

**Ex-post Evaluation of  
Improvement of National Road No. 31 and 33,  
Provincial Road No. 117, and Kampot Bypass Project  
in the Kingdom of Cambodia**

**- Executive Summary -**

**April 2021**

## 1. Evaluation Overview

- The aim of the ex-post evaluation of Improvement of National Road No. 31 and 33, Provincial Road No. 117, and Kampot Bypass Project (hereinafter, “Project”) in the Kingdom of Cambodia was to analyze the achievements and limitations of the Project as well as to draw specific and feasible lessons that can be applicable to future similar projects, through independent and scientific evaluation.
- The Project funded by the EDCF Development Project Loan (USD 29,958 thousand), consisted of the repavement of National Roads No. 31 and 33, new pavement of Provincial Road No. 117, and construction of the Kampot Bypass in the Kampot and Takeo provinces. The outline of the Project was as follows:
  - The purposes of the Project were i) to promote the movement of goods and passengers by improving national and provincial roads, ii) to facilitate trade by connecting roads between Cambodia and the Vietnam, and iii) to contribute to regional economic vitalization and integration through the completion of improvement of Greater Mekong Subregion (GMS) southern coastal roads.
  - The executing agency of the Project was the Ministry of Public Works and Transport (MPWT) in Cambodia. The consultant was Sambo Engineering Co., and the main contractor was Kukdong Engineering & Construction Co., Ltd.
- The planned project period, including bid preparation, procurement, and construction, was a total of 42 months after the loan agreement went into effect. However, due to the lack of land compensation budget, delay in resettlement of residents and bankruptcy of the main construction contractor, the actual project period was a total of 60 months, resulting in a delay of 18 months when compared to the initial plan.
- The planned EDCF loan for the Project was USD 30,000 thousand including a contingency fund. The actual expenditure was USD 29,958 thousand, which was 99.9% of the planned budget.

## **2. Evaluation Method and Result**

### **1) Evaluation Background and Purpose**

- Transportation, one of the major sectors of the EDCF's support, accounts for the highest proportion of the EDCF's loan portfolio. As of the end of 2019, the transportation sector accounted for 36.2% of the EDCF cumulative loan commitment. Also based on the cumulative EDCF loan commitment, Cambodia is EDCF's 4<sup>th</sup> largest partner country with a total loan commitment of USD 949,256 thousand.
- The purpose of this evaluation is to analyze the achievements and limitations of the Project, as well as to draw specific and feasible lessons that can be applicable to future similar projects, through conducting an independent and scientific ex-post evaluation of the Project.

### **2) Evaluation Method**

- The evaluation methodology and evaluation criteria was in accordance with the *Guideline for Preparation of EDCF ex-post Evaluation Report* (EDCF, 2011) and the terms of reference of this ex-post evaluation. The evaluation criteria included relevance, efficiency, effectiveness, and sustainability. Other evaluation criteria recommended by the OECD/DAC, such as gender, vulnerable groups, and the environment, were also included.

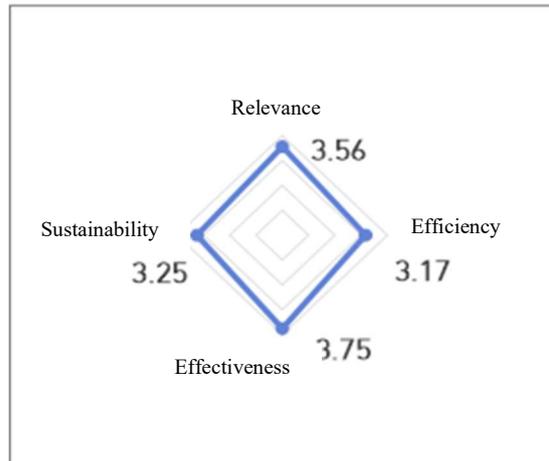
### **3) Evaluation Results**

- According to the results of the comprehensive evaluation, the Project has obtained 3.43/4.00 points, leading to the conclusion that the Project was “successful”.
  - The Project can be considered to be “successful” despite some limitations, as it not only achieved the general performance goals, but also would not have a

major problem in sustainability of the Project except for the Kampot Bypass that will be explained later.

<Comprehensive Evaluation Table>

Criteria	Weight	Score	Evaluation
Relevance	25%	3.56	Relevant
Efficiency	25%	3.17	Efficient
Effectiveness	25%	3.75	Highly Effective
Sustainability	25%	3.25	Sustainable
<b>Overall result</b>	<b>100%</b>	<b>3.43</b>	<b>Successful</b>



- (Relevance) The Project has obtained a score of 3.56/4.00, and therefore can be considered to be ‘relevant’.
  - This Project’s main contents focused on the repavement of major national and provincial roads, as well as the construction of bypass road in the Southwest region of Cambodia. This is aligned with and relevant to the national development policy of Cambodia, which focuses on developing transportation infrastructure for economic growth. Therefore, the Project is evaluated to be very consistent with the development policy of Cambodia.
  - Based on EDCF’s policy on the major partner countries, major support sectors identified in *the Country Partnership Strategy for the Kingdom of Cambodia*, and the cooperative relationship between Korea and Cambodia at the time of project planning, the Project is evaluated to be in line with the EDCF support strategy.
  - However, important factors such as local climate, topography, and geological characteristics were not sufficiently considered during feasibility study, technical reviews, and detailed design, which eventually led to design changes

during construction, as well as road quality issues after the project completion.

- At the time of project implementation, the main policy goal of the road infrastructure sector in most developing countries, including Cambodia, was to increase the road pavement ratio. This meant that the low-cost DBST pavement method was preferred and chosen, even though the durability of road constructed with the DBST method are relatively poor. However, considering the roads in the Project were expected to have frequent passage of heavy vehicles, it was not appropriate to apply the DBST pavement method in this case.
- (Efficiency) The Project has obtained a score of 3.17/4.00, and therefore can be considered to be ‘efficient’.
  - Due to delays associated with resettlement, compensation, and the bankruptcy of the contractor, the Project took additional 18 months longer than the planned period. However, despite the delays, the Project was completed within the planned budget.
  - When compared to the original project plan, there are some differences in the final outputs related with road extension and drainage facilities. However, these were technical modifications needed to reflect the site situations, and the final outputs are consistent with the original project plan.
  - To evaluate the efficiency of outputs versus costs, the Project was compared with other similar road improvement projects. The result showed that this Project had a higher cost per unit (km) than others, but it should be noted that this Project included a newly constructed road section that other projects didn’t.
- (Effectiveness) The Project has obtained a score of 3.75/4.00, and therefore can be considered to be ‘highly effective’.
  - The Project’s outcomes were evaluated to have exceeded the planned performance indicators of increased traffic volume and user convenience.

- However, for the outcome of the travel time reduction rate, all sections, except for the Provincial Road No. 117, did not achieve the target. In particular, the Kampot Bypass was investigated to have an actual travel speed of only 24.7km/h, compared with the target speed of 60 km/h.
- The vehicle operation cost (VOC) reduction was evaluated to have achieved 96.5% of the original project plan. However, the calculation of this indicator was based on the International Roughness Index (IRI), which was also used for evaluating road user convenience.
- (Sustainability) The Project has obtained a score of 3.25/4.00, and therefore can be considered to be ‘sustainable’. However, the result also indicated that the Kampot Bypass requires a full reconstruction.
  - The government of the partner country has a high sense of ownership for the Project.
  - In regard to the technological aspects, the relatively poor durability of DBST pavement method coupled with the frequent passage of heavy vehicles are the main cause of pavement damage.
  - The Kampot Bypass requires a full reconstruction due to significant pavement damages.
  - The organizational system and budget for road maintenance are evaluated to be appropriate. However, it is necessary to secure financial resources for the reconstruction of the Kampot Bypass.
- (Cross-cutting issues) The Project’s negative impact on the environment and vulnerable groups is analyzed to be insignificant.
  - The Project’s negative impact on the environment is insignificant, and on the

other hand, the Project had some positive impacts on the environment, such as the reduction of dust.

- The Project's negative impact on vulnerable groups is insignificant, while the Project had some positive impact, such as increased local employment opportunities and improved quality of life for local residents.

### **3. Lessons and Recommendations**

#### **1) Lessons learned**

- Despite some limitations, the Project not only achieved its target goals but was also evaluated to be successful, as no serious problems in the project were found except for the Kampot Bypass.

#### **A. Success Factors**

- High level of alignment with the national development policy and plans, along with a high sense of ownership by the project executing agency were important factors to the successful implementation of the Project.
  - The project's scope was the improvement of major national and provincial roads, as well as the construction of a bypass road in the Southwest region of Cambodia. This is aligned with and relevant to the national development policy, which focuses on developing transportation infrastructure for economic growth. Therefore, the Project is evaluated to be very highly consistent with the development policy of Cambodia.
  - In particular, the project executing agency, MPWT, not only paid high attention to quality control during the implementation but also made great efforts to continue maintenance and promote follow-up projects after the project completion.

- Through cooperation between relevant stakeholders such as the project executing agency, EDCF, consultant, and main contractor, various issues that came up during the implementation could be resolved, ultimately leading to the successful completion of the Project.
  - Regular monthly meeting with the Project Management Unit (PMU) and the frequent and open communication between the consultant PM and PMU members contributed to efficient project management.
  - Through the contractor's local network, 10 local companies were secured and subcontracted for each section of the Project, preventing further delays besides compensation and resettlement, and ultimately contributing to the successful implementation of the project.
  - The main contractor, Kukdong E&C, experienced financial problems caused by the corporate rehabilitation program that it went through. However, the loan disbursements were directly made to the on-site accounts without going through the Kukdong E&C headquarters through the agreement between EDCF and the project executing agency.

## **B. Limitations**

- Overall, the Project is evaluated as successful, based on the achievements of its performance targets. However, several issues have been identified that still need to be addressed.
- Specific definitions of some performance indicators as well as calculation methods for baseline statistics and targets were unclear at the project planning stage, which had been limiting factors for systematic and consistent project monitoring and evaluation.

- EDCF and the government of Cambodia have made efforts for the speedy and efficient implementation of the Project and procurement procedures in parallel with the conclusion of loan agreement, but the implementation was delayed due to the problems of land compensation and resettlement.
  - The government of Cambodia was responsible for land compensation, but the lack of budget and delayed resettlement led to delays in construction.
- Due to insufficient investigation of the local climate, site condition, topography, and geological characteristics during the project planning stage, design changes and road quality problems occurred during the construction stage. Also, a technical issue for the soft ground condition in the Kampot Bypass was identified but not resolved during construction, resulting in serious defects in road quality after completion.
  - The DBST pavement method was the preferred method by Cambodia and other aid agencies due to its advantages of shorter construction period and lower project costs. However, this method was an inappropriate choice for the Project, given the provincial roads connecting national roads and borders would have frequent passage of heavy vehicles.
  - As for the Kampot downtown section with traffic congestion, the road width was changed from the originally planned two-lane to a four-lane. This was an appropriate change, but it should have been identified during the project planning and reflected in the original project scope.
  - A ground stabilization treatment for the Kampot Bypass was necessary prior to construction. However, this issue was not considered during the feasibility study and detailed design stage.
  - The need for ground stabilization work on the Kampot Bypass was identified during the construction stage. However, the project executing agency placed a higher importance on the completion of the Project within the planned budget

and timeline, so the Kampot Bypass was constructed according to the original design.

- The project completion evaluation was not performed properly, which limited the project performance management.
  - The evaluation of project performance should have been carried out in accordance with the performance management plan. However, according to the project completion evaluation report, there was no investigation or analysis of the Project's efficiency and effectiveness.

## **2) Recommendations**

### **A. EDCF**

- An appropriate logical framework should be established based on specific data on the project's goals and performance targets during the project planning phase.
  - For effective performance management, it is necessary to conduct accurate baseline surveys and set clear and measurable performance targets, as well as establish a systematic monitoring and evaluation plan in consideration of completion and ex-post evaluation.
  - In case when two performance indicators, such as reduced vehicle operating costs and increased user convenience, are based on the same index, only one of them should be selected as a performance indicator.
- It is necessary to establish a project plan that is technically feasible and can ensure the sustainability of outcomes through more thorough feasibility study and technical review.
  - Due to the relative lack of robustness of the DBST pavement method, damages caused by heavy vehicles are inevitable, making the sustainable management of

the completed roads difficult and possibly causing damages to the donor country's image. Therefore, it is recommended to utilize a more robust pavement method than the DBST method.

- To ensure the project plan and design suitable for site circumstances, a more thorough feasibility study and technical review are required.
  - Like Japan International Cooperation Agency (JICA), it is necessary to consider dispatching technical experts to the EDCF overseas offices to ensure the successful implementation of projects by checking on major technical issues that could arise during the entire project cycle, such as project identification, feasibility study, project design, and construction.
  - When promoting similar projects, the impact of climate change should be fully considered at the project design stage. For example, if there is a higher possibility of road damages due to frequent floods, the project design should include sufficient consideration for establishing appropriate drainage facilities and stabilizing of soft grounds.
- In order to enhance the sustainability and effectiveness of the project, it is necessary to consider additional financial support for maintenance and reconstruction.
- In order to maintain proper road functions, securing maintenance budget is necessary. Currently, the national and provincial roads are deemed to be properly managed, with the exception of the Kampot Bypass.
  - A full reconstruction of the Kampot Bypass is inevitable at the earliest as possible. Thus, EDCF needs to review the possibility of providing additional support for the Kampot Bypass. The project executing agency, MPWT, also mentioned the need for additional support during the joint evaluation workshop held for this ex-post evaluation.

## **B. Project executing agency (MPWT)**

- If land compensation is required for similar projects in the future, it is necessary to secure sufficient funds for compensation and time for resettlement, so that the land compensation and resettlement can be carried out in a timely manner.
  - An appropriate budget plan for resettlement and compensation should be established, and the relevant action should begin 6 months to 1 year prior to the start of construction, taking into consideration of time taken for the administration process.
- When a significant technical problem is identified during the project implementation, such as the Kampot Bypass case, it is necessary to make efforts to solve the problem based on the technical advice of the consultant or the contractor, even if there are restrictions on the construction timeline and budget.
- Continuous and stable maintenance after completion is important in order to increase sustainability of road improvement projects. In particular, it is necessary to minimize road pavement damage through an appropriate control of overloaded vehicles at the road entrances and exits.