

The Democratic Republic of Timor-Leste

FY2016 Ex-Post Evaluation of Japanese Grant Aid Project

“The Oecusse Port Urgent Rehabilitation Project”

External Evaluator: Hisae Takahashi, Japan Economic Research Institute Inc.

## **0. Summary**

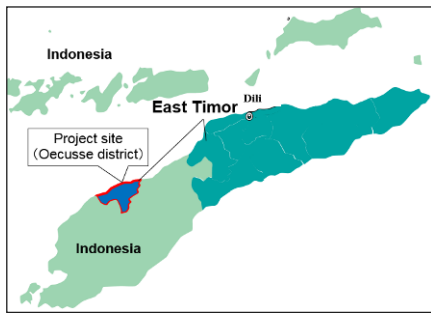
This project was conducted to help passengers board and alight the ferry safely and efficiently and improve the cargo handling service in Oecusse district, an enclave of Timor-Leste, by rehabilitating the existing jetty and terminal, thereby helping to promote economic growth in the Oecusse district and improve regional disparities. The development plan of Timor-Leste has consistently prioritized port development and the clearly specified rehabilitation of Oecusse port in the short- and mid-term plan. In Timor-Leste, marine transportation is a major means of connecting Dili, the capital and the Oecusse district. Hence the need to rehabilitate Oecusse port is high. Japan’s ODA policy is also consistent with the purpose of this project; hence its relevance is high. By implementing this project, boarding at Oecusse port has become much safer and more efficient and the number of passengers has also largely increased, thanks to a drop in the number of cancelled ferry services and the launch of ferry services operated by private company. The rehabilitated Oecusse port has played the founding role in the plans ongoing at the time of ex-post evaluation to expand this port and increase the number of ferry services linking Dili and Oecusse. This means that the contribution of this project, which rehabilitated an essential economic foundation to develop Oecusse, can be considered high. Meanwhile, no increase in cargo volume could be confirmed, since no cargo vessel has berthed at the Oecusse port and the number of services operated by the substitute of Ferry Nakroma<sup>1</sup> and the cargo volume capacity remained limited during the maintenance period of Ferry Nakroma. Therefore, the project’s effectiveness and impact are fair. Although the project cost was within the plan, the project period exceeded the plan because of the delay in procuring equipment. Therefore, the efficiency of the project is fair. Although most of the rehabilitated facilities are in good condition, there have been uncertain factors in institutional aspect and issues in technical and financial aspect of operation and maintenance were confirmed after the Oecusse district was designated as a Special Zone of Social Market Economy (ZEESM) which happened after project completion. Therefore, sustainability of the project effect is fair.

In light of the above, this project is evaluated to be partially satisfactory.

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<sup>1</sup> Nakroma is a ferry for passengers and cargo, which was procured with support from Germany. It plies the route between Dili and Oecusse twice weekly and between Dili and Atauro once weekly.

## 1. Project Description



Project Location



Rehabilitated Oecusse Port

### 1.1 Background

In Timor-Leste, where all kinds of social infrastructure were shattered during the 1999 “Timor-Leste crisis”, prompt rehabilitation works were needed to promote economic activities of the country. The Oecusse district, the site of this project, is an enclave surrounded by the Indonesian West Timor, which comprises the western half of the island of Timor. It had a T-shaped jetty for cargo vessels constructed in 1992 by the Indonesian government in the Mahata area and a slipway constructed with German support in 2006 for a ferry in the Oebau area. However, the T-shaped jetty for cargo vessels was destroyed during the civil war, leaving only twice-weekly ferry services using the slipway as maritime transportation. On the other hand, the road transportation routed through West Timor of Indonesia was not actively taken because of the need for drivers to obtain a costly visa and the continuing low level of logistics. Under such circumstances, the commodity price in Oecusse district remained high compared to that of the Timorese mainland, which was the factor exposing a regional gap in Timor-Leste. Accordingly, maritime transportation remains the key means for the enclave of Oecusse district to access the mainland and rehabilitating the port facilities was imperative to sustain and improve residents’ lives of Oecusse district.

Based on this background, the Japan International Cooperation Agency (JICA) conducted preparatory surveys in 2009 and 2010 and deemed it appropriate to rehabilitate the jetty in the Mahata area, accessible by both ferry and cargo vessel. With the result of this survey, this project was implemented upon the request of Timor-Leste.

### 1.2 Project Outline

The objective of this project is to ensure safer and more efficient boarding and alighting for ferry passengers and operate a cargo transport service system by rehabilitating the existing jetty and developing a terminal at Mahata in the Oecusse district, thereby helping promote economic growth in the Oecusse district and improve regional disparities in Timor-Leste.

G/A Grant Amount / Actual Grant Amount	1,175 million yen / 872 million yen
Exchange of Notes Date /Grant Agreement Date	December 2010 / December 2010
Executing Agency	Ministry of Infrastructure / Port Authority of Timor-Leste (APORTIL)
Project Completion	July 2013
Main Contractor	Tobishima Corporation
Main Consultant	Japan Port Consultants, Ltd.
Basic Design	October 2009 – September 2010
Related Projects	<ul style="list-style-type: none"> <li>• Technical Assistance “Dispatch of Advisor for port management”(2009), “Dispatch of Advisor for Port Facility &amp; Security” (2012~2015)</li> <li>• Grant Aid “The project for rehabilitation of Dili port” (2006)</li> <li>• German Society for International Cooperation, Ltd. (GIZ:Deutsche Gesellschaft für Internationale Zusammenarbeit, GmbH) “Operation of Ferry” (2003~2007), “Construction of a slip way for ferry and terminal for passengers” (2004 ~ 2009), “Procurement of ferry” (2004~2009), “Training for staff of ferry operation” (2006~2011)</li> </ul>

## 2. Outline of the Evaluation Study

### 2.1 External Evaluator

Hisae Takahashi, Japan Economic Research Institute Inc.<sup>2</sup>

### 2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: August, 2016 – October, 2017

Duration of the Field Study: October 12, 2016 – October 26, 2016, March 7, 2017 – March 14, 2017

## 3. Results of the Evaluation (Overall Rating: C<sup>3</sup>)

### 3.1 Relevance (Rating: ③<sup>4</sup>)

#### 3.1.1 Consistency with the Development Plan of Timor-Leste

At the time of this planning, the country’s development policy *Five Year National Development Plan (NDP) (2003 – 2007)* targeted poverty reduction and enduring economic development and indicated “the development of transport infrastructure, such as roads, bridges,

<sup>2</sup> Participated in this affiliation as a sub-contractor from Ernst & Young ShinNihon LLC.

<sup>3</sup> A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

<sup>4</sup> ③: High, ②: Fair, ①: Low

ports, airports and communication systems, etc.” as a priority area. At the time, since a mid-term national development plan was being prepared, the government set priority issues for development of each year along with NDP indicated above. Given that infrastructure development was one of the priority areas during the planning, the rehabilitation of the Oecusse port in the enclave helps reduce the regional gap in the country and securing safe and stable transport in this area was regarded as a highly important project from the national security aspect<sup>5</sup>.

The *Strategy Development Plan (SDP) (2012 – 2016)*, a plan at the time of ex-post evaluation, aimed to become high and middle-income country by 2030, under the slogan “Goodbye Conflict, Welcome Development”. This plan set the first stage from 2011 to 2015, focusing on priority areas during this stage for human development and infrastructure development and industry enhancement. The *Program of the Fifth Constitutional Government (2012 – 2017)*, the concrete plan of SDP, emphasized the development of a new port as a top priority, which targeted rehabilitation of Oecusse port, the targeted facility of this project<sup>6</sup>, as well as of Com, Atauro, and Vemasse ports. Furthermore, the “State Budget 2017”<sup>7</sup> of the country clearly indicated expenses in the form of US\$2.3 million operating costs for the Ferry Nakroma, which could continuously secure access between Dili and Oecusse.

As shown above, the development plan of Timor-Leste aimed economic revitalization and poverty reduction from the time of planning but by the time of ex-post evaluation and prioritized infrastructure development, including port development, to contribute to such purpose. The country’s strategy program and state budget at the time of ex-post evaluation also show the importance of rehabilitating and ensuring the accessibility of Oecusse port. This project aimed to rehabilitate Oecusse port in the enclave of Timor-Leste for safer and more efficient passenger boarding and alighting and cargo loading; promoting economic revitalization and logistics in the Oecusse district and helping to reduce the regional gap. Therefore, this project has been highly relevant to the country’s development plan.

### 3.1.2 Consistency with the Development Needs of Timor-Leste

The enclave of the Oecusse district had two port facilities for a cargo vessel and a ferry. However, the jetty for cargo vessels was destroyed during the civil war, leaving only twice-weekly ferry services using the slipway, which means cargos had to be loaded into the ferry. Consequently, the commodity prices in the Oecusse district remains high compared to that of the Timor-Leste mainland, leaving a regional gap in the country. This made it imperative to rehabilitate the port facilities to sustain and improve the lives of the Oecusse district residents.

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<sup>5</sup> Source: documents provided by JICA

<sup>6</sup> Source: JICA (2014) “Data Collection Study on the Port Sector in Timor-Leste”

<sup>7</sup> República Democrática de Timor-Leste

After the Oecusse port was rehabilitated under this project, this district was designated as the Special Administration Region and the Social and Special Economic Zone in 2014, which has accelerated the development of roads, bridges and airports ever since. The demand for transportation has been increasing and ZEESM plans to procure a new ferry in 2017. Alongside, the further expansion of Oecusse port was approved to accommodate higher cargo capacity vessels<sup>8</sup>. In addition, the importance of the Oecusse port has been increasing in this area given the fact that there is a procurement plan<sup>9</sup> for Ferry Nakroma 2 by Administration of Port of Timor (APORTIL). Meanwhile, the poverty rate at the time of ex-post evaluation was 54% which was relatively high<sup>10</sup>, compared to Dili (18.9%) and the national average (30.3%). This rate was also the worst in the country; hence the effort to reduce the regional gap has to remain high.

### 3.1.3 Consistency with Japan's ODA Policy

At the time of planning, the Japan government showed four supporting priority areas for Timor-Leste, 1) human resource development and improving government administration capacities toward establishing democratic governance, 2) improving economic and social infrastructure maintenance and its maintenance capabilities, 3) improving agricultural productivity and market accessibility and 4) improvement of public security and law enforcement capability<sup>11</sup>. This project aimed to boost the economic revitalization of the Oecusse district by rehabilitating existing jetties, which contributed to the priority area of 2) improving economic and social infrastructure maintenance and its maintenance capabilities. Therefore, this project was relevant to Japan's priority area for supporting Timor-Leste.

In the light of the above, this project has been highly relevant to the country's development plan and development needs, as well as Japan's ODA policy. Therefore its relevance is high.

## 3.2 Efficiency (Rating: ②)

### 3.2.1 Project Outputs

The plan and actual of this project outputs are shown as Table 1 and 2.

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<sup>8</sup> Source: Interview survey to ZEESM

<sup>9</sup> Source: Interview survey to APORTIL

<sup>10</sup> Source: Timor-Leste Statistic office "Poverty in Timor- Leste 2014"

<sup>11</sup> Source: "ODA country data book 2010"

Table 1 Planned and Actual Outputs  
(Civil engineering works and procurement of equipment)

Items	Plan	Actual
Repair and extension of jetty		
Existing jetty and trestle	Repair 630m <sup>2</sup> Extension 1,890m <sup>2</sup>	(Jetty) Demolished: depths 5m, lengths 50m Extended: depths 5m, lengths 100m (Trestle connected to existing jetty) Demolished: lengths 33m for 1 place Extended: lengths 33m for 2 places
Transitional part of the trestle	Repair 140m <sup>2</sup> Extension 140m <sup>2</sup>	
Rubber fenders	8 sets	
Bollards	9 sets	
Navigation aid facilities	3sets	
Terminal development		
Administration buildings		As planned
Administration office	Construction 150m <sup>2</sup>	
Passenger terminal	Construction 300m <sup>2</sup>	
Warehouse and dynamo room	Construction 450m <sup>2</sup>	
Stacking yards and roads	Pavement 10,200m <sup>2</sup>	
Revetment	130m	
Outdoor lightings	15 sets	
Generator	1 set	

Source: documents provided by JICA and APORTIL, interview survey to the consultants

The jetty and terminal development were mostly implemented as planned. Although the existing jetty and trestle were actually described differently in the plan and actual for Table 1, the scope was implemented as planned, except for the plan to reutilize foundation piles for the existing jetty; and the trestle was changed to a design featuring the use of new steel piles, since it was judged that the welded places of existing piles lacked sufficient strength to be reused as foundation piles. During the preparatory survey of this project, though the degree of soundness of existing piles and their lengths were examined through an elastic wave study, the existence of the welded site and its strength were not sufficiently examined. These changes were appropriate taking both safety and sustainability into consideration. Also this change did not hinder the targeted effect but the project period, namely the process of procuring the equipment, was delayed as the piles were demolished and extended. (See “3.2.2.2 Project Period” for details)

Table 2 Planned and Actual Outputs  
(Consulting services and soft components)

Plan	Actual
Consulting services : Detailed design and surveillance Capacity building program (soft component): Manual preparation and instruction related to the port operation Output① Establishing operation and management of the jetty Output② Establishing operation and management of the yard	As planned

Source: documents provided by JICA and APORTIL, interview survey to the consultants

The consulting services were implemented as planned and training APORTIL staff to operate and manage the jetty and yard; and drafting the manuals were supported during the project. In particular, these implementations included guidance for daily checks of the jetty, ensuring safety considering the new design jetty constructed and also for traffic rules inside the yard, such as separating passengers from people coming to meet them or see them off and the vehicle on board from that used for pick-up and technical guidance for preparing these manuals.

**【Timor-Leste Side】**

The planned and actual outputs of the Timor-Lesteese side were shown in Table 3.

Table 3 Planned and Actual Outputs of the Timor-Lesteese Side

Plan	Actual
1) Removal of temporary office and equipment inside the project site, removal of the remaining old administration office building	1) As planned
2) Repair and extension of the fence	2) As planned
3) Relocation of the ladder to the port side of Ferry Nakroma <sup>12</sup>	3) Not implemented
4) Expenses necessary to exempt various taxes and procedures at the bank	4) As planned

Source: documents provided by JICA and APORTIL, interview survey to the consultants

The ladder had not been installed on the port side of Ferry Nakroma, even at the time of ex-post evaluation. According to the APORTIL staff operating Ferry Nakroma, a preparatory survey was required for the ladder instalment. Although this survey should be planned in future, the installation period has not yet been determined. This remaining activity was not found to affect the project effects at the time of ex-post evaluation.

<sup>12</sup> The ladder of Ferry Nakuroma was installed on the bow side. A proposal was made to switch the ladder to the port side as the left of the ferry is docked at Oecusse port.



The constructed passenger terminal      Passengers heading to the jetty from the terminal

### 3.2.2 Project Inputs

#### 3.2.2.1 Project Cost

The project cost, as planned, saw 1,175 million yen borne by Japan and 21 million yen<sup>13</sup> borne by Timor-Leste, totaling 1,196 million yen. The actual project cost to be borne by Japan was 872 million yen, 74% of the planned amount, as the bidding price lowered the accumulated estimated amount. This cost reduction did not affect the level of output nor the project outcome. The actual cost to be borne by Timor-Leste was approximately 23.4 million yen, 110% of the planned amount, as the cost of constructing and rehabilitating the fences was higher than estimated. Given the remaining activities for installing the ladder on the port side of Ferry Nakroma<sup>14</sup>, the project cost to be borne was 233% of the plan. However, the change was analyzed as appropriate, because a substantially increased construction cost over the estimated level was frequently seen, alongside increasing material costs in the country, but the increased cost could be covered by the Timor-Leste side and had no impact on the planned output. Accordingly, the actual project cost was 895.4 million yen in total and within the plan (75% of the planned amount).

#### 3.2.2.2 Project Period

The planned project period<sup>15</sup> was 25 months and Table 4 shows the details of the actual period. It took 30 months from February 2011 through July 2013, which was longer than planned (120% of the planned period).

<sup>13</sup> Source: documents provided by JICA

<sup>14</sup> The amount is calculated by deducting the estimated cost of installing the ladder on the port side of the ferry (approximately 8.3 million yen) from the total planned cost.

<sup>15</sup> Based on the project schedule in the preparatory survey report, the project period was defined as the duration from the start of the consultant contract through the end of construction as well as the soft component, because the pre-evaluation sheet did not indicate the start of the project period.



Table 4 Planned and Actual Project Periods

	Plan	Actual	Plan/Actual
Consultant contract, bidding	7 months	7 months (February 2011 – August 2011)	100%
Procurement/ construction	19 months	24 months (August 2011 – July 2013)	126%
Soft component	1.5 months (Domestic 0.5 months, Overseas 1 month)	2.3 months May 1, 2013 – July 10, 2013 (Domestic 1.3 months, Overseas 1 month)	153%

Source: documents provided by JICA

The main reasons for the excess in the planned period were the delay in procuring a piling machine, re-arrangement of the transport ship due to the difference in actual loading weight from the details submitted and also the delay in delivery due to the unscheduled re-routing.

It was planned to rehabilitate the jetty by reutilizing existing foundation piles. However, new foundation piles had to be installed, since the existing foundation pile lacked sufficient strength to be reused. This change delayed the process of delivering the piling machine by about 3.2 months.

The plan for the equipment procurement involved processing the temporary steel for piling in China and delivering it to the Oecusse port via Singapore. However, a delay occurred on arrival at Singapore, as delivery was made during the peak Chinese New Year season. Besides, the transport ship had to be rearranged because of overloading due to underreporting the loading weight of the steel in the shipment document. The consultants rearranged with another transportation company, since the contracted company was unable to arrange the ship. Subsequently, a further delay occurred<sup>16</sup> due to the unscheduled re-routing via Indonesia during the delivery from Singapore to Oecusse port. The transport company was changed as a part of prompt action to make up the delay. However, there were some issues regarding the way the consultant managed and supervised the vender's procurement plan, such as underreporting of the load weight by the transport company and unscheduled re-routing.

The activity period in Timor-Leste for the soft components was as planned. However, the scheduled one-month activity period in Japan was actually extended to 1.3 months. The contract indicated a project period for domestic activities of 1 month (20 days). According to the consultants, the actual project period of 1.3 months included non-working days such as weekends and holidays and based on the interview survey, did not result in any delay to domestic activities.

Although the project cost was within the plan, the project period exceeded the plan.

<sup>16</sup> Source: documents provided by JICA and interview survey to the consultant

Therefore, efficiency of the project is fair.

### 3.3 Effectiveness<sup>17</sup> (Rating: ②)

#### 3.3.1 Quantitative Effects (Operation and Effect Indicators)

##### (1) The increase in the number of passengers

The baseline and target number at the time of the plan shows the number of passengers between Dili and Oecusse. Conversely, APORTIL had been recording the aggregated number of passengers among Dili – Oecusse – Dili at the time of ex-post evaluation, which differed from the plan in terms of scope. Accordingly, comparable data before implementing the project was obtained additionally from APORTIL during the ex-post evaluation and the effectiveness was analyzed referring its changes.

The number of passengers at the time of project completion and three years thereafter were respectively about 1.3 times and 2.9 times the number of passengers before implementing the project (2011). The number of passengers at three years after completion was expected at the time of the plan as 1.8 times the number of passengers in 2011, so the actual results indicated a significant increase in the number of passengers from the target number (See Table 5). The rehabilitation of Oecusse port enabled the ferry to be docked safely, which boosted the number of passengers as well as reducing the number of Ferry Nakroma operations cancelled, regardless of weather, and starting to operate a ferry by a private company.

Table 5 The Number of Passenger Dili - Oecusse

	Setting at the plan <sup>*1</sup>		Baseline/ Target
	Baseline	Target	
	2008	2015	
	Planned Year	3 Years After Completion	
Number of Passenger (person/year)	20,000	36,000	1.8

	Setting at the time of ex-post evaluation <sup>*2</sup>					Baseline /Target (3 years after completion)
	Baseline	Actual				
	2011	2013	2014	2015	2016	
	Appraisal Year	Completion year	1 Year After Completion	2 Years After Completion	3 Years After Completion	
No. of Passenger (person/year)	26,214	35,381	44,754	49,902	75,723	2.9
Ferry Nakroma	26,214	35,381	44,754	49,902	39,317	
Dragon Boat <sup>*3</sup>	-	-	-	N.A	23,516	
Raju Raju <sup>*4</sup>	-	-	-	-	12,890	

Source: documents provided by JICA, APORTIL, Dragon Shipping Company

\*1: The number of passengers between Dili - Oecusse

\*2: The number of passengers among Dili – Oecusse – Dili

\*3: The passenger boat starting operation and launched by Dragon Shipping Company in August 2015. The number of passengers in 2015 was unknown due to the lack of data from the company.

\*4 : The passenger and ferry starting operations by Dragon Shipping Company in January 2016.

<sup>17</sup> Sub-rating for Effectiveness is to be put with consideration of Impact.

(2) The increase in the volume of cargo

The plan also showed the cargo volume data between Dili – Oecusse, while APORTIL data at the time of ex-post evaluation indicated the loading weight among Dili – Oecusse – Dili. Therefore, as when considering the number of passengers, the comparable data at the planned year for the cargo volume was obtained from APORTIL at the time of ex-post evaluation and effectiveness was analyzed based on its changes.

The availability of new cargo vessel services at the Oecusse port was expected under the plan alongside an increased loading weight under this project. However, at the time of ex-post evaluation, only Ferry Nakroma carried loads as before implementing the project and no berthing cargo vessel was confirmed. Consequently, although 6.9 times the volume of handling cargo at plan was expected for the targeted volume three years after completion, the actual volume recorded at one and two years after completion respectively was 92% and 65% of the volume at the time before implementing the project (2011), and did not achieve the targeted level; only the volume on project completion exceeded the baseline due to reduction in sailing cancellations of Ferry Nakroma. The reasons for decrease in the volume of handling cargo in 2014 and 2015 were that the replaced ferry was a small model during the time the Nakroma ferry was being maintained and the frequency of operation was decreased. The number of delivery vehicles and bikes two years after project completion was 3 times and 1.5 times that of the baseline year, respectively. Raju Raju started operation in 2016 and further increased the number of delivery vehicles and bikes respectively, by 4.6 times and 1.9 times, in 2016. As the data for the load weight of Raju Raju is not publicized, only the number of delivery vehicles was indicated below. Considering the load weight of these vehicles (including trucks), the total actual load weight at Oecusse port was assumed to have exceeded the figure indicated. Based on this assumption, the cargo volume is also considered to have shown a certain increase.

Table 6 Volume of Cargo Handled between Dili – Oecusse

	Setting at plan* <sup>1</sup>		Baseline / Target
	Baseline	Target	
	2008 Planned Year	2015 3 years after completion	
Load weight (ton/year)	2,330	16,000	6.9

	Setting at the time of ex-post evaluation* <sup>2</sup>					Baseline / Target
	Baseline	Actual				
	2011 Appraisal year	2013 Completion year	2014 1 Year After Completion	2015 2Years After Completion	2016 3Years After Completion	
Cargo volume (ton/year)	2,665	2,779	2,463	1,731	-	0.6
Nakroma* <sup>3</sup>	2,665	2,779	2,463	1,731	-	
Vehicle (number/year)	390	551	556	1,181	1,776	4.6
Nakroma	390	551	556	1,181	863	
Raju Raju	-	-	-	-	913	
Bike (number/year)	813	851	1,100	1,254	1,532	1.9
Nakroma	813	851	1,100	1,254	1,218	
Raju Raju	-	-	-	-	314	

Source: documents provided by JICA, APORTIL and Dragon Shipping Company and interview survey

\*1: The load weight between Dili – Oecusse

\*2: The load weight among Dili – Oecusse – Dili

\*3: Since APORTIL changed the method used to measure the cargo volume in 2016, no comparable data for three years after project completion was obtained. The ratio for baseline / actual above was indicated using actual figures in 2015.

### 3.3.2 Qualitative Effects (Other Effects)

#### (1) Safe boarding of passengers and vehicles

Before rehabilitating the jetty under this project, since ferries could not be docked, passengers, vehicles and cargo had to be moved to/from the ferry via small boat, wading into sea water on a regular basis (see the picture below). Rehabilitation of the jetty increased safety when using the port alongside the constructed jetty, which meant the ferry could dock directly and allowed more space for the jetty after the project completion. The result of the beneficiary survey<sup>18</sup> at the time of ex-post evaluation also showed that 91% responded that boarding safety had “significantly increased” or “improved” (See Table 7). Respondents also

<sup>18</sup> The beneficiary survey was conducted for a total of 107 ferry users among Oecusse residents. The respondents by category are as follows: Sex: Male 83, Female 24, Occupation: Merchants 22, Farmer 15, Port operators 10, Drivers 7, Carpenters 6, Communicators 4, Others 19. The survey was conducted in an interview style, using a questionnaire under judgment sampling in the ferry between Dili and Oecusse, the waiting area and the Oecusse market. Based on the ferry departure / arrival time, the interview was conducted from 17:00 on Thursday (departure time at Dili) to 5:00 on Friday (arrival time at Oecusse) and from 17:00 on Friday (departure time at Oecusse) to 5:00 on Saturday (arrival time at Dili). Although the interview was targeted at passengers at equal intervals inside the ferry, the number of male respondents exceeded that of female respondents, since the latter were less keen to cooperate with the survey than male respondents.

indicated that the safety improvement was attributable to scheduled boarding being introduced under the instructions of Oecusse port staff to help ensure passengers, livestock and vehicles would board in a separate and orderly manner. As such, the effectiveness of the soft component was also confirmed under this project.

Table 7: Safety for Boarding at Oecusse Port

【Question】	Significantly improved	Improved	No change	Worsened	Significantly worsened
After rehabilitation, was the boarding safety improved?	57%	34%	7%	0%	2%

Source: the result of the beneficiary survey



Picture: Boarding ferry before (left) and after (right) rehabilitation of Oecusse port



Picture: Boarding order: vehicles (left) → passengers (centre) → livestock (right)

## (2) Efficient Boarding Time

The implementation of this project significantly shortened the ferry boarding time with the availability of direct docking at the jetty. As shown in Table 8, 91% of respondents to the beneficiary survey indicated that the boarding duration had shortened. 70% of them also noted that the duration had changed, from 50-60 minutes before the project was implemented to 20 minutes after its completion (See Figure 1).

Table 8 Shortening of the Boarding Time

【Question】	Significantly shortened	Shortened	No change	Increased	Significantly increased
After the rehabilitation of the port, was the boarding duration shortened?	41%	50%	4%	2%	3%

Source: The result of the beneficiary survey

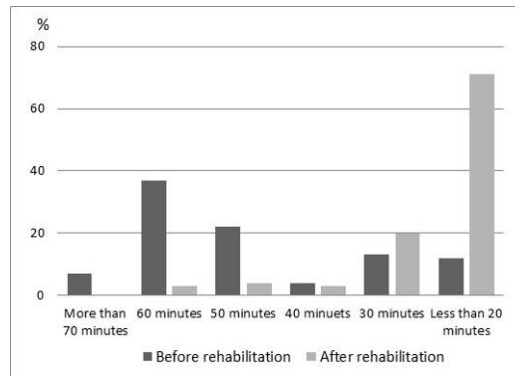


Figure 1 The Change in Boarding Duration at Oecusse Port

Source: The result of beneficiary survey

### 3.4 Impacts

#### 3.4.1 Intended Impacts

##### (1) Reducing the logistics cost

At the time of the plan, a reduction in the logistic cost to Oecusse district was expected by implementing this project, which enabled direct docking of foreign cargo vessels at the port, an increased supply volume and the option of a delivery method. However, no foreign cargo vessel had docked at Oecusse port by the time of the ex-post evaluation and only Ferry Nakroma transported supplies until Raju Raju came into operation in 2016. The beneficiary survey also showed only 22% of beneficiaries responded that “logistic costs had decreased” and 64% stated that there was “no change”. Therefore, the effect of this project is considered limited in terms of reducing the logistic cost (See Table 9). One of the factors raised in an interview with APORTIL, ZEESM and consultants is the fact that the port wasn’t designed for large cargo vessels<sup>19</sup>. However, a decrease in transport and moving costs was predicted by having small- and medium-sized cargo vessels from Indonesia and other neighboring countries without docking of large cargo vessels. Thus, the design incompatible with docking of large cargo vessels does not directly explain the failure to reduce logistics costs. It was unclear how the logistic cost could be reduced and there was no common acknowledgement

<sup>19</sup> According to documents provided by JICA, it was predicted that small- and medium-sized cargo vessels from Indonesia or neighboring countries could go in-service.

among JICA related person and also executing agencies. Its logic should have been agreed among related parties if the reduction of logistic cost was assumed to be an impact. In addition, the logistic cost also can fluctuate due to various factors, including the rising fuel cost, in addition to the port environment and diversified delivery route, which should have been considered to determine the expected impact.

Table 9 Reducing the Transport and Moving Cost

【Question】	Significantly reduced	Reduced	No change	Increased	Significantly increased
After the rehabilitation of the port, was the transport and moving cost reduced?	16%	6%	64%	8%	6%

Source: The result of beneficiary survey

Note: The result of the survey shows only the respondents' impression about the changes in transportation costs by sea between before and after the project. Our survey team did not ask a question about the difference in transportation costs between by sea and by trucks.

(2) Contributed to reduce the gap between the mainland and the enclave of Oecusse district

Stabilizing the price of goods and promoting efforts to reduce disparities in living standards between Oecusse and the mainland were expected as the impact by rehabilitating Oecusse port in this project, through safe and efficient boarding and shipping of passengers and stable supply of goods and items.

Table 10 shows the beneficiary survey results, which confirmed the “Stable supply of commodities”, “Changes in commodity price” and “Number of available commodities” in Oecusse. According to the result of the beneficiary survey, 94% of respondents answered that the supply of commodities had “stabilized” after project completion. Moreover, 91% of respondents answered that the variety of available commodities had “increased” or “largely increased” after the port rehabilitation. While the increase in cargo volume was limited, beneficiaries answered that the supply of commodities had stabilized and many explained that the variety of available commodities had increased. This may be attributable to an increase in the number of vehicles, including loaded trucks as well as the effects from the increased carry-on baggage of passengers which were not counted as part of the cargo volume. In the interview survey with passengers at Oecusse port, it was explained that the loading capacity in terms of total vehicles and cargo volume had increased and small livestock, including chickens, as well as medium- to large-sized livestock such as pigs, goats and cows, would now be transportable via Ferry Nakroma, since boarding became possible without any immersion in seawater. In particular, frozen meat, groceries, office supplies, tobacco, lunch boxes and light construction materials, etc. became widely available and thus the contribution of the project can be explained in improving the living

standards among Oecusse people. Accordingly, this project helped improve the lives of Oecusse residents through a part of those daily commodities. Conversely, since an increased cargo volume through berthing of cargo vessels was not fully confirmed, the generation of the impact remained within a certain level in terms of expected impact, including reducing the domestic gap and revitalizing the economy.

Table 10 Changes in Stable Supply of Commodities,  
Kinds of Available Commodities and Commodity Price

Stable supply of goods	More stable	Stable	No change	Less stable	Worse
	43%	51%	4%	2%	0%
Variety of available goods and item	Largely increased	Increased	No change	Reduced	Largely reduced
	60%	31%	8%	0%	1%
Price of goods	Much cheaper	Cheaper	No change	Expensive	Much expensive
	11%	26%	30%	14%	19%

Source: Result of the beneficiary survey

Regarding the price of goods in the Oecusse district, 37% of respondents explained that it has been getting cheaper, 30% said no change and 33% stated that it had been getting expensive. No data to show differences in the price of goods between the capital city and Oecusse district could be obtained, despite confirming with the statistics office and etc. However, the local newspaper reported<sup>20</sup> that the price of goods for daily necessities had increased in the Oecusse district for a certain period while the maritime service between Dili and Oecusse was suspended due to the maintenance of Ferry Nakroma. This report introduces feedback from vendors who sell daily goods at the market. According to this report, vendors sold goods from trucks from Indonesia while they were unable to get goods transported from Dili by ferry, but found themselves unable to sell the goods at the same price as Dili because of the added tax. This report can be explained as one example of how stable operation (reduced ferry service cancellations) help reduce the price of commodities in the Oecusse district to a certain extent.

### (3) Improved security for Oecusse district residents

It was expected that implementing this project would boost security for residents in the Oecusse district enclave by securing the maritime transportation route as an impact. However, this impact could not be clearly explained since the intention of this impact at the time of the plan and its position within the project could not be ascertained through project

<sup>20</sup> “Suara Timor Lorosae”, Newspaper dated February 1, 2016, reported that the contract for renting the substitute ferry during the maintenance period for Nakroma had been completed in December 2015, thus no ferry operated for about one month between Dili and Oecusse, resulting in an increase in the price of goods in Oecusse.



documents and interviews with stakeholders.

### 3.4.2 Other Positive and Negative Impacts

#### (1) Impacts on the Natural Environment

Since this project rehabilitated an existing port, limited but some undesirable environment and social impacts on water quality and the ecosystem, etc. were expected. Accordingly, an Environmental Management Plan was prepared at the time of the project plan and indicated that the water quality, air, noise, vibration, coral survey and local residents' survey had to be conducted appropriately in line with each construction stage. During the implementation stage, a preparatory survey and monitoring were conducted based on the plan. Subsequently, no negative impact on the natural environment from implementing this project was confirmed from an interview with the executing agency and interviews at project sites.

#### (2) Land Acquisition and Resettlement

No resettlement and land acquisition occurred due to the implementation of this project and no specific issues were also confirmed through the interviews to the executing agency.

#### (3) Other impact : Contribution to establish the economic foundation in the Oecusse district

As described above, the Oecusse district was designated as a Special Zone of the Social Market Economy for the country in 2014, whereupon infrastructure development, including an airport, road and bridges, were all promoted. Since the construction of an administrative building, road and a new airport, etc. are also planned, demand for transporting passengers and cargo is also expected to increase. Under such circumstances, ZEESM is preparing a plan to purchase a ferry<sup>21</sup> in 2017 which will operate between Dili and Oecusse; and also planning to expand the Oecusse port. Further utilization of Oecusse port in future will be largely reliant on the influence of Oecusse, which has been designated as a Special Zone of the Social Market Economy, but rehabilitation of the Oecusse port in this project still is an essential component of the foundation to implement the future plan. Accordingly, it can be said that this project helped develop an economic foundation for the Oecusse district.

Rehabilitation of Oecusse port allowed an expansion of the jetty space and boarding based on the plan, which largely improved boarding safety and efficiency. Since the project allowed ferries to dock at the jetty regardless of the weather, the ferry cancellation rate has been decreased and new ferry services operated by a private company have been launched, all of which has fueled a significant increase in passenger numbers. Conversely, the effect of

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<sup>21</sup> Procurement of the ferry with the loading capacity for 320 passengers and 22 vehicles has been already arranged.

increasing the cargo volume set at the time of the plan remained limited, since cargo vessel operations did not increase and the number of operations and loading capacity of the substitute ferry were both limited while Ferry Nakroma was being maintained. Furthermore, the impacts of improving daily life convenience, such as the increased variety of available goods and stable supply of daily necessities in the Oecusse district were confirmed. Conversely, the contribution of this project to impacts including the revitalization of the Oecusse district and reducing the gap between domestic, expected to be generated through cargo vessel services and the increased cargo volume, remains as an indirect contribution. In light of the above, this project has achieved its objectives to some extent. Therefore effectiveness and impact of the project are fair.

### 3.5 Sustainability (Rating: ②)

#### 3.5.1 Institutional Aspects of Operation and Maintenance

At the time of the plan, it was decided that APORTIL would oversee the Operation and Maintenance (O&M) of Oecusse port. However, the responsibility for O&M of Oecusse port was shifted to ZEESM since the Oecusse district was designated as a special administrative region as ZEESM in June 2014. Conversely, the decree of law “(Decreto-Lei n.o) /03/2003” designates APORTIL as the responsible institution for the O&M of all port facilities in Timor-Leste. At the time of ex-post evaluation, ZEESM and APORTIL were discussing the issues involved in transferring the management setup of the Oecusse port. Though it is agreed that “ZEESM will be an institution to manage Oecusse port” informally (verbally), ZEESM becomes the responsible entity only after the revised Decree with an article defined as “excluding Oecusse port” is officially passed<sup>22</sup>. Following this situation, although the staff required to operate the Oecusse port were employed by ZEESM and APORTIL, the institution responsible for O&M remained officially unclear.

At the time of the ex-post evaluation, nine staff (four of whom are with APORTIL and the remainder are former APORTIL but current ZEESM staff) are engaged in daily maintenance such as clearing, selling tickets, handing for boarding, etc. though it was estimated that 10 to 15 staff were needed for the O&M of Oecusse port at the time of the plan. Figure 2 shows the operational organization chart for Oecusse port terminal. There are vacancies (for berth operators) and cases where one staff handles two positions, underlining the fact that the number of staff deployed is below the required number described in brackets, representing an insufficiency in terms of the appropriate number of O&M staff.

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<sup>22</sup> Source : Interview survey to APORTIL and ZEESM staffs

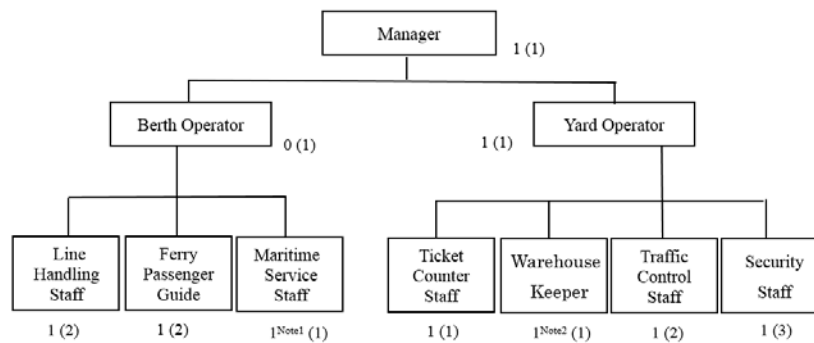


Figure 2 Organization Chart for O&M of Oecusse port

Note 1: Maritime service staff also serves as line handling staff.

Note 2: Warehouse keepers also serve as yard operators.

Note 3: The number shows the staff number assigned at the time of the ex-post evaluation. The number in brackets indicated the staff number required at the time of the plan.

As stated above, some issues were confirmed in terms of institutional aspects of O&M of Oecusse port such as a staff shortage as well as the positions of responsibility for the setup remaining undefined, etc.

### 3.5.2 Technical Aspects of Operation and Maintenance

It was planned that the APORTIL technical department would oversee O&M of the Oecusse port at the time of the plan. APORTIL is the institution with responsibility for O&M of all port facilities in Timor-Leste, meaning it has sufficient experience for daily O&M. However, the newly constructed jetty and yard in this project are installed toward the open sea from the revetment and their condition differs from those of other port facilities, hence training in appropriate O&M methods was provided to APORTIL staff. As mentioned above, the responsibility for O&M at Oecusse port will be transferred to ZEESM, while APORTIL staff who participated in the training are now tasked with maintaining Oecusse ports as ZEESM staff, which means they have the knowledge needed for daily cleaning and inspections of jetties, yards and etc. Though minor confusion was confirmed where the bus for waiting passenger getting off the ferry at the place nearby the yard rather than the parking area, it was also confirmed during the site survey that guidance to clarify separation of the boarding traffic flow between passengers and vehicles had been provided at the jetty.

Conversely, since no technical or other staff capable of handling lightning systems and repairs to the jetty was assigned, there was a lack of knowledge and experience to resolve issues such as damage of such systems and the ability to repair such damaged parts. Consequently, issues such as damaged parts remaining in use while unrepaired were confirmed during the site survey and raised concerns over safety aspects. Furthermore, since ZEESM are planning to

expand the port in 2017, it is indicated that efforts to assign experts to operate and maintain port facilities will be indispensable.

### 3.5.3 Financial Aspects of Operation and Maintenance

At the time of the plan, the annual O&M cost of Oecusse port was estimated at approximately US\$55,000, which included the salary cost of Oecusse port, inspection and maintenance costs and utility cost, etc. APORTIL, which oversaw O&M at Oecusse port, showed a surplus except for 2014 and the O&M cost of Oecusse port was included in the goods and service fee among the expenses of APORTIL until May 2014. The O&M of Oecusse port are under the jurisdiction of ZEESM, despite not being officially transferred after June 2014. Accordingly, at the time of ex post evaluation, APORTIL only covered the salary of four O&M staff for Oecusse port. Similarly, ZEESM only covered the salary for five staff members at the time of ex-post evaluation as the O&M budget could not be included under circumstances where the transfer procedure had not be officially completed, which meant the costs, except for salary, were not accounted for since June 2014. Moreover, the possibility of the situation remaining unchanged is likely until the responsible entity for Oecusse port is formally recognized, including O&M responsibilities, so concern over the sustainability of the financial aspects of O&M can be said to exist.

Table 12 Budget of APORTIL

(Unit: Thousand US\$)

	2014	2015	2016
Revenue	4,577	4,361	2,794
Expense	5,733	360	2,573
Salary	147	167	167
Goods, service fees	275	193	2,464
Maintenance fees	115	59	61
Minor Capital	5,011	—	—
Consumables	—	—	—

Source: document provided by APORTIL

Note: Minor capital in 2014 include the cost of the ferry jointly purchased in 2014 by APORTIL and Germany.

### 3.5.4 Current Status of Operation and Maintenance

Though Oecusse port is mostly well maintained, the concrete portions of the jetty damaged in a collision with a ferry and a cracked fender damaged due to a fender pad and ferry anchor colliding during the berthing of a ferry are being utilized while left unrepaired. In addition, warehouses are not in use, since cargo vessels which use the warehouse have not been berthed, nor are toilets used, since water has not been supplied<sup>23</sup>. Excluding the daily visual inspection and regular cleaning, since the budget has not been allocated, no maintenance and repair works have been conducted. During the defect inspection survey conducted one year after the project

<sup>23</sup> Source: Interview survey to ZEESM and site survey

completion, 13 items requiring some responses were suggested to APORTIL but almost half remained unresponded. Some were left unattended from the time APORTIL was doing O&M, but the main reason for not responding to those items was because the appropriate O&M set up had not been organized. This, in turn, was because the responsible management entity for O&M had not been formally recognized, which left the responsibility unclear and prevented efforts to allocate a budget for the same.

Table 13 Responded Conditions to 13 Suggested Items during the Defect Liability Period  
Expiry Certificate

	Suggested items	Responded situation
1	To repair the part of damaged jetty, which was repaired tentatively	Not yet responded
2	To change Windows at ticket selling of passenger terminal	Responded
3	To repair the damaged roof of warehouse	Responded
4	To survey the exterior lightings	Responded
5	To confirm quality of fuel regularly and to stock it sufficiently	Responded
6	To execute necessary application to the authorities to obtain city electrical power supply	Responded
7	To receive the city water supply and operate water pump	Not yet responded
8	To open toilet for servicing guest	Not yet responded
9	To complete the fencing works	Responded
10	To prepare the manual of O&M and put new procedure in the statutory form, and update it to dissipate the dissociation between actual activity and the manual.	Not yet responded
11	To clarify the organization with task for each staff in written	Not yet responded
12	To establish a communication system among Oecusse port, Dili port and ferry Nakroma	Not yet responded
13	To consider and respond the request from Ferry Nakroma	Partially responded

Source: documents provided by JICA, interview survey to APORTIL and ZEESM

In light of the above, some minor problems have been observed in terms of the institutional, technical and financial aspect and current status. Therefore, sustainability of the project effects is fair.

#### 4. Conclusion, Lessons Learned and Recommendations

##### 4.1 Conclusion

This project was conducted to help passengers board and alight the ferry safely and efficiently and improve the cargo handling service in Oecusse district, an enclave of Timor-Leste, by rehabilitating the existing jetty and terminal, thereby helping promote economic growth in the Oecusse district and improve regional disparities. The development plan of Timor-Leste has consistently prioritized port development and the clearly specified rehabilitation of Oecusse port in the short- and mid-term plan. In Timor-Leste, marine transportation is a major means of

connecting Dili, the capital and the Oecusse district, hence the need to rehabilitate Oecusse port is high. Japan's ODA policy is also consistent with the purpose of this project; hence its relevance is high. By implementing this project, boarding at Oecusse port has become much safer and more efficient and the number of passengers has also largely increased, thanks to a drop in the number of cancelled ferry services and the launch of ferry services operated by private company. The rehabilitated Oecusse port has played the founding role in the plans ongoing at the time of ex-post evaluation to expand this port and increase the number of ferry services linking Dili and Oecusse. This means that the contribution of this project, which rehabilitated an essential economic foundation to develop Oecusse, can be considered high. Meanwhile, no increase in cargo volume could be confirmed, since no cargo vessel has berthed at the Oecusse port and the number of services operated by the substitute of Ferry Nakroma and the cargo volume capacity remained limited during the maintenance period of Ferry Nakroma. Therefore, the project's effectiveness and impact are fair. Although the project cost was within the plan, the project period exceeded the plan because of the delay in procuring equipment. Therefore, the efficiency of the project is fair. Although most of the rehabilitated facilities are in good condition, there have been uncertain factors in institutional aspect and issues in technical and financial aspects of operation and maintenance were confirmed after the Oecusse district was designated as ZEESM which happened after project completion. Therefore, sustainability of the project effect is fair.

In light of the above, this project is evaluated to be partially satisfactory.

## 4.2 Recommendations

### 4.2.1 Recommendations to the Executing Agency

- It was decided that responsibility for O&M of Oecusse port would be transferred from APORTIL to ZEESM after ZEESM started. However, since the formal transfer procedure has not yet been completed, a system to substantively implement O&M is unclear, which has led to the required activities stagnating. To make the O&M system clear and conduct appropriate maintenance activities, ZEESM and APORTIL must strive forward to advance procedures required for the formal transfer and develop a structure for O&M, including securing staff and budget. Moreover, in the meantime, there is a need to set up the tentative responsible structure system to conduct the maintenance activities needed to fix the damaged parts.
- No engineers or port experts have yet been assigned as O&M staff of ZEESM. Conversely, APORTIL is the institution which has overseen the O&M for all the ports of Timor-Leste and hence has plenty of knowledge and experience of O&M for ports. Even after the O&M works of Oecusse port officially shift to ZEESM, it is desirable for ZEESM and APORTIL to regularly get in contact and coordinate and develop a system allowing APORTIL to provide

the technical support required to ZEESM.

#### 4.2.2 Recommendations to JICA

None

#### 4.3 Lessons Learned

• Preventing delay in the procurement of equipment by capturing and supervising a detailed plan

In this project, the plan to reuse the existing foundation piles was changed to one involving the construction of new piles, although the consultants did not fully understand a procurement plan for the same. Accordingly, when processing and transporting the equipment, including from overseas, cases of under-reported loading weight and changes to the transportation route emerged, which significantly delayed the procurement period. To prevent this delay, consultants must work on managing and supervising progress, based on a full understanding of each step of the procurement plan in the course of project implementation.