

Ex-post Evaluation of GMS Northern Road Improvement Project in Laos

The Export-Import Bank of Korea

(Government Agency for EDCF)

EDCF Evaluation Team

(Evaluated by University of Seoul and Korea Expressway Corporation)

The evaluation was entrusted to the external research team led by Evaluation Project Manager Youngtae Kim, a professor at the University of Seoul, for the purpose of an independent evaluation. The opinion, findings and conclusion or recommendations expressed in this report are those of the external evaluator and do not necessarily reflect the views of Korea Eximbank and EDCF.

Report Summary

1. Project Overview

- The purpose of the Ex-post Evaluation of Greater Mekong Subregion (GMS) Northern Road Improvement Project in Laos is to provide an objective, expert analysis of the performance and limitations of the said project, and to draw lessons and suggestions that may be applicable to the design of similar projects in the future.

- The Greater Mekong Subregion (GMS) Northern Road Improvement Project in Laos (hereinafter, “Project”) is a development project co-financed by the Economic Development Cooperation Fund (EDCF) and the Asian Development Bank (ADB). The Project funded by EDCF covered the improvement of a two-lane road on Section 1 (62-kilometer extension between Xieng Ngeun and Pak Khone) of National Road No. 4 (370-kilometer extension) as well as the construction of a bridge crossing over the Mekong River.

- The purpose of the Project as stated in the appraisal report is to improve the relevant section of National Road No.4, which plays an important role in logistics distribution throughout northern Laos, in order to (i) improve accessibility for local underprivileged residents to social infrastructure such as hospitals and schools, (ii) promote trade with neighboring countries such as Thailand and China, and (iii) ensure alternative routes of National Road No. 13, shortened transportation time, eliminated traffic congestion, and tourism resource development.

- Project Executing Agency: Ministry of Public Works and Transport of Lao PDR (MPWT)
Project Implementing Agency: Public Works and Transportation Bureau of Luang Prabang Province
Consultant: Dohwa Engineering
Constructor: KBI Construction

- The planned project period was 57 months from June 2008 when the loan contract went into effect, to March 2013. However, the actual project period was extended by 12 months as the organizer of the contractor consortium was replaced and the selection of local subcontractors was delayed. The bridge section and the road section were completed in October 2013 and March 2014, respectively.

- The planned project budget to be supported by EDCF was USD 22.439 million including a reserve fund. The actual project budget was USD 22.431 million, leaving an estimated balance of USD 8,000 compared to the original plan. As a result, the actual expense ratio was 99.9%.

2. Evaluation Method and Result

A. Evaluation Method

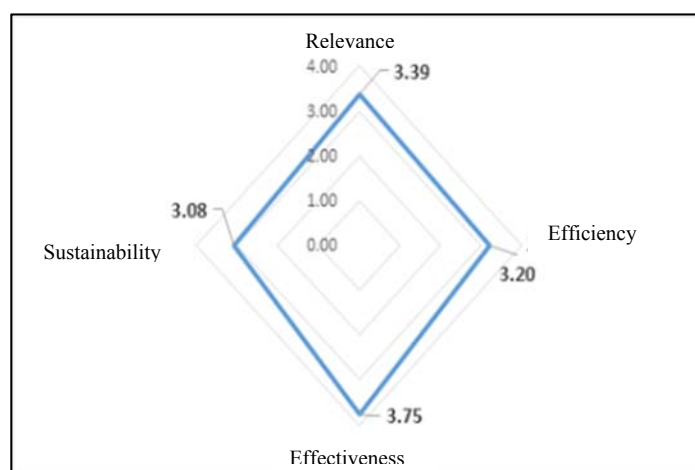
- The ex-post evaluation was performed based on the five OECD DAC criteria.¹ However, it was difficult to achieve meaningful evaluation results in the area of “impact,” i.e. a criterion for assessing mid- to long-term performance, since the target year for measuring the mid- to long- term performance of the Project has not arrived, and there were limitations to a quantitative analysis of the direct causality between the proposed mid- to long-term performance and the Project. As a result, this Project was only evaluated on the other four OECD DAC criteria, i.e. relevance, efficiency, effectiveness and sustainability.

B. Evaluation Result

- The overall evaluation result was 3.36/4.00 points and the Project was evaluated as “successful.”

<Comprehensive Evaluation Table>

Criteria	Weighting	Rating	Evaluation
Relevance	25%	3.39	Relevant
Efficiency	25%	3.20	Efficient
Effectiveness	25%	3.75	Very Effective
Sustainability	25%	3.08	Sustainable
Cross-cutting Issues	-	-	
Comprehensive Evaluation Rating	100%	3.36	Successful



- (Relevance) The Project covered the improvement of a two-lane road on Section 1 (62-kilometer extension between Xieng Ngeun-and Pak Khone) of National Road No. 4 and the construction of a bridge crossing over the Mekong River. It is part of the 7th 5-year National Social and Economic Development Plan of the recipient country and is evaluated as highly consistent with the government’s development policy. It is also conformity with EDCF's support strategy, which sets regional development as one of the key cooperation sectors in Laos. However, new indicators optimized for the EDCF project were not established at the time of planning the Project.
- (Efficiency) Whereas a 12 month-delay occurred as the constructor and local contractors were replaced at the beginning of the Project, the Project was completed within the budget scope. In addition, most planned outputs have been successfully achieved. The Project was evaluated to be efficient on the whole.
- (Effectiveness) The Project was evaluated to be very effective since it achieved all of its

¹ Organization for Economic Cooperation and Development , Development Assistance Committee

key short-term goals—increased road traffic, shortened average travel time, less vehicle maintenance costs— and improved local residents’ access to social infrastructure such as hospitals and schools.

- (Sustainability) The high interest and participation of the government and residents of the recipient country are positive factors in terms of sustainability. Meanwhile, the limitations of road pavement techniques and the no curbs on overloaded vehicles have a negative impact on road pavement and bridge durability. Slope face collapse occurs in mountainous terrains with poor alignment that exceeded the slope criteria. The road maintenance system is appropriate and relatively large budgets are allocated to road maintenance. Although technological sustainability is rather insufficient, the Project was evaluated to be generally sustainable.
- (Cross-cutting Issues) The negative impact of the Project on environment is insignificant. The Project has positive effects such as improved air quality due to a reduction of fugitive dust. In addition, the negative impact of the Project on vulnerable social groups is negligible in terms of economic or gender discrimination. The Project was evaluated as positive on the quality of life and economic activity of local residents.

3. Lessons and Recommendations

A) Lessons

- The Project enhanced traffic efficiency of the project area through the improvement of a two-lane road on Section 1 (62-kilometer extension between Xieng Ngeun and Pak Khone) of National Road No.4 and the construction of a bridge crossing over the Mekong River, thereby contributing to increased trade with neighboring countries and enhanced access of residents to social and economic infrastructure. The Project was evaluated to be successful on the whole.

1) Success Factors

- The success factors for the Project are its close relevance to the development policy and upper-level plan of the Lao government and the active support for the Project from the recipient country.
 - The Project is highly consistent with the recipient country’s development policy since its target was to ensure the regional development and smooth cross-border transport of passengers and freight under the recipient country’s 7th 5-year National Social and Economic Development Plan. Therefore, the government of Laos has a strong will to carry out the Project.
 - The relevant project section was classified as a road to be improved by 2010 with high priority under the Road Plan of MPWT in Laos.
 - MPWT, i.e. the project executing agency, has actively worked for continuous maintenance after completion of the Project, as well as performance of the Project, based on its awareness of the importance of the Project.

- The high interest and participation of the project executing agency and the Project's consistency with the Lao government's economic development policy are key to the success of the Project.
- The Lao government has allocated a relatively large budget to the Project after completion and actively carried out maintenance work of the project section. Therefore, road surface and conditions are largely good for the entire project section and this is a positive factor for long-term operation.
 - MPWT also positively evaluates that the maintenance system and the project budget are appropriate. In addition, local residents are satisfied with road management after completion of the Project.

2) Complementary Factors

- Overall, the Project was evaluated to be successful. However, some factors that need to be complemented in part were also found during the evaluation process.
- In this Project, the absence of a performance evaluation indicator table, i.e. logical framework, limits efficient performance management and evaluation.
 - EDCF has enforced performance management by establishing performance evaluation indicators for project loans since April 23, 2007. However, as the Project was requested before that date, no performance evaluation indicator was established during appraisal.
 - The absence of performance evaluation indicators also presents an obstacle to a specific, consistent evaluation in the interim, final, and follow-up evaluation process.
 - For this ex-post evaluation, the performance evaluation indicator table was organized by considering the purpose and scope described in the appraisal report on the basis of the logical framework of ADB. There were limitations to determining effective performance indicators optimized for the scope and size of the Project due to problems such as baseline data.
- The Project was designed without due consideration of road quality and technical aspects at the time of planning the Project, causing problems as to continuous road maintenance.
 - To address the limitations of the DBST method, which is relatively weak in terms of road pavement durability and was only adopted for economic reasons, it is necessary to control overloaded vehicles passing within the project section, but the field survey shows no control has been imposed on overloaded vehicles, causing problems related to the long-term durability of roads and bridges.
 - Continuous maintenance is difficult in mountainous terrains with poor alignment as slope face collapse may occur due to steepness of a large cut slope after rainfall.

- The Project was delayed because the selected constructor was replaced due to bankruptcy at the beginning of the Project.
 - The Project was planned over a total period of 57 months, including bidding preparation, procurement contract and construction. However, a 12-month postponement occurred due to replacement of the constructor and delayed selection of subcontractors.

B. Recommendations

- Establish an optimal performance evaluation indicator table taking into account the scope and size of an EDCF project to be co-financed with an MDB
 - It is also necessary to enhance the consistency and effectiveness of future performance management.
 - For effective performance management, an accurate baseline survey should be carried out for measuring indicators when establishing a logical framework and a systematic performance management plan should be developed considering the interim, final, and follow-up evaluation.
- The planning and technical review of the Project that take into account road sustainability are required in the initial phase of the Project
 - When it comes to research into or design of a project, its road conditions and surrounding environment should be accurately understood in order to prevent design change. Also, it is necessary to prepare a system that will enable immediate action to be taken when any design change occurs.
 - As for the road design of future projects, it is necessary to select a pavement method that ensures a minimum level of durability required to maintain road function. In particular, national roads require a pavement method with less maintenance costs and more robust durability, despite more construction costs. During the interview, an MPWT official said that they were considering asphalt or concrete pavement instead of DBST for future national roads. If the DBST method inevitably applies due to increased construction costs or other reasons, it is necessary to reflect the design for the overloaded vehicle control system and to prepare practical measures to operate such system.
 - In mountainous countries like Laos, a road construction project necessarily produce many slopes. As any failure to apply the appropriate slope criteria may result in slope collapse during the rainy season, the appropriate slope criteria should be applied during the design phase.
 - Efforts should be made at the design stage to ensure an adequate drainage capability by considering that recent heavy rains and floods caused by climate change swamped roads in many countries, including Southeast Asian countries.

- Need to secure project management efficiency
 - To ensure the efficiency of the project management system, detailed on-site surveys should be carried out during the design phase. Consulting costs need to be appropriately allocated for the construction unit cost calculation and the design drawings to reflect local conditions fully.
 - To prevent any unqualified constructor from being selected for future similar projects, complementary measures should be prepared to evaluate the financial stability and credit rating of bidders at the stage of construction order.
- Prepare a comprehensive plan for continuous maintenance and management of roads.
 - Continuous maintenance and budget allocation therefor are required to ensure road function and maintain utility after road construction. The government should establish a comprehensive maintenance plan to maintain the function of the road by determining the criteria and priorities of the repair work and allocating appropriate personnel and materials.
 - The Laos government has allocated a relatively large budget to repair and maintain roads. Special maintenance costs should also be considered for repairing slope collapse that occurs due to the absence of proper slope criteria, since a large portion of budget is spent for this matter.
 - The constant monitoring mechanism for key performance after completion of the Project should be implemented for continuous performance management of the Project.