had been completed and 9 targets had been achieved. The guidelines established for the Community Advisory Committees (CAC) emphasised the need to pursue opinions, needs, and priorities of vulnerable individuals including women. The GAP promoted a balance in employment for road maintenance contracts between the labour workforce under STIIP. Furthermore, the NTP 3-Year Action Plan included gender as a key feature. Forty percent of the LBES (road maintenance) workforce were women.

Six gender-responsive infrastructure projects were delivered under STIIP and sought to provide safe and accessible space for various infrastructure inputs. This included safe waiting areas, separate male and female toilets, and improved access to water.

Outcome 2: Country systems strengthened to finance and implement the NTP

Five of the eight performance indicators were achieved for this outcome. The Solomon Islands Government (SIG) contributions did not increase annually over the life of the program which meant that SIG did not leverage the available GOA incentive funding under its funding arrangement with SIG. The incentivised leverage was the primary ADB reasoning behind the use of the Results Based Lending modality. In 2021 the MTTAP was revised and secured Cabinet approval. The SPM was adopted and used to screen projects under the program. In 2017 the Solomon Islands Transport Asset Management System (SITAMS) was developed to record detailed information on infrastructure assets and their condition. The road classification was completed in 2018 and registered in the SITAMS database. All sub-projects were screened for climate change risks. The development of a system to analyse, track and control unit rates of bid price (to achieve cost effectiveness) in place by 2017 was not achieved. However, a schedule of rates (SOR) for bridge and road works was ready for Cabinet endorsement at program close. Project account was maintained by MID and audited annually by independent auditor KPMG. The audited financial statements confirm the funds were used in accordance with the agreements. Safety audits were completed in 2020 on 137km of the 150km targeted length of road.

The Review team found that STIIP contributed to strengthening the systems of the government to develop, maintain and manage transport infrastructure and services in the country.

Financial management system

Institutional constraints impacted the effectiveness of the financial management system. STIIP funded the MID recurrent budget directly, without an explicit agreement that STIIP management and supervision costs would be prioritised. MID's recurrent budget had payment pressures from its other activities and institutional responsibilities, additional to STIIP. Due to recurrent budget shortfalls and long application procedures, funds for supervision operational expenses were not available in a timely manner – this was the root cause of significant payment delays.

Both GOA and ADB funding arrangements with the Solomon Islands Government required the maintenance of accounts, preparation of annual financial statements, and auditing of financial statements, all of which were adhered to during implementation. An additional GOA condition deemed the MOFT internal audit division responsible for the NTF/STIIP internal audit, and for MID to engage a Fiduciary Expert to carry out a fiduciary and internal control review. The internal audit and fiduciary review did not take place. The audit reports for all years were unqualified.

Procurement system

STIIP relied upon SIG procurement systems. A Procurement and Contract Administration Manual (PCAM) was developed in 2013 under the TSDP with associated standard bidding documents for the procurement of Works, Goods and Services, and sample bid evaluation reports. GOA instituted a process throughout STIIP of issuing a 'no objection letter' (NOL) for the NTF procurement plan and contracts approved or amended. GOA was supported in its assessment and decision-making by a procurement adviser who had helped to develop the PCAM under the TSDP.

The Review found that many STIIP procurements were delayed by the review process undertaken by the Ministry of Finance and Treasury (MOFT). For proposed contract extensions, the MOFT review, performance evaluation and consideration took 3-4 months. After its review, MOFT agreed only to a 6-month extension after which time contracts had to be re-tendered. Regarding the consultants' and contractors' performance evaluation process, the CPIU noted that often MOFT had no comments, but held the documents for several months. In the September 2022 NTF Board meeting, CPIU recommended that MOFT be given a time limit for their review and approval. CPIU has no authority to directly coordinate with MOFT and can only make recommendations to MID.

A procurement audit undertaken between May 2021 and September 2022 highlighted that the PCAM was revised to make it contemporary in terms of international standards incorporating donor funded procurement principles and regulation. However, the audit observed that the procurement manual did not require users to consider the cumulative value of existing and future contracts when assessing if the bidder satisfied the financial qualification criteria. For example, the STIIP Bid Evaluation Committee recommended the Central Tender Board (CTB) to award the SBD 5.1 million North Malaita Drainage structures contract to a contractor that was deemed financially capable of doing only the awarded contract. The CTB in parallel awarded the same contractor the SBD 13.6 million SIG-funded Malu'u Wharf (funded outside of the NTF procurement plan) contract without reassessing if the bidder could service the cash flow demands of the combined SBD 18.7 million contract values. When work stalled, the contractor cited cash flow difficulties as the reason for unsatisfactory performance.

Outcome 3: Improve knowledge and use of transport asset management systems to serve NTF decision making and budgeting

Of the seven targets for outcome 3, five were achieved. The targeted increase in total MID staff numbers in key core areas was achieved. SIG appointed and funded an additional procurement specialist and safeguards officer; the CPIU chief safeguards officer was redesignated as the monitoring and evaluation officer in 2020. The road network and wharves inventoried, and condition surveyed target was achieved through the development of SITAMS in 2017.[5] The targeted reduction of annual labour-based equipment supported (LBES) contracts was achieved. Only 27 LBES contracts were active in 2020 (compared to the 2014 baseline of 60 contracts). Although this reduction was achieved without any review of coverage, the LBES projects were executed in all provinces except Central Island and Choiseul. Annual NTF disbursement rate targeting an annual minimum SDB94 million spend was achieved – the annual disbursement rate exceeded SBD100 million (target was SBD94 million by 2018) for the

[5] SITAMS proved valuable in the development of sub-project scopes of works. Training was provided to the asset management team on the App based system. Knowledge gained was used to complete preliminary bridge condition assessment for all the bridges in Guadalcanal and Malaita. On the job training was provided (to CPIU engineers and asset managers) during road condition assessments along almost the entire sealed road section in Guadalcanal.

2016-2020 program duration. The targeted regular sampling of verified sex aggregated data collected for institutional and program related information by 2017 was achieved.[6]

Two targets were not met. Data was not provided by MID to confirm the percentage of MID staff whose performance had been reviewed using the four-stage public service performance management process (target increase to 95% by 2020 from the 0% 2014 baseline). Only 5.5km of the target 9km of LBES road upgrading was achieved by 2020.

The Review team found that STIIP did strengthen MID's ability to manage and supervise infrastructure works.

Solomon Islands Transport Asset Management System (SITAMS)

The SITAMS was established to serve as the decision-making support tool for the planning, budgeting, and management of the transport network. The SITAMS database contains information on the location and condition of all roads, bridges, and culverts in the country. A nationwide survey of roads and bridges was carried out in 2014-2015, and a repeat survey was substantially completed in 2016. The 2016 survey capitalised on lessons learned, checked that no assets or information had been missed and identified changes in asset condition during the interim period. Regular re-surveys were planned to be undertaken at two yearly intervals. However, these did not materialise. The first road condition survey update since 2016 (funded by NTF) is ongoing and expected to be complete by Dec 2022.

In SITAMS the condition of each surveyed item is rated on a scale of 1 to 5. Condition 1 represents very good condition and a 5 indicates it has deteriorated to a very poor state. Infrastructure with a condition rating of 3 (Average) is described as "maintainable" using typical routine or periodic maintenance treatments. Infrastructure with a condition rating of 4 or 5 requires substantial heavy engineering works (rehabilitation or upgrading) to get it to a "maintainable" condition.

At program close a total of 1523 km of road, 441 bridges, 2016 culverts, 91 wharves and 40 airfields were registered in the SITAMS database.

NTF Governance

The NTF was governed by a Board of seven members, including two development partner representatives, the Secretariat (comprising three people) and a Technical Working Group (TWG) (comprising seven people, including two development partner representatives).

There were no government officers working full-time on NTF matters; representation on these committees was only one of their responsibilities. The NTF was not able (did not have authority) to deploy officers to check on works progress and serve their critical roles to advance variation approvals or address issues to enable disbursements. The NTF tried to convert several positions into permanent roles with limited success.

The CPIU submitted quarterly reports. The TWG and NTF Board meetings were conducted quarterly to update Board members on pertinent financial and technical issues as they related to annual work plan progress. A GOA-funded governance adviser worked with two MID officers to manage the Secretariat duties for both groups. ADB review missions documented the status of the action items relating to technical aspects, capacity development, fiduciary, procurement, safeguards and NTF/NTP. Over the life of the program ADB fielded nine review missions.

[6] All wages or subcontract payments paid by contractors were collected in monthly logbooks disaggregated by sex.

The Review team found significant evidence throughout the life of STIIP of decisions being made but not actioned, or decisions not being made. The lack of data available in SITAMS led to the prioritisation of projects for STIIP based on affordability, rather than cost-benefit analyses.

Prioritisation relied on a multi-criteria assessment of projects above SBD 14 million. Pre-screening eliminated projects that did not serve overall socio-economic development strategies; projects that were not affordable; and projects unlikely to be ready for implementation within 5-7 years.

Capacity Development

The Director CPIU was responsible for the implementation of STIIP. The Director was supported by three deputy directors and three regional managers, covering three regions and nine provinces. The CPIU Director was required to manage the staff of the Procurement Unit, Safeguards Unit, Asset Management Unit and Laboratory.

The TA initially identified four international consultant positions – a program lead, a management accounting and operations specialist, a procurement and contract management specialist, and a safeguards specialist. During the early stage of the program consultant turnover was high, and this compromised the ability of the TA to develop investment momentum and achieve sustainable capacity improvements. Four additional consultants were engaged – a national gender specialist, a national accounting consultant, an international technical audit consultant, and an international procurement audit consultant. By 26 August 2022 the TA had awarded contracts amounting to USD4.45 million (AUD6.6 million).

The NTF procurement plan included consulting fees for Bridge and Wharf Design Engineers, a Hydraulics Engineer, Transport Economist and Climate Change Specialists to assist CPIU in preparation of feasibility studies, detail designs, environmental safeguards and social safeguards of projects as required. In May 2019 MID recruited a consulting firm to support the CPIU. The consulting firm contract closed on 30 June 2022. In 2018 the CPIU also recruited a safeguards officer and in 2020 two Procurement Officers.

The TA package included training on road condition assessment, road maintenance requirements, procurement, contract management, gender responsiveness and environmental and social safeguards compliance. Field-based training was provided to contractors and engineers on contract management, including supervision and quality control.

Contract management capacity

On-the-job training was provided on procurement of works, goods, and consulting services. This continued throughout STIIP implementation and covered public procurement regulations. A focus on donor funded procurement procedures included training: on sample TOR preparation; the development of expression of interest evaluation criteria; requests for proposal; evaluation of bids and bid evaluation report preparation; to contract award and the compilation of full contract documents.

The CPIU Training Plan was updated regularly to align with CPIU's requirements. The STIIP Q2 QPR of 2022 noted that MID's contract management capacity had improved through training programs. Site visits conducted by the TA consultants with CPIU engineers, asset managers, and the safeguards team had helped MID resources to assess road conditions and develop scopes of maintenance works.

During training a variation progress tracking register was developed to ensure timely tracking of process approvals for requests for time/cost extensions. Contract management training led to demonstrable reductions in the time it took to process contractor payments. The time taken for CPIU processing of invoices reduced to 5 weeks in Q2 2022 from previous quarters (Q2 2021:6.2

weeks, Q4 2020: 10 weeks, and Q2 2020: 7.6 weeks) against the 4-week target set by the International Federation of Consulting Engineers (FIDIC).

Financial management capacity

In general, financial management capacity in Solomon Islands is low with a limited number of qualified and experienced accountants and bookkeepers. This was highlighted in the STIIP design document. These risks were to be mitigated by continued staff training by the GOA financial management advisor on accounting and internal controls and the preparation of NTF financial statements, and rigorous training on financial management and accounting procedures to upgrade staff capacity in MOFT and MID. The CPIU was staffed with a national financial management specialist in 2021. A financial and management accounting specialist was appointed under the TA but did not provide financial management training, possibly owing to the lack of counterpart staff in place at the time. The Australian-funded financial management specialist provided capacity support to the senior accountant and financial controller but was de-mobilised in 2020 due to COVID-19 which made training activities more challenging. Nevertheless, a final report from the adviser reported that the capacity of the senior accountant improved under her tutelage. The financial controller had been making progress but was replaced by a financial controller who was less engaged.

MID was to commit an Accountant for NTF invoice processing. However, that position remained vacant and other MID staff were assigned on an ad-hoc basis to process invoices. These MID employees also processed payments for non-STIIP projects, further delaying the processing of NTF invoices.

An internal audit consultant was engaged by ADB concurrent to this Review. The key findings made by the internal auditor included: (i) MID finance staff had limited proficiency in accounting and financial tasks since most were not qualified accountants; (ii) CPIU depended on program-funded staff rather than in-house resources; (iii) neither MID nor CPIU maintained a fixed asset register to keep track of ministry assets; and (iv) ongoing delays in imprest retirements were the main cause of project implementation delays.

Conclusion

Judging the effectiveness of many of the Output 2 systems and Output 3 capacity building initiatives implemented under STIIP requires an understanding of how well the established systems would be utilised going forward, and how much knowledge had been transferred. This Review emphasised the strategic value of SITAMS and the production of the MTTAP. Consultations concluded that the capacity building support was well received and valuable.

A forthcoming project completion report by the ADB will endeavour to assess whether SITAMS has been leveraged to identify the relative economic benefits of maintenance investment options, and whether this is being used to prioritise asset maintenance expenditure. There is an underlying development partner expectation that programs like STIIP lead to self-sufficiency by partner government institutions. An over-emphasis on this expectation might be to the detriment of developing valuable new projects to consolidate institutional development progress and promoting the important maintenance of the country's infrastructure asset base.

Responsibility for the efficient and effective implementation of STIIP rested with the CPIU within MID. STIIP delivered several important NTP objectives but fell short in numerous areas. A significant number of the physical Outcome 1 (transport infrastructure rehabilitation and maintenance) works deliverables were not achieved as a direct result of insufficient funding for maintenance works. This does not reflect on either the performance of the CPIU, or the efficacy

of the NTF nor its enabling administrative arrangements. Many of the Outcome 2 and Outcome 3 targets were achieved.

The nature of the challenges that confronted STIIP implementation are documented in multiple ADB Aide Memoires and QPRs prepared during STIIP implementation. Several problems persisted across the entire project value chain including:

- project scoping – underestimation of the scale and cost of maintenance works meant that project funds were sometimes exhausted before works were completed.
- project design – disagreement over project design proposals, combined with a lack of capacity within MID to properly undertake design work, resulted in major project delays.
- procurement – cumbersome and inflexible procurement procedures, combined with a shortage of experienced procurement personnel, significantly slowed the contracting process.
- construction / maintenance – some contractors were unable to adequately deliver the services required while absent or conflicting operations protocols, regulations and standards sometimes hindered project progress.
- project delivery – the failure to provide adequate funds for day-to-day operational needs and project preparation activities severely hindered effective project delivery.
- supervision – inadequate or absent project oversight meant that poor quality work was not checked and remediated; this lack of oversight was most commonly the result of lack of funding for travel.
- contract management – delays in processing contracts had multiple knock-on effects including stalling project progress, occasionally halting project progress when contracts had expired before works were completed, creating funding shortfalls as ongoing deterioration in road conditions meant that additional, unforeseen works were required.
- project coordination – coordination between the safeguards team and engineers/job managers and procurement staff was reportedly weak. The safeguards manager was not consulted during tender preparation leading to consistently lower than required cost provisions in the Bills of Quantity (BOQ) for safeguards compliance. The result was that contracts were often signed with inappropriate environmental conditions and lower than adequate budgets to meet the cost of environmental compliance. This led to contractors under resourcing their environmental management tasks, and typically resulted in poor quality construction environmental management plans (CEMP) which may not have been implemented in full.
- poor quality environmental management plans – CEMPs were either too general and required significant review by the safeguards team before approval, or job managers approved contractor mobilisation without a CEMP in place. The former is linked to insufficient budget allocated to safeguards and the team not being able to provide training or support to contractors during CEMP development, while the latter was often a case of job managers and contractors seemingly unaware of the requirement. This further demonstrates internal coordination weakness within the CPIU.

The COVID-19 pandemic impacted program delivery both by diverting financial resources away from infrastructure spending and causing mobilisation delays. As many of the problems that impacted the effectiveness and efficiency of program delivery were evident long before the health crisis ensued, it is difficult to ascertain the degree to which a greater proportion of program outputs would have been delivered absent the health crisis.

The STIIP may be judged a qualified success. Many of its Outcome 2 and 3 targets were achieved while Outcome 1 targets were not, due partly to funding shortages[7]. A significant proportion of the works outputs were not realised, and some other objectives were also not achieved. While budget availability limited the extent of physical work possible, the fundamental problem was human capacity – either insufficient human resources were available to undertake necessary activities in a timely manner, or existing staff did not possess the skills and knowledge to work effectively. This combined with system-related impediments (poor project design, cumbersome procurement processes, contract mismanagement, delays and/or failure by SIG to provide operational expense funding, and broad inflexibility in funding protocols) resulted in multiple project delays and associated cost overruns/funding shortages.

Some of the notable successes of STIIP include:

- Alignment between STIIP and the NTP was good. The program design was well-intentioned with a balance of seeking to undertake important maintenance and rehabilitation works included in the NTP[8] and the MTTAP, together with important country system and MID capacity enhancement.
- With support from the ADB, MID developed a comprehensive environmental and social management system (ESMS) for the transport sector. The ESMS is based on the Safeguards Procedures Manual (SPM) which sets out the procedures and processes to assist with project implementation. The SPM was prepared by MID to guide the performance of its environmental and social safeguards management duties. The SPM is based on good international industry practice and complies with the requirements of both the country safeguard systems and development partners' safeguard policies.
- The CAC was the main tool for village communities to express the issues and challenges experienced during implementation of activities. The CAC engaged communities early on and supported management and resolution of grievances in an efficient manner. The CAC supported better communication with village communities and tribal leaders which enhanced their understanding of the core outcomes of the works.
- A significant STIIP improvement involved the introduction of the Solomon Islands Transport Asset Management System (SITAMS) in 2017.

Despite many years of development partner support directed at the country's transport sector, the implementation risk for these kinds of investment programs remains substantial. Even though the CPIU is now equipped with operations processes and procedure manuals, which it seeks to apply in a proper fashion, there isn't a consistent level of capacity within CPIU to effectively support and implement programs of this kind without considerable and costly consultant support.

Lessons Learned

Table 1 outlines 76 lessons learned from STIIP for the Solomon Islands Government (SIG) and development partners to consider in future transport infrastructure project designs. Many of these can be considered recommendations for SIG to action to improve the CPIU in its ongoing capacity to deliver transport infrastructure and associated maintenance.

Importantly for development partners, many of the shortcomings of STIIP may have been overcome – and can be addressed in similar future programs – by ensuring that sufficient

[7] Out of a total of 22 targets, 8 were not achieved, 12 were achieved and for 2 the outcome was uncertain.
[8] The NTP does, however, have a strong focus on investment undertakings rather than maintenance activities which means that significant parts of the Plan are not going to be realised soon.

resourcing and capacity-building of key roles, and sufficient operational funding is made available to enable consistent and efficient project management and supervision.

Table 1: Lessons Learned from STIIP for the Solomon Islands Government (SIG) and Development Partners (DP)

No.	Indicator	Lessons learned	Responsibility
1	NTF Operational Framework	NTF is becoming increasingly marginalised by the development community and unless significant reform and new resources are directed at enhancing NTF's capability (much as was described in the 2014 Joint NTF Review) the most pragmatic approach may be for NTF to cease operation	SIG
2	Sector Sustainability – Human Resources	While training and capacity building can go some way towards addressing shortages in appropriately qualified human resources, it should be accepted that significant levels of national and international consulting support will be required for the foreseeable future to help assure the number one priority of effective and efficient project delivery	DP
3	Sector Sustainability – Financial Resources	Introducing a fuel levy (that would impact on all road users), and a truck weight-linked fee (that would be targeted at heavy load vehicles) should be considered to secure certainty for road maintenance funding.	SIG
4	Sector Sustainability – Financial Resources	All donor projects involving transport capital expenditure should include a maintenance funding component covering at least an initial 3–5-year period following construction completion. This maxim is already being widely implemented. For example, the new ADB funded LMCP has a considerable amount of financing allocated to national priority capital works, which comes with the post construction performance-based maintenance by the works contractor.	DP
5	Sector Sustainability – Financial Resources	The lack of effective works supervision during much of the course of STIIP has been highlighted as a key issue hindering effective program delivery. Projects of this nature ought therefore to include funding for an Owners' Engineer charged with monitoring project progress.	DP
6	Sector Sustainability – Financial Resources	Linked to the previous point, STIIP output measures were principally quantitative in nature and did not directly consider product quality. Consider how relevant quality indicators could be incorporated into design and monitoring frameworks (DMFs).	DP
7	Sector Sustainability – Financial Resources	As discussed at length above in the context of project sustainability, limitations on the availability and capability of human resources have been and, given the context of the Pacific Region, will always likely be a challenge. This challenge is compounded by the number of development projects undertaken in parallel thereby stretching already very thin resource capacity. Perhaps the most pragmatic approach is to try and maximise project efficiency and effectiveness by increasing (not decreasing) reliance on external support. This increased reliance on external support require effective coordination to ensure continuity in the provision of key resources and to help minimise resourcing overlaps and/or conflicts.	DP
8	Sector Sustainability – Financial Resources	Linked to the previous point, a greater degree of human capacity assessment should be undertaken as part of all project scoping exercises to better identify gaps that can be addressed by dedicated training (potentially organised and managed through existing educational establishments), the recruitment of external support or a combination of the two. The number of staff positions within NTF did not increase as expected during TSDP. This contributed to delays that could have been dealt with as STIIP got underway. The lack of project design capability within MID also resulted in significant project delay. Both inadequacies were foreseeable and appropriate capacity should have been added.	SIG

No.	Indicator	Lessons learned	Responsibility
9	Sector Sustainability – Financial Resources	Another project scoping related issue concerns the failure to plan for adequate quantities of materials. Experienced regional consultants should be utilised in the project design phase to ensure that such issues are properly considered. In addition, appropriate project appraisal software (HDM4) and design software (12D) should be utilised by CPIU engineers and planners.	SIG
10	Sector Sustainability – Financial Resources	If the NTF continues, greater flexibility is required in how it is allowed to utilise its funding (as well as the need to streamline the entire process). The NTF Procedures Manual requires modification to enable more rapid funds reallocation to respond to challenges as they arise, particularly contract modifications.	SIG
11	Program Design	Disbursement Linked Indicators (DLI) need closer alignment with the DMF indicators to avoid sending conflicting signals on priorities. The September 2018 ADB mission acknowledged some DLIs may not have been entirely appropriate. SIG asked for changes to four DLIs citing changes in government policies, inconsistencies in the project documents, and the need to address impracticability in some DLI definitions and targets. As was later noted in relation to DLI 6 (which concerns the rate of execution of the NTF annual work program), a more achievable goal for 2016 with gradual increases over the remaining years would have been more practical.	DP
12	Program Design	Some Gender Action Plan (GAP) targets may be unrealistic given the local context in the absence of direct support. For example, at program close four of STIIP's gender targets were not achieved including the goal that 30% of labor based / equipment supported (LBES) contracts allocated to women. However, given the combination of a shallow resource pool and historic cultural bias in the region against women being trained as engineers, it is not surprising that the target was not met. If such goals are to be applied, they should be accompanied by initiatives such as dedicated funding support for the training of women headed contractors (if they are known to exist).	DP
13	Program Design	Provide the CPIU safeguards manager the opportunity to review works contracts bills of quantities to ensure adequate funding is committed to service the SPM requirements. The pricing of SPM compliance should not be considered a competitive pricing element in works contract tenders.	SIG
14	Program Design	The procurement capability of MID and MOFT needs a major upgrade. Despite the existence of up-to-date contract management and procurement manuals, delays persist. Identified deficiencies include the failure to properly specify the skills and experience needed of contractors to successfully undertake works and not setting a timeframe to complete each stage in the contracting process.	SIG/DP
15	Program Design	The USAID-funded SCALE project design document makes several project design related recommendations. First, by international standards, unit rates for works are high in Solomon Islands. Containing, if not curtailing these expenses, should be a priority of MID not least because the cost of civil works may continue to increase with demand even under more competition, unless (a) unit rates are systematically tracked and controlled using bid-cost breakdown analyses; (b) less expensive designs are used, without neglecting climate change adaptation and road safety infrastructure; and (c) rigorous work supervision and contract management are enforced. Under STIIP, a system to analyse, track and control unit rates of bid price (to achieve cost effectiveness) was expected to be put in place by 2017 but was not achieved. A schedule of rates (SOR) for bridge and road works was ready for Cabinet endorsement at program close but the implementation of a comprehensive cost control system is vital given how expensive works inputs are in the	DP

No.	Indicator	Lessons learned	Responsibility
		country. Second, the road and bridge standards developed by MID could be expanded by introducing less-expensive designs adapted to low traffic situations, such as pre-engineered and prefabricated structures.	
16	Advance / Imprest Accounts	The root cause of many STIIP delays was the lack of an Advance Account from which program operational expenses could have drawn down. This is a key fund flow recommendation for the future to minimise implementation delays	SIG
17	CPIU financial management staffing	A strong CPIU set up early before disbursements with trained and qualified staff. Staff need to be trained in donor disbursements methods and preparation of annual financial statements and quarterly statements	DP
18	Requirements / conditions in Financing Agreements	The Program requirements relating to internal audit and fiduciary review were not followed. Any requirements and conditions in financing agreements need to be followed to the letter since these are legal agreements.	SIG
19	Register for tracking contractor payments	A Document Controller should oversee a contractor payment register to track the receipt of the invoice up to payment and report on any delays expeditiously.	SIG
20	Reduce “stops” for approval	Preparation of payment documents (including tax) and approval should be separate to streamline the payment process	SIG
21	Cost-benefit analysis of projects	Conduct a full cost benefit analysis for all projects above the NIIP threshold of SBD 14 million. This analysis will provide a robust basis for proceeding with sub-projects.	SIG
22	Prioritisation	Prioritisation for planned deliverables should be assessed against available resources, local capacities, technology, and funds.	SIG
23	Prioritisation	More detailed assessment of the costs, benefits, suitability, and role of LBES is required using the guidelines developed by PRIF.	SIG
24	Prioritisation	Improve planning and coordination of the maintenance program, by (a) better matching the scope of services of the machine-based and LBES contracts to the specific maintenance requirements; (b) avoiding the use of LBES contracts without due consideration of the condition of that road; and (c) providing more funding to improve supervision arrangements.	SIG
25	Prioritisation	Road maintenance backlog is increasing while financing has not been sustained. SIG should provide adequate budget to sustain the national road asset base.	SIG
26	Prioritisation	Whole lengths of roads should be maintained, not only short sections. MID should take a broader network view on planning road maintenance targeting equal operational level of service for road users.	SIG
27	Prioritisation	Value for money should be considered in prioritising projects. Bridges considered unsafe should be repaired or replaced as top priority on prioritised roads to ensure accessibility to communities. Reprioritisation of earlier prioritised roads in the event of delays should take place based on updated data considering that roads will further deteriorate between scoping and contract completion.	SIG
28	Prioritisation	A more strategic approach to asset management should be taken. The MID’s technical and financial staff should work together to optimise the maintenance and rehabilitation program. Training should be provided, and decisions made on what data needs to be collected and for what purpose. Asset data and SITAMS	SIG

No.	Indicator	Lessons learned	Responsibility
		should in first hand support prioritisation, decision making and budgeting, not just function as an asset register.	
29	Prioritisation	Decision-making on prioritisation should be carried through in line with NIIP and NTP recommendations, considering all aspects based on accurate and relevant data, and actions and technology fitted to best suit the needs. This requires coordination with different central government and provincial authorities, understanding the capacity and budgetary constraints, assessing the long-term costs and benefits aspects while being realistic on what is achievable.	SIG
30	Prioritisation	Climate change adaptation measures need to be incorporated. Climate change risk analysis should be part of the prioritisation assessment	SIG
31	Design and Procurement	Sufficient funds for preparatory actions are essential to improve procurement readiness. MID should consider investing in the development of in-house design capacity. For results-based lending interventions, development partner supported projects should consider either including civil engineering design resources in the technical assistance team or preparing designs and procurement documentation before program approval.	SIG
32	Design and Procurement	Develop contract sizes and requirements to fit the local construction industry and their capacity.	SIG
33	Design and Procurement	Assess the contractor industry and provide training tailored for the contractors, site inspectors, consultants, and government authorities to increase understanding of bidding documents best practices, expected performance, performance monitoring, technical specifications, measurements, invoicing, and payments.	DP
34	Design and Procurement	Provide training on MDB procurement guidelines and on FIDIC Contract Management skills.	DP
35	Design and Procurement	Provide training on development of training/maintenance contractor qualification certifications.	DP
36	Design and Procurement	Introduce this training as a prequalification condition for road maintenance contracts.	SIG
37	Design and Procurement	Develop an approved shortlist of established proven contractors with known financial, human and plant resources with the end goal to develop a sustainable profitable domestic road maintenance contracting market.	SIG
38	Design and Procurement	Engage with provincial authorities, communities, and other stakeholders to understand their needs, and their willingness to participate on LBES contracts.	SIG
39	Contract Management and Construction Supervision	Increase MID/CPIU in-house construction supervision resources. Relying on External international resources is costly and not sustainable. Coordinate with the Education sector to develop infrastructure sector capacity. Reach out to donors to request support for civil engineering education initiatives.	SIG
40	Contract Management and Construction Supervision	Streamline or simplify the NTF funding / payment approval mechanism to shorten payment periods. Strict control measures with responsibilities and timelines should be introduced. MOFT staff should be engaged in relevant training to enhance FIDIC timeline understanding.	SIG

No.	Indicator	Lessons learned	Responsibility
41	Contract Management and Construction Supervision	Streamline MID/MOFT approvals to facilitate achievement of the contractors' construction program.	SIG
42	Monitoring and Evaluation	Recruit qualified experienced auditors	SIG
43	Monitoring and Evaluation	MID/ MOFT/ MNPDC[9] and other government agencies should ensure better coordination and ownership of recommendations, assessing and considering recommendations, carefully preparing action plans, and assigning responsibilities, providing sufficient funding for the agreed actions, setting targets, and regularly monitoring performance and achievements.	SIG
44	Monitoring and Evaluation	Learn from lessons.	SIG and DP
45	Social Safeguards	Incorporate the Poverty Reduction and Social Analysis into the design from inception to project completion	DP
46	Social Safeguards	Update the SPM to include Social Safeguards including Codes of Conduct for all NTF projects. Project staff, local consultants and international consultants should be required to sign the Codes of Conduct.	SIG
47	Social Safeguards	Regularly liaise with the SIG Ministry of Women, Family Affairs, Youth & Children (MWFYC) and relevant NGOs and national women organisations	SIG
48	Social Safeguards	Incorporate social screening into the environmental screening process including social impacts and mitigation methods.	SIG
49	Social Safeguards	MID to update website to include links to CPIU and all related projects. Fully incorporate a Grievance and Complaints Logging System, project information and data, disclosure of project documents and safeguards instruments, project site mapping, real-time updates to the status of works, and links to relevant ministries and development partners.	SIG
50	Social Safeguards	Annual budgets to be allocated for awareness raising and communication plans.	SIG
51	Social Safeguards	Draft a full CCP incorporating the communication strategy, stakeholder identification, and grievance redress mechanism to be annexed in the SPM.	SIG
52	Social Safeguards	Develop a Safeguards capacity building plan.	SIG/DP
53	Social Safeguards	Bidding documents to include financial penalties for non-compliance with Safeguards covenants.	SIG
54	Social Safeguards	Pay and train the CAC from CPIU resources, not the contractors.	SIG
55	Social Safeguards	The procurement plan, annual workplan, and budget should include the required resources for the safeguards team to carry out their responsibilities as outlined in the SPM, CEMP, CAC, and CCP.	SIG

[9] Ministry of National Planning and Development Coordination

No.	Indicator	Lessons learned	Responsibility
56	Social Safeguards	Ensure Social Safeguards are fully incorporated into the “updated” EMP and CEMP templates and provide training to contractors.	SIG
57	Social Safeguards	Update SPM, EMP, and CEMP to include Social Safeguards supports for women, children, and vulnerable individuals.	SIG
58	Social Safeguards	Provide a minimum 2-year contracts to safeguards staff to improve security of tenure.	SIG
59	Social Safeguards	M&E Specialist recruited to monitor Project Development Objectives, key project indicators, incorporation of gender data and indicators, and management and implementation of impact evaluations.	DP
60	Social Safeguards	Recruit a full time Communications Officer in the CPIU.	SIG
61	Social Safeguards	Procurement Specialist and Safeguards Specialist should coordinate standard Environmental and Social inputs to bidding documents, BOQs, and contracts including provisional sums for Safeguards activities and penalties for Safeguards non-compliance.	SIG/DP
62	Environmental Safeguards	Produce a simplified flow chart of SPM procedures specifically applicable to engineers, procurement, and other non-safeguard staff clearly identifying the key entry points of safeguards in the project cycle, SPM requirements and when/where coordination is vital. Post the flow chart on the walls of the CPIU office. Ensure the flow chart is discussed with engineers and the procurement team at the commencement of every subproject.	SIG/DP
63	Environmental Safeguards	CPIU Director and project managers/team leaders implementing projects/programs through CPIU, to better supervise and monitor the procurement process to ensure SPM procedures are followed.	SIG
64	Environmental Safeguards	CPIU management to convene weekly or fortnightly whole of team meetings to discuss current works status including timing, and implementation of SPM. Participants to include engineering, procurement, safeguards, and finance teams inclusive of project/program support and/or supervision consultants as well as any TA capacity-building consultants, Minutes of meetings to be systematically circulated, recorded, and filed.	SIG
65	Environmental Safeguards	Safeguards team to conduct quarterly internal refresher courses on SPM requirements for all CPIU staff including discussion of issues encountered and suggested improvements.	SIG
66	Environmental Safeguards	Staff induction or briefings on appointment need to identify responsibilities of all CPIU staff in respect of understanding and complying with the SPM.	SIG
67	Environmental Safeguards	Annual workshop on SPM implementation for all national infrastructure development agencies (energy, health, education, water supply/sanitation) provided by CPIU safeguards team (and support consultants) including specific modules on due diligence to meet CSS, integration of due diligence and development consent into bid documents, CEMP, community consultation and coordination with social safeguards.	SIG
68	Environmental Safeguards	CPIU safeguards team to update the SPM following review and consultation within MID, integrating lessons learned.	SIG
69	Environmental Safeguards	Request development partner support for ongoing international safeguards capacity-building support for CPIU targeting the above recommendations.	SIG
70	Environmental Safeguards	Require that bid documents and BOQ include provisional sums for various safeguards requirements, specific to each contract, rather than providing for only one item (CEMP) as a lump sum. In this way the budget for	SIG

No.	Indicator	Lessons learned	Responsibility
		CEMP preparation, implementation and monitoring as well as other safeguards requirements such as establishment of community advisory committees and meetings etc., must be approved by the engineer. This will importantly ensure funding is available for preparation of the CEMP, implementation of mitigation measures, consultations, and monitoring.	
71	Environmental Safeguards	Strengthen environmental monitoring procedures (through SPM revision) by a) requiring job managers to submit all contractor's monthly environmental checklists to the safeguards team for review; and b) requiring site supervisors/job managers to undertake a fortnightly environmental site inspection of each subproject using a checklist based on CPSEM or CEMP and submit to the safeguards team for review.	SIG
72	Environmental Safeguards	Implement fit-for-purpose financial arrangements that facilitate timely disbursement for recurrent operational requirements.	SIG
73	Environmental Safeguards	Ensure consultant contracts are secure in terms of tenure (for minimum 12 months) and pay fees in a timely manner.	SIG
74	Environmental Safeguards	Implement a project management system that focuses on team coordination and organisational development including internal communication, information management and sharing, monitoring, reporting, and data management.	SIG
75	Environmental Safeguards	Address the foregoing issues before designing future transport sector engagements with development partners	SIG
76	Environmental Safeguards	During initial community consultations (as part of the Tier 1 and Tier 2 scoping) gather information on the community views of how climate change may impact the road sections proposed for maintenance. Provide this information to MID planning engineers for their consideration/action.	SIG