ADB

Completion Report

Project Number: 32407
Loan Numbers: 1921, 2088
September 2011

Tuvalu: Maritime Training Project

Asian Development Bank

CURRENCY EQUIVALENTS

Currency Unit – Australian dollar (A$)

		At Appraisal	At Project Completion
		15 August 2002	31 March 2010
A$1.00	=	$0.5636	$0.9198
$1.00	=	A$1.77	A$1.09

ABBREVIATIONS

ADB	–	Asian Development Bank
APA	–	audited project accounts
CEO	–	chief executive officer
EIRR	–	economic internal rate of return
ICB	–	international competitive bidding
IS	–	international shopping
IMO	–	International Maritime Organization
MES	–	Ministry of Education and Sports
MFEP	–	Ministry of Finance and Economic Planning
PCR	–	project completion report
PSC	–	project steering committee
PWD	–	Public Works Department
SPC	–	Secretariat of the Pacific Community
TA	–	technical assistance
TMTI	–	Tuvalu Maritime Training Institute

NOTES

(i) The fiscal year (FY) of the government and its agencies ends on 31 December.

(ii) In this report, "$" refers to US dollars, unless otherwise stated.

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BASIC DATA

A. Loan Identification

		Original	Supplementary
1.	Country	Tuvalu	Tuvalu
2.	Loan Number	1921-TUV(SF)	2088-TUV(SF)
3.	Project Title	Maritime Training Project	Maritime Training Project
4.	Borrower	Government of Tuvalu	Government of Tuvalu
5.	Executing Agency	Ministry of Finance and Economic Development	Ministry of Finance and Economic Development
6.	Amount of Loan	SDR1,394,000	SDR1,353,000
	Net Loan Amount	SDR1,255,000	SDR1,345,000
7.	Project Completion Report Number	1256	

B. Loan Data

1.	Appraisal		
	– Date Started	25 April 2002	24 May 2004
	– Date Completed	5 May 2002	27 May 2004
2.	Loan Negotiations		
	– Date Started	11 July 2002	25 June 2004
	– Date Completed	4 September 2002	28 June 2004
3.	Date of Board Approval	16 October 2002	3 August 2004
4.	Date of Loan Agreement	13 November 2002	13 August 2004
5.	Date of Loan Effectiveness		
	– In Loan Agreement	11 February 2003	11 November 2004
	– Actual	19 February 2003	13 January 2005
	– Number of Extensions	0	1
6.	Closing Date		
	– In Loan Agreement	31 August 2005	30 June 2006
	– Actual	25 May 2011	25 May 2011
	– Number of Extensions	8	8
7.	Terms of Loan		
	– Interest Rate	1.0% during grace period, 1.5% thereafter	1.0% during grace period, 1.5% thereafter
	– Maturity (number of years)	32	32
	– Grace Period (number of years)	8	8
8.	Terms of Relending (if any)	None	None

9. Disbursements

a. Dates

L1921

Initial Disbursement	Final Disbursement	Time Interval
25 June 2003	27 April 2011	94 months
Effective Date	**Original Closing Date**	**Time Interval**
19 February 2003	31 August 2005	30 months

L2088

Initial Disbursement	Final Disbursement	Time Interval
3 July 2006	13 November 2009	42 months
Effective Date	**Original Closing Date**	**Time Interval**
13 January 2005	30 June 2006	16

b. Amount (SDR) Loan 1921

Category	Original Allocation	Last Revised Allocation	Amount Canceled	Amount Disbursed	Undisbursed Balance
Civil Works	883,000	771,833	0	771,833	0
Goods & Materials	180,000	170,807	0	170,807	0
Project Management	133,000	370,388	79,332	291,057	0
Interest	21,000	21,000	0	21,000	0
Unallocated	177,000	59,971	59,971	0	0
Total	**1,394,000**	**1,394,000**	**139,303**	**1,254,697**	**0**

b. Amount (SDR) Supplementary Loan 2088

Category	Original Allocation	Last Revised Allocation	Amount Canceled	Amount Disbursed	Undisbursed Balance
Civil works	1,226,000	0	0	0	0
Goods & materials	0	1,336,000	7,750	1,328,250	0
Project management	23,000	0	0	0	0
Interest	17,000	17,000	0	17,000	0
Unallocated	87,000	0	0	0	0
Total	**1,353,000**	**1,353,000**	**7,750**	**1,345,250**	**0**

10. Local costs: No local cost financing under either loan.

C. Project Data

1. Project Cost ($'000)

Cost	Appraisal Estimate[a]	Actual
Foreign Exchange Cost	4,071	4,188
Local Currency Cost	246	222
Total	4,317	4,410

[a] The appraisal estimates are consolidated amounts for both the original and the supplementary loans.

2. Financing Plan ($'000)

Cost	Appraisal Estimate	Actual
Implementation Costs		
Borrower Financed	463	463
ADB Financed	3,764	3,889
Other External Financing	0	0
Total	4,227	4,352
IDC Costs		
Borrower Financed	0	0
ADB Financed	51	58
Other External Financing		0
Total	51	58

ADB = Asian Development Bank, IDC = interest during construction.

3. Cost Breakdown by Project Component ($)

Component	Appraisal Estimate	Actual[b]
Upgraded wharf facilities	166,360	-
Fire-fighting facilities	133,352	-
Water collection and storage	91,782	-
New staff houses	395,897	-
TMTI building rehabilitation	530,272	-
Solar power system	71,429	-
Renovation of staff houses	145,798	-
Marine Department office extension	183,862	-
Telecommunication upgrade	33,334	-
Equipment procurement	111,196	-
Design and supervisory engineer	176,954	-
Total		

[b] As the International Competitive Bidding procurement originally planned was changed to individual supply contracts and use of force account procedures, it is not possible to provide an actual cost breakdown by component. This is because many of the supply contracts covered several components.

TMTI = Tuvalu Maritime Training Institute.

4. Project Schedule

Item	Appraisal Estimate	Actual
Date of Contract with Consultants	Q4 2002	24 Jan 2003
Completion of Engineering Designs	Q1 2003	Qtr4 2005
Civil Works Contract		
Date of Award	Q1 2003	28 Apr 2006
Completion of Work	Q3 2004	31 Mar 2010
Equipment and Supplies	Q4 2004	
Dates		
First Procurement	Q1 2003	31 May 2006
Last Procurement	Q4 2004	28 Feb 2010
Completion of Equipment Installation	Q4 2004	31 Mar 2010

Q = quarter.

5. Project Performance Report Ratings

	Ratings	
Implementation Period	Development Objectives	Implementation Progress
From 31 October 2002 to 30 April 2003	Satisfactory	Satisfactory
From 01 May 2003 to 31 May 2003	Partly Satisfactory	Satisfactory
From 01 June 2003 to 31 May 2004	Satisfactory	Satisfactory
From 01 June 2004 to 31 July 2004	Satisfactory	Partly Satisfactory
From 01 August 2004 to 30 November 2005	Satisfactory	Satisfactory
From 01 December 2005 to 31 August 2006	Partly Satisfactory	Satisfactory
From 01 September 2006 to 31 May 2008	Satisfactory	Satisfactory
From 01 June 2008 to 31 August 2008	Partly Satisfactory	Satisfactory
From 01 September 2009 to 29 February 2010	Satisfactory	Satisfactory
From 01 March 2010 to 31 June 2010	Satisfactory	Partly Satisfactory
From 01 July 2010 to 31 November 2010	Satisfactory	Unsatisfactory

D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members[c]
Fact-Finding Mission	8–12 Nov 01	1	4	a
Appraisal Mission	24 Apr–5 May 02	1	12	a
Appraisal Mission (Supplementary)	24–27 May 04	1	2	a
Project Review	9–14 Jul 06	2	12	a, b
Project Review	12–13 Sep 06	1	2	a
Project Review	19–22 Mar 07	2	6	a, b
Project Review	20–25 Apr 08	2	12	a, b
Project Review	13–18 Nov 08	2	12	a, c
Project Review	23–28 Apr 09	3	16	a, b, c
Project Review	11–18 Mar 10	3	18	a, b, c
Project Completion Review	15–17 Feb 11	1	2	a

[c] a = desk officer, b = project analyst, c = control officer.

I. PROJECT DESCRIPTION

1. Tuvalu Maritime Training Institute (TMTI) was established in 1979 as the Tuvalu Maritime School. It is situated on Amatuku, a self-contained islet immediately northwest of Tuvalu's main atoll of Fongafale. TMTI provides maritime training for young Tuvaluans and enables them to seek employment aboard foreign vessels. Approximately 43% of Tuvalu's working age males are seafarers.

2. Seafarers trained at TMTI are the most important source of remittances to the country. These remittances comprise the major part of household income, financing house construction, school fees, business investment, and consumption. They are also a valuable source of foreign exchange. About 800 TMTI graduates are registered for employment as seafarers and 470 are currently working overseas. Most of their overseas earnings are remitted directly to bank accounts in Tuvalu and distributed to the outer islands. Overseas remittances make up 50–60% of family income on some islands, especially in areas dominated by subsistence activity.

3. The Asian Development Bank (ADB) approved the Maritime Training Project in 2002.[1] Its main objective was to ensure that TMTI would continue to provide basic training and more specialized refresher and upgrade training to prospective and current Tuvaluan seafarers under conditions that met the accreditation standards of the International Maritime Organization (IMO). This was to be achieved by (i) upgrading the infrastructure at TMTI and the Marine Department, (ii) providing training equipment, and (iii) providing institutional support to TMTI and the Marine Department under the associated advisory technical assistance (TA).

4. Due to a growing supply of qualified seafarers graduating from an increasing number of maritime schools around the world and a subsequent tightening of IMO standards, TMTI needed to maintain its comparative advantage. The specialized training equipment proposed and the general upgrade of all facilities on Amatuku would allow TMTI to meet the minimum requirements for a training institute to carry out professional training at IMO standards.

II. EVALUATION OF DESIGN AND IMPLEMENTATION

A. Relevance of Design and Formulation

5. The project was consistent with the focus of ADB's country strategy and program update (2003–2005) and dovetailed with the Education for Life program of the Government of Tuvalu, which was a priority of Te Kakeega II, the government's national development strategy.[2] ADB had some reservations about extending a loan to a country as small as Tuvalu, which then had a population of 10,340. Other maritime schools in the Pacific had excess capacity and the option of training Tuvalu's seafarers abroad was considered but rejected. The government had historic reasons for not wanting to use training facilities in Kiribati, which was also a competitor in the international seafaring employment market. Training in the Fiji Islands was ruled out because of strict language qualifications that would have severely limited the number of trainees from Tuvalu. Factoring in travel, training fees, subsistence allowance, and accommodation costs, the least-cost way to increase the number of Tuvaluan trainees from 60 to 90 a year—a core

[1] ADB. 2002. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to Tuvalu for the Maritime Training Project.* Manila. (L1921-TUV, approved on 16 October 2002, $1,845,000).

[2] ADB. 2002. *Tuvalu Country Strategy and Program Update (2003–2005)*. Manila.

goal of the proposed project—was the upgrade of TMTI. (The project framework is in Appendix 1).

6. The project associated advisory TA took all factors into account and consulted with relevant stakeholders.[3] Weak capacity in the Ministry of Education and Sports (MES) was recognized and it was expected that tight supervision and assistance during implementation would address this.

B. Project Outputs

7. The project outputs were to be (i) institutional training support to TMTI and the Marine Department, (ii) a jetty extension and installation of specialized safety-at-sea training equipment, (iii) installation of a fire fighting facility, (iv) expansion of the water catchment and storage capacity, (v) construction of new staff housing, (vi) rehabilitation and extension of trainee quarters and training facilities, (vii) installation of a backup solar power system, (viii) renovation of existing staff houses, (ix) installation of improved telecommunication systems, (x) procurement of specialized training and operational equipment, and (xi) extension and improvement of Marine Department offices on Fongafale.

8. It was envisaged that the infrastructure components would be carried out by a single contractor and the training component by a consulting firm. An initial implementation delay, coupled with rapidly escalating prices in 2002–2003, necessitated a supplementary loan.[4] Even so, the financing available from the original and the supplementary loan combined could not meet price that emerged from a second round of bidding for the infrastructure component. The MES was unwilling to cover the shortfall, the sole bidder would not negotiate, and implementation was stalled.

9. In July 2005, the Ministry of Finance and Economic Planning (MFEP) asked for an alternative way forward and a major change in implementation arrangements was processed and approved. The infrastructure component was completely redesigned to encompass several individual supply contracts and a force account component. A local project manager was engaged to supervise and oversee the works. The government became responsible for the shipment of all material as part of its counterpart contribution. However, the MES lacked the capacity to administer the project and the delivery of materials was delayed by prolonged overseas repairs on a government-owned vessel. In addition, the local project manager did not commit all of his time to the project. Design flaws were overlooked and the consultant design and supervisory engineer was not supervising the design and work progress properly. The design flaws affected the classroom and dormitory buildings. They resulted in structural defects that made remedial works and activation of the design and supervisory engineer's liability insurance necessary.

10. The extension of the Marine Department's offices never materialized because the department moved into a new government building that was completed in 2004. The solar power back-up system was canceled by the director of Public Works Department (PWD) after further technical assessment of the proposed component showed that a solar panel system would not provide the required power. The telecommunication system was upgraded by Tuvalu's own provider.

[3] ADB. 2002. *Technical Assistance to Tuvalu for the Maritime Training Institute Strengthening.* Manila. (TA3942-TUV, approved on 16 October 2002, $291,000).

[4] ADB. 2004. *Report and Recommendation of the President to the Board of Directors on a Proposed (Supplementary) Loan to Tuvalu for the Maritime Training Institute*. Manila. (L2088-TUV, approved on 3 August 2004, $1,970,000).

11. The jetty extension was initially designed as a solid concrete structure requiring specialized underwater works. It was later decided to change the design to a simpler, more conventional pile structure and to revert to a build-and-deliver contract with the metalwork supplier.

12. **Overall result.** These problems led to significant delays in the project and affected training at TMTI negatively. In the absence of dormitories and classrooms, an open meeting hall was converted to a sleeping-cum-teaching facility until completion of the project. In 2009, Ahrenkiel Group of Germany, the shipping company that was the primary employer of Tuvaluan seafarers, alerted the government that further deterioration in teaching standards would damage confidence that graduates from TMTI could be counted upon to possess the skills and competencies required for employment. Delayed implementation also damaged TMTI's ability to attract new qualified staff.

C. Project Costs

13. The total costs were estimated at project approval to be $2.30 million, of which ADB would fund $1.85 million. This comprised $2.10 million in foreign exchange and $0.20 million in local currency. The lowest evaluated substantially responsive bid for the TMTI upgrading was $4.69 million. The reappraised project cost was estimated at $4.32 million, consisting of $4.07 million in foreign exchange, and $0.25 million in local currency. At the government's request, a supplementary loan for SDR1.35 million ($2.02 million) was processed and subsequently approved in July 2004. The details of the project cost estimates are in Appendix 2.

14. The wide financial gap between the original appraisal estimate and the actual bid was due to four main factors:

(i) **Effectivity date delay**. The loan was approved on 16 October 2002 but did not become effective until 19 February 2003, when a full management team, including a new TMTI chief executive officer (CEO), was in place. During this time, the cost of construction material already increased.

(ii) **Expanded project scope**. In February 2003, the new TMTI CEO proposed expanding the original scope with new civil works to upgrade TMTI to reflect the modern reality onboard a vessel and to repair the deterioration of many buildings that had taken place since the project was appraised in 2001. At a meeting on 16 April 2003, the project steering committee (PSC) agreed to include the additional work in the bidding documents at an estimated extra cost of $425,000, or 22% of the initial estimated cost.

(iii) **Major exchange rate fluctuation**. The exchange rate at appraisal was A$1 = $0.51. At bid opening in March 2004, after a relative depreciation of the US dollar, the exchange rate was A$1 = $0.74. This constituted a price increase of 48%.

(iv) **Rising building costs**. External regional events drove up construction costs. A large number of expatriate Australians and New Zealanders moved back to their home countries after the events of 11 September 2001, causing a building boom followed by an increase in construction material in the region. Furthermore, a large number of nationals left Fiji between 2002 and 2004 to be replaced by expatriates with corresponding need for housing. Fiji is the main source of Tuvalu imports. Major building contractors in Fiji estimated that labor rates increased by almost 50% and material costs

increased by 20–30%.[5] Applying a labor–material ratio of 40:60, the net effect on the project price was a 35% increase.

15. Considering these factors, the revised appraisal cost estimate of $4.80 million compared reasonably well with the lowest evaluated substantially responsive bid of $4.69 million.

16. The need for supplementary funds was larger than the original loan and the project's economic viability was reevaluated as part of the preparation of the supplementary loan in 2004. The reevaluation was based on updated information on potential benefits and construction costs and concluded that, despite the increases in costs and taking the new benefit streams into account, the project remained economically viable, with an economic internal rate of return (EIRR) of 14.1%. The project's main benefits were identified as (i) higher remittances from seafarers, and (ii) a 10% increase in the permanent pool of seafarers. Consequently, net annual benefits were projected to increase over time and reach $2.1 million (A$3.0 million) per year after 25 years. The reevaluation revisited the alternative of sending Tuvalu nationals to other maritime training institutes in the region and rejected it since the costs associated with this solution had also risen significantly since project appraisal.

D. Disbursements

17. Disbursement was the equivalent of $3.95 million, or 95% of total original and supplementary loan proceeds. Due to a change from the one international competitive bidding (ICB) contract originally planned to eight international shopping (IS) packages and force account procedures, the initial disbursement schedule could not be met. The significant implementation delay also affected the disbursement rate. Although ADB recognized the administrative weaknesses of the MES at appraisal, the close supervision of and training in project implementation and disbursement it provided, only partly mitigated disbursement delays.

18. An imprest account with a ceiling of $50,000 was established soon after the project was declared effective. Under the change in implementation arrangements, the imprest account was used to finance the force account. As work progressed, the MES was unable to manage and liquidate the imprest account funds adequately or on time or to ensure an adequate replenishment rate. The MFEP therefore advanced funds for workers' salaries and claimed reimbursement from ADB. When the project manager's contract was terminated in July 2008 for poor performance, many original payment records and supporting documents were not handed over to the MES. This led to further delays in the reconciliation and final settling of the audited project accounts (APA) acceptable to ADB.

E. Project Schedule

19. The significant project delays were mainly caused by (i) the need to process a supplementary loan after much higher than estimated project costs were revealed at the first bid opening, (ii) an unsuccessful second round of bidding after approval of the supplementary loan, (iii) the change in implementation arrangements from a single ICB contract to eight IS packages, and (iv) preparation of new bidding documents for supply contracts. The details of the tendering process appear in Appendix 3.

[5] All of Tuvalu's imports come from Fiji, almost 1,000 kilometers away. All the bidders for the civil works component were from Fiji or used Fijian subsidiaries. Rising labor and material costs there thus directly affected the project cost in Tuvalu.

20. The change to multiple contracts for procurement was judged feasible because the government committed to transport all equipment, building materials, and whatever else was needed to rehabilitate TMTI aboard a government-owned vessel, Nivaga II. By June 2006, two shipments had arrived in Tuvalu and preliminary work began. But, due to lack of proper maintenance, the vessel required extensive repairs in Taipei,China from July 2006 to May 2007. More delays ensued because an insurance certification to sail in international waters was not issued until October 2007. ADB sought to solve this problem by helping secure a barge from a commercial firm but the government preferred to enter into a contract with Kiribati Shipping Services in November 2006 to move the remaining material for the project from Fiji into Tuvalu.

21. The experienced, dynamic, Australian-trained CEO at TMTI who had been the driving force behind the proposal and preparation of the project was dismissed in October 2002 and was not replaced by a local until February 2003. The local project manager, who was the former director of PWD, performed well initially but eventually failed to spend enough time on the project site. This affected the progress, standard, and quality of the work. The project manager and the design and supervisory engineer also signed off on requests from the new CEO at TMTI for design changes and modifications that were not always appropriate.

22. A review mission in April 2008 identified structural defects in the two-storey classroom building and the dormitory—excessive deflection in supporting beams, sagging ceiling, and deviation from the engineering design. ADB requested a suspension of work on these buildings and engaged an independent consultant engineer to assess the defects. In May 2008, when it became clear that both buildings had design and construction faults, the government terminated the project manager's contract. The Office of the Solicitor General initiated discussions with the design and supervisory engineer, after he admitted liability for design faults, his defect and liability insurance was activated. However, he did not conduct the remedial works he had initially agreed to. After protracted discussions with the design and supervisory engineer and much internal deliberations, the government decided in April 2010 to fund the remedial and repair work itself through an outside contractor and a new engineering consultant. The contract was not awarded until October 2010. Work was in progress at the time of the project completion report (PCR) mission in February 2011. The deadline for completion was end of October 2011.

F. Implementation Arrangements

23. The project design initially called for a single ICB contract and an associated advisory TA by a consulting firm. When the second bidding round for the ICB contract failed, a major change in implementation arrangements was approved to substitute eight IS packages for the ICB contract, use force account procedure for execution of the construction work, and employ a government vessel to ship in construction materials and equipment. Since the former director of PWD in Tuvalu had agreed to be the local project manager, the use of force account was the best option and supportive of local employment. The design and supervisory engineer was to provide the necessary backstopping, prepare progress reports, and sign off on completed work.

G. Conditions and Covenants

24. The only condition for loan effectiveness was that a full competent management team be in place at TMTI. The dismissal of the CEO at TMTI shortly after loan approval prevented this. The condition remained unmet until 19 February 2003 when a full and anticipated competent TMTI management was again in place.

25. Of all the covenants, this one and a second requiring a PSC of representatives of the MES, the Marine Department, TMTI, and the PWD were the most important for the efficient and timely implementation. Yet the CEO of TMTI changed frequently during the project and a full, competent management team was in place only for short periods during 2003–2009.[6] As delays in the upgrade mounted, the reputation of TMTI began to suffer, turnover of management staff worsened, and it was difficult to attract qualified replacements. The consulting firm responsible for the associated advisory TA in institutional strengthening provided a replacement CEO for two periods of 3 months each as an emergency measure.

26. Although the PSC met from time to time, it did not function as effectively as expected. It fell short of resolving implementation issues such as (i) a clear definition of project management accountabilities between the MES, which was the executing agency, and the PWD, the de facto project master builder, (ii) friction between TMTI management and the PWD over delays in construction, and (iii) a lack of coordination between the Marine Department, the MES, and the PWD in efforts to transport construction materials and equipment.

27. A financial covenant covered the provision of adequate government budget support for project activities and the incremental recurrent project costs, including operation and maintenance of TMTI facilities. Insufficient budget support for TMTI was an issue prior to the project and continued to be a problem during implementation. Release of Project counterpart funds was also delayed at times. Another financial covenant that called for TMTI to charge participants the full cost of all upgrading and revalidating courses was not complied with, because the Marine Department decided to issue revalidation certificates free of charge on the basis of the number of days at sea, rather than participation in a revalidation course.

28. Compliance with the covenant on maintenance of separate project accounts and submission of APA together with a report from the auditors was an issue because the APA submitted mostly focused on the project imprest accounts. At the time of the PCR mission, the Office of the Tuvalu Auditor General agreed to conduct a final audit of all project expenditure financed out of the proceeds of the loans during the entire loan period to complement the incomplete APA submitted in the past.

29. The details of the status of compliance with loan covenants and assurances are in Appendix 4.

H. Related Technical Assistance

30. ADB provided an advisory TA of $291,000 to strengthen the ability of TMTI and the Marine Department to comply with IMO requirements for continued accreditation (footnote 3). All TA outputs were carried out, albeit over a much longer period than planned. Due to the delays, some courses had to be repeated.

31. The assistance was enthusiastically received by TMTI's management and students. All outputs were achieved except the fulfillment of the maintenance schedule. Maintenance could not be undertaken because the infrastructure was not completed by the time the TA closed. The recommendations under the TA management and organizational component have been adopted as standard procedures by TMTI.

[6] Between appraisal of the project in 2002 and 2010, one international CEO, two international replacements provided under the associated advisory technical assistance (Appendix 5: Technical Assistance Completion Report), and three local CEO succeeded one another at TMTI.

32. Most of the outputs for the Marine Department were achieved but a sustainable culture and systems were not fully realized. During the 3 years of the TA, operation of the two government-owned vessels came under four different directors or acting directors of marine and three different ministers of transport. The vessels, meanwhile, came under the command of eight different masters. Much of the knowledge and skill in managing and operating these ships that had been assumed in the project design turned out to be lacking in the personnel that actually performed these roles.

33. Despite the considerable extra effort by the consultants, the related TA is rated *partly successful*, given the limited impact on the Marine Department. The TA completion report is in Appendix 5.

I. Consultant Recruitment and Procurement

34. The design and supervisory engineer was selected and recruited in accordance with *Guidelines on the Use of Consultants by ADB and its Borrowers* (2003, as amended from time to time).

35. The change from a single ICB to several IS packages required comprehensive planning and logistics. The packages were identified according to a prioritized sequence of construction and upgrading that was to take account of the need to keep TMTI functioning during implementation with the least possible disturbance. The procurement of the packages was conducted without any significant problem. Had the project not experienced delays in the shipment of construction materials and equipment, the individual packages would have facilitated a logically sequenced implementation. Transport delays also caused some materials to deteriorate in storage.

J. Performance of Consultants, Contractors, and Suppliers

36. The design and supervisory engineer was liable for the design flaws that caused infrastructure defects in the classroom building and water damage and substandard layout in the dormitory building (para. 22). These buildings and the galley/mess were not designed to withstand high winds—an issue that also had to be rectified later. The progress reports submitted to ADB and the government by the design and supervisory engineer were later found to be inaccurate and lacking in proper professional judgment. The performance of the design and supervisory engineer is rated *unsatisfactory.*

37. The local project manager performed well during the initial rehabilitation and construction of new staff houses, but his lack of onsite supervision and failure to check designs against true measurements of the larger buildings led to faulty construction. His day-to-day supervision became sporadic over time and progress and quality of work suffered accordingly. His logical implementation plan turned out to be less than adequate. Materials were not stored properly on the site. When his contract was subsequently terminated by the PWD, many project records and files disappeared. The performance of the project manager is rated *unsatisfactory*.

38. A special feature of the civil works component was to be the use of materials that could withstand the harsh atoll environment. Nonetheless, materials used in the construction have degraded rapidly and are already in need of replacement. The design and supervisory engineer and the project manager signed off on the delivered materials, but may not have had the skills and capacity to determine the suitability of the materials compared to the specifications and requirements of the tender documents.

K. Performance of the Borrower and the Executing Agency

39. Although the institutional weakness of the MES was identified at the time of appraisal, it was assumed to be manageable. However, the CEO of TMTI and the PWD director who had promoted the project during the preparation and loan processing phases did not remain in place for much of the project implementation. The CEO was dismissed in October 2002 and the PWD director passed away in mid-2007. Their successors were not able to successfully implement the project. The PSC did not meet as prescribed and performed inadequately in its coordinating role. Despite ADB-provided training and review mission recommendations, the MES handling of the accounts, the withdrawal applications, the management of the imprest account, and the normal bookkeeping were below acceptable standards. The quality of the work performed under force account was not always up to expectations. The shipment of construction equipment and materials committed to by the government on its vessel proved unreliable. Given the importance of the project to Tuvalu and the fact that TMTI is the only institution that helps generate foreign remittances for the country, better attention during project implementation was expected. The performance of the borrower and the executing agency is rated *unsatisfactory.*

L. Performance of the Asian Development Bank

40. ADB dispatched timely missions, provided training seminars in disbursement to MES staff in 2006 and 2008, and routinely undertook tasks that were the responsibility of MES. These included completing withdrawal applications and statements of expenditure and following up with suppliers and contractors in Fiji. ADB also communicated continuously with all government agencies and other parties involved in the project via fax and email. However, the frequent changes of senior government staff during implementation contributed to repetition of mistakes as institutional memory was lost.

41. ADB could have reacted more alertly to the delayed compliance with the loan effectiveness conditions and the borrower's inability to fund the shortfall identified after the rebidding. The supplementary loan could have undergone more scrutiny during processing. However, pressure was growing from the IMO to close TMTI and the economic reevaluation and assessment of the overall feasibility of the project with supplementary financing continued to indicate a worthwhile investment for the country.

42. The change from ICB to IS coupled with force account procedures was risky. In addition to the weak institutional capacity of the MES, the project faced the challenge of using semi-skilled workers, a local project manager, and government-provided shipping services. The complexity of these issues and the fact that Tuvalu had no previous experience with infrastructure implementation at ADB standards should have alerted ADB to the high likelihood of potential difficulties.

43. Although ADB was fully engaged in project implementation and demonstrated flexibility, it failed to correctly assess the full extent of the deficiencies of in-country implementation capacity and to anticipate and prepare for the problems that arose as a result. ADB performance is rated *partly satisfactory*.

III. EVALUATION OF PERFORMANCE

A. Relevance

44. The project is rated *relevant*. The original design is as relevant today as it was at appraisal. Besides a limited public sector, TMTI provides the only major gateway for employment for young Tuvaluans without a higher education. The remittances that the project was expected to generate would have translated into real welfare gains for many Tuvaluans, especially those with low incomes on the outer islands. The processing of the supplementary loan included improvements in the project design to make it more up-to-date with modern seafaring. Under a new plan for TMTI, the government would like to expand opportunities to include both genders and to cover employment on regional cruise ships and fishing vessels. Its long-term vision is to add officer training as well.

B. Effectiveness in Achieving Outcome

45. The project is rated *less effective*. The protracted implementation delay has damaged TMTI's reputation. The project's overall objective was partly achieved. The Regional Maritime Programme of the Secretariat of the Pacific Community conducted an audit on behalf of the IMO in May 2009 and TMTI was accredited to the white list of approved training institutions for the next 3 years. Nevertheless, this may not be enough to restore full confidence in the school of shipping lines that employ Tuvaluans as crew. In addition, the training for the Marine Department in ships management could have been better integrated into the overall project design to ensure more efficient training of TMTI trainees on the government vessels as well as to formulate clear guidelines for the revalidation of the seafarer logbook where assignments and durations on ships are recorded. The project design envisaged a fee for seafarers' revalidation courses conducted by TMTI that would help ensure TMTI's financial sustainability but the decision of the Marine Department to issue free of charge revalidation based on days at sea later removed that opportunity.

C. Efficiency in Achieving Outcome and Outputs

46. The project is rated *efficient*. Its reevaluated EIRR is 13.1%, compared with the 18.5% estimated at appraisal of the initial loan and 14.1% when the supplementary loan was prepared. The lower EIRR is due mainly to increased capital cost. The reevaluated EIRR is higher than the cut-off rate of 12% and indicates a worthwhile investment for the country. The sensitivity analysis confirms that the project is robust to changes in the capital costs and to the ongoing operation and maintenance costs of TMTI. It is more sensitive to the decrease in number of trainees produced in the with-project situation, the percentage of seafarer earnings that are remitted to Tuvalu, and the average working career of trainees at sea. A detailed economic and financial analysis is provided in Appendix 6.

D. Preliminary Assessment of Sustainability

47. Government disbursements for the operational expenditures of TMTI have not always been timely or adequate. However, more secure future funding could result from a new corporate plan prepared under the Public Enterprise Act 2010 by the government's public enterprise review and monitoring unit. It calls for TMTI to expand into vocational training and for a change in TMTI board appointments and functions (see details in para. 64). Nevertheless, it also will require that TMTI be headed by a qualified CEO who will need to raise the training

standards and work well with other government departments, notably the Marine Department, to enhance TMTI's stature.

48. The upgrading of the infrastructure at TMTI inevitably demands an increased maintenance budget. Given the irregular availability of maintenance funds from the government, the risk of TMTI sliding over the long term into another state of neglect and losing its IMO accreditation cannot be ignored. In view of these uncertainties, the sustainability is rated *less likely*.

E. Impact

49. The project implementation delay had a negative impact not only on the teaching environment as a whole but also on TMTI's reputation with the shipping agencies. However, once its upgraded facilities are operational and its compound tidied up, TMTI has the potential to become an effective training institution, if the teaching skills of the staff are upgraded and a qualified management team is recruited.

50. The delayed project implementation and the reduced employability of the 2007–2008 TMTI graduation classes that have resulted have created a renewed focus within the government on creating more job opportunities. The government has established a task force to assess whether TMTI can also encompass vocational training so that Tuvaluans can take advantage of a temporary labor migration scheme offered by Australia and New Zealand.

51. The MES has been strengthened and now recognizes the importance of keeping proper accounts and records. The new permanent secretary of the MES is insisting that TMTI be run properly and appears to be committed to identifying and take action against persons within his ministry responsible for the nonperformance during project implementation.

52. Coupled with the realization that the government must repay the loans that funded the TMTI rehabilitation, the repair and completion of the dormitory and classroom buildings and work on an anticipated arbitration decision against the design and supervisory engineer have instilled a sense of ownership.

IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

A. Overall Assessment

53. The ratings by category of *relevant, less effective, efficient,* and *less likely* to be sustainable produce an overall rating for the project of *partly successful*. The project was not implemented as originally conceived and it suffered from protracted delays. The outcome—to maintain TMTI's accreditation on the IMO white list of approved training institutions—was only partly achieved because the accreditation obtained in May 2009 is an interim one and only valid for 3 years. TMTI must then be evaluated again. At the time of the PCR mission, remedial work on the dormitory and classroom buildings required due to substandard design and construction was ongoing. The repaired buildings were expected to become operational by end of October 2011. The Government is firmly engaged in an arbitration procedure to recover from the design and supervisory engineer the costs incurred in the remedial works and is expecting to reach an agreement by October 2011.

54. Spiraling construction costs between the time of appraisal and bid opening necessitated a supplementary loan. Poor management and project supervision by the design and supervisory engineer greatly damaged overall project performance. The discovery of substandard work despite the engineer's reports that it had been completed properly triggered activation of the design and supervisory engineer's liability insurance. The local project manager was not up to assigned tasks and the PSC did not fulfill its role.

55. Although TMTI has managed to retain IMO accreditation, its reputation has been damaged. The graduates of at least 2 years (2007–2008) of TMTI classes have been given a substandard rating by the manning agencies. Unless provided with better training, their prospects for future work as seafarers are poor. MES has prepared a new corporate plan that also includes vocational training at TMTI. Implementing this plan and recruiting a capable management team would go a long way toward improving TMTI's reputation and helping it achieve its goal of increasing seafarer employment for Tuvaluans.

56. The details of overall project rating and supporting calculation are in Appendix 7.

B. Lessons

57. A key lesson from this project comes from ADB's underestimation of the potential effects of the weakness of implementation capacity in Tuvalu. Professional services are limited domestically and the logistic problems are significant. A realistic and comprehensive assessment of capacity should have been conducted during project preparation. Transfer of skills alone may not be sufficient to overcome this problem because of the difficulty in identifying qualified counterparts and the fact that those who qualify may often not be in a position to commit all of their time to the project. In such cases, project activities need to be outsourced. This approach requires close oversight and monitoring. Close involvement of ADB staff in project implementation is also essential and the resources for this need to be provided.

58. Fundamental changes in procurement methods may offer a procedural and administrative solution when a tendering process is stalled because of lack of competition or bids above the available budget. But these changes can also cause implementation problems, especially when the implementation capacity of the recipient is weak.

59. Seafaring is one of the few non-government opportunities for income for young Tuvaluans. It has significant effects on the wealth and well-being of a large section of the population, including the poor. Yet this project did not get the support and attention from the government that its strategic importance warranted and required. This was mainly due to a high turnover of government and project staff, which compounded the weak implementing capacity. In addition, consideration and planning of similar future projects should note that accountability and governance frameworks are poorly developed in small Pacific island developing member countries such as Tuvalu.

C. Recommendations

1. Project Related

60. **Support stronger TMTI board**. Considerable changes to the state-owned enterprises environment in Tuvalu are being made under an ongoing ADB-financed program grant[7] and

[7] ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to Tuvalu for Improved Financial Management Program*. Manila. (G0139-TUV, approved on 16 December 2008, $3,240,000).

technical assistance.[8] This will affect the future operations of TMTI. Under the Public Enterprise Act, 2010, TMTI, while still a corporation, has been reclassified as a public beneficiary enterprise. A board is to be appointed that will follow transparent rules and will exclude paid civil servants. If manning agencies that recruit seafarers were represented on the board to help it adopt a more professional approach, this could lead to profound improvements at TMTI. The ongoing ADB-financed program grant and technical assistance are well positioned to undertake this monitoring.

61. **Improve management of TMTI**. Restoring TMTI's image and reputation will require a competent CEO. The management and performance problems encountered with this position justify giving due consideration to qualified and experienced external candidates. Lack of funds for an attractive remuneration package could be resolved through development assistance.

62. **Complete work and upgrade project-affected graduates**. To justify training 60 graduates per year, TMTI's reputation needs to be restored. Its current standing with industry and its operational difficulties reduce the likelihood that all graduates will find employment. The government should (i) finalize all remedial works, (ii) get all equipment and facilities in operational order, (iii) conduct a major clean-up of the compound and surroundings, and (iv) upgrade the teaching skills of the staff, revalidating their certificates where needed. Once this is done, TMTI should offer the last two annual graduating classes an upgrade course in essential skills. This would help mitigate the perception that, due to the problems during the prolonged upgrading of TMTI, some classes did not receive adequate training.

63. **Increase manning agencies**. General uncertainty and volatility in the worldwide shipping industry leave Tuvalu vulnerable. This is compounded by the fact that only two manning agencies operate in Tuvalu. They enjoy a monopoly position and service only three shipping lines which employ only about half of the country's current pool of available seafarers. Employment could probably be increased by encouraging an expansion in the number of manning agencies and, through the new agents, the number of potential shipping company employers.

64. **Assess diversification into vocational training**. The government should carefully assess the current suggestions for diversifying the kinds of training that TMTI offers. One calls for the addition of general vocational training aimed at overseas employment under a temporary labor migration scheme available in Australia and New Zealand, but this could limit the traditional seafarer training. Another recommends training to expand the employment opportunities of graduates to encompass regional cruise liners and fishing vessels, which would result in an expanded curriculum requiring additional space and resources and could also limit the traditional seafarer training. Yet, despite the extra cost of airfares and travel time to and from Tuvalu, seafarers from Pacific island countries still enjoy some advantages compared with those from other seafaring nations. Many Tuvaluans are exposed to seafaring since childhood. In addition, the security screening, especially verification of identity, required from shipping companies under international security and anti-terrorist regulations are easier to comply with for seafarers from a small nation.

65. **Request another IMO audit**. Whether TMTI continues as a purely maritime school or is expanded to accommodate vocational training, the government should ask for a new, external and comprehensive IMO audit once all remedial work has been completed and it is fully

[8] ADB. 2008. *Technical Assistance to Tuvalu for Capacity Development for Public Financial Management*. Manila. (TA7161-TUV, cofinanced by the Government of Australia, approved on 7 November 2008, $857,750).

operating again. Although a reevaluation projects the need for a growing number of seafarer graduates from TMTI in the next 4-5 years, IMO accreditation is the only way to ensure employment on overseas vessels—whether these are commercial freighters and tankers, cruise liners, or large fishing vessels.

66. **Additional ADB assistance**. If IMO accreditation is granted, ADB should consider a TA to upgrade the skills of the teaching staff and offer revalidation of their respective certificates to ensure the necessary professionalism of TMTI.

67. **Timing of the project performance evaluation report**. The project performance evaluation should take place only after all upgraded facilities at TMTI are fully operational, the remedial work on the dormitory and classroom buildings are complete, and the teaching skills of the staff have been upgraded.

PROJECT FRAMEWORK

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
Goal To contribute to the sustained livelihood and well-being of the outer island communities where primarily the old, the very young, and women live	Ongoing contribution of seafarer remittances to Tuvalu remains stable at A$6 million-A$8 million per year, or increasing, over the next 25 years, with measurable improvement in social and economic conditions in the outer islands	Use of the project benefit and monitoring evaluation of the Island Development Program survey facility to determine socioeconomic changes in the Outer Islands Monitoring of TOSU and NBT data on seafarer employment levels and annual remittances	
Purpose To ensure that TMTI and Marine Department meets the standards and requirements of the IMO in order to continue to provide basic training and more specialized refresher and upgrade courses to young trainees and active seafarers	TMTI passes IMO external audit prior to 2005 and remains accredited (White List) as a training institute to supply seafarers for the international market	IMO audit The SPC and crewing agency inspections	Government ensures that recruitment of competent management staff at TMTI is not compromised
Outputs **1. Infrastructure Upgrade** 1.1 Wharf extension, new staff houses, renovation of existing staff houses, rehabilitation of training facilities, extension of trainees accommodation	All required training equipment and facilities in place and operational by June 2005	Monthly reports from the PMU design and supervisory consulting engineer	Competent consulting engineer can be engaged to serve the Project Management Unit function
1.2 Specialized training equipment, e.g., fire-fighting and navigation	TMTI is equipped and structured to perform training at prescribed IMO standards by November 2005	Half-year progress reports	Risk. Bad weather, disruptions in shipping services or power supply, potential sporadic availability of local labor, material shortages, fluctuations in the exchange rate, etc., will be the responsibility of the contractors
1.3 Increased water catchment and storage capacity	TMTI can accommodate an increase of up to 30 trainees per year, and perform all refresher	IMO audit	

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	and upgrading courses necessary		
1.4 Improved telecommunication and backup solar power system	Practical training on board *Nivaga II* becomes an integrated part of TMTI's curriculum	TMTI yearly report TMTI training program	Population pool of 17–25 year old males remains stable or grows over the next 25 years
2. Technical Assistance			
2.1 Management and organization of TMTI complies with the convention on STCW as amended in 1995—STCW 95 requirements	Convention on STCW 95 certification issued to TMTI upon demonstration of practical competency by the ratings Audit history, as required by the Marine Department, developed system to measure and manage	IMO audit	Continued Government support for the reorganization
2.2 Training and curriculum development reflecting current international practices as demanded by the shipping industry	the performance of TMTI staff implemented Specialist training in arc, gas and aluminum welding implemented in first year of the TA	IMO audit	Current staff at TMTI remains and high quality staff will be added
	Refresher and upgrading courses in fire fighting, survival, first aid, oil, chemical, and liquid petroleum gas tanker familiarization introduced by end of first year	TMTI training program TMTI training program	Regular consultations with TMTI staff and TMTI board Risk. Human immunodeficiency virus, acquired immune deficiency syndrome, and alcohol abuse will be effectively addressed by other development agencies through training and awareness-raising
Activities			
Procurement and installation of specialized training equipment	Start. 3rd Q 2004 Comp. 1st Q 2005		Equipment is available from supplier
Construction and renovation of houses, training facilities, and offices	Start. 4th Q 2004 Comp. 2nd Q 2005		No adverse or extreme weather conditions, e.g, typhoons will delay construction
Installation of water catchment	Start. 3rd Q 2004		Transfer of construction material

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
and storage, solar power systems, communication systems	Comp. 4th Q 2004		from main wharf on Fongafale by launch to Amatuku proceeds smoothly
Wharf extension	Start. 3rd Q 2004 Comp. 1st Q 2005		No unexpected adverse bottom conditions
Technical Assistance	Start. 3rd Q 2003 Comp. 4th Q 2005		Consultants will be fielded in a timely manner
Inputs			
Consulting services	International 11 person-months US$1.66 million		
Civil works	US$0.2 million		
Equipment	US$0.46 million		
Counterpart funding			

IMO = International Maritime Organization, NBT = National Bank of Tuvalu, PMU = project management unit, SPC = Secretariat of the Pacific Community, STCW = standards of training certification and watchkeeping, TA = technical assistance, TMTI = Tuvalu Maritime Training Institute, TOSU = Tuvalu Overseas Seafarer Union.

PROJECT COST ESTIMATES
($'000)

Item	Original Estimates			Revised Cost Estimates[a]		
	Foreign Costs	Local Costs	Total Costs	Foreign Costs	Local Costs	Total Costs
A. Civil Works						
Preliminary & general[b]	324.4	36.0	360.4	1,085.6	55.5	1,141.1
Buildings	846.8	75.1	921.9	1,286.2	86.4	1,372.6
Structures	202.3	22.5	224.8	432.4	28.4	460.8
Water tanks	20.5	2.3	22.8	43.2	2.9	46.1
Fittings	103.6	11.5	115.1	434.2	20.0	454.2
Subtotal	**1,497.6**	**147.4**	**1,645.0**	**3,281.6**	**193.2**	**3,474.8**
B. Equipment	207.3	10.9	218.2	207.3	10.9	218.2
C. PMU Engineering[c]	161.2	15.8	177.0	195.2	15.8	211.0
Subtotal	**368.5**	**26.7**	**395.2**	**402.5**	**26.7**	**429.2**
Base Cost	**1,866.1**	**174.1**	**2,040.2**	**3,684.1**	**219.9**	**3,903.9**
D. Contingencies						
Physical[d]	139.5	15.5	155.0	230.4	17.8	248.2
Price[e]	71.5	7.9	79.4	105.9	8.7	114.6
Subtotal	**211.0**	**23.4**	**234.4**	**336.3**	**26.5**	**362.8**
Total Costs	**2,077.1**	**197.5**	**2,274.6**	**4,020.4**	**246.4**	**4,266.7**
E. IDC	28.0	0.0	28.0	51.0	0.0	51.0
Total	**2,105.1**	**197.5**	**2,302.6**	**4,071.4**	**246.4**	**4,317.7**
Total includes Taxes and Duties of:		**57.6**			**99.2**	

PMU = project management unit, IDC = interest during construction.
[a] Estimates are based on evaluation of the bids received in March 2004.
[b] These amounts have increased considerably because the bidders have allocated more than the 25% to Preliminaries & General assumed at appraisal.
[c] The revised estimates include the additional cost for supervision and changes to design.
[d] Physical contingencies reduced to 5% because of greater degree of confidence in the costs, as these are based on recent actual bids.
[e] Price contingencies are less than in the original estimates because the revised loan will be implemented over a period of 1 year instead of 3 years. Price contingencies are based on Fiji as all civil works will be sourced from there.
Source: Asian Development Bank estimates.

Details and Chronology of Tendering – Tuvalu Maritime Training Project	
Item	**Dates/Details**
Estimated civil works costs at appraisal	$1,983,398
Close of submission for prequalification	15 September 2003
Evaluation of prequalification and list of prequalified bidders	1 December 2003
Invitation to bid	17 December 2003
Bid closing and opening	26 March 2004
Lowest responsive bid	$4,692,699
Initial bid validity	26 June 2004
Lowest responsive bid extended validity	31 July 2004
The government could not fund the shortfall and a reduction of scope to match the funds available would result in failure to upgrade TMTI to IMO standards. The three lowest bids were within 2% of one other. It was not possible to identify the lowest compliant bidder because the preliminary and general costs (mobilization costs) could not be applied to the individual components on a prorated basis. It was necessary to process a supplementary loan and retender the ICB contract.	
Supplementary loan approved for $2.02 million	3 August 2004
Rebidding among previously prequalified bidders, with modified and reduced scope of work.	30 September 2004
Bid closing and opening	7 December 2004
The only bid submitted was for $4.92 million, which was nearly 20% over the combined original and supplementary loans amounts available. The bidder refused to negotiate and the government would not fund the shortfall. Further reduction in scope was not possible.	
Government request for a major change in the implementation arrangement from ICB to IS and force account procedures	15 May 2005
ADB approval of the major change in mode of procurement	15 July 2005
Eight new IS bidding documents prepared. Tenders closed and contracts awarded	31 January 2006

ICB = international competitive bidding, IMO = international maritime organization, IS = international shopping, TMTI = Tuvalu Maritime Training Institute.
Source: Asian Development Bank.

STATUS OF COMPLIANCE WITH LOAN COVENANTS

Covenant	Reference	Status
Upon completion of the project, the borrower shall charge or cause TMTI to charge participants of all upgrading and revalidating courses held at TMTI the full cost of such courses.	Schedule 4, para 10	Not complied with Revalidations of competency now issued by the Marine Department, based on employment history
Pending the adoption and implementation of cost recovery measures, the Borrower shall provide adequate budget support to cover all incremental recurrent costs associated with the Project including operation and maintenance costs of the project facilities.	Schedule 4, para 10	Partly complied with The government is not allocating adequate O&M funds for TMTI after project completion
The Borrower shall make arrangements satisfactory to the Bank for insurance of the Project facilities to such extent and against such risks and in such amounts as shall be consistent with sound practice, and without limiting the generality of the forgoing, the Borrower undertakes to insure, or cause to be insured, the goods to be imported for the Project and to be financed out of the proceeds of the Loan against hazards incident to the acquisition, transportation and delivery thereof to the place of use or installation, and for such insurance any indemnity shall be payable in a currency freely usable to replace or repair such goods.	Section 4.05 (a) and (b)	Partly complied with There is no comprehensive insurance coverage in place for the completed project facilities
The Borrower shall comply with all applicable national and local environmental laws; and all applicable environmental guidelines of the Bank, and ensure that any adverse environmental impacts related to the construction and operation of the Project facilities are minimized through implementation of appropriate mitigation measures.	Schedule 6, para 7	Complied with
The Borrower shall at all times continue to hold the land, rights in land, properties, easements or leases required for the provision or improvement of the Project facilities.	Schedule 6, para 8	Complied with
The Borrower shall accord high priority to the Project and shall allocate adequate funds for disbursements for Project activities beginning in 2002 and for subsequent years. The Borrower shall put in place or maintain procedures for timely release of funds for Project activities throughout the implementation of the Project.	Schedule 6, para 5	Partly complied with The release of adequate government funds was not always timely. And the contribution in kind through shipping of the construction materials and equipment was

Covenant	Reference	Status
		problematic.
The Borrower shall maintain, or cause to be maintained, records and accounts adequate to identify the goods and services and other items of expenditure financed out of the proceeds of the Loan, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, the operations and financial condition of the agencies of the Borrower responsible for the carrying out of the Project and operation of the Project facilities, or any part thereof.	Section 4.06 (a)	Partly complied with
The Borrower shall (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) have such accounts and related financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to the Bank; (iii) furnish to the Bank, as soon as available but in any event not later than six, (6) months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the covenants of this Loan Agreement as well as on the use of the procedures for imprest account/statement of expenditures), all in the English language; and (iv) furnish to the Bank such other information concerning such accounts and financial statements and the audit thereof as the Bank shall from time to time reasonably request.	Section 4.06 (b) .	Partly complied with The audited reports received by ADB mostly focused on the imprest account. At the time of the PCR mission, the Office of the Tuvalu Auditor General was to conduct a final audit of all project expenditures financed out of the proceeds of the loans during the entire loan period to complement the incomplete APAs submitted in the past.
The Borrower shall enable the Bank, upon the Bank's request, to discuss the Borrower's financial statements for the Project and its financial affairs related to the Project from time to time with the Borrower's auditors, and shall authorize and require any representative of such auditors to participate in any such discussions requested by the Bank, provided that any such discussion shall be conducted only in the presence of an authorized officer of the Borrower unless the Borrower shall otherwise agree.	Section 4.06 (c)	Partly complied with Discussions with the Auditor General have been conducted over several occasions and a proper and comprehensive audit has been promised.

Covenant	Reference	Status
Established, Staffed, and Operating PMU/PIU		Partly complied with
Timely fielding of Consultants		Complied with
The Borrower shall have a management team for TMTI comprising a chief executive officer, a chief officer and a chief engineer.	Schedule 6, para 6	Partly complied with Too many changes of CEO occurred and recruitment of replacements was often delayed.
The Borrower shall ensure that the implementation of the Project, and the overall benefits derived therefrom are monitored and evaluated on an annual basis in accordance with a program satisfactory to the Bank.	Schedule 6 para.9	Not complied with There are no records being compiled by the government or TMTI as to amount remitted from the seafarers.
The Borrower shall furnish, or cause to be furnished, to the Bank quarterly reports on the carrying out of the Project and on the operation and management of the Project facilities. Such reports shall be submitted in such forms and in such detail and within such a period as the Bank shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the quarter of review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following quarter.	Section 4.07 (b)	Partly complied with No progress report provided to ADB since 2007
Promptly after physical completion of the Project, but in any event not later than three (3) months thereafter or such later date as may be agreed for this purpose between the Borrower and the Bank, the Borrower shall prepare and furnish to the Bank a report, in such form and in such detail as the Bank shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by the Borrower of its obligations under this Loan Agreement and the accomplishment of the purposes of the Loan.	Schedule 4.07 (c)	Not complied with The government did not produce a completion report and could not secure the assistance of consultants for this purpose

ADB = Asian Development Bank, APA = audited project accounts, CEO = chief executive officer, PCR = project completion report, PIU = project implementation unit, PMU = project management unit, TMTI = Tuvalu Maritime Training Institute.
Source: Asian Development Bank.

TECHNICAL ASSISTANCE COMPLETION REPORT

Division : SPSO

<table>
<tr><td colspan="3">TA No., Country and Name

TA 3942-TUV : Tuvalu Maritime Training Institute Strengthening</td><td colspan="2">Amount Approved: $291,000

Revised Amount: -</td></tr>
<tr><td colspan="2">Executing Agency
Ministry of Education and Sports</td><td>Source of Funding
Japan Special Fund</td><td>Amount Undisbursed:
$329.19</td><td>Amount Utilized:
$290,670.81</td></tr>
<tr><td>TA Approval Date:

16 October 2002</td><td>TA Signing Date:

8 November 2002</td><td>Fielding of First Consultant{s}:

14 April 2003</td><td>TA Completion Date
Original: 31 Dec 2005

Account Closing Date
Original:</td><td>Actual: 31 Jul 2010

Actual: 17 Aug 2010</td></tr>
</table>

Description

The infrastructure and training facilities of the Tuvalu Maritime Training Institute (TMTI) were in poor condition and inadequate for maritime training to meet the standards of the International Maritime Organization (IMO). The implications of not upgrading the TMTI facilities included (i) the possible exclusion of Tuvalu from IMO accreditation; (ii) the inability of Tuvaluan seafarers to work on international vessels and the loss of revenue to the Tuvalu's outer islands; and, (iii) the very real possibility that Tuvaluan seafarers would be at risk, or might put others at risk, while working at sea without adequate safety training. With almost 60% of the population of Tuvalu depending partly or wholly on seafaring remittances, it was decided to provide a loan for the physical upgrade and improvement coupled with an advisory technical assistance to assist TMTI and the Marine Department with specialized training and procedures commensurate with international acceptable standards and thus ensure continuous employment opportunities.

Expected Impact, Outcome, and Outputs

The objective of the technical assistance (TA) was to ensure a continuous stream of qualified graduates from TMTI for overseas employment. The outcome was for TMTI to consistently meet the requirements of the Convention on Standards of Training, Certification, and Watchkeeping of 1995 (STCW 95) in preparation for external audit by IMO in 2005. The outputs were (i) STCW 95 certification upon demonstration of practical competency; (ii) development of an audit history; (iii) improvement in internal quality systems; (iv) specialized training in welding, fire fighting, mechanics, and safety-at-sea; (v) implementation of refresher and upgrading courses on a cost-recovery basis; provision of professional advice on the operation of TMTI and the Marine Department; and (vi) implementation of an international ship management system for the vessels under the Tuvalu Shipping Corporation.

Delivery of Inputs and Conduct of Activities

The TA was well formulated and fully complementary to the loan for the originally envisaged period for the upgrade of TMTI. The TA was scheduled for implementation over 3 years, totaled 14.5 person-months, and commenced in 2003. However, delays in the loan implementation forced deferment of several activities, particularly practical training modules that depended on functioning facilities, some of which became operational only in 2010.

The consulting services were carried out by the New Zealand Maritime School, which has a long experience and knowledge of Pacific maritime schools. Its close working relationship with the IMO particularly suited the input needed to achieve the project's overall goal: to maintain TMTI's accreditation by the IMO.

The "management and organizational" and "maritime education" inputs to TMTI were enthusiastically received by the management and students alike and have successfully been adopted as standard procedures. The technical education inputs to TMTI suffered from the delays in the upgrading of TMTI infrastructure and procurement of equipment. The maritime engineering inputs to the Marine Department, while highly relevant not only for the IMO accreditation but also for the safe and timely operations of the two government vessels, were less enthusiastically received and did not lead to sustainable outcomes due to the lack of continuity, capability, and commitment of those involved. Both government vessels have been declassed and in principle cannot currently sail in international waters. The consultants were very effective in identifying and facilitating additional resources, notably a fully covered lifeboat and davits from the Canada Fund and a $1,000,000 grant from Taipei,China toward the operational expenses of TMTI over a 5-year period. When the relationship between the TMTI chief executive officer (CEO) and the TMTI board deteriorated in 2004, the consultants helped draft new performance management systems. And when the crisis continued and the CEO left TMTI in late 2005, the consultants, with ADB's consent, provided a replacement CEO for two successive 3-month period until a new CEO was engaged.

The delay in project implementation and the subsequent frequent changes in CEOs necessitated that some inputs be repeated and the New Zealand Maritime School ended up providing an additional 4.5 person-months for which payment could not be claimed because it operated on a fixed lump sum contract.

Evaluation of Outputs and Achievement of Outcome
ADB received regular reports about the intermittent progress and, in particular, support provided to TMTI during its management crisis in 2004–2005. Despite the continuous management issues at TMTI and the delayed project implementation, the technical assistance to TMTI has been implemented successfully and it is the opinion of the New Zealand Maritime School that TMTI will pass an external audit by IMO once all upgraded TMTI facilities become fully operational.

The technical assistance to Marine Department, however, did not produce the expected outcome. During the 3 years of this input, the operation of the two government-owned vessels was managed by four different directors or acting directors of marine under three different ministers of transport. At least eight different individual masters were in command of the two vessels. It also became apparent during the input that much of the knowledge and skill in managing and operating ships that had been initially assumed was actually lacking or greatly compromised by the excessive turnover of management staff. Achievement of outcomes was also frequently frustrated by financial issues, either when service providers were not paid on time or when funds for required activities were not available. Although the specific initial outputs to the Marine Department were achieved, none of this work ultimately led to the sustainable culture and systems that all stakeholders had sought. The required stability and commitment from the government and the Marine Department were not provided. Attempts by the consultants and ADB to have these issues addressed tended to result in only short-term improvements.

The failure of the Marine Department to implement the vessel maintenance schedule also had a significant negative impact on the overall project because it resulted in a serious interruption of the shipment of project materials. In 2003, the assigned vessel, Nivaga ll, was surveyed in New Zealand. The consultants managed to get the vessel readmitted into class but over the subsequent 3 years, the Marine Department failed to ensure that the vessel underwent the required surveys to keep it in class. A small number of deficiencies observed in 2004 became a much larger list in 2005 and the vessel was again declassed in 2006. In general, shipboard personnel made reasonable efforts to adopt the planned maintenance systems but the budget required to support this in terms of consumables and replacement parts was not available to the Marine Department. By early 2006, Nivaga II in particular was again operating from crisis to crisis, with significant failures in systems that would have been prevented if the planned systems had been fully supported.

Overall Assessment and Rating
Despite the exceptionally flexible and very professional input by the New Zealand Maritime School and the judgment that TMTI will likely pass the IMO external audit to remain accredited, the technical assistance can only be rated p*artly successful* because of its limited impact on the Marine Department.

Major Lessons
Because of the protracted delays in implementing the associated project, some TA outputs could not be put immediately into practice and the potential benefit of the training was therefore not fully realized. It is important to note that the associated TA and the project evolved at a coordinated pace and deferral of TA activities should be considered when important construction delays occur.

The limited capacity and availability of the Marine Department counterparts restricted the outcomes of the Marine Department capacity building component of the TA. Comprehensive and realistic assessment of the existing capacity and resources available within a recipient agency is essential prior to planning capacity building activities.

Recommendations and Follow-Up Actions
The government should officially request that IMO conduct a comprehensive external audit when all upgraded TMTI facilities are fully operational and the institute operates normally.

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ECONOMIC AND FINANCIAL ANALYSIS

I. INTRODUCTION

1. This financial and economic analysis of the Maritime Training Project undertaken to rehabilitate and upgrade the Tuvalu Maritime Training Institute (TMTI) uses the most recent information available. An analysis was previously conducted in 2004. Table A6.1 summarizes the major data items used for the comparative analysis.

Table A6.1: Major Data used in the Analysis

Data	2004	2011
Economic cost of project	$4.114 million	$4.16 million
Exchange rate	$1 = A$1.429	$1 = A$1
Current pool of seafarers	1000	750
Employment rate of seafarers	45%	50%
Seafarers' monthly earnings	$800	$800
Dropout rate of TMTI graduates	7%	7%
Dropout rate of overseas trained seafarers	8%	8%
New Zealand Maritine School Training costs per trainee	$15,200	$20,000

TMTI = Tuvalu Maritime Training Institute.
Source: Asian Development Bank estimates.

2. TMTI currently conducts three classes of maritime training and is expected to continue in the future.

i. **One-year residential basic training course**. This is for new students to prepare them for employment at sea. Currently, TMTI takes in 60 trainees a year in three groups of 20. Normally, an average of 56 trainees complete the course and graduate. They spend 4 months of the year undergoing sea training on the government-owned vessel, Nivaga II.

ii. **Upgrade course on first aid, basic fire fighting, safety, and sea survival**. This 3-week course is usually provided once during the career of a seafarer within the first 2 to 3 years of employment. The upgrade allows the seafarers to move up the pay scale and receive an immediate increase in pay.

iii. **Revalidation and refresher course**. Seafarers are required to revalidate their certificate every 5 years to maintain their employment status under the Convention on Standards of Training, Certification, and Watchkeeping of 1995. The course normally lasts 1 week, involves fire fighting, sea safety, and tanker skills, and refreshes the seafarers' skills to allow for changes in technology and competency requirements. At the time of the 2004 analysis, the number of seafarers undergoing this training was estimated at 150. This number has reduced to approximately 60.

3. The main benefit of the project is TMTI's continued accreditation as an approved maritime training institution by the International Maritime Organization (IMO). The project benefits can be expressed as the increased earnings from Tuvaluan international seafarers that will flow into the country due to this retained capacity to train seafarers. The with-project situation is the continuing operation of TMTI with an increase in the number of trainees that

graduate each year and the provision of upgrading and revalidation courses to allow the pool of active seafarers to maintain their employability.

4. The rehabilitation and upgrading of TMTI will also give the institution the potential to provide other types of training required in Tuvalu in such vocational areas as outboard motor maintenance, plumbing, and electrical services.

5. In the without-project situation, TMTI loses its IMO status as an accredited maritime training institute and has to close down. The government would then have to send young people to training institutions overseas—in Fiji or New Zealand, for example. Upgrade and revalidation courses would also have to be conducted overseas. The result would be a reduced number of Tuvaluans trained in seafaring. The pool of trained seafarers would decline over time as seafarers migrate, retire, or leave the sea for other employment. This would reduce the seafaring earnings remitted to Tuvalu.

II. FINANCIAL ANALYSIS

6. To maintain a valid comparison with the 2004 analysis, this updated analysis used the same scenarios.

i. Under the first, TMTI continues to have the same numbers of new entrants as at present (60 trainees fulltime per year for their initial training), plus 60 trained seafarers for short-term refresher courses.

ii. The second scenario assumes a 50% increase in new entrants to 90 new trainees per year as a result of the project, plus the same number of 60 seafarers attending refresher courses.

7. It should be noted that the 2004 analysis used a net figure of 80 trainees per year after allowing for a 7% dropout rate. This analysis uses a more accurate net figure of 84 based on the information currently available, with the same dropout rate of 7%.

A. Maintenance at Present Levels of Trainee Numbers

8. Under this scenario, the main impact on the operating budget will be increased maintenance arising from the capital expenditure for rehabilitation and upgrading to ensure that the new infrastructure and equipment is kept in good condition. The proposed corporate plan for 2011–2013 prepared by TMTI indicates the likely expenditure and funding required, with the addition of increased maintenance. Under this scenario, the annual budget for TMTI will be approximately $412,500, plus whatever extra salary is required for any contracted expatriate staff.

9. It should be noted that staff numbers used in this updated analysis reflect those of the 2004 analysis, which noted that a staff of 12 was the correct level for the present number of trainees. Since then, the total number of the staff has increased to 19, a level difficult to justify in the absence of any corresponding increase in output. The 2004 analysis also said that “the present staff complement at full strength (12), with the addition of one more marine instructor, is considered to be adequate to train the increased number of 90 trainees.”

B. Increased Number of Trainees

10. Increasing the number of new trainees by 50% from the present 60 per year to 90 will raise TMTI's operating costs of TMTI by increasing teaching resource and staff costs and the direct cost of the residential trainees for food, uniforms, and allowances. An analysis of the TMTI corporate plan for 2011–2013 indicates that the full teaching staff costs (with no vacant positions) would be equivalent to $113,683 a year under this scenario, while the other training expenses would cost a total of $120,000, allowing for food, clothing, allowances, and materials. This makes a total of $243,683.

11. The average cost per trainee is $2,000 per trainee per year. Adding one more instructor would increase the teaching staff costs to an estimated $123,157 per year. The other costs (rations, uniforms, materials, etc.) could be expected to increase in a direct proportion to the current costs by 50%.

12. Consequently, direct training costs would increase to $180,000 per year. Combined with the other cost items, the overall budget for TMTI with the increased number of trainees would increase to $656,183 under the second scenario.

C. Maintenance Costs

13. The original 2004 analysis estimated a total annual maintenance cost of about $83,450 per year. TMTI has indicated in discussions that this is a large overestimate. Based on the 2011–2013 corporate plan and the appropriate additions, this analysis uses an annual maintenance cost estimate of $48,000. This is still considerably more than TMTI has allocated for maintenance in the past.

III. ECONOMIC ANALYSIS

14. The updated economic analysis uses the same two-stage process used in 2004:

i. The first is a least-cost analysis to show the economic advantage of upgrading TMTI and continuing its operation, compared with the alternative of closing down TMTI and sending trainees to a maritime training institute overseas. This is based on continued government funding for a reduced number of trainees (25) to undergo training in New Zealand. This would result in a gradual reduction in Tuvalu's pool of trained and active seafarers, based on an attrition rate of 8% per year.

ii. The second is an economic evaluation of the rehabilitation of TMTI following a normal cost-benefit analysis based on the with-project-minus-without-project methodology to indicate the net economic benefits to the Tuvalu economy over the life-span of the project, which is assumed to be 25 years. TMTI increases the number of trainees that graduate each year as well as the provision of upgrading and revalidation courses to the pool of active seafarers. The improved facilities allow an increase in the number of new entrants to a level where 84 graduate each year from an intake of up to 90 trainees.

15. Economic performance for the least-cost analysis is measured by the net present value at the chosen discount rate of 12%, and for the cost-benefit analysis by the economic internal rate of return.

16. As the earlier analysis noted, the New Zealand Maritime School is the most realistic overseas training institute to compare with TMTI. The analysis is based on a 14-week course for an integrated rating certificate, plus 16 weeks in Tuvalu for sea training on the Nivaga II. The annual fee per trainee, including accommodation, round-trip airfare, and remedial English-language tuition for half the trainees is about $20,000. On this basis, the total cost for 90 trainees per year is $1.8 million. However, the dropout and attrition rates for overseas trained seafarers would be higher than for those trained in Tuvalu. More trainees would drop out of an overseas course than one at home and some trainees would migrate permanently, reducing the future remittance income of Tuvalu. The opportunity cost of the trainees' time, while receiving their training, is assumed to be zero, since employment opportunities for young men in Tuvalu are very limited.

17. The analysis clearly shows the advantage of upgrading TMTI rather than sending the trainees overseas for training. This is indicated by the comparable present value of annual costs for the two alternatives, with the overseas option being approximately 200% higher.

18. The with-project and without-project situations are projected out for 25 years and have some common assumptions:

i. Average working life is approximately 15 years (7% loss per year for with-project, and 8% loss per year for without-project).

ii. At any one time, 50% of the available pool of qualified and active seafarers are employed; Seafarers employed in 2003 averaged monthly earnings of $800 per month. The updated analysis continues to use this figure. This may be conservative because no wage increase has been included although wage negotiations occur every 4 years and the last agreed increase was 4%.

iii. On average, 80% of total earnings are remitted back to Tuvalu.

19. In the without-project situation, it is assumed that the number of trainees sent overseas for training is smaller than the number who would have trained at a with-project TMTI. Cost estimates for New Zealand Maritime School (including accommodation and travel) indicate a cost per student of $20,000.

20. The with-project benefit is an increase in the level of remittance income. This compares with a reduction in the pool of seafarers over time under the without-project situation and a corresponding reduction in their remittances. With the project, the available pool of seafarers is projected to increase over 25 years by about 39% to 1,042 from the current pool of around 750. Without the project, the pool of seafarers declines by 52% to 358 over the same period because a smaller number of new seafarers are trained each year and the annual attrition rate of 8% is slightly higher than the 7% for the with-project situation. This is due to the reduced support for seafarers in Tuvalu following the closure of TMTI under the without-project situation and the higher individual costs and greater difficulty this closure causes in maintaining their employment status. Overall, the net annual benefits of the with-project situation will rise to $3.3 million per year after 25 years, as the divergence between the size of the pools of available seafarers under the two situations increases with time.

21. The economic analysis uses an exchange rate of $1 = A$1, consistent with the exchange rate used by the government in the 2011 budget. Conversion factors used are consistent with those used in 2004 since there has been no change in basic conditions. A conversion factor of 0.968 has been used for project costs.

22. The results of the revised economic analysis reflecting the increase in project costs since 2001 and using the assumptions noted above shows that the net benefit of the project returns an economic internal rate of return of 13.11% (Table A6.1). The economic net present value at a discount rate of 12% is $1.3 million. This indicates that the project will be a worthwhile investment for Tuvalu from an economic perspective.

23. A new sensitivity analysis confirms that the project is robust to changes in the capital costs and to the ongoing operation and maintenance costs of TMTI but is more sensitive to changes in the number of trainees produced under the with-project situation. The percentage of seafarer earnings that are remitted to Tuvalu is also an important variable, as is the average working career at sea (Table A6.2).

24. Table A6.3 identifies comparative numbers of seafarers for the with-project and without-project scenarios.

Table A6.1: Discounted Cash Flow and Net Present Value Analysis

Year	A$ Equivalent (A$ = $1)	Operating Costs ($)	Project Benefits ($)	Net Benefits ($)
1	4,162,400			(4,162,400)
2		412,500	28,800	-383,700
3		412,500	40,378	-372,122
4		656,183	51,003	-605,180
5		156,183	287,469	131,286
6		156,183	505,995	349,812
7		156,183	707,949	551,766
8		156,183	894,592	738,409
9		156,183	1,067,090	910,907
10		156,183	1,226,520	1,070,337
11		156,183	1,373,875	1,217,692
12		156,183	1,510,075	1,353,892
13		156,183	1,635,967	1,479,784
14		156,183	1,752,335	1,596,152
15		156,183	1,859,903	1,703,720
16		156,183	1,959,338	1,803,155
17		156,183	2,051,259	1,895,076
18		156,183	2,136,235	1,980,052
19		156,183	2,214,794	2,058,611
20		156,183	2,287,422	2,131,239
21		156,183	2,354,570	2,198,387
22		156,183	2,416,651	2,260,468
23		156,183	2,527,124	2,370,941
24		156,183	2,576,197	2,420,014
25		156,183	2,621,573	2,465,390

NPV (@12%) $632,706
IRR 13.11%
IRR = internal rate of return, NPV = net present value.
Source: Asian Development Bank estimates.

Table A6.2: Sensitivity Analysis

Item	Base Case Assumption	Change	NPV (of cash flows over 25 years at 12%)	IRR	Sensitivity Indicator	Switching Value
		%		%		%
Revised Project Capital Costs	A$5.19 million		1.592 million	14.1		
Actual Project Costs (ADB's contribution, as of 2011)	A$4.30 million	(17)	5.09 million	13.11	IRR decreases by 1%	56
TMTI Annual Operations & Maintenance Costs	A$0.66 million	15	4.93 million	11.2	NPV reduces by 2%	(47)
Number of Seafarers (with project)	84 per year	(10)	4.5million	6.5	If number of graduates reduces from 84 to 76 per year (i.e., 10%), NPV will decrease by 12%	(54)
Average Working Career	15 years	20 years (with 5% annual loss)	5.3 million	12	NPV will increase by 4%	151
Percentage of Remitted Income	80%	(10)	4.2 million	7.8	NPV will decrease by 17%	(18)

ADB = Asian Development Bank, IRR = internal rate of return, NPV = net present value, TMTI = Tuvalu Maritime Training Institute.

Note:

Increasing the trainee numbers from 60 to 90 will cost $770,000 which equates to an average cost of $8,555 per trainee per year. This is slightly more than $8,000 per trainee per year if the numbers stay at 60 trainees per year. The increased average cost is justified by the fact that staff at TMTI will need to be augmented by a maximum of two instructors.

Table A6.3: Comparative Number of Seafarers

	(with Project)													
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	**Y15**	**Y20**	**Y25**
Existing Pool	750													
Graduates		55	56	56	84	84	84	84	84	84	84	84	84	84
Drop out rates (7%) 14.3yr life		53	57	57	59	60	62	64	65	66	65	73	76	76
Net Pool		754	753	752	778	801	823	844	853	881	897	964	1010	1042
% in Emplyment (50%)		377	376	376	389	401	412	422	431	440	449	462	505	521

	(without Project)													
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	**Y15**	**Y20**	**Y25**
Existing Pool	750	750	746	742	739	703	670	639	611	585	561	468	406	366
TMTI Graduates per year		56	56	56										
Other Graduates per year					25	25	25	25	25	25	25	25	25	25
Refreshment $ loss 8%	8	60	60	59	61	58	56	53	51	49	47	39	35	31
Netpool	750	745	742	739	703	670	639	611	585	561	539	453	397	360
Number in employment 50%		373	371	359	351	335	320	305	293	281	270	227	198	180

TMTI = Tuvalu Maritime Training Institute.
Source: Asian Development Bank estimates.

QUANTITATIVE ASSESSMENT OF OVERALL PROJECT PERFORMANCE

Project Performance Assessment

Criteria	Rating	Rating Value (0-3)	Weight (%)	Weighted Rating
Relevance	Relevant	2	20	0.4
Effectiveness	Less effective	1	30	0.3
Efficiency	Efficient	2	30	0.6
Sustainability	Less likely	1	20	0.2
Overall Rating	Partly Successful		100	1.5

Source: Asian Development Bank, project completion report estimate.

Rating System

Rating Value	Relevance	Effectiveness	Efficiency	Sustainability
3	Highly relevant	Highly effective	Highly efficient	Most likely
2	Relevant	Effective	Efficient	Likely
1	Partly relevant	Less effective	Less efficient	Less likely
0	Irrelevant	Ineffective	Inefficient	Unlikely

Greater than 2.7	=	Highly successful
From 1.6 to 2.7	=	Successful
From 0.8 to 1.5	=	Partly successful
Less than 0.8	=	Unsuccessful

Source: Asian Development Bank, project completion review estimate.

CURRENT SITUATION OF TUVALU MARITIME TRAINING INSTITUTE

1. The Tuvalu Maritime Training Institute (TMTI) was in serious decline in 2001 and faced the prospect of losing its accreditation with the International Maritime Organization (IMO). The fact that it was the only institution in Tuvalu that trained people for overseas employment (merchant ships), thereby contributing directly to the well-being of low-income households on the outer islands through remittances, was the primary justification for a loan by the Asian Development Bank (ADB) for the general upgrade of the institute.

2. The project suffered from frequent interruptions and was not physically completed until 2011, 6 years beyond initial schedule. The delays have damaged TMTI's reputation as a creditable maritime training school. Without access to a dormitory or classrooms, the students had to sleep in an open meeting hall (Maneaba) since 2005 and training was conducted in any space available. During this period, none of the teaching staff underwent upgrading of skills or revalidation of certificates. The position of TMTI captain superintendent was advertised again in February 2011 but the remuneration package offered appears too low to attract a good qualified expatriate.

3. The Government of Tuvalu will soon face a difficult decision on TMTI's future—maintaining business as usual is simply not a viable option. TMTI remains the only organization in the country that can create overseas job for Tuvaluans but a new strategic approach is needed for the full benefits of the project to be realized.

4. The objective of the ADB loan was to ensure that TMTI remained accredited on the IMO's white list of approved training institutions for seafarers. Once all upgraded TMTI facilities are fully operational and the school is operating normally, the government should initiate an audit by the IMO for reconfirming its accreditation, which is a prerequisite for the tasks ahead to increase the employment of Tuvaluan seafarers.

5. Employment of Tuvaluan seafarers abroad has decreased steadily from about 340 in 2001 to only 205 in 2010. Of the total pool of 800 qualified seafarers in the country, which includes those on leave from their assignments, almost 450 were unemployed. This decline in seafarer employment has reduced remittances from $2.4 million in 2001 to a projected $1.2 million in 2010.

6. The decline has a number of causes. Problems with alcohol abuse and bad behaviour have resulted in the dismissal and repatriation at a high cost of several Tuvaluan crew members. This has damaged the reputation of Tuvaluan seafarers overall. The sharp drop in merchant shipping that followed the global financial crisis has hit Tuvalu particularly hard. Tuvaluans are at a geographical disadvantage when deployment to ships must be fast. Flights out of the country to Fiji occur only once every two weeks. On several occasions in 2010, seafarers from Tuvalu lost assignments on foreign vessels when owners replaced them with crew from other countries, including the Philippines, because the Tuvaluans could not deploy to ships on time. Because Tuvalu has only two manning agencies, seafarers are dependent for their jobs on only three shipping lines. Any reduction by these lines in shipping operations would have a disproportionate negative impact. Any increase in the number of manning agents in Tuvalu that gave its seafarers access to more shipping lines would be beneficial, given that, in 2010, 600,000 ratings, or regular seafarers, were needed to crew the approximately 100,000 merchant ships worldwide.

7. For Tuvalu to regain its reputation as a seafarer nation and increase employment opportunities for its seafarers abroad, several steps need to be taken:

(i) For TMTI to continue graduating 60 new ratings a year when so many seafarers remain unemployed does not seem practical. The 120 graduates of 2009 and 2010 are nearly without jobs and the longer they stay unemployed the more difficult it will be for them to find work. It would be a better strategy to offer refresher courses for these ratings so that they will be prepared for an anticipated increase in demand for ratings in the coming years.

(ii) Of the three courses trainees needed to qualify as ratings, one involves 4 months of practical seamanship onboard one of two government-owned vessels. Both vessels have been declassed and one is in bad condition. TMTI should consider an arrangement with the shipping lines now employing Tuvaluans that would allow this practical course to take place on their vessels. This system is used successfully in Kiribati and should work for TMTI.

(iii) The teachers at TMTI all need either upgrading or revalidation of their certificates. These teachers could be sent abroad to Fiji or even New Zealand for upgrading. Alternatively, teachers from New Zealand Maritime School or the Secretariat of the Pacific Community could conduct classes at TMTI to ensure that its staff achieve the required level of proficiency.

(iv) The government should immediately offer new licenses to expand the number of manning agents and thus the number of shipping companies that can offer jobs to Tuvaluan ratings. The current dependence for employment opportunities on only two manning agents that serve only three shipping lines leaves the country's seafarers far too exposed to the possible downsizing of company fleets.

(v) With limited improvements in equipment and teaching aids, TMTI also has the opportunity to expand into the training of junior officers. While their job opportunities are more limited, their salaries are substantially higher than those of ratings and their per capita remittances would be larger.

(vi) TMTI could also offer training aimed at employment by cruise liners and the regional fishing fleet. The second possibility should be approached with caution, however, as many of the distant water fishing nations could use employment of Tuvaluans or any other Pacific island citizens as a bargaining tool in fishing license negotiations. Opening TMTI up to female students would require construction of additional infrastructure.

(vii) A solution is needed to reduce the constraints that poor and slow air connectivity between Tuvalu and the outside world impose on the employability of the country's seafarers. The country's seafarer industry cannot be revitalized and TMTI cannot remain viable otherwise. Ship owners and their vessels often cannot wait the extra days needed for Tuvaluan ratings to catch a biweekly flight to Fiji and then make the onward connections to the port of deployment (para. 6).

(viii) Graduates from TMTI should be prepared for work on today's merchant ships which in many ways resembles a military environment. A new captain superintendent of TMTI should instill a level of pride and responsibility in students and the discipline to keep their surroundings clean, orderly, and ship shape. Even before the project construction began, TMTI was littered with junk and discarded material. The Public Works Department has been the biggest cause and archaic government rules make it very difficult to dispose of equipment that is no longer useable. TMTI does not look like an efficient, disciplined school. It sets a very poor example that affects the attitude of its graduates. The government should engage an expatriate captain superintendent who will not accept such conditions and can imbue graduates with the standards of order and performance that would make them more valuable to the world's modern merchant navies.