Internal Ex-Post Evaluation for Grant Aid Project

conducted by Timor-Leste Office: May 2016

Country Name	**The Project for Construction of Mola Bridge**
Democratic Republic of Timor-Leste	

I. Project Outline

Background	The Dili-Cassa-Suai Road (total length of 180km) was a core artery linking the capital city of Dili with Suai, the main city in the south and a center for agricultural development. It was also considered as an important road to the national distribution network. However, the road damage was severe due to the effects of weak foundation and weather. Regarding the Mola Bridge which is located in the Cassa-Suai section, the bridge was severely damaged by the flood and the traffic was often interrupted during rainy season. In this circumstance, JICA conducted the basic design study in 2003 and identified the project composed of two phases: (i) road construction of Dili-Aileu section (2-45km) and Aituto-Cassa section (79-130km), and construction of bridge at 60.3km (Phase I), and (ii) construction of the Mola Bridge (Phase II). The Phase I was implemented in 2004-2005, and only Phase II (construction of the Mola Bridge) remained to be completed.				
Objectives of the Project	To secure safe and smooth river crossing via the Mola Bridge throughout the year by improvement of the Mola Bridge on the road of Cassa-Suai section, thereby contributing to improvement of the convenience of living in the target area.				
Outputs of the Project	1. Project Site: Zumalai, Covalima District, Timor-Leste 2. Japanese side • New construction of the Mola Bridge (approximately 216 m length, carriageway: dual (2) lane) including riverbed and revetment protection at abutment • Construction of approach Retaining Wall of left side bank of the Mola Bridge (approximately 10m length) • Construction of approach road of right side bank of the Mola Bridge (approximately 84m length) 3. Timor-Leste side: • Completion of resettlement and site clearance before commencement of the construction work. • Obtaining an approval of Environmental Management Plan (EMP) from the Environmental Service, Ministry of Economy and Development. • Construction of approach road of right side bank (approximately 200 m length)				
Ex-Ante Evaluation	2007	E/N Date	May 5, 2008	Completion Date	July 29, 2011
Project Cost	E/N Grant Limit: 885 million yen, Actual Grant Amount: 760 million yen				
Implementing Agency	Ministry of Public Works, Transport and Communication (former Ministry of Infrastructure)				
Contracted Agencies	Nippon Koei Co., Ltd., Dai Nippon Construction				

II. Result of the Evaluation

1 Relevance

<Consistency with Development Policy of Timor-Leste Government at the time of ex-ante evaluation and the project completion>

This project was consistent with Timor-Leste's development policy of "development of transport infrastructure including rehabilitation of national trunk road" as set forth in the policy documents including the National Development Plan (2002/03-2006/07) and the Strategic Development Plan (2011- 2030).

<Consistency with Timor-Leste's development needs at the time of ex-ante evaluation and the project completion>

This project met the development needs of Timor-Leste to mitigate difficulties in safe and smooth river crossing over Mola River during the rainy season by improvement of the existing Mola bridge.

<Consistency with Japan's ODA Policy for Timor-Leste at the time of ex-ante evaluation>

Although the first Japan's Country Assistance Policy for Timor-Leste (established in 2012) was not formulated at the time of ex-ante evaluation, the project was consistent with Japan's Official Development Policy for Timor-Leste at the time of 2007 to prioritize development and maintenance infrastructure as one of the three priority areas.

<Evaluation Results>

In the light of above, the relevance of this project is high.

2 Effectiveness/Impact

<Effectiveness>

The project has largely achieved its objectives, "to secure safe and smooth river crossing via the Mola Bridge throughout the year by improvement of the Mola Bridge on the road of Cassa-Suai section." There was a remarkable improvement in traffic condition of the Mola Bridge by the project. For example, it used to be 60 days of non-trafficable days in a year, particularly in the rainy season before the project implementation, but this problem was completely mitigated by the project. The travelling time in the dry season was shortened from 10 minutes to 25 seconds before and after the project. After the project, the Mola Bridge became able to accommodate all types of vehicles regardless of the season[1]. According to the interview results with local residents and the Directorate of Roads, Bridge and Flood Control (thereafter stated as DRBFC), it was confirmed that the safe and smooth river crossing via the Mola Bridge was ensured throughout the year after the project completion. Before the project implementation, there were large risks such as fall of vehicle, accidents and flood

[1] According to the half day traffic count survey conducted on 19 May 2015 by the Directorate of Roads, Bridge and Flood Control (DRBFC) of the Ministry of Public Works, the traffic volume on Mola Bridge was 202 vehicles (all types) and 553 motor cycles during 7:00-19:00.

during crossing Mola river. However, after the improvement of the Mola Bridge, car transport and people became able to cross through the bridge without any risks in rainy season as well as in dry season. There is no accident occurred after the project completion.

<Impacts>

Some positive impacts on improvements in convenience of daily life of local residents and local business were observed. The project helped to improve the accessibility of local residents to schools and hospitals near the bridge. The businessmen are able to procure goods easily from Dili to Suai and farmers can sell their agricultural product from Suai to Maubisse and to other neighbor villages throughout a year with the increase in volume of transported agricultural products. The increase in number of business transporters was observed in the project area since demands for transport services increased after realization of smooth and safe traffic on the Mola Bridge. According to the National Directorate of Land and Transport (DNTL), the number of bus operators from Dili- Suai-Dili is 36 as of 2014.

According to the implementing agency and local residents, no negative impacts were observed. There was a resettlement of two households living near the bridge and the resettlement was implemented appropriately according to the related domestic law and regulations of Timor-Leste.

<Evaluation Result>

In the light of above, the effectiveness/impact of this project is high.

Quantitative Effects

Indicator	(Before the project) Year 2007 Actual	(Target year) Year 2010 Planned	Year 2012 Actual	Year 2014 Actual	(Ex-post evaluation) Year 2015 Actual
Indicator 1 No. of non-trafficable days (Note1)	60 days/year	0 day/year	N.A.	N.A.	0 day/year
Indicator 2 Travelling time in dry season (Note 2)	10 minutes	40 seconds	N.A.	N.A.	25 seconds
Additional information 1 Types of vehicles that can cross the Mola River (Note 3)	limited types of vehicle (e.g. 4WD or truck)	All types of vehicles	N.A.	N.A.	All types of vehicles

Sources: The Implementation Survey Study Summary sheet, response to the questionnaire by Ministry of Public Works.

Note 1: No. of non-trafficable days means the number of days when crossing the Mola River is impossible.

Note 2: Travelling time in dry season means travelling time of vehicle crossing the Mola River during dry season.

Note 3: Types of vehicles that can cross the Mola River is added as additional information to confirm whether all types of vehicles can pass the Mola River after the project.

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 86%), project period exceeded the plan (ratio against the plan: 150%) because the procurement process of the contractor took time. Since no contractor was interested in participating in the tender, the project was obliged to conduct the tender of the contractor more than three times. The outputs of the project were produced as planned.

Therefore, efficiency of this project is fair.

4 Sustainability

<Institutional Aspect>

DRBFC of the Ministry of Public Works is responsible for operation and maintenance (O&M) of the Mola Bridge. In the field level, DRBFC in collaboration with the Covalima Municipality Office is directly involved in the O&M of the Mola Bridge. There are 5 staff at the Covalima Municipality Office, however, the existing manpower is not sufficient to conduct the proper O&M activities. The Government of Timor-Leste has planned to outsource most part of the O& M works such as cleaning of drains, bearing shoes, cutting grass, pothole and revetment protection and repair to local private companies. In this new strategy the role of DRBFC is preparation of budget and management of contract with local private companies for O&M of national and districts roads & bridges. A small scale O&M works whose cost is less than USD 10,000 are conducted by DRBFC staff. The new strategy is scheduled to be commenced in 2016 with necessary budget support by the Government of Timor-Leste.

<Technical Aspect>

The staff of the Covalima Municipality Office has limited knowledge, skills and experience of O&M of the bridge. The technical staff of the Covalima Municipality Office attended the training program provided by JICA's Technical Cooperation, "the Project for the Capacity Development of Road Works in Timor-Leste (2010-2013) as well as South-South Triangular Cooperation in Road Maintenance in Indonesia supported by JICA, but DRBFC has not established a permanent in-house training system to maintain and update the technical capacity of their staff due to a shortage of budget. Therefore, the technical capacity of DRBFC staff at the Covalima Municipality Office is still not enough. In fact, no periodic maintenance has been conducted by DRBFC after project completion mainly due to a shortage of O&M budget. In addition, DRBFC staff has not been utilizing the O&M manuals and guidelines established by the project for practicing O&M of the Mola Bridge so far. While, according to DRBFC, the local private companies have enough technical skill and manpower to conduct the O&M activities. Under such circumstance, DRBFC changed its O&M strategy to utilize the local private companies for O&M of roads and bridges.

<Financial Aspect>

The ex-post evaluation could not obtain the information on O&M budget for the Mola Bridge in the latest years, but it was confirmed that USD 8.5 million was allocated for O&M of road and bridge sector in the country including USD 0.5 million for the Mola Brige in 2012. However, the execution of the budget was not for O&M but utilized for other activities such as construction of new roads and the emergency works. Until the time of ex-post evaluation, DRBFC focused on road development rather than its maintenance because construction of road network was the most important issue in the country. Currently, however, DRBFC has started to put an importance on the O&M of the roads and bridges.

<Current Status of Operation and Maintenance>

The project facilities are in good condition and the bridge has been utilized without any problems. As the Mola Bridge is basically a strong structure with more than 50 years of expected lifetime, insufficient daily maintenance activities do not necessarily give an adverse impact on life time of the bridge under the current condition that the bridge is relatively new, less than five years after completion and with

the relatively small traffic volume. In addition, the Japanese grant aid project, "the Project of River Training for the Protection of Mola Bridge (2013-2015)" has been implemented, which constructed the protection for the abutment, piers and bank of Mola Bridge in case of large-scale floods in the future. Considering the above situation, it is expected that the Mola Bridge will be in good condition for several more decades unless natural disasters of the unexpected magnitude occur. From the technical point of view, the required periodical maintenance works (preventive measures) of the Mola Bridge are painting of truss (every 10-15 years) and pavement (5-10 years), and others that are reactive measures once any deficit is observed. In order to find such a deficit, a simple inspection is requested to be conducted once a year. In general, other measures for any problem happened to the bridges need a high level of techniques and a large amount of budget. In medium and long term perspectives, DRBFC is expected to conduct the above mentioned periodic maintenance and annual inspection in the near future by their initiatives.

<Evaluation Results>

Therefore, there are some problems in the institutional, technical and financial aspects, and so the sustainability of this project effect is fair.

5 Summary of the Evaluation

The project has largely achieved its objectives, "to secure safe and smooth river crossing via the Mola Bridge throughout the year by improvement of the Mola Bridge on the road of Cassa-Suai section." There was a remarkable improvement in traffic condition of the Mola Bridge by the project such as reduction of the number of non-trafficable days and the travelling time. The Mola Bridge was able to accommodate all types of vehicles regardless of the season. Also it was confirmed that the safe and smooth river crossing via the Mola Bridge was ensured throughout the year after the project completion. The project has brought some positive impacts on improvement in convenience of daily life of local residents and local business. The number of transporters such as buses has increased; therefore, effectiveness/impact of this project is high.

As for sustainability, there are problems in terms of institutional, technical and financial aspects due to shortage of O&M staff, technical capacity and O&M budget. Regarding efficiency, project period exceeded the plan because the procurement process of the consultant took time.

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

III. Recommendations & Lessons Learned

Recommendations to implementing agency:

- In order to ensure the sustainability of the project, DBRFC is recommended to take the following measures:
  (1) Budget allocation for O&M of the Mola Bridge must be endured to realize the periodical maintenance of the bridges including painting of truss (every 10-15 years) and pavement (5-10 years), and a simple inspection every year.,
  (2) Technical capacity of DRBFC staff including staff of the Covalima Municipality Office should be improved continuously by establishing a relevant in-house training system for upgrading the knowledge and technical skills of O&M of bridges, contract management with the local private companies, quality control of O&M works, etc.
  (3) Functional O&M system of roads and bridges must be established by utilizing the resources of local private companies that supplement the limited O&M capacity of DRBFC as the new O&M strategy is under preparation by DRBFC. For this purpose, DRBFC is expected to study the good practice of O&M outsourcing system including supervising local private companies in other countries.

Lessons learned for JICA

- The limited technical capacity of O&M agency in Timor-Leste was recognized at the planning stage and technical cooperation projects in this area have been conducted by JICA along this grant aid project. However, there is still much to be done. In fragile States such as Timor Leste, it takes time to enhance the capacity. Thus it is necessary for JICA to have a long term vision and planning in assistance to capacity development in O&M.

Mola Bridge in dry season

Buses operate from Suai-Dili-Suai