



**NEW ZEALAND  
FOREIGN AFFAIRS & TRADE  
Aid Programme**

# Final Report on the Evaluation of the Tereora College Redevelopment Project

Stantec New Zealand and Ministry of Foreign Affairs and  
Trade

November 2018

**Dedication:**

The Ministry of Foreign Affairs and Trade and the Cook Islands Government would like to acknowledge the exceptional contribution that Steven Barrett made to the successful completion of the Tereora College redevelopment project. Steven was dedicated to the realisation of the Cook Islands' development aspirations for the good of all Cook Islanders. Sadly, Steven passed away in August of 2018. He will be fondly remembered by those who knew him, he was a truly unique individual. Steven is survived by his wife Nane and his son Connor.

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## Abbreviations

<b>ABBREVIATION</b>	<b>FULL NAME</b>
ADD	Activity Design Document
CI	Cook Islands
CIG	Cook Islands Government
CIIC	Cook Islands Investment Corporation
DAC	OECD – Development Assistance Committee
DCD	Development Cooperation Division, MFEM
ICT	Information and Communication Technology
GFA	Grant Funding Arrangement
GG	Governance Group
MFAT	Ministry of Foreign Affairs and Trade, New Zealand
MFEM	Ministry of Finance and Economic Management, Cook Islands
MLE	Modern/Innovative Learning Environment
MOE	Ministry of Education, Cook Islands
MSQA	Management, Surveillance and Quality Assurance
NCEA	National Certificate of Educational Achievement
NIIP	National Infrastructure Investment Plan
NZ	New Zealand
NZHC	New Zealand High Commission, Rarotonga, Cook Islands
OECD	Organisation for Economic Cooperation and Development
PACDEV	Pacific and Development Group, MFAT
PMU	Project Management Unit
PSG	Project Steering Group
PTA	Parent Teacher Association
SPU	Special Projects Unit, CIIC
TA	Technical Assistance
TC	Tereora College
TCR	Tereora College Redevelopment



# 1

## Abstract

In 2015 the New Zealand (NZ) government gifted \$11.7 million to the Cook Islands (CI) for Stage 1 of the Redevelopment of Tereora College (TCR) in celebration of the Cook Islands 50 years of self-governance in free association with New Zealand. The redevelopment is a ten-year plan for the national college and is intended to transition it from an outdated asset into a purpose-built modern learning environment. Stage 1 was the building of the Administration/Library Block and a Technology Block. Design and construction were conducted from 2016-2017.

The purpose of the evaluation was for the NZ Ministry of Foreign Affairs and Trade (MFAT) and CI Governments to consider if the buildings are well built, fit for purpose, and whether they were built in a cost-effective way; and identify lessons learned that could be applied to projects of a similar nature, including any future stages of the TCR.

The evaluation found that Stage 1 of the TCR was successful overall. Success factors included clear and simple goals, good governance and planning, good project management with design support from New Zealand to complement Cook Island resources, local ownership of the project with strong community involvement, strong communication between parties involved in the project, and local contractor with good capacity and capability for projects of this size.

The conclusions from Stage 1 of the TCR and lessons learned have been documented so that they can be applied to future MFAT and CI infrastructure investments. Recommendations and “next steps” have been made for MFAT and the CI government to successfully implement the lessons learned. These will contribute to improved planning, design, construction, operations and maintenance of infrastructure investments in the Cook Islands and the Pacific.



# 2

## Executive Summary

### BACKGROUND

In 2015 the New Zealand (NZ) government gifted \$11.7 million to the Cook Islands (CI) for Stage 1 of the Redevelopment of Tereora College (TCR) in celebration of the Cook Islands 50 years of self-governance in free association with New Zealand. The rebuild is a ten-year plan for the national college and is intended to transition it from an outdated asset into a purpose-built modern learning environment. Stage 1 was the redevelopment of the Administration/Library Block and a Technology Block. Design and construction were conducted from 2016-2017.

The purpose of the evaluation was for the NZ Ministry of Foreign Affairs and Trade (MFAT) and CI Government (CIG) to consider if the buildings are well built, fit for purpose, and whether they were built in a cost-effective way; and identify lessons learned that could be applied to projects of a similar nature, including any future stages of the TCR.

The evaluation scope covers the time period from signing of the Grant Funding Arrangement (GFA) (5 November 2015) to the present time; its geographic focus was Rarotonga, Cook Islands; and key stakeholders are Tereora College staff and pupils, CI Ministry of Education (MOE), Cook Islands Investment Corporation (CIIC), contractors (Calibre and Land Holdings), and Ministry of Finance and Economic Management (MFEM)/Development Cooperation Division (DCD). Other stakeholders consulted included CIG, Cook Islands Treasury, Cook Islands National Disability Council, and MFAT personnel (past and present) involved with the Activity. The scope of the evaluation excludes consideration of whether the medium and long-term goals of the activity have been achieved.

The evaluation was evidence-based using a mixed method information collection approach. Information was sourced from (1) documents related to Stage 1 TCR obtained primarily from MFAT's Global Database Management (GDM) system; (2) key stakeholder interviews in New Zealand and the Cook Islands (face to face and/or telecon); and (3) field inspection of the buildings undertaken in Stage 1 of the redevelopment of Tereora College.

### KEY FINDINGS AND CONCLUSIONS

#### Oversight and Delivery Arrangements

The governance structure was appropriate and functioned effectively. The Governance Group providing high level oversight held only a few meetings and there were few matters that required its attention. The Project Steering Group (PSG) responsible for project direction met regularly until the early stages of construction and thereafter members were kept informed regularly by email reports from the Secretariat. The NZ High Commission (NZHC) was highly involved through the PSG, actively monitoring and helping CIG steer the project. The PSG had the right mix of people, comprised of authorisation level representatives of relevant government departments, the NZHC, and supplemented by



others when needed. The PSG was well supported by the Secretariat (CIIC Special Projects Unit (SPU)).

The procurement and contractual arrangements were fit-or-purpose being design-bid-build. The design was led by the client/principal but using contracted resources for part of the design team. The construction works were then bid based on the design documents prepared.

A technical assistance contract with Calibre Consulting Ltd was engaged directly by MFAT for design and project management support to CIIC. Calibre formally reported to MFAT although they were embedded in the CIIC SPU and therefore directed by CIG. This situation had ambiguity, but worked well because of trusted relationships between Calibre and CIIC, and Calibre and MFAT.

Land Holdings Ltd, a local construction firm, work was engaged under an NZS 3910:2003 lump sum contract to construct the two buildings. The size and nature of the construction work matched the capability of the local contractor, and their established local position gave them an advantage over international bidders. Land Holdings were the lowest priced bidder. Their selection also had the unforeseen benefit that funds would largely stay in the Cook Islands through widespread use of local subcontractors and tradesmen.

The intended outputs were achieved. Primarily this was the completion of the two new College buildings. This was effectively on time for the commencement of the 2018 school year, and within budget despite small changes made to budgets for additional or modified scope of works.

Strong outcomes in capacity building were also achieved, not just within the CIIC SPU. The project has provided a model of better infrastructure delivery methods, from governance to management to implementation. Performance in all areas was higher than reported for other infrastructure projects in the Cook Islands.

### **Process for Design and Construction**

The management and resourcing of the project through combined resources from the Cook Islands and New Zealand was very successful. There was an established and functioning project team in CIIC at the start of the project, with basic skills in design, project management and construction. Gaps in design and project management expertise were filled by Calibre through the technical assistance from NZ. This meant that unrealistic expectations were not made and then not met by the local team. Earlier engagement of this technical assistance in the project life may have resulted in better outputs in the design area. The concept design was complete by the time Calibre were engaged, and the short time left to improve on that concept and complete the design limited the impact of their input. This form of technical support to local project resourcing is valuable, but should begin as early as possible.

There was consistency in the team involved at all levels (governance and execution) over the duration of the Activity, and strong personal ownership. This ensured acquired learning was not lost in personnel changes. The CIIC SPU were dedicated to the project throughout.





The project was delivered on time and to budget. These results can be credited to the focus from all parties: governance, management and design, and construction. There was very little time possible for review and finalisation of the concept, and the subsequent detailed design was then done relatively quickly. As a result, documentation for tender was not fully detailed. With a longer programme, better coordination of different parts of the design would have been possible and beneficial, avoiding later issues and variations in the construction phase. More time to check and review designs would have helped with this.

The construction works were proactively managed by the Contractor, who took initiative in communications with CIIC and stakeholders in the Cook Islands. There was a team approach across the different parties, with good communication and cooperation. Payment for goods off site helped take the risk out of supply delays.

Contract administration was the joint responsibility of the SPU and Calibre. This combination of resources was effective and made the best use of the expertise of each party, and the presence of the SPU close to the works.

### **Design and Build Quality**

The buildings have improved the College environment. The buildings were completed to a concept developed wholly in the Cook Islands, but with subsequent modification with the assistance of Calibre. Changes were to bring the works within budget, and make the buildings more durable and fit for purpose. Further improvement to the building design would have been possible with more time, and more specialist input into the concept.

The adopted architectural look and feel of the building incorporates several features that are not normal practice in tropical environments (e.g., flat roof profile, internal gutter and carpet). Some building details could be improved on, and there is some criticism of the buildings for being larger and more elaborate than warranted with underused spaces being present.

The buildings have been built to a good quality standard, but are new and the construction contract is still in the defects period. The durability of the buildings is unproven yet. The construction has been done in durable materials so maintenance should be relatively low cost in the short term. Some defects and problems with parts of the buildings have been found (e.g. faulty taps, suitability of sensor activation of lights), but these are not beyond that typical for a new building. Where possible, fixtures commonly available in the Cook Islands were used to avoid replacement parts needing to be specifically imported.

There is no asset management plan in place for the new buildings, and no budget has yet been formulated for the costs of operation and maintenance of the new buildings. CIIC is understood to be addressing this as part of a new overall programme for all government assets.

The new buildings are larger than the remainder of the College and have higher standards of facilities and fittings. Operating (e.g., power costs), maintenance and renewal costs may be higher in the longer term than for other school buildings. Greater investment in ongoing operation and maintenance of the College than has occurred in the past will be needed if the buildings are not to deteriorate.



### **Development Assistance Committee (DAC) Criteria**

The DAC criteria of relevance and efficiency have been achieved very well. The effectiveness criterion was generally achieved well, but the design process could have been more effective (as mentioned above).

The impact criterion is being achieved with both students and teachers reporting that the new buildings give a much-improved learning environment. The improved standard of the buildings and the quality of the spaces has resulted in greater motivation and performance by students using the new facilities. Teachers report that students like classes held in the new classrooms and believe the quality of students' work has improved<sup>1</sup>. The improved workshop areas have allowed the school to increase the levels of teaching for technology courses. Teachers and student users of the buildings appreciate the light, space, access to ICT, and research spaces with use of the library also having increased.

The buildings are still in the defects liability period so it is difficult to assess the sustainability criterion at this time. As noted, an asset management plan will need to be prepared and implemented with an operating and maintenance budget allocated for the buildings to achieve the sustainability criterion in the longer term.

### **Unintended Outcomes**

Increased capability in the CIIC SPU has also been a notable outcome. The SPU team was relatively inexperienced at the beginning of the project. The NZ contracted consultant (Calibre) supported the SPU staff to take as large a role as possible and maximise the opportunities to learn.

Use of local subcontractors and tradesmen by the contractors also meant that more of the funds were retained in the Cook Islands than often occurs on infrastructure projects, and also contributed to upskilling of these workers.

## **RECOMMENDATIONS AND NEXT STEPS**

The recommendations and next steps are summarised below. The full recommendations are given in Section 7 of the main text.

### **Tereora College**

- 1. Prepare an asset management plan and long term financial plan for the operation, maintenance and renewal of the Tereora College Redevelopment Stage 1 buildings.** **Next steps:** CIIC to complete an asset management plan. Ministry of Education to prepare an operations budget incorporating the cost of operating the two new buildings. CIG to identify funding for maintenance and operation.
- 2. Plan and implement the completion of redevelopment of Tereora College.** **Next steps:** CIG to plan and identify funding for completion of Tereora College redevelopment.

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<sup>1</sup> Public Impact of the Buildings, this report.



### General

3. **Technical expertise (engineers in the case of infrastructure) should be involved early in project design. Next steps:** Involve technical expertise from the start of project design throughout the project.
4. **The Activity should be scoped properly at the start. Next steps:** Scope projects properly at the start, allow enough time for technical design, and consider a two-stage business case for technical design and then construction as relevant to each specific project. Include the post-construction and maintenance period in Activity programmes, and resource as needed.
5. **Invest in the right technology to do the task. Next steps:** In future Activities, ensure that appropriate technology for the project environment (e.g., plant and equipment) is used; and that support systems to assist with specific tasks (as well as operator training) are appropriate and fully compatible. At the scoping stage, check that communication technology is adequate and upgrade if necessary.
6. **A full capacity and capability analysis should be undertaken at the start of each Activity. Next steps:** Incorporate a specific capacity and capability gap assessment output at the beginning of Activities in all Activity designs. Provide additional resources and expertise to overcome any shortfalls.
7. **Use the combination of local and international resources that best suits the project and the relevant capacity and capability to complete the work. Next steps:** Activity designs should identify the structure of implementation teams with the appropriate combination of in-country and international expertise, and how on-the-job capacity building can be incorporated into the project work programme.
8. **Undertake specific contracting and procurement planning for infrastructure components. Next steps:** Activity designs should include an output for preparation of a procurement plan. MFAT should supply a checklist/template for guiding procurement. A procurement expert should be involved for procurement in large and/or complex infrastructure projects.
9. **Beneficiary communities and other impacted stakeholders should be consulted from the beginning of the Activity design process following an agreed Stakeholder Engagement Plan. Next steps:** Activity designs should include an output for preparation of a stakeholder engagement plan.
10. **Establish and maintain an appropriate governance structure that has suitable representation, is well resourced and active. Next steps:** Activity designs should ensure that an appropriate governance structure is established with clear roles and responsibilities of governance groups, including MFAT.
11. **Develop clear project management structures including authority matrix and relationship/communications strategy, and assign clear roles and responsibilities. Next steps:** Activity designs should provide clarity as to the roles and responsibilities of each party.



# 3

## Background

### THE ACTIVITY

In August 2015, the Cook Islands celebrated 50 years of self-governance in free association with New Zealand. To mark the importance of the relationship between the two countries, the New Zealand Government offered the Cook Islands Government (CIG) a gift of national significance.

On 3 August 2015, New Zealand's Prime Minister announced that as its 50<sup>th</sup> celebration gift to the Cook Islands, New Zealand would provide up to NZD \$11.7m for the first phase of a planned rebuild of the National College, Tereora. The rebuild is intended to transition the National College from an outdated asset, into a purpose-built modern learning environment. It is intended to play a critical role in enabling the CIG to progressively lift the quality of education in the Cook Islands to a level more comparable to that of New Zealand (overall goal). The expected outcomes of the overall project are improved human development, and improved education outcomes.

The redevelopment programme is a ten-year plan for the college over four main stages. Stage 1 was the redevelopment of two buildings: the Administration/Library Block and a Technology Block. Stage 1 began in October 2015 and was completed in February 2018, with Prime Minister Ardern officially opening the new college buildings in March 2018. Stage 1 of the rebuild was delivered through the New Zealand Ministry of Foreign Affairs and Trade (MFAT).

This Activity was commissioned by MFAT to evaluate the design and construction of Stage 1 of the Tereora College Redevelopment (TCR). The Terms of Reference are given in Appendix One.

### EVALUATION PURPOSE AND DESIGN

#### PURPOSE

The purpose of the evaluation is primarily for MFAT and CIG to:

- Consider if the buildings are well built, fit for purpose, and whether they were built in a cost-effective way
- Identify lessons learned that could be applied to projects of a similar nature, considering both the build (including governance delivery model) and likely outcomes, including any future stages of the Tereora College rebuild.

To address this purpose the evaluation addressed three objectives:

**Objective 1:** - How efficiently have the outputs been met? What worked well and what could be done differently? Review the Cook Islands Investment Corporation (CIIC) approach employed to deliver results.

**Objective 2:** Examine the progress being made towards achieving the Tereora College Redevelopment (TCR) outputs and likely short and medium-term outcomes (Effectiveness).



**Objective 3:** Future design and support – identify the key lessons learned that could be applied to other projects of a similar nature and for a possible second phase of support.

The outcome to be achieved is to contribute to the overall TCR by delivering an evaluation that:

- Leads to better understanding of how governance and project management models of infrastructure development impact on outputs and outcomes, and
- To provide assurance that the Activity has delivered quality outputs for the New Zealand government and CIG.

### **SCOPE**

The scope of the evaluation includes:

- The timeframe of the evaluation covers the period from signing of the Grant Funding Arrangement (GFA) (5 November 2015) to the present time.
- Its geographic focus is Rarotonga, Cook Islands.
- The target groups (key stakeholders) are Tereora College staff and pupils, Cook Islands Ministry of Education, Cook Islands Investment Corporation (CIIC), contractors (Calibre and Land Holdings), and Ministry of Finance and Economic Management (MFEM)/Development Cooperation Division (DCD).

Other stakeholders consulted included CIG, Cook Islands Treasury, Cook Islands National Disability Council, and MFAT personnel (past and present) involved with the Activity.

The scope of the evaluation **excludes**:

- Consideration of whether the medium and long-term goals of the TCR activity have been achieved.

The results of the evaluation have been reported and disseminated to MFAT, CIG, relevant CIG institutions and other key stakeholders.

### **DESIGN**

The evaluation was evidence-based taking a mixed method information collection approach. This included a short documentation review (Appendix Two), key stakeholder interviews in New Zealand and the Cook Islands (face to face and/or telecon) (Appendix Three), and inspection of the buildings undertaken in Stage 1 of the redevelopment of Tereora College.

Documents were sourced from MFAT's Global Database Management (GDM) system initially, and other documents were identified as the evaluation proceeded.

Interviews were conducted with key stakeholders in the Cook Islands, relevant present and former MFAT staff involved in the TCR, and the MFAT Post in Rarotonga. Interviews were also conducted with the building designers (Calibre) and contractor (Land Holdings). Appendix Three contains a list of these stakeholders.

Interviews were aimed at collecting the information required to answer the questions for addressing the specific evaluation objectives. Interviews were semi-structured (depending on the interviewees). Focus groups were conducted for discussions with the Tereora students and staff. These were not gender disaggregated (i.e., one group for girls and one group for boys), but a female interviewer in Rarotonga was included to lead the interviews with the female students.



Persons interviewed had been recommended by MFAT and the Cook Islands Government. These people were selected based on their involvement with the TCR. Any information or comments made by interviewees are not specifically attributed to them. Participants were asked whether they consent to their names being included in an appendix of the report.

The main steps of work comprised:

- Preparation of draft Evaluation Plan.
- MFAT review and finalisation of the Evaluation Plan with MFAT.
- Desktop review of available documents from MFAT's Global Database Management System (GDM). These documents were provided to the Evaluation team by MFAT at project commencement.
- Conduct of interviews with stakeholders based outside the Cook Islands by telephone.
- In-country meetings with stakeholders in the Cook Islands.
- Delivery of a presentation to key stakeholders in the Cook Islands at the end of the field mission to discuss emerging findings of the evaluation.
- Summarise findings into the draft Evaluation Report including evaluation findings and recommendations, and high-level executive summary, and submission to MFAT for review and comment.
- Deliver a presentation/workshop to relevant MFAT stakeholders to present key findings and conclusions.
- Updating the draft Evaluation Report to incorporate any MFAT feedback and comments from the presentation/workshops into the Final Evaluation Report.
- Supplying a fact sheet summarising the evaluation's key findings, short and medium-term recommendations and lessons learnt.
- Submit the Final Evaluation Report and fact sheet to MFAT.

Cross cutting issues and environmental and social impacts were an integral part of the evaluation. These issues and impacts are addressed under the relevant DAC criteria (relevance, effectiveness, efficiency, impact and sustainability)<sup>2</sup>.

## **INFORMATION COLLECTION**

Information was collected in four main ways:

- Documents relating to the Tereora College Redevelopment obtained from MFAT's Global Database Management (GDM) system
- Site inspection of buildings constructed under the Tereora College Redevelopment Project
- Interviews with stakeholders in New Zealand and the Cook Islands (see Appendix Three)
- Discussion and feedback from presentations/workshops in Rarotonga and Wellington.

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<sup>2</sup> DAC. 2010. DAC Criteria for Evaluating Development Assistance. [www.oecd.org/dac/evaluation](http://www.oecd.org/dac/evaluation). 2 p



Searches conducted of the GDM identified documents of relevance to the evaluation. These were all downloaded for review. Other documents were identified from internet searches and information provided by interviewees. The document list is given in Appendix Two.

The documents included:

- MFAT Grant Funding Arrangement, Activity Design Document (ADD), contracts, meeting (various bodies) minutes, progress reports, letters of variation, design briefs, construction programme and critical path documents, cost plans, risk register, social impact checklist, as built drawings, and combined construction drawings.



# 4

## Overarching Findings

The findings for the evaluation are grouped below under the major themes coming from the interviews with stakeholders, with additional reference to the Development Assistance Committee (DAC) Criteria for Evaluating Development Assistance (OECD DAC 1991).

### TIMELINE OF EVENTS

Events through the project are summarised below.

Date	Event
2014-2015	CIIC developing initial concepts for Tereora College Redevelopment
3 August 2015	NZ Prime Minister announced that as its 50 <sup>th</sup> celebration gift to the Cook Islands, New Zealand would provide up to NZ\$11.7 million for the first phase of a planned rebuild of the National College, Tereora
29 September 2015	MFAT ADD Appraisal Meeting
5 November 2015	Grant Funding Agreement signed
19 November 2015	First meeting of PSG
24 December 2015	Contract engaging Calibre signed
January 2016	Calibre make scoping visit to Rarotonga
15 February 2016	Chris Fahrensohn (Architect) starts period of support to CIIC in Rarotonga
14 March 2016	NZ Ministry of Education review of master plan
May 2016	Chris Fahrensohn support period in Rarotonga ends
June 2016	Tenders called for construction
18 August 2016	Construction tenders close
12 October 2016	Construction contract awarded to Land Holdings Ltd
11 November 2016	Construction works start on site
July 2017	Roofs completed on buildings
31 January 2018	Unveiling and opening
January 2018	Calibre Variation 2 for additional costs associated with assessing claims by Contractor
6 March 2018	Official Handover
10 July 2018	Completion Report by CIIC





## **PLANNING AND PURPOSE**

### **INCEPTION**

The contributors to the start of the TCR rebuild activity variously define their commencement.

The rebuild of Tereora College had been included in the National Infrastructure Investment Plan (NIIP) in 2015. The buildings were recognised as being old. Government houses had “patch up” conversion to use as classrooms and workshops. Prior to 2014 the then College Principal, Bali Haque, had promoted the idea of a rebuild, with a budget of \$20-30 million based on areal rates for construction from New Zealand; no concept was in place at that time<sup>3</sup>.

The eventual project team in CIIC had been working on design of the Apii Nikao, a primary school with a modern/innovative learning environment (MLE). They then moved on to developing a concept for Tereora College in early 2015. Throughout 2015 the CIIC design team developed the concept design for a rebuild, in conjunction with the Ministry of Education and the College, and concept designs were well developed by late 2015.

Ideas for a suitable gift from NZ to recognise the 50<sup>th</sup> anniversary of Cook Islands self-governance was first discussed by the NZHC in early 2014<sup>4</sup>. There was a lengthy process to formulate criteria and refine ideas into 2015, including papers to NZ Ministers. Informal discussions between NZ and Cook Islands Ministers led up to the announcement by NZ Prime Minister John Key on 3 August 2015 that New Zealand would provide up to NZ\$11.7 million for the first phase of the planned rebuild of the Tereora College.

For MFAT staff and processes, the rebuild only became an Activity at that point, with work then applied to its planning and implementation<sup>5</sup>. MFAT’s Activity Design Document was only then formulated, and subsequently completed in late September 2015. A Grant Funding Arrangement between NZ and Cook Islands Governments was signed on 5 November 2015.

### **COLLEGE PLANNING**

Tereora College is generally referred to as the National College. It is one of four stand-alone secondary schools in the Cook Islands. Three are located on Rarotonga and one in Aitutaki. Senior levels of education in the outer islands fall under the structure of Area schools, providing education from early childhood through to secondary levels on one site and one management structure.

With approximately 671 students<sup>6</sup> enrolled in Years 9 to 13, Tereora College is far bigger than the other three schools which together have approximately 157 students. A further 306 students are enrolled in Years 9 to 13 in Outer Islands schools. For the senior years 12 and 13, Tereora College has 267 students, with only 7 other senior students being enrolled in an alternative private church school in Rarotonga, and 52 students in Outer Islands schools.

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<sup>3</sup> Stakeholder interview.

<sup>4</sup> Stakeholder interview.

<sup>5</sup> Stakeholder interview.

<sup>6</sup> Cook Islands Government, 2017, Education Statistics Report



The NIIP<sup>7</sup> included the re-build of Tereora College in its list of top 24 prioritised projects. It identifies a budget of \$30 million for a complete re-build of Tereora College with implementation projected for 2018-2023. No funding sources were identified. The NIIP also notes that this had been the top priority education project before reassessment of priorities after the damage to Avatea School by fire (which led to the separate construction of Apii Nikao).

The Activity evaluated here encompasses only Stage 1 of the concept for the re-build of Tereora College. Stage 1 comprises the design and construction of two buildings – the Administration Block and the Technology Block. A concept for the full development has been prepared but no funding is identified nor currently planned, although the full re-build remains in the NIIP. The full development would also include<sup>8</sup>:

- 27 classrooms for Languages and Culture, Science and Agriculture (including 2 laboratories), Mathematics, and Social Science and Commerce, plus associated support and circulation space
- Performing Arts Centre, including for Dance, Drama, Gallery, Music and Visual Arts
- A fourth stage of expansion to include boarding facilities for Pa Enea (outer islands) students<sup>9</sup>.

## THE GIFT

Stage 1 of the Tereora College Redevelopment differs from other development activities in the Cook Islands because of it being a gift from NZ to recognise the 50<sup>th</sup> anniversary of the Cook Islands self-governance.

At an early stage MFAT identified criteria for a suitable gift. This was to have long term effect, real impact, be part of a clearly defined programme, and focus on newer technology areas<sup>10</sup>. Stakeholders also indicate that the gift was to be something of national significance and align with NZ development goals. Input from the NZ Ministers contributed to the decision on the gift<sup>11</sup>.

The gift also defined Stage 1 of the redevelopment. It is not clear how the project may otherwise have been staged, but there was a preference by NZ to support improved IT facilities. This was incorporated into the wider technology building because of a view by the designers that the ICT was not separate from technology. The previous administration areas and library were “not functional” so the Administration block incorporating research and support spaces were also favoured<sup>12</sup>.

Both NZ and Cook Islands parties recognised that the gift needed to be something of significance and recognisable. It is considered by some stakeholders<sup>13</sup> that funding of

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<sup>7</sup> Cook Islands Government, August 2015, Cook Islands National Infrastructure Investment Plan

<sup>8</sup> CIIC Design Brief, October 2015

<sup>9</sup> Tereora College Redevelopment Plan, Powerpoint, CIIC

<sup>10</sup> Governance Group, Minutes of Meeting No. 1, December 2015

<sup>11</sup> Stakeholder interviews.

<sup>12</sup> Stakeholder interview.

<sup>13</sup> Stakeholder interviews.



alternative education activities, such as modular classrooms or programmes to improve teacher quality, may have achieved better long-term outcomes. Partial funding of more stages of the College re-build are also recognised as not meeting the needs of a recognisable gift even if they may have provided an improved long-term plan for the College development<sup>14</sup>.

The gift was perceived by NZHC to allow different implementation approaches than might otherwise be followed<sup>15</sup>. MFAT proactively sought inclusion of a technical assistance input to the implementation of the TCR Activity rather than rely on implementation through CIG systems. This technical assistance was funded within the budgeted \$11.7 million for the gift, and was directly procured by MFAT using its own systems.

### **MODERN/INNOVATIVE LEARNING ENVIRONMENTS**

The ADD notes that the report of a Joint Working Group of the CIG and MFAT on education in the Cook Islands found that quality learning environments were a key missing component to the delivery of quality education, and that “learning spaces need to adapt to meet the needs of a wide range of pedagogies”<sup>16</sup>. The ADD also notes the poor state of buildings and equipment, that buildings are not suited for self-directed learning, and that ICT and other technologies are not integrated across the whole school.

The ADD identifies that the re-build should “deliver the platform for a truly modern learning environment, one that promotes the use of inquiry-based learning methods.” The NZ Ministry of Education refers to moving towards “innovative learning environments”, “innovative learning spaces” and “flexible learning spaces” in its report “The Impact of Physical Design on Student Outcomes”<sup>17</sup> and other fact sheets. This identifies the following core and advanced features in:

- Quality teaching
- Flexible learning spaces to suit teaching and learning practices
- Good quality acoustics, lighting, heating and ventilation
- Good access and circulation
- Storage and colour
- Integration of technology to extend teaching and learning practice.

The design of the new Stage 1 buildings is intended to provide these quality learning spaces and thereby improve the quality of education<sup>18</sup>. The classrooms are not considered a full modern learning environment given that the technology block is specialised in nature<sup>19</sup>. Delivery of education in the new buildings is about flexible learning spaces rather than open learning. The subjects (e.g., technology and senior NCEA subjects) that are delivered in these spaces are specialised with their own specific resources and space requirements. They cannot be delivered via an open learning environment. The new building does allow Tereora

<sup>14</sup> Stakeholder interview.

<sup>15</sup> Stakeholder interview.

<sup>16</sup> MFAT, 2015, Activity Design Document: Cook Islands Te Apii Tereora Ou (Tereora National College), Rarotonga.

<sup>17</sup> NZ Ministry of Education, 2016, The Impact of Physical Design on Student Outcomes.

<sup>18</sup> MFAT, 2015, Activity Design Document: Cook Islands Te Apii Tereora Ou; CIIC, 2015, Tereora College Redevelopment Plan.

<sup>19</sup> Stakeholder interview.



College to be flexible with their learning environment which means more subjects can utilize the spaces and resources.

The move to modern learning spaces at Tereora College was driven initially by a former Secretary of Education<sup>20</sup>. Design proposals have been informed by visits by the CIIC design team and school and education staff to new schools in NZ (including Alfriston, Ormiston and Manurewa High School)<sup>21</sup>.

The teaching group at Tereora College expressed limited support for open learning environments as they were concerned that the benefits are not proven<sup>22</sup>. The teaching group believe open learning works well in the new library, and the seminar space is popular. Other classrooms and spaces in the new Technology Block are in demand by teachers of all subjects.

### **SCOPE OF THE ACTIVITY**

The TCR Stage 1 Activity was relatively simple compared to other development activities<sup>23</sup>. Factors that commonly lead to complications, delays, and additional costs on other projects did not apply here:

- The time period was just over two years.
- There were no land needs or issues other than resolution of a previous lease dispute.
- As a school redevelopment, the project was popular and not contentious.
- The Activity was focussed on construction of the buildings and capacity building outcomes were integral to the way the work was done.
- There were no associated enabling components required, such as organisation restructuring, regulation or legislation.

This does not diminish the impact of some of the good approaches taken in the execution of the Activity that are noted in this Report. Several of the stakeholders interviewed have described the TCR Stage 1 Activity as one of the best they have been associated with.

### **BUDGET AND EXPENDITURE**

CIIC reports the total project cost at \$14,055,000<sup>24</sup>. This includes construction and CI management costs. The contribution of NZ to CIG for these costs is reported by CIIC at \$10,815,000 with balance of \$3,240,000 coming from various CIG budgets. NZ directly funded further costs of \$885,000, primarily for the costs of the Technical Assistance component provided by Calibre.

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<sup>20</sup> Stakeholder interview.

<sup>21</sup> Stakeholder interviews.

<sup>22</sup> Stakeholder interview.

<sup>23</sup> Stakeholder interviews.

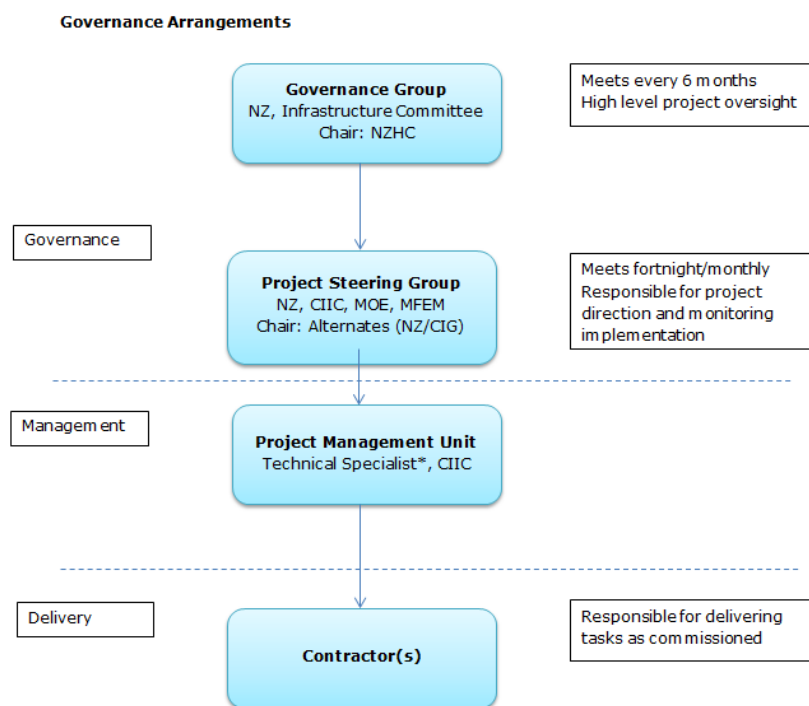
<sup>24</sup> CIIC. 2018. Activity Completion Report: Tereora College Redevelopment Project, Stage 1. 26p.



## GOVERNANCE

### GOVERNANCE ARRANGEMENTS

The organisation structure for the Stage 1 Tereora College Redevelopment Project is given in Figure 1, as shown in the GFA.



\* Technical Assistance commissioned by MFAT from the Engineering and Related Services Panel

### WORKINGS OF GOVERNANCE BODIES

#### Governance Group

The Governance Group was to meet six-monthly, and comprised the Cook Islands Infrastructure Committee and the NZHC.

The Evaluation team has sighted minutes for three meetings of the Governance Group (December 2015, February 2016, June 2016). It could not be confirmed whether there were further meetings. The Activity Completion Report prepared by CIIC notes that meetings were only called as needed once construction commenced (late in 2016).

#### Project Steering Group

The Project Steering Group (PSG) met more frequently to agree on milestones and outcomes. The Evaluation team has sighted minutes for 12 meetings from November 2015 to February 2017. Again, the Activity Completion Report prepared by CIIC notes that meetings were only called as needed once construction commenced. However, fortnightly



progress reports and issues requiring direction or decision were disseminated via email to the PSG. The Evaluation team has sighted nineteen of these emails.

The composition of the PSG was initially to include authorisation level representation from CIIC, MFEM, Cook Islands Ministry of Education, Infrastructure Cook Islands and NZHC. Others were added (Tereora College PTA representative) and meetings were attended by other relevant parties where needed.

MFAT was a member of the PSG and shared the chair role. As the project and the PSG became established, MFAT took a less directive role in the workings of the PSG<sup>25</sup>.

### **Secretariat**

The Secretariat for both the Governance Group and the PSG was the CIIC Special Projects Unit (SPU) with technical assistance from Calibre Consulting. The PSG has reported that the support by the Secretariat was good and was important to the functioning of the PSG<sup>26</sup>. However, some difficulties were reported with information not being provided early enough and in a clear form suitable for stakeholders less familiar with infrastructure construction<sup>27</sup>. It is also reported that PSG members were not always advised of issues once regular meetings were not occurring.

## **MANAGEMENT AND RESOURCING**

### **PROJECT MANAGEMENT**

Project management was provided by CIIC's Special Projects Unit (SPU) with technical assistance from Calibre Consulting. Calibre was contracted directly by MFAT to provide support in project management, design and engineering services that could not be provided locally.

It was recognised that good project management was needed for the success of the project, so the CIIC established the SPU in late 2015 with the staff already working on the Tereora College design in the CIIC Property Division. The CIIC team were then focussed on the Tereora College project, and did not have distractions or conflicts with other duties<sup>28</sup>.

### **RESOURCE GAP ANALYSIS**

The initial task of Calibre was to undertake an inception visit in January 2016 to assess the Project's 'state of play', identify local capacity gaps and recommend inputs<sup>29</sup>.

Calibre identified that the CIIC team needed direction in finalising the design. Revisions to the first concept draft designs had been made by CIIC prior to Calibre's engagement. Calibre worked with CIIC to develop further revisions until the final design was agreed on. The CIIC team had the capacity to supervise the construction works but required higher level contractual support<sup>30</sup>.

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<sup>25</sup> Stakeholder interview.

<sup>26</sup> Stakeholder interview.

<sup>27</sup> Stakeholder interview.

<sup>28</sup> Stakeholder interview.

<sup>29</sup> MFAT, 2015, Statement of Work: Tereora College Redevelopment (Planning and Phase 1 Construction).

<sup>30</sup> Stakeholder interview.



Following the inception visit, Calibre prepared a forward work plan with budgeted inputs for additional resources needed to support the CIIC team and complete the design. The following gaps in expertise were identified<sup>31</sup>:

- Senior architectural and project management support
- Social impact assessment
- Quantity survey
- Structural engineering
- Building services
- Geotechnical engineering
- Fire engineering.

These capability gaps were then filled through inputs by Calibre under their Technical Assistance engagement by MFAT.

### **CAPACITY AND CAPABILITY OF COOK ISLANDS RESOURCES**

Stakeholders consistently confirmed the desire by the CIG and people for projects in the Cook Islands to be directed and resourced by Cook Islanders as far as possible. However, interviews with CI stakeholders identified that there are limitations in the extent of resources available for large projects, and gaps in key areas.

Impediments to participation by Cook Island companies in previous funded projects were reported to be through pre-qualification requirements in tenders, particularly requiring high ongoing value of construction activity, and requirements by donors to engage international infrastructure companies<sup>32</sup>.

There is a large amount of construction done in the Cook Islands, and there is currently high activity in the construction sector. The Cook Islands Statistics Office reports that the value of residential building approvals have increased from \$6 million in 2012 to \$13.3 million in 2016, and the value of non-residential approvals increased from \$2 million to \$8.4 million in the same period.

The data also confirms stakeholder reports that building construction is generally smaller in scale, being mainly residential<sup>33</sup>.

This ongoing rate of construction is able to support a local building industry. There are four main contractors in Rarotonga, but these do not all have the same capacity in all areas of construction. Only Land Holdings Ltd, the contractor for Tereora College, has the capacity to undertake buildings of this scale<sup>34</sup>. There is not therefore a fully competitive market through local construction resources.

While there is a limited resource for construction of large buildings, there is a greater gap in design and project management in the Cook Islands. There is not the continuity of projects

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<sup>31</sup> Calibre Consulting, February 2016, Tereora College Redevelopment Calibre Cost Planning.

<sup>32</sup> Stakeholder interviews.

<sup>33</sup> Stakeholder interview.

<sup>34</sup> Stakeholder interviews.



to keep specialists in Cook Islands (including specialist construction trades)<sup>35</sup>. For larger projects it is necessary to bring in design and management resources from overseas or to adopt design-build procurement<sup>36</sup>. The local constructors only undertake design-build on smaller works (using what expertise there is in Cook Islands) and do not have the capacity to manage something like the Tereora College project as design-build; this scale of project is recognised to need designers from overseas<sup>37</sup>.

## PROGRAMME

The GFA set the initial programme for the project. This included key milestone dates of:

- Tender documents by May 2016
- Tender evaluation by July 2016
- Construction starting documents by November 2016
- Completion reporting by 30 June 2018.

The contract for engagement of Calibre included the following milestone due dates:

- Initial work plan by 22 January 2016
- Invitations for construction tenders by 31 May 2016
- Construction works to commence by 30 August 2016
- Construction works complete by 30 June 2018.

Some of these targets were not met (e.g. the timing of the start of construction works) but these clearly set an urgency for the delivery of the design and construction. Many of the stakeholders interviewed noted that there was pressure for timely completion from both Cook Islands and NZ Governments.

Once Calibre was engaged, the focus was on refining the concept design to be within budget, and provide durable buildings fit for purpose<sup>38</sup>. The concept design was reduced in scope to reduce the estimated cost by about one third, before being reviewed by the NZ Ministry of Education in March 2016.

Detailed design then proceeded in the three months prior to tendering. Both CIIC and Calibre have referred to the short time for detailed design required to meet targeted dates for tendering<sup>39</sup>. The documents were being updated right up to the tender release and eight notices were issued during the tender period with additional details of the works. It was identified that time for more thorough review could have avoided later difficulties during construction<sup>40</sup>.

The tender period was approximately two months. The tender documents proposed construction commencement on 16 December 2016, and required completion of the buildings by 30 November 2017. No comments were made by stakeholders on the adequacy or

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<sup>35</sup> Stakeholder interview.

<sup>36</sup> Stakeholder interview.

<sup>37</sup> Stakeholder interview.

<sup>38</sup> Stakeholder interview.

<sup>39</sup> Stakeholder interviews.

<sup>40</sup> Stakeholder interview.





otherwise of these time periods, although there was a need for the contractor to accelerate the final stages of the works to complete prior to the start of the 2018 school year.

### **BUDGET AND COST ESTIMATION**

Initial budgets for the project were identified in discussion between CIIC and NZHC prior to the design being done. This was based on areal rates for construction with reference to NZ. From this the value of the gift was set at \$11.7 million<sup>41</sup>, including costs for the proposed Technical Assistance.

The concept design continued to be developed by CIIC up until the engagement of Calibre, at which point a quantity surveyor was engaged to determine a cost estimate based on the design proposals. This estimate was reported to the PSG as \$16 million<sup>42</sup> although it was subsequently identified as \$18.3 million in the Design Review Panel Report<sup>43</sup>.

The CIIC and Calibre design team then reviewed the designs to reduce costs to fall within budget. This was achieved through reduction in building size, removal of non-essential elements and fittings, and changes to materials choices and detailing. The resulting buildings that were advertised for tender had a floor area of 2,600 square metres<sup>44</sup>, reduced from 3,670 square metres identified in the Design Review Panel Report. There remained some residual shortfall in budget which was then funded by CIG.

Some additional rationalising of the building design was done following tendering to maintain the construction cost within budget, based on changes to fans and air conditioning to reduce the cost by about \$60,000<sup>45</sup>.

The Design Review Panel Report noted that the estimated areal cost (excluding overhead and management costs) for the two buildings ranged from \$3,300 to \$3,900 per square metre. Targeted savings were noted to reduce that cost to \$2,700 - \$3,500, more in line with comparative costs of \$2,800 per square metre in NZ.

This appears to confirm assessments<sup>46</sup> that the concept design exceeded what was required and was not efficient, and that the initial budgeting against which the \$11.7 million funding was determined was reasonable. Earlier design-specific cost estimation would have resulted in the problems with the concept design being identified earlier, avoiding unnecessary design work and allowing time to improve the concept and subsequent detailed design.

### **STAFFING**

The period of the Activity was relatively short, beginning in November 2015 and construction being substantially complete by early 2018. Within that period the project team was generally consistent and not subject to the high staff turnover that commonly occurs. Changes to PSG members were limited to a change in Education Secretary after the works were complete. One member of the CIIC team left during the project, but only after the

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<sup>41</sup> Stakeholder interview.

<sup>42</sup> Minutes of the PSG, 17 February 2016.

<sup>43</sup> NZ Ministry of Education Design Review Panel, March 2016, Report.

<sup>44</sup> CIIC, 2016, Request for Tender: Tereora College – Stage 1 Works.

<sup>45</sup> Stakeholder interview.

<sup>46</sup> Stakeholder interviews.



design was complete. MFAT staff in the NZHC changed during the project but all remained available and engaged to support the new staff when needed. Calibre's team members were unchanged during the project, although separate engagement of their Architect by CIIC was needed to achieve this. Land Holdings' project leaders were in place throughout the construction period and focussed on the works from tendering to completion.

Human resources for the TCR were a mix of Cook Islands and international resources in all areas of the project. The CIIC SPU had basic design, project management and construction skills that were suited to some of the project work, but supplementing this with extra resources from overseas was needed.

The SPU forming the PMU and design team were in place as an established and functioning team prior to the project starting. While the SPU had limited experience, they provided a strong core resource that is not normally available for development projects elsewhere in the Pacific. Gaps in local resources were identified clearly, and the Technical Assistance from Calibre Consulting filled these.

The Contractor was a local company but used staff from overseas to supplement their own staff and local subcontractors.

There was strong personal ownership and commitment by individuals involved, with many stakeholders of all interests (governance, management, design and construction) saying that this is one of the best projects any of them had ever worked on.

### **CONSULTATION AND PUBLIC ENGAGEMENT**

Once the project was underway with funding of the Stage 1 development, public consultation and engagement began. Prior to this, consultation was only with internal stakeholders (government and school). The public engagement was led by CIIC.

Events included public meetings, discussion with landowners, and involvement of the College community. There was consultation done as part of the Social Impact Assessment, with focus groups including women, staff and students. There were periodic press releases coinciding with key events and stages.

A Facebook page was established where there were regular updates on progress throughout the project and even to the handover ceremonies. This formed a major part of the public engagement, but may not have been accessible to those without access to ICT<sup>47</sup>.

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<sup>47</sup> Stakeholder interview.



## DESIGN

### DESIGN EXPERTISE

The design work was carried out by a combined team from CIIC and the Technical Assistance team from Calibre.

The design effort for TCR initially was by the CIIC SPU. This comprised a team of:

- Project Manager/Team Leader with Cook Islands-based experience since 2005
- Project Manager with Cook Islands-based experience since 2008
- Consulting Architect, with Cook Islands experience since 2014 and Australian experience from 2007-2014
- Two architectural designers, recently graduated and returned to the Cook Islands at the end of 2013.

This team had experience working together on Apii Nikao school but otherwise had not done something of this type and scale before. For some of the team this was the first building under construction they had been involved with. CIIC recognised that there were gaps in expertise<sup>48</sup>. Communication of the SPU with the Consultant Architect was poor, and the team did not have the technical direction they needed.

The Architect from the Calibre team worked within the SPU for about three months from February 2016 until completion of the documents for the construction tender. The Consultant Architect left the project and Rarotonga at the end of 2016, as construction work was getting under way. To provide support to the CIIC team, CIIC then engaged the Calibre Architect directly to assist when needed during construction.

Additional specialist design input was provided through Calibre. This included structural engineering, building services and quantity surveying.

### DESIGN PROCESS AND APPROACH

The steps in the design of the Stage 1 buildings were:

1. Concept preparation of a development plan for Tereora College, by CIIC, CI Ministry of Education and Tereora College
2. Concept design of Stage 1 buildings by CIIC
3. Review of concept design and value engineering to meet budget limits
4. Review of concept design by the NZ Ministry of Education
5. Completion of detailed design, including additional structural and building services elements.

Steps 1 and 2 were completed by the CIIC team in 2015, prior to the engagement of Calibre.

By the time Calibre commenced work in January 2016, the SPU had a well-developed design for the two buildings in Stage 1, supported by the Ministry of Education and College. Calibre's assessment was that the design to date had been rushed and progressed too far with detailing, such that it needed to be revised. Their focus was then on modifying that

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<sup>48</sup> Stakeholder interview.



design to be within budget, give a building that was fit for purpose, and be durable<sup>49</sup>. As a result, the completed design is close to the original concept by CIIC, but is smaller and with less frills. Essential changes were made to the building structure and details. Changes were debated, both within the design team and through the PSG, to ensure important elements were not lost. For example, the seminar room was proposed for deletion but was retained through support from PSG members<sup>50</sup>.

Calibre took an approach of mentoring and helping build capacity in the SPU<sup>51</sup>. The SPU team was able to use the experience and knowledge of the more senior Calibre people.

### **COMMUNICATION AND DESIGN TOOLS**

Coordination of the design teams in different locations came with some difficulties and have been noted as an area for improvement<sup>52</sup>. Linking between the architectural design in the Cook Islands and the services design done solely in NZ was particularly noted as being difficult because of distance, and the design delivery as slow.

Email was the primary means of communication. Other tools used were Calibre's Dropbox for file transfer, phone, and in-country visits by Calibre. Skype was used but limited by internet capacity.

Architectural design was done in 3D ArchiCAD while 2D AutoCAD was used for engineering. There were resulting difficulties with coordination and clash detection. For example, at one point the structural design had a stud height of 2.8m but the architecture showed 3m.

### **BUILDING SERVICES DESIGN**

Building services were designed by a NZ-based subconsultant to Calibre, whose engagement ended at the completion of design. This subconsultant was reported to have limited experience working in the Pacific, and to be relatively isolated from the design team in the Cook Islands<sup>53</sup>. There were resulting issues with clashes between architectural and services details, and specification of materials and plant.

Difficulties were reported with the appropriateness of some of their specifications for Cook Islands conditions; specifications were appropriate for NZ but not for use in more isolated places where there is not access to the same supply chains and specialist repair. For example, central air conditioning was originally specified but is not able to be repaired locally and conventional split units are preferred; specialist lighting was included; and large fans were originally specified rather than those normally available and supported through local suppliers<sup>54</sup>. Changes to plant then made during construction led to claims for additional costs by the Contractor.

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<sup>49</sup> Stakeholder interview.

<sup>50</sup> Stakeholder interview.

<sup>51</sup> Stakeholder interviews.

<sup>52</sup> Stakeholder interview.

<sup>53</sup> Stakeholder interview.

<sup>54</sup> Stakeholder interview.



## **CONSTRUCTION**

### **TENDERING**

Tenders for the construction works were obtained through CIG systems, using NZS 3910:2003 as the Conditions of Contract. The Principal for the Contract was CIIC, and the Engineer to the Contract was Calibre Consulting<sup>55</sup>. The Contract was a Lump Sum Contract. A smaller civil works contract was separated from the main works and tendered at the same time, with the intention of allowing Cook Islands companies to participate. It was expected that the main building contractor would likely be from overseas.

Tenders were assessed effectively on a weighted attribute basis, with 40% weighting applying to non-price quality attributes and 60% weighting to price. Financial and qualification restrictions contained in some international bids did not apply in this case. No minimum requirements for company capability and track record were stipulated (such as number or value of previous projects); it was sufficient to “demonstrate technical and management skills and experience to undertake this Project”.

Information on tenders was not available to the Evaluation team. It is understood from stakeholder interviews that five or six tenders were submitted, with values \$8-17 million<sup>56</sup>. The low price bid was assessed as non-conforming and therefore eliminated. Land Holdings Ltd, based in Rarotonga, were assessed as submitting the best tender. All other tenders were submitted by companies from outside the Cook Islands<sup>57</sup>.

Land Holdings were also successful in winning the smaller civil works contract, and the two contracts were then combined. The separation of the two contracts would have added to the complexity of undertaking the construction works for all parties. The site works were sufficiently distinct from the building works to have made this arrangement manageable. It does add potential risks of delays and additional costs if the two sets of works are not coordinated, and problems with one contract can impact on the other. It is normally preferable that a single contractor is responsible for the full works, if possible, and engages and manages any specialist subcontractors.

### **THE CONTRACTOR**

The construction contractor, Land Holdings Ltd, was established in 1993 and is based in Rarotonga. The owner has a long background in construction in NZ. At the time of tendering their workforce was reported to be approximately 60 employees and contract workers<sup>58</sup>. Their workforce is currently approximately 80, and other recent projects include bridge construction, pipeline testing and cyclone shelters.

TCR Stage 1 was Land Holdings’ biggest project as lead contractor in the last 15 years. Approximately 60 workers were engaged on the College construction, 30-40 being Land Holdings staff and the others being subcontractors. Land Holdings used local suppliers and subcontractors, but also brought in specialist trades from NZ<sup>59</sup>.

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<sup>55</sup> CIIC, 2016, Request for Tender: Tereora College – Stage 1 Works.

<sup>56</sup> Stakeholder interview.

<sup>57</sup> Stakeholder interview.

<sup>58</sup> Cook Islands News, 17 October 2016.

<sup>59</sup> Stakeholder interview.



Land Holdings works solely in the Cook Islands. They do not see the Cook Islands as a suitable base for work overseas because overheads and costs there are too high, and they cannot maintain the right base of workers willing to work overseas. All transport is through NZ meaning NZ contractors are better positioned.

### **MANAGEMENT OF CONSTRUCTION CONTRACT**

This was a flagship project for Land Holdings. They promoted it to their workforce<sup>60</sup> as “building a legacy”.

The Engineer to the Contract was provided by Calibre, taking an active role in the contract management. CIIC SPU staff fulfilled the role of Engineer’s Representative and undertook the management, surveillance and quality assurance (MSQA) inspections. Contractual issues were generally dealt with directly by the Engineer, rather than through the SPU staff<sup>61</sup>. The Engineer was based in NZ during the construction but attended on site approximately every 6 weeks.

All stakeholders interviewed report that there was a team approach across the different parties, with good communication. This was somewhat different to previous experience on other projects. CIIC staff were invited to the project sub-contractor meetings. The Contractor made proactive efforts to minimise disruption to school operation, including stopping day-time construction activity to accommodate school examinations.

There were some issues, but these were generally minor and were dealt with proactively and professionally. The most significant contractual dispute arose near the end of works, regarding additional costs claimed for acceleration of work. This was eventually settled directly by the CIIC as Principal and Land Holdings.

Normal progress claims applied for contract payments. Payment was made for goods off site which allowed early ordering of materials to be made, and helped take the risk out of potential supply delays.

Only two minor health and safety incidents were reported<sup>62</sup>. The site was fully fenced with only one entry gate attended by a gateman. No significant issues with students or staff were reported to the Evaluation team.

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<sup>60</sup> Stakeholder interview.

<sup>61</sup> Stakeholder interview.

<sup>62</sup> Stakeholder interview.



## THE BUILDINGS



Figure 1: Tereora College site, showing foundations of Stage 1 buildings under construction (Source: Google Earth)



Figure 2: Administration Building (with old classroom block in background)





Figure 3: Technology Building

### **PUBLIC IMPACT OF THE BUILDINGS**

Stakeholders and users of the new buildings have generally very positive views on the finished facilities. Some of the opinions expressed include that the buildings are:

- Iconic
- The best in the Cook Islands
- Stunning
- Future proof
- An example of quality for future buildings.

There are negative views. Some of this is based on personal preferences, for example that the Administration Building is attractive but the Technology Building is not<sup>63</sup>. Some stakeholders are concerned about the efficiency of the investment; that the buildings have too much under-utilised space<sup>64</sup>, or that the amount spent could have been used for a greater extent of redevelopment at a lower standard<sup>65</sup>.

The students like being in the new classrooms because they are lighter, have better space and colour, and are not crowded<sup>66</sup>. Increased use by teachers of ICT and increased access to computers and research spaces is seen by the students as a big benefit. Student use of the library is reported by the school to have increased, both for research and as an area for relaxation<sup>67</sup>. Teachers report that students respond positively when their classes have been booked into the new classrooms, and they believe the quality of students' work has improved.

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<sup>63</sup> Stakeholder interview.

<sup>64</sup> Stakeholder interview.

<sup>65</sup> Stakeholder interview.

<sup>66</sup> Stakeholder interview.

<sup>67</sup> Stakeholder interview.





Teachers like the aesthetics of the buildings, also commenting positively about the light and space of the new classrooms with glass walls and the ability to have open doors<sup>68</sup>.

### **SUITABILITY OF DESIGN CONCEPT**

The design concepts for the TCR were developed by the CIIC and Cook Island education stakeholders. The initial concepts and designs were modified by CIIC and Calibre to meet budget limits, improve durability, and make the buildings fit for their purpose. The concept designs were complete and agreed, and there was very limited time for changes to be made if the timeframes for completion were to be met.

The building form differs notably in several respects of what could be considered as normal practice for buildings in the Cook Islands and tropical climates. This includes:

- Low profile (flat) roofs
- Internal gutters
- Buildings are wide, reducing the effectiveness of natural ventilation
- High windows exposed to sun
- Inclusion of carpet
- Solid windows instead of louvres
- Enclosed spaces reliant on air conditioning for ventilation and temperature control.

Some of the architectural treatments adopted come at a higher cost. For example, windows are recessed meaning wall lines are not straight. Some finishes require a higher standard of workmanship and hence cost, for example the feature concrete panels.

Overall, these design decisions are likely to result in increased operation and maintenance costs (for example, in power for air conditioners or for repair of leaks) but they are the outcomes of the Cook Islands design process and their preferences for the desired form and function of the buildings.

An improved design could have been achieved if further time had been available for concept design, particularly to take advantage of input through the Technical Assistance.

### **QUALITY OF BUILDINGS AND FACILITIES**

Review of the design drawings and inspection of the buildings shows several design details that could have been improved upon. Stakeholders also have referred to several issues.

Examples of these include:

- Sensor switched lights in internal toilets switch off too quickly and are not suitable
- Surface water can enter the Technology Building (CIG is planning additional site works to overcome this)
- Lack of shelter on windows meaning they must be closed during rain
- Push taps on basins are not suitable in Cook Islands
- A clear window on a bathroom making it visible to the outside
- Internal CCTV, instead of external (the CCTV is currently unused<sup>69</sup>).

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<sup>68</sup> Stakeholder interview.

<sup>69</sup> Stakeholder interview.



Accessible access to the new buildings has been achieved by using site levels to provide ramps to the upper levels. This enabled lifts to be removed from the design. This is reported to be a significant improvement in accessibility in the Cook Islands. In contrast, the old classrooms have poor accessibility even though they are single storey<sup>70</sup>.

Overall the quality of the design and construction appears to be good, but more time for the concept and detailed design would likely have allowed the buildings to be improved.

### **EFFECTIVE USE OF BUILDINGS**

The ADD identifies the overall goal of the TCR Stage 1 Activity being to progressively lift the quality of education in the Cook Islands to a level more comparable with NZ.

The project has provided new facilities for the school at a higher standard than previous buildings. There are a variety of spaces able for breakout teaching, research and support activities that were not previously available. The seminar room, library and comfortable classrooms are particular successes, viewed well by staff, students and other users.

The standard of the buildings and the quality of the spaces is much higher than the older classrooms. Teachers report greater motivation and performance by students using the new facilities. The improved workshop areas have allowed the school to increase the levels of teaching for technology courses.

Overall the new buildings improve the school environment, and in the words of one stakeholder give a similar experience to schools in NZ.

Use of the buildings is still developing. Some of the spaces appear underutilised, most notably the central seminar space in the Technology Building; this mostly performs as a set of stairs. The central lobby area in the Technology Building is said to have limited use at present. The buildings are large and have a lot of facilities, and thought will be needed into how to use them to their potential.

### **THE PLACE OF STAGE 1 IN THE FULL COLLEGE REDEVELOPMENT**

The Stage 1 Administration and Technology buildings were designed as elements of a larger plan for the redevelopment of Tereora College. They must be seen in the context of that overall plan. The selection of these buildings to form Stage 1 out of the whole plan for the College redevelopment was based on the combined preferences and priorities of both CIG and the NZ government.

If the sole investment in the redevelopment of Tereora College was to be limited to the funds spent in Stage 1 then other decisions on the nature of the works may have been appropriate. For example, the food and materials workshops provide modern facilities for those technology classes, but those courses cater for only a small proportion of the students

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<sup>70</sup> Stakeholder interview.



enrolled in the College. There are therefore fewer beneficiaries than potential facilities for other courses in which student enrolment is higher<sup>71</sup>.

There is no funding identified for further stages of redevelopment of the College nor a programme set for its implementation. However, the planned outcomes of the TCR Stage 1 Activity will not be fully achieved until the further stages of development are complete.

## **ASSET OPERATION AND MAINTENANCE**

The buildings are new and the construction contract is still in the defects period so the durability of the buildings is unproven.

There have been concerns over power costs and lack of renewable energy included in the project. The power costs for operating the new buildings are significant, with key costs including operation of air conditioners, fans and ICT<sup>72</sup>. Staff at the school are very conservative with how they are using power because they are aware of the high costs. Charges to date are approximately \$6,000 per month while the balance of the school is approximately \$3,000 per month<sup>73</sup>. This represents additional costs to be funded by CIG in the future. Solar power was originally included in the building design, but was removed because of costs and that the power utility does not support private solar installations.

The construction has been done in durable materials so maintenance should be relatively low cost in the short term. The new buildings are larger than those they have replaced and have higher standards of facilities and fittings than in the remainder of the College. As a result, maintenance and renewal costs may be higher in the longer term. Greater investment in ongoing maintenance of the College than has occurred in the past will be needed if the buildings are not to deteriorate.

Long term costs for maintenance and renewal are not yet identified or budgeted for by CIG<sup>74</sup>. At the end of the defects period the buildings will transfer to the CIIC Property Division. CIIC reports that appropriations for asset maintenance are never enough and have not matched increases in the CIIC asset portfolio. It is critical that the forward budget for building operation and maintenance is identified and funded. Without this, the buildings will deteriorate and not fulfil their potential or achieve the outcomes desired for the investment. CIIC is understood to be addressing this as part of a new overall programme for all government assets.

## **ASSESSMENT AGAINST DAC CRITERIA**

The findings have been grouped below under the Development Assistance Committee (DAC) Criteria for Evaluating Development Assistance (OECD DAC 1991)<sup>75</sup>.

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<sup>71</sup> Stakeholder interview.

<sup>72</sup> Stakeholder interview.

<sup>73</sup> Stakeholder interview.

<sup>74</sup> Stakeholder interviews.

<sup>75</sup> OECD. 1991. The DAC Principles for the Evaluation of Development Assistance. 12 p.



## RELEVANCE

Relevance refers to the extent to which aid activities are suited to priorities and policies of target group, recipient and donor (OECD DAC 1991). The redevelopment of Tereora College was consistent with Cook Island national and sector goals and aspirations.

The TCR is consistent with Cook Island national development goals as specified in Te Kaveinga Nui: National Sustainable Development Plan<sup>76</sup>. Goal 8 promotes inclusive, equitable and quality education and life-long learning opportunities for achieving sustainable development across all sectors. Key indicators include improvements to secondary school achievement levels (8.3), developing a skilled workforce (8.4), and increasing investment in education (8.5). The need to build resilient infrastructure and ICT to improve the standard of living is recognised in Goal 5, particularly reliable and appropriate infrastructure that is fit for purpose (5.4). Through providing improved and purpose-built modern educational facilities the TCR also contributes to parts of Goal 9 accelerating gender equality, empowering women and girls, and advancing the rights of youth, the elderly and the disabled.

The Education Master Plan (2008-2023) calls for the provision of high quality buildings, grounds and facilities to support the delivery of education and enhance opportunities for learning<sup>77</sup>. It also aims to ensure disability access to all education buildings and provide for the establishment and resourcing of specialist areas, such as ICT. The TCR is well aligned with the Education Master Plan in these areas.

The Cook Islands Disability Inclusive Development Policy and Action Plan 2014-2019<sup>78</sup> seeks to remove barriers that prohibit people with disabilities from participating in economic and community activities. The Cook Islands National Disability Council was consulted during the Stage 1 TCR building design process and the built structure provides good accessibility for disabled persons<sup>79</sup>.

By adhering to the above national plans, the TCR supports several of the Sustainable Development Goals (SDGs) - Goals 4 (quality education), 9 (resilient infrastructure) and 10 (reducing inequalities paying attention to the needs of disadvantaged and marginalized populations, including disabled people)<sup>80</sup>.

Management of the TCR by CIIC is consistent with its key functions as specified in the Cook Islands Investment Corporation Act 1998<sup>81</sup>. Relevant functions specified in the Act include implementation of strategic property redevelopment programmes, maintenance of government owned buildings, and efficient and professional management of assets.

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<sup>76</sup> Cook Islands Government. 2016. Te Kaveinga Nui: National Sustainable Development Plan 2016-2020. Office of the Prime Minister. 69 p.

<sup>77</sup> Cook Islands Government. 2008. Learning for Life: Cook Islands Education Master Plan 2008-2023. Ministry of Education. 8p.

<sup>78</sup> Cook Islands Government. 2014. Cook Islands Disability Inclusive Development Policy and Action Plan 2014-2019. 58p.

<sup>79</sup> Stakeholder interview.

<sup>80</sup> Sustainable Development Goals 2016. <https://sustainabledevelopment.un.org/?menu=1300>

<sup>81</sup> Cook Islands Investment Corporation Act 1998. 7p.



Education is one of the New Zealand Aid Programme's 12 investment priority areas<sup>82</sup> as is ICT (building skills and capability through school curricula, vocational training and digital literacy training). Supporting the TCR was therefore consistent with New Zealand's development assistance policy.

## EFFECTIVENESS

Effectiveness is the extent to which the aid activity attains its objectives (OECD DAC 1991). This evaluation can only assess the progress being made towards achieving the Stage 1 outputs and short- and medium outcomes of the TCR.

The output from Stage 1 was completion of the rebuild of the Administration and Technology blocks of Tereora College (MFAT 2015<sup>83</sup>, unknown author 2018<sup>84</sup>). This included the design, construction and fitout of the buildings. This was achieved satisfactorily with appropriately sized and equipped spaces for administration, support services, library and student centre, and technology block. Stage 1 was completed in February 2018; the facilities have been in use since March 2018; and the Stage 1 TCR Completion Report was completed in July 2018.

Major factors influencing the achievement of the Stage 1 output were good governance by the PSG and CIIC, good project management during design and construction, good collaboration in these aspects between Calibre and CIIC, Cook Islands ownership of the project, community and user consultation, and local contracting.

The short- and medium-term outcomes of Stage 1 of the TCR as stated in the ADD results framework were respectively "Students have more equitable access to education" and "Student uptake of education opportunities improve" (MFAT 2015). These outcomes are difficult to evaluate yet because of the recent completion of the Activity and absence of any indicator baseline data and targets in the ADD. The built structure provides good accessibility for disabled persons providing them with more equitable access to education<sup>85</sup>. Early signs from group discussions with teachers and students are that the quality of the learning (and teaching) environment has improved and the quality of student work has improved as a result<sup>86</sup>.

Successful completion of Stage 1 of the TCR also generally met the short- and medium-term outcomes of the overarching results framework for the full redevelopment of Tereora College, i.e., "design and construction of a technology centre, and an administration and support centre" (unknown author 2018). Some aspects of the original design were scaled back to reduce size of the buildings. Some items (e.g., dumbwaiter) were removed as they were considered unnecessary or were adjustments in specifications of items according to their local availability. The asset registers (overall medium-term outcome), systems and processes were not sighted by the Evaluation team during the field visit to the Cook Islands.

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<sup>82</sup> MFAT 2015. New Zealand Aid Programme Investment Priorities 2015-19. 23p.

<sup>83</sup> MFAT 2015. Activity Design Document (ADD): Cook Islands Te Apii Tereora Ou (Tereora National College), Rarotonga. 50 p.

<sup>84</sup> Unknown author. 2018. Tereora College Redevelopment – Results Measurement Framework. 8p.

<sup>85</sup> Stakeholder interview.

<sup>86</sup> Stakeholder interviews.



It is understood these are being developed as part of a national asset registration system under development by CIIC<sup>87</sup>.

Although not required by the TOR for this evaluation, the short- and medium-term outcomes of the overarching results framework also contribute to the long term outcomes. These are “Sustainable and resilient infrastructure” and “Fit-for-purpose, high quality educational facilities”. Factors in the design and construction of Stage 1 contributing to “Sustainable and resilient infrastructure” include:

- Permanence in construction
- Passive cooling and ventilation
- Natural lighting
- Rainwater harvesting
- Use of low-embodied materials
- Improved air quality.

Factors contributing to “fit-for-purpose, high quality educational facilities” include:

- Fit-for-purpose criteria for each specialist and academic space is met (e.g., technology spaces)
- Learning spaces support a variety of teaching/learning activities, and creation of communities of learners and independent learners
- Learning spaces are ICT integrated
- Furniture is flexible, and provides/supports good comfort and health
- Maximum indoor-outdoor appeal and usability
- All key areas of the building are physically accessible to students and staff with physical disabilities
- Specialised facilities provided to cater for special needs
- Use of ramps outside the building for additional access to the building which is two-storied.

Stage 1 contributes to achieving these long term outcomes, but the outcomes will not be fully realised until the entire TCR is complete. It is not known what firm plans exist for the implementation of Stages 2 (Academic learning centre) and Stage 3 (Performing arts centre).

## **EFFICIENCY**

Efficiency is a measure of outputs against inputs (OECD DAC 1991). The total cost of Stage 1 design, construction and fitout was \$14,055,000 in Appendix C of the Activity Completion Report<sup>88</sup>. This is a savings of \$102,000 against the final budget (with variations included). NZ provided \$10,815,000 of the final actual expenditure while the CIG provided \$3,340,000 (CIIC 2018).

The original budget was reduced from \$16-18.3 million at concept design to a final budget of \$14,157,000 (CIIC 2018) by rationalizing building design through reduction in building size, removal of non-essential elements and fittings, and changes to materials choices and

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<sup>87</sup> Stakeholder interview.

<sup>88</sup> CIIC. 2018. Activity Completion Report: Tereora College Redevelopment Project, Stage 1. 26 p.



detailing. The total cost of construction and fitout was \$12.8 million or \$4,250 per square meter (CIIC 2018). This is high compared to the average cost of construction (~\$2,800 per square metre) in New Zealand for school buildings<sup>89</sup>. The NZ industry average figure does not consider the added performance requirements of the TC school buildings, the site constraints and climatic conditions (CIIC 2018). The final completed floor area is 2,700 square meters.

While cost-efficiencies were made in the redesign process, the location of the school in the Cook Islands resulted in other added costs. Much of the added cost was due to structural reinforcement, acoustic control and ventilation measures, safety and management procedures, and procurement and delivery of imported materials (CIIC 2018).

The structural components of the buildings were concrete and steel to give improved cyclone resistance. The building materials were imported in raw or completed form except for sand, water and gravel used in the concrete mixes. The procurement and delivery process for importing materials added significantly to the cost of materials, especially if delivery needed to be by air (CIIC 2018). CIIC (2018) reports that 12% of the construction cost was importation costs.

Mechanical lighting and ventilation, and glazing of the aluminium framing were used throughout the buildings to support the functional requirements for each space. Use of such items also allowed these spaces to operate effectively during extreme weather conditions<sup>90</sup>. The cost of these items was much higher than the usual alternatives used in the Cook Islands. Energy efficient lighting was used throughout the buildings to reduce operating costs, but in some cases did not function properly (e.g., sensor-switched lights in internal toilets).

The combined value of professional services and project management engaged by NZ and CIG was \$1.4 million (CIIC 2018). This was 10% of the Stage 1 value and was cost-effective being slightly lower than the NZ average<sup>91</sup>.

### Student Impressions

#### **Positives**

Classroom layout is much better  
Cooling fans and air conditioning is good  
Seminar room is great with projector but no tables to write on  
New furniture is far more comfortable  
More IT equipment than before  
Good buildings resulting in improvements to learning  
Many use the new canteen

#### **Negatives**

Library size is underwhelming  
Bathroom lights turn off when you're in them, toilet locks confusing  
Shouldn't have carpet in a walkway area  
Limited shaded areas  
Retractable walls rarely used and often jam  
Wifi, water stations and taps often fail  
Footpaths slippery when wet

*Source: Tereora College student focus groups*

The Stage 1 TCR objectives were achieved close to schedule. Scheduled completion date for construction was 30 November 2017 and practical completion was 20 December 2017. Some minor finishing tasks and civil works continued into early January 2018. These did not

<sup>89</sup> Management and Resourcing section, Budget and Cost Estimation subsection, this report.

<sup>90</sup> CIIC. 2018. Activity Completion Report: Tereora College Redevelopment Project, Stage 1. 26p.

<sup>91</sup> Rawlinsons New Zealand Construction Handbook. 2013.



affect school opening for the 2018 school year and the buildings were opened on 31 January 2018<sup>92</sup>.

The design issues slowed progress at beginning of the project which would have benefitted from Calibre being involved right from the start of design. The construction and fitout generally progressed well and was implemented efficiently.

## IMPACT

Impact is the positive and negative changes from the aid activity (OECD DAC 1991). The new buildings at Tereora College have only been open for about 7 months at the time of writing this Evaluation Report so impressions of impact are only relatively short-term.

### Teacher Impressions

#### **Positives**

Love the fresh buildings, aesthetically pleasing  
 Learning environment is great  
 Quality of student work has improved  
 Classrooms comfortable, aircon and fans are great  
 Seminar space is meaningful and easy to use  
 Good community use of the school's new facilities  
 Workshop and hospitality classes have grown  
 Staffroom is a great opportunity to get away, nice and spacious  
 Woodwork room equipment is great

#### **Negatives**

Power usage high  
 Movable walls difficult to use, need keys and jam  
 Quality of finishing disappointing (tiling, benchtops, doors)  
 Bottom floor of Tech building floods when wet  
 Sound system in seminar room is insufficient for the space  
 Kitchen and offices get hot with sun exposure  
 Buildings need to be more low maintenance (e.g, carpet, window cleaning difficult)  
 Power access prescribes classroom layout, not much flexibility  
 No data projector cradles in classrooms

*Source: Tereora College teacher focus group*

The general impression of the buildings is very positive. Teachers and student users of the buildings appreciate the light, space, access to ICT, and research spaces with use of the library also having increased. Teachers report that students like classes held in the new classrooms and believe the quality of students' work has improved<sup>93</sup>.

There have been some negative views including the efficiency of the investment, and that a greater part of the overall TCR could have been conducted at a lower standard. Another concern is that the buildings have too much under-utilised space, but it is expected that space usage issues will be resolved as the school learns to use the buildings more effectively over time. Some Cook Island stakeholders felt that the administration area was over-sized, but most stakeholders agreed the floor areas were appropriate<sup>94</sup>.

The immediate beneficiaries of the project have been the teachers and the approximately 670 students of Tereora College. This number of student beneficiaries will increase over time with annual student intakes. Interviews with Cook Island stakeholders indicate the buildings are also used for community activities during non-school hours.

<sup>92</sup> CIIC. 2018. Tereora College Redevelopment: Critical Path Update and Occupation Timetable. 3p.

<sup>93</sup> Public Impact of the Buildings, this report.

<sup>94</sup> Stakeholder interview.





The Activity Completion Report<sup>95</sup> reports unexpected gains from using a local contractor. The Land Holdings supply chain comprised of local suppliers, fabricators and tradesmen which allowed a large portion of the project funds to remain in the local economy. Ownership of the project, pride in the outcomes and drive for quality standards was another impact of having a local lead contractor.

Other impacts will become apparent as the buildings are used over a longer period and if the remaining stages of the TCR go ahead.

## **SUSTAINABILITY**

Sustainability is the likelihood that the activity benefits will continue after the donor withdraws (OECD DAC 1991). The benefits of the two new buildings at Tereora College will be felt for many years to come and provide a better learning environment for all students. This will be further improved if the remaining stages of the TCR proceed.

Operating and maintenance of government schools in the Cook Islands are funded through the national budget (CIIC 2018). CIIC maintains property assets (such as buildings), and MOE covers operations, resources and furniture.

The ongoing operating and maintenance (O&M) costs associated with the new buildings are expected to be higher than predevelopment. The buildings are still very new and in the defects liability period so the maintenance costs are unknown at present. The buildings are larger and have a higher standard of fittings than other TC buildings so may have higher maintenance and replacement costs in the longer term.

The monthly electricity costs for the new buildings are higher than for the older buildings (see Buildings section, this report). The removal of solar power from the early design due to capital cost and power utility preferences may have reduced capital costs, but may lead to increased operating costs in the longer term. Hopefully electricity cost increases will not lead to disuse of electrically-driven equipment.

Although different agencies fund O&M, it is desirable that an overall O&M budget is prepared to ensure that optimum use is gained from the facilities and that the buildings are not allowed to deteriorate. It is understood that CIIC is addressing maintenance beyond the defects liability period as part of its programme for government assets, but the preparation of an operations budget by MOE is not known by the Evaluation team.

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<sup>95</sup> CIIC. 2018. Activity Completion Report: Tereora College Redevelopment Project, Stage 1. 26p.



# 5

## Evaluation Conclusions

The conclusions about the Activity are structured to address the evaluation's purpose and objectives as well as address the key questions.

### **THE APPROACH EMPLOYED TO DELIVER RESULTS** (Objective 1)

#### **OVERSIGHT AND DELIVERY ARRANGEMENTS**

##### **Governance Oversight**

The governance structure for the project was similar to other infrastructure projects in the Cook Islands and functioned effectively.

The Governance Group providing high level oversight held only a few meetings and there appears to have been few matters that required its attention.

The PSG responsible for project direction met regularly up until the early stages of construction. Subsequently members were kept informed by email reports from the Secretariat. The NZHC was highly involved through the PSG, actively monitoring and helping CIG steer the project.

The PSG is said to have had the right mix of people, based on the core membership of authorisation level representatives of relevant government departments and the NZHC, and supplemented by others when needed. The PSG was well supported by the Secretariat (CIIC SPU with support from the Calibre advisors) which gave regular and quality information on progress and budget. Meetings were said to be purposeful, and the PSG members were highly engaged.

Some difficulties were noted by some parties with the understandability of information for non-technical participants, allowing enough time available for consideration of issues for decision around other commitments, and consistency in being kept up to date with issues and difficulties. These are matters that need constant attention, but it is not apparent that this was anything other than normal circumstances in any complex infrastructure project.

##### **Contractual Arrangements**

The contractual arrangements for the project were fit for purpose.

The procurement approach was design-bid-build. In this case, the design was led by the client/principal but using contracted resources for part of the design team. The construction works were then bid based on the design documents prepared. Design-build has been suggested as a possible alternative approach to procurement to avoid some of the claims



that arose in the construction contract for changes to the design. However, a design-build contract reduces the control of the building owner over design, and reduces price competition for the construction component. In this project, where a bespoke design was desired for the buildings, design-bid-build was the appropriate procurement approach.

Calibre was engaged directly by MFAT under the Technical Assistance contract. Calibre formally reported to MFAT although they were embedded in the CIIC SPU and therefore directed by CIG. This situation has high ambiguity and depended on a trusted relationship between Calibre and CIIC, and similarly high trust between MFAT and Calibre. There was tension in the beginning about this arrangement, but good working relationships and trust developed between the three parties enabled it to succeed. Despite this, some Cook Islands stakeholders remain concerned that these dual lines of responsibility should not be done because it is not clear who is the master.

The construction work was engaged under a form of contract based on NZ Standards for works of this type. In this project a Cook Islands contractor was able to compete with international bidders and win the construction contract. That outcome occurred because the size and nature of the construction work matched the capability of the local contractor, and their established local position gave them an advantage over international bidders. No other Cook Islands contractors had the capability to tender as the lead contractor.

Tender conditions for the construction contract allowed for open bidding with no minimum financial qualification rules. The requirement only to demonstrate capability for the works was sufficient for this situation. It was not necessary to require some of the high levels of financial and operating record of contractors that are commonly required for more complex development infrastructure projects and mean that locally based contractors cannot lead the construction contract. If an international company had been the successful tenderer, it is expected that local construction companies would have still been involved, but as subcontractors.

The lowest price conforming method for evaluation of the construction contract eliminated poor tenders that would not have met performance and quality requirements for the project.

### **Delivery of Outputs**

The intended outputs were achieved.

Primarily this was the completion of the new College buildings. This was effectively on time for the commencement of the 2018 school year, and within budget. That is notwithstanding changes made to budgets for additional or modified scope of works.

Strong outcomes in capacity building were also achieved, not just within the CIIC SPU. The project has provided a model of better infrastructure delivery methods, from governance to management to implementation. Performance in all areas was higher than reported for other infrastructure projects in the Cook Islands.



## **PROCESS FOR DESIGN AND CONSTRUCTION**

### **Management and Resourcing**

The management and resourcing of the project through combined resources from the Cook Islands and New Zealand is a notable feature of the project and was very successful.

There was an established and functioning project team in CIIC at the start of the project, with basic skills in design, project management and construction, but limited experience. It was recognised that there were gaps in this expertise and a specific gap analysis was undertaken at the start of the Technical Assistance input. This allowed the additional resources needed to be identified and secured early, and meant that unrealistic expectations were not made and then not met by the local team.

The required outputs from the Technical Assistance in completion of the building design and successful construction management were achieved. Earlier engagement of this technical assistance from Calibre in the project life would have likely resulted in improved outputs in the design area (e.g., more steeply pitched roof relevant to high rainfall environment). The concept design was complete by the time Calibre was engaged, and the short time left to improve on that concept and complete the design has limited the impact of their input. This form of technical support to local project resourcing is shown to be valuable, but should commence as early as possible.

The mix of inputs is noteworthy for this project and the inputs from all parties resulted in the success of the project. The benefits of the extra skills provided by Calibre were demonstrated, recognized and logically should have been available throughout the whole design. This likely would have achieved better budgeting earlier, and avoided some of the later changes being needed.

Construction was led by a Cook Islands company, but they added the extra resources they needed for a project of this scale through subcontractors and labour hire from the Cook Islands and NZ. A project of this scale happens infrequently in the Cook Islands. The skills and number of workers needed for this project are not able to be maintained in a small and isolated location such as the Cook Islands.

There was consistency in the team involved at all levels (governance and execution) over the duration of the Activity, and strong personal ownership. This ensured acquired learning was not lost in personnel changes.

The CIIC SPU were dedicated to the project. They were not subject to conflicting demands from other roles and responsibilities that sometimes arises on other infrastructure projects where project duties are additional to those of an ongoing position.

### **Timely and Cost-Effective Delivery**

Stakeholders report the importance that was attached to timely completion of the project and adherence to budget limits. Those results were achieved, and can be credited to the focus from all parties: governance, management and design, and construction.

This was helped by the absence of factors that commonly lead to delays and cost overruns on other infrastructure activities in the Pacific. The scope of the activity was limited to one output identified in the ADD; the scope of the project was well defined at its commencement and there were no missing components; there were no requirements for land acquisition or negotiation on land access; there were no notable environmental factors to deal with, and the time period for the project was short.



### **Programme Timeframes**

Demanding targets were set for the completion of the works and the milestones to be achieved. These were generally met, but shorter timeframes come with compromises.

Time had been spent on the concept design, with the building users involved in that process. This was without the expertise of the full project team. Once funds were provided by NZ, the timeframes became more urgent. There was very little time possible for review and finalisation of the concept, and the subsequent detailed design was then done relatively quickly. As a result, documentation for tender was not fully detailed. With a longer programme, better coordination of different parts of the design would have been possible and beneficial, avoiding later issues and variations in the construction phase. More time to check and review designs would have helped with this.

### **Management of Construction Contract**

The construction works were proactively managed by the Contractor, who took initiative in communications with CIIC and stakeholders in the Cook Islands. The Contractor recognised the importance of the project to them as a flagship project in their own country, and responded accordingly.

There was a team approach across the different parties, with good communication and cooperation. Payment for goods off site helped take the risk out of supply delays.

Contract administration was the joint responsibility of the SPU and Calibre. Calibre filled the role of Engineer to the Contract, bringing the experience needed for this role that was not available within CIIC and CIG. CIIC SPU staff undertook the day-to-day monitoring of the works and liaison with the Contractor, but were able to draw on advice and support from Calibre. This combination of resources was effective and made the best use of the expertise of each party, and the presence of the SPU close to the works.

At one point there was a proposal for Calibre to provide a staff member in Rarotonga continuously through the construction period, but this did not proceed. It is likely that an arrangement such as that would have given better support and response to CIIC and the Contractor. This input would have been costly, and would likely have reduced the capacity building that has been achieved for the CIIC people involved.

### **DESIGN QUALITY**

The buildings have improved the College environment. The buildings are viewed positively by the College and wider Cook Islands community. They are seen to be some of the best facilities in the Cook Islands and to be an example of quality for future building work. Teaching staff and students like the new classrooms and other facilities, and use of them is sought after.

The buildings were completed to a concept developed wholly in the Cook Islands, but with subsequent modification with the assistance of Calibre. Changes were to bring the works within budget, and make the buildings more durable and fit for purpose. Further improvement to the building design would have been possible with more time, and more specialist input into the concept.



The adopted architectural look and feel of the building incorporates several features that are not normal practice in tropical environments. This includes limited passive ventilation and screening from sun and rain, flat roof profile and internal gutters, and unfamiliar features such as carpet. Although timber screens shade some windows, others are unscreened; and users have noted parts of the buildings getting hot due to sun exposure. The opening size of some windows is limited, and it is reported that the windows that open to full height cannot be left open during rain. The carpet has been noted by both students and staff as difficult to protect and clean, and becoming smelly. The project has created distinctive buildings in the Cook Islands, but it is not clear that the tradeoffs then made in building utility were fully considered and accepted.

Some building details could be improved on, and there is some criticism of the buildings for being larger and more elaborate than warranted. The buildings include a number of facilities that are new to the College and the Cook Islands, and it may take some time to find the best use for all spaces. Full use of some areas may not be achieved, for example the open central lobby in the Technology Building, because of limitations in how they can be used.

Detailing and specification of building services (such as selection of appropriate light fittings, fans and air conditioning) was not well suited to Cook Islands conditions in some instances. This can be attributed to the building services subcontractor having limited experience working in the Pacific and limited time available to review and amend designs.

#### **BUILD QUALITY**

The buildings are new and the construction contract is still in the defects period so the durability of the buildings is unproven as yet.

The construction has been done in durable materials so maintenance should be relatively low cost in the short term. Some defects and problems with parts of the building have been found (e.g. faulty taps, suitability of sensor activation of lights), but these are not beyond that typical for a new building.

#### **ASSET MANAGEMENT**

There is no asset management plan in place for the new buildings, and no budget has yet been formulated for the costs of operation and maintenance of the new buildings. CIIC is understood to be addressing this as part of a new overall programme for all government assets.

Maintenance manuals have been provided for the buildings and plant to CIIC (these were not sighted by the Evaluation team). The construction contract is still within the defects period and so prime responsibility for repairs remains with the construction contractor. Only at the end of the defects period the buildings will transfer to the CIIC Property Division.

The new buildings are larger than those they have replaced and have higher standards of facilities and fittings than in the remainder of the College. As a result, maintenance and renewal costs may be higher in the longer term than for other school buildings. Greater investment in ongoing maintenance of the College than has occurred in the past will be needed if the buildings are not to deteriorate.



## **PROGRESS TOWARDS TCR OUTPUTS AND OUTCOMES**

### **(Objective 2)**

#### **OUTPUTS**

The sole output identified in the Results Framework contained in the ADD was for “Phase 1 of Tereora College rebuild complete”. This output has been achieved.

#### **IMPACT**

Consideration of whether medium- and long-term outcomes have been achieved is excluded from the scope of this Evaluation. It is too early to assess this. The redevelopment of Tereora College is intended to improve the quality of education in the Cook Islands. That outcome requires the full redevelopment to be completed if it is to be fully realised.

#### **UNINTENDED OUTCOMES**

While participation of Cook Islands staff was envisaged in the planning of the Activity, the extent of this became greater than expected with the success of a Cook Islands company in winning the construction contract. Consequently, the pride and sense of achievement in the success of the project is magnified for the Cook Islands Government, the participating stakeholders and the local community.

Increased capability in the CIIC SPU has also been a notable outcome even though not identified in the ADD. The SPU team was relatively inexperienced at the beginning of the project. Calibre adopted an approach that supported the SPU staff to take as large a role as possible and maximise the opportunities to learn.

Use of local subcontractors and tradesmen by the contractors also meant that more of the funds were retained in the Cook Islands than often occurs on infrastructure projects, and also contributed to upskilling of these workers.

## **FUTURE DESIGN AND SUPPORT**

### **(Objective 3)**

#### **IMPROVING EFFECTIVENESS AND EFFICIENCY**

The following measures would have improved efficiency and effectiveness of the Stage 1 TCR Activity:

- Earlier engagement of technical assistance based on gap assessment of capacity and capability
- Investment in communication technology to encourage greater coordination across virtual project teams in different locations
- Increased programme time available for planning and design of infrastructure.

These are discussed further in Section 6.

#### **LESSONS FOR FUTURE PROJECTS**

Lessons are discussed in Section 6 of this Report.



# 6

## Lessons Learned

### OVERVIEW

Stakeholders involved in the implementation of Stage 1 Tereora College Redevelopment universally describe the project as one of the best infrastructure projects they have been involved with. This includes development managers, technical practitioners and those in governance roles.

TCR Stage 1 was less complex and more straightforward than many other infrastructure projects. It was focussed on completion of construction. As a school development it was uncontentious. As a result, those implementing the project could focus on the key actions needed for success, and there are clear lessons that are not obscured by complicating factors but can be transferred to future Activities.

There are also lessons in areas where improvement would lead to better outcomes.

The keys to the Activity's success were:

- Clearly defined scope and outputs
- The right people were involved
- Good governance
- Good communication
- Good leadership and performance by the implementation team.

### KEY LESSONS LEARNED

#### PROJECT SCOPE

A well-defined scope and concept for an infrastructure Activity sets the direction of the work and ensures that key performance outcomes (such as programme, budget and scope) are achieved (see **Recommendation 4** on scoping).

Even if the Activity is intended to complete a specific task, it is beneficial if Activity Design responds to other related issues as well, such as in-country capacity and capability affecting implementation, stakeholder interests, technical and financial sustainability, and cross cutting themes. This also includes operating and maintenance requirements and resourcing.

The shape and cost of a project develops through the design process. The initial concept will be based on very preliminary assessments and rough order of cost estimates. The shape and estimated cost of the project will then change through the process of design. Budgeting and planning need to recognise that these changes will occur. Uncertainties in costs for infrastructure projects need to be addressed through good management and contingencies.

Good technical designs need to be in place before construction contracts are let. Technical advice should be obtained as early as possible in aspects such as consultant briefs, concept





design, design reviews, and procurement strategy. Technical advisors should have input to project supervision, monitoring and review throughout implementation (see **Recommendation 3** on early technical expertise involvement).

A contracting strategy for each project should be developed. Such a strategy should identify the key project risks and share and allocate those risks to those parties best placed to manage them. Qualification requirements for bidders should not preclude participation by any party with the capacity and capability to do the work, including local contractors, but should be set to rule out unsuitable low price offers (as in Stage 1 of the TCR). Realistic timeframes for planning the work should be allowed for, as well as procurement and construction based on complexity of project, market conditions, and logistical realities. Plant and equipment for many projects in the Pacific may need to come from NZ (as in TCR) or Australia often with logistical uncertainties. Logistically complex projects require more time to plan and bid. Shorter timescales increase project risk for the bidder and results in less bidder interest and higher prices (see **Recommendation 8** on contracting and procurement planning).

### **GOOD GOVERNANCE**

Strong leadership and management are essential to focus stakeholders on the goals, build trust, define roles and responsibilities, and ensure accountability.

This starts with the governance level direction and oversight. Without such direction, projects can be delayed or halted, conflicts can undermine the outcomes and impacts that were intended, and loss of efficiency can result in unnecessary additional costs.

An effectively functioning PSG is needed to guide projects and make clear, timely decisions for the benefit of the project. The PSG should not exist just for maintaining relationships between stakeholders and should be actively engaged with the progress of the project. The PSG composition should include the decision-level representatives of the relevant stakeholder organisations, and the experts needed for reporting and advice.

A formal high-level governance body may also be necessary, but may not be called on unless projects are going off-track.

Support from an effective Secretariat is needed to provide accurate and timely information. An effective secretariat or project management unit and appropriate technical advisers and support systems, with the capability to implement these is required.

Where MFAT is contributing significant funds to a project, it may need a strong role in the governance and management of the project. This may include involvement in consultant / contractor selection, its own monitoring and reporting - not just relying on other partners. It may also include participation as a full voting member of the PSG. MFAT needs to be clear on the depth of involvement it requires. This needs to be agreed by all parties and clearly stated in agreements such as the GFA (see **Recommendation 10** on governance).



## **RIGHT EXPERTISE**

Having the right expertise for all tasks is a critical factor. All roles need to be competently filled and effectively executed. A weakness in one part cannot be covered by others. Governance, management, impact assessment, design and construction are all critical parts of a successful infrastructure Activity.

Infrastructure development is very challenging in developing countries, especially small nations, because the available good local resources are limited and usually stretched having to undertake many roles. It is essential to successful project delivery that the in-country capability is realistically assessed at the beginning, and appropriate responses are made in tailoring the project design (including scope, appropriate technology, timeframes and resources). Activities will not be fully successful if they are undertaken based on unrealistic expectation of in-country capability, or ignoring known limitations because of difficulties in addressing the issues.

A full capacity and capability assessment (or gap analysis) to identify skill gaps and the inputs is needed at beginning of the project to identify skill and resource gaps and the capacity building inputs needed to implement the infrastructure programme (see **Recommendation 6** on capacity assessment). Actions may then include:

- Supplementing capacity with private sector and international resources for the project.
- Reducing the scope of a project or number of projects to match the capability in country and the ability of the recipient country to assimilate the investment.
- Extending the project duration or scope to build the capacity needed for implementation – e.g. undertake a precursor stage to build capacity, include more steps, or take a longer time to implement.

Capacity building must be included even in expedited procurement. Active involvement of the relevant local people is essential. Capacity building is an essential part of any infrastructure project if it is to be successful and sustainable. Unless the capacity of the local resources is built up then they are unlikely to be able to operate and maintain new or improved infrastructure so that it is sustainable as a long term asset (see **Recommendation 7** on capacity building and **Recommendation 5** on the right technology).

Maintaining continuity of staff throughout the life of an Activity should be the aim. This has benefits to project performance through greater personal ownership on the part of those involved, and retention of project knowledge. Continuity of staff on activities that may cover long implementation periods is a greater challenge; succession planning and availability of departing staff for ongoing support can overcome these setbacks.

Experience in the particular conditions that apply in the Pacific is critical. This applies to knowledge of both suitable design approaches and local practices.

## **GOOD COMMUNICATION**

There needs to be a clear engagement and communication plan for all stakeholders. This promotes the effective completion of outputs and builds ownership by all stakeholders including the recipient community.



Including beneficiaries and other stakeholders is good practice, but this takes time and requires engaging people in culturally specific ways. A primary benefit is improved infrastructure that meets the needs of all beneficiaries. Specific expertise may be required to assist with these processes and to help integrate the needs of the beneficiaries into the project. Early involvement and regular communication with communities can reduce delays, improve relationships between the Contractor and the community and pave the way for agreements for land and resources.

Project management during implementation needs to include regular, effective dialogue with all stakeholders, including the community. The unfamiliarity of infrastructure projects and processes to many stakeholders needs to be understood. Communications need to be written in non-technical language wherever possible, or explanatory information provided. As much time as possible needs to be allowed before decisions are finalised, so that there is time for stakeholders to seek further explanation if needed (see **Recommendation 9** on stakeholder engagement plans).

Modern communication tools can assist the smooth running of the project. This has benefits through better coordination of work teams, better dialogue with stakeholders, and making sure the latest information is available to everyone who needs it. Where teams are located remotely, the quality of the communications tools directly impacts on daily tasks, and how well the team remains in contact and working to the same result. Investment may be needed in the right technology such as improved internet speed, quality audio visual equipment and suitable meeting spaces. Without tools that are easy to use and effective, communication across the project team becomes more limited and less effective.

### **GOOD LEADERSHIP AND MANAGEMENT**

Firm project management, with good systems and processes, is needed for major infrastructure projects.

Good project processes need to be set that are appropriate to the situation and within the ability of organisations and individuals to implement. Circumstance or expedience may sometimes require changes to established practice, but the key measures for good planning, design, technical review, management and oversight should not be downgraded.

Clear and logical roles, responsibilities and lines of authority need to be set for each project (delivery, project design, technical support). All parties need to fully understand their role and responsibilities, fulfil them, and understand the roles of the other participants (see **Recommendation 11** on project management).

Infrastructure projects have their own particular project management requirements. The national PMU needs at least some staff knowledgeable in infrastructure or have ready access to this expertise. Major infrastructure projects need a capable Engineer to the Contract from the beginning of construction with clearly defined responsibilities and supported by effective and efficient MSQA. The construction supervision team should closely monitor the works, respond to the construction contractor's requests quickly, thoroughly inspect all work and be prepared to reject sub-standard work firmly and in a timely manner.



## 7

## Recommendations

### TEREORA COLLEGE

1. **Prepare an asset management plan and long term financial plan for the operation, maintenance and renewal of the Tereora College Redevelopment Stage 1 buildings.** There is no asset management plan in place for the new buildings, and no budget has yet been formulated for the costs of operation and maintenance of the new buildings. The new buildings are larger than those they have replaced and have higher standards of facilities and fittings than in the remainder of the College. As a result, maintenance and renewal costs may be higher in the longer term than for other school buildings. Greater investment in ongoing maintenance of the College than has occurred in the past will be needed if the buildings are not to deteriorate. **Next steps:** CIIC to complete an asset management plan. Ministry of Education to prepare an operations budget incorporating the cost of operating the two new buildings. CIG to identify funding for maintenance and operation.
2. **Plan and implement the completion of redevelopment of Tereora College.** The works completed to date form only part of the redevelopment of Tereora College needed to replace the aging building assets and provide the infrastructure that supports the outcomes of the Education Master Plan. **Next steps:** CIG to plan and identify funding for completion of Tereora College redevelopment.

### GENERAL

3. **Technical expertise (engineers in the case of infrastructure) should be involved early in project design.** This should be via MFAT or outsourced with MFAT input to the consultant's brief, concept and detailed design, pre-tender design review, and contract preparation to ensure that the arrangements and proposals are 'fit-for-purpose'. The technical advisors should provide advice throughout the construction period. **Next steps:** Involve technical expertise from the start of project design throughout the project.
4. **The Activity should be scoped properly at the start.** Good Activity/project design principles should be followed. Key parts of the Activity design should not be left for later even if their resolution causes a delay, or there should be a clear method for dealing with missing work later. Good scoping of projects includes programming for enough time to be taken at the start to do the technical design properly. This may avoid changes to technical design after construction has started and save costs in the longer term. Some projects might also benefit from a staged Activity Design process or business case approach. Such an approach may set out a business case for the Activity which authorises detailed design, then a second stage business case to authorise construction. **Next steps:** Scope projects properly at the start, allow enough time for technical design, and consider a two-stage business case for technical design and then construction as relevant to each specific project. Include the post-construction and maintenance period in Activity programmes, and resource as needed.



5. **Invest in the right technology to do the task.** Ensure that appropriate technology is going to be used for the Activity environment (such as plant and equipment) and interfaces with existing systems, where necessary. Computer systems should be fully compatible (including hardware and software) among users; and communication technology adequate. **Next steps:** In future projects, ensure that appropriate technology for the project environment (e.g., plant and equipment) is used; and support systems to assist with specific tasks (as well as operator training) are appropriate and fully compatible. At the scoping stage, check that communication technology is adequate and upgrade if necessary.
6. **A full capacity and capability analysis should be undertaken at the start of each Activity.** The purpose of this is to identify skill and resource gaps (design, project management, construction) and the capacity building inputs needed to implement the infrastructure programme, including post-construction operation and maintenance where longer term capacity building and support is required to fill gaps (MFAT responsibility). **Next steps:** Incorporate a specific capacity and capability gap assessment output at the beginning of Activities in all Activity designs. Provide additional resource and expertise to overcome any shortfalls.
7. **Use the combination of local and international resources that best suits the project and the relevant capacity and capability to complete the work.** It is unlikely that teams can be formed using only local or only international staff. Local knowledge and resources are necessary inputs. MFAT should encourage use of local contractors if they are capable and have sufficient capacity to do the specific job. The scale of development infrastructure projects is likely to need specialist staff that are not able to be maintained within a small or developing state. Capacity building of local staff by international staff could be designed around real project roles so that the work serves an infrastructure development and capacity building function. **Next steps:** Activity designs should identify the structure of implementation teams with the appropriate combination of in-country and international expertise, and how on-the-job capacity building can be incorporated into the project work programme.
8. **Undertake specific contracting and procurement planning for infrastructure components.** A specific contracting strategy should be developed that identifies the key project risks and is developed to share and allocate those risks to those parties best placed to manage them. Qualification requirements for bidders should not preclude participation by any party with the capacity and capability to do the work, but should be set to rule out unsuitable low price offers. Allow for realistic timeframes for planning the work, procurement and construction based on complexity of the project and market conditions. Logistically complex projects require more time to plan and bid. Shorter timescales increase project risk for the bidder and results in less bidder interest and higher prices. **Next steps:** Activity designs should include an output for preparation of a procurement plan. MFAT should supply a checklist/template for guiding procurement. A procurement expert should be involved for procurement in large and/or complex infrastructure projects.



9. **Beneficiary communities and other stakeholders impacted by the infrastructure should be consulted from the beginning of the Activity design process following an agreed Stakeholder Engagement Plan.** Stakeholders should be involved in the design process to ensure that local knowledge and experience is included in the project and engineering design; and that beneficiary needs (e.g. men and women, disadvantaged groups) are met and adverse impacts are avoided or mitigated. Communication with the beneficiary communities and other stakeholders should follow a defined Stakeholder Engagement Plan that is updated as the project progresses. **Next steps:** Activity designs should include an output for preparation of a stakeholder engagement plan.
  
10. **Establish and maintain an appropriate governance structure that has suitable representation, is well resourced and active.** This may include a Governance Group for high-level oversight and Project Steering Group (or equivalent) responsible for project direction and monitoring implementation. The latter should meet regularly and include authorisation level representation. Either or both groups should include MFAT depending on the nature and complexity of the project. MFAT needs to be clear on the depth of involvement it requires and this needs to be agreed and understood by all parties when the GFA is signed. **Next steps:** Activity designs should ensure that an appropriate governance structure is established with clear roles and responsibilities of governance groups, including MFAT.
  
11. **Develop clear project management structures including authority matrix and relationship/communications strategy, and assign clear roles and responsibilities.** Complex and large management structures can result in confusion and mis-communication. Roles and responsibilities of all parties involved in the implementation of the Activities should be made clear, i.e. who can decide what. Key roles should be staffed with persons that have the right skills. Mitigations should be put in place to provide for the situation of key personnel leaving or becoming unavailable. **Next steps:** Activity designs should provide clarity as to the roles and responsibilities of each party.



# Appendices

## APPENDIX ONE: TERMS OF REFERENCE

### BACKGROUND

In August of 2015, the Cook Islands celebrated 50 years of self-governance in free association with New Zealand. To mark the importance of the relationship between the two countries, the New Zealand Government offered the Cook Islands Government (CIG) a gift of national significance.

On 3 August 2015, New Zealand's Prime Minister announced that as its 50<sup>th</sup> celebration gift to the Cook Islands, New Zealand would provide up-to NZD \$11.7m for the first phase of a planned rebuild of the National College, Tereora.

The purpose of this Activity is to enable the CIG to begin the first phase of the planned rebuild of the National College. The rebuild will transition the National College from an outdated asset, into a purpose-built modern learning environment. It will play a critical role in enabling the CIG to progressively lift the quality of education in the Cook Islands to a level more comparable to that of New Zealand. The project is a ten-year plan for the college over four main stages. Stage 1 of the project is the redevelopment of two buildings: the Administration/Library Block and a Technology Block.

This Activity began in October 2015 and was completed in February 2018, with Prime Minister Ardern officially opening the new college buildings in March 2018.

### Goal

- Progressively lift the quality of education in the Cook Islands

### Outcomes

- Improved human development
- Improved education outcomes

### EVALUATION PURPOSE

This evaluation will be used by MFAT and CIG primarily to:

- consider if the buildings are well built, fit for purpose, and whether they were built in a cost-effective way
- identify lessons learned that could be applied to projects of a similar nature, considering both the build (including governance delivery model) and likely outcomes, including any future stages of Tereora College build.

### EVALUATION OBJECTIVES CRITERIA AND QUESTIONS

**Objective 1:** - How efficiently have the outputs been met? What worked well and what could be done differently? Review the Cook Islands Investment Corporation (CIIC) approach employed to deliver results. (Efficiency)

- To what extent has oversight of the activity been cost effective? Were the design and construction process and contractual arrangements fit for purpose? Were intended outputs delivered?



- Did the process chosen for design and construction produce buildings that were built in a timely manner and cost effectively?
- Have they been well built? Are the materials durable? How do they stand up to the wear and tear imposed by students? Do they withstand the ravages of the weather including cyclones? Are they easy to maintain and keep in good repair? Are they cost effective to operate? Are the fixtures functional and durable?
- Are they well designed? The right size? With the right layout? Are they good places to work in, teach and learn? Are they comfortable to work in in all weather? Are they in the right location? Is the re-build likely to contribute to short-term and medium-term outcomes?
- Is there an asset management plan for the buildings? If so, does experience to date indicate that it is fit for purpose?

**Objective 2:** Examine the progress being made towards achieving the Tereora College Redevelopment outputs and likely short and medium-term outcomes (Effectiveness)

- Were outputs met? Identify the impact (to date and likely impact) of the new buildings on the learning environment, including any surprises. Have there been any unintended outcomes to date?

**Objective 3:** Future design and support –identify the key lessons learned that could be applied to other projects of a similar nature and for a possible second phase of support.

- If a second stage of development is undertaken what changes, if any, would improve effectiveness and efficiency?
- What lessons can be learnt for a future project of a similar nature?

## EVALUATION SCOPE

The scope of the evaluation will include:

- the time period of the evaluation will cover the period from signing of the Grant Funding Arrangement (5 November 2015) to the present time.
- its geographic focus Rarotonga, Cook Islands.
- the target groups Tereora College staff and pupils, Cook Islands Ministry of Education; Cook Islands Investment Corporation; contractors (Calibre and Land Holdings); and Ministry of Finance and Economic Management.

The scope of the evaluation will **exclude**:

- Consideration of whether the medium and long-term goals of the activity have been achieved.





## APPENDIX TWO: EVALUATION STAKEHOLDERS

The following MFAT stakeholders were interviewed:

STAKEHOLDER	INTEREST/STAKE	MEETING/TELECON	INVOLVEMENT/PARTICIPATION
Cook Islands Government			Oversight of TCR
Mark Brown, Deputy Prime Minister, Minister of Finance	Critical investment in National Infrastructure Investment Plan	Meeting	Oversight of TCR implementation
Cook Islands Investment Corporation			Principal to Contract
Tamarii Tutangata	General Manager	Meeting	Head of CIIC throughout project delivery
Anne Taoro	Special Project Unit Team Leader	Meeting	Project management of TCR implementation
Sally Hosking	Special Project Unit Design and Project Officer	Meeting	TCR project team
Alfred Wigmore	Special Project Unit, Design Consultant	Meeting	TCR project team
Eusenio Fatialofa	Special Project Unit, Project Manager	Meeting	TCR project team
Elena Mataora	Asset Management Unit	Meeting	
Ministry of Education:			Responsible for delivery of quality education and learning facilities
Danielle Tungane Cochrane	Current Secretary 2017-present	Meeting	PSG member, project governance, direction and monitoring implementation
Gail Townsend	Previous Secretary 2015-2017	Telecon (Samoa)	PSG member, project governance, direction and monitoring implementation
Rob Matheson	Director of ITC	Meeting	Inputs to TCR design,
Tiere Utanga	Director, Human Resource Management Division	Meeting	Management of school during construction
Rowena Newbigging	Finance Director	Meeting	Inputs to TCR design, monitoring of educational outcomes, financial planning
Tereora College:			Use and operation of TC
Tania Morgan	Principal	Meeting	Inputs to TCR design, operation of the TCR infrastructure, monitoring of educational outcomes



STAKEHOLDER	INTEREST/STAKE	MEETING/TELECON	INVOLVEMENT/PARTICIPATION
Louis Enoka	PTA Chair	Meeting	Inputs to the TCR design, learning environment improvements
Students – Year 13 Statistics Class	Beneficiary	Focus group	Learning environment changes, facilities, safety
Teachers - Tania William, Amy Wildash, Thomas Savage, Boaz Raela, Christing Singh Ganivatu, Teremoana Ngaau, Matthew Easterbrook, Linda Dun, Adrian Cooling, Moana Tauraa.	Users of TC facilities	Focus group	Achievement of desired education outcomes, teaching facilities, learning environment
Tokoā Ngaau	Caretaker, operation and maintenance of TC	Meeting	Operation and maintenance of new TC facilities
Cook Islands National Disability Council			
Destiny Tara Tolevu	Accessibility for disabled students	Meeting	Provided input into access for all students
Poko Rota	Accessibility for disabled students	Meeting	Provided input into design of access for all students
Calibre			TCR design
Steve Gaskin	Design Manager	Telecon	Infrastructure design, project management
Chris Fahrensohn	Architect	Telecon	Building design
Land Holdings Ltd			Contractor
John Batty	Contractor Representative	Meeting	TCR construction
Bill Doherty	Managing Director	Meeting	TCR construction
MFEM/DCD			Fiduciary oversight
Garth Henderson	Financial Secretary	Meeting	Fiduciary standards, annual auditing, high level oversight, monitoring and evaluation, GG, PSG members
Melinda Pierre	Development Coordination Division	Meeting	Fiduciary standards, annual auditing, high level oversight, monitoring and evaluation
NZ High Commission/MFAT			Provision of funding, governance, monitoring of implementation, member of GG and PSG, funding of TA
Joseph Mayhew	Former First Secretary	Telecon	TCR design, governance and



STAKEHOLDER	INTEREST/STAKE	MEETING/TELECON	INVOLVEMENT/PARTICIPATION
	NZHC, Rarotonga		implementation
Peter Marshall	NZ High Commissioner, Rarotonga, Cook Islands	Meeting	TCR governance, implementation and initial outcomes
Sarah Short	First Secretary, NZHC, Rarotonga	Meeting	TCR governance, implementation and initial outcomes
Sean Buckley	Former Cook Islands Programme Manager	Telecon	TCR design, governance and implementation



## **APPENDIX THREE: REFERENCES AND SOURCE DOCUMENTS**

### **Tereora College Rebuild Documents Consulted**

List of documents consulted from MFAT's GDM system included the following:

- Evaluation Policy for the New Zealand Aid Programme
- Evaluation plan and report templates
- PAA
- Legacy PAA
- Letter of variation 1
- Letter of variation 2
- Letter of variation 3
- Letter of variation 4
- LOV 4 Dec 2017
- TTV Activity Report 16 January 2017
- TTV Activity Report 01 March 2018
- Six-month expenditure report
- Progress and critical pathway update
- Progress Report July – December 2017
- Activity risk register
- GRID export CIIC
- Practical completion 71
- Practical completion 71B
- Report – Tereora Power vs Solar Supporting Information
- Grant Funding Arrangement
- Tereora College Redevelopment Critical Pathway Update and Occupation Timetable
- Tereora safety incident report 2017
- Tereora College Calibre Monthly Work Plan (December 2017 – February 2018)
- Calibre – Tereora College – Statement of Work Contract
- Tereora College TA combined scores evaluation sheet - December 2015
- Calibre Costs revised 15.02.2016 (1)
- Construction programme and critical path Tereora College Aug 2017
- Letter of variation - Calibre Statement of Work
- CIIC Attachment 5 - Preliminary milestone dates - July 2015
- TCR Activity Risk Register
- TCR Calibre Health and Safety Plan Final
- TCR Calibre Resource Cost Plan
- TCR MP C.03 STAGE 1 WORKS REV B
- Meeting minutes: Appraisal of ADD for Tereora College rebuild
- PROJECT PROPOSAL - Tereora College Rebuild
- TCR Design Brief – FINAL
- NTT1 Tereora College TA
- NTT2 Tereora College TA
- LH Social Impact Checklist
- 'As built' drawings for Tereora College Redevelopment
- Meeting minutes – Governance group
- Meeting minutes – Project steering group
- Site Plan – pathways and greening
- Combined construction set 1 - drawings



- Combined construction set 2 - drawings
- Combined construction set 3 – drawings
- CI – ADD for Tereora Rebuild
- TCR Results measurement framework working draft (1)
- TCR Results measurement framework V1
- SOW - Cook Islands - Tereora College Redevelopment-Planning Ph 1 Construction - Calibre Constlg
- Tereora College Redevelopment Stage 1 - Completion Report
- NZ MoE Design Review Panel report - Tereora College with CF COMMENTS.

### **Other Information and Document Sources**

Tereora College Redevelopment Project Facebook Page

Cook Islands Government, August 2015, *Cook Islands National Infrastructure Investment Plan*.

Cook Islands Government, 2017, *2017 Education Statistics Report*

Cook Islands Government, August 2015, *Cook Islands National Infrastructure Investment Plan*

NZ Ministry of Education, November 2016, *The Impact of Physical Design on Student Outcomes*.

NZ Ministry of Education, November 2016, *How the design of spaces can help student achievement*.

NZ Ministry of Education, November 2016, *Making spaces work for everyone*.

Cook Islands Investment Corporation, June 2016, Request for Tender Tereora College – Stage 1 Works.

