

**Ex-post Evaluation of
Hatton-Nuwara Eliya Road Improvement Project
in the Democratic Socialist Republic of Sri Lanka**

- Executive Summary -

April 2021

1. Evaluation Overview

- The aim of the ex-post evaluation of Hatton-Nuwara Eliya Road Improvement Project (hereinafter, “Project”) in Sri Lanka 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 (initial loan of USD 40 million, and supplementary loan of USD 17.1 million), consisted of the improvement of roads and relevant facilities in the Hatton-Nuwara Eliya section of National Highway 7 (A7), which passes through the central inland region of Sri Lanka. The outline of the Project was as follows:
 - The purposes of this Project were to i) facilitate transportation and logistics systems by improving the existing roads located in the central inland mountainous area, ii) develop agricultural and tourism industries, and iii) promote employment opportunities in the central region.
 - The executing agency of the Project was the Sri Lanka Road Development Authority (RDA). The consultant was Pyunghwa Engineering Consultants, and the main contractor was the Kyungnam Enterprises.
- The planned project period, including bid preparation, procurement, and construction, was a total of 33 months after the loan agreement went into effect. However, due to a delay of approval procedure for procurement by Sri Lanka government and design changes, the actual project period was a total of 70 months.
- The total cost of this Project was USD 70.4 million, of which EDCF provided USD 57.1 million, and the government of Sri Lanka contributed USD 13.3 million to cover expenses such as land expropriation, taxes and utility charges.

- The initial estimated budget of the Project was around USD 49.9 million, of which planned EDCF loan was USD 40.0 million. Afterward, a supplementary loan of USD 17.1 million was also provided by EDCF.

2. Evaluation Method and Results

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, Sri Lanka is the EDCF's 6th largest partner country with a total cumulative loan commitment of USD 99,891 thousand.
- The purpose of this evaluation is to analyze 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.

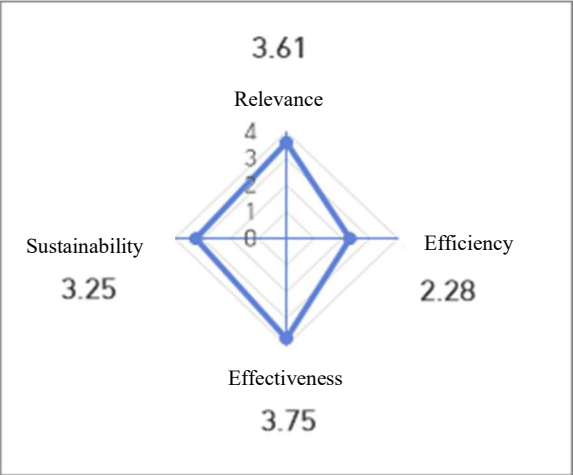
3) Evaluation Result

- According to the results of the comprehensive evaluation, the Project has obtained 3.22/4.00 points, leading to the conclusion that the Project was "successful".

□ The Project is considered to be “successful” based on the achievements of the performance targets and the high sense of ownership of the government of Sri Lanka, despite some issues such as the increase in project costs and construction period due to delayed bidding, design changes, and the lack of maintenance budget after completion.

<Evaluation Result Summary>

Criteria	Weight	Score	Evaluation
Relevance	25%	3.61	Relevant
Efficiency	25%	2.28	Partly Efficient
Effectiveness	25%	3.75	Highly Effective
Sustainability	25%	3.25	Sustainable
Overall result	100%	3.22	Successful



- (Relevance) The Project has obtained a score of 3.61/4.00, and therefore can be considered to be 'relevant'.
 - This Project is evaluated to be highly consistent with the national development policy and the national road plan of Sri Lanka.
 - Based on EDCF’s policy on the major partner countries, major support sectors identified in the *Country Partnership Strategy for Sri Lanka*, and the cooperative relationship between Korea and Sri Lanka at the time of project planning, the Project is evaluated to be in line with the EDCF support strategy.
 - However, because the aid agencies were changed at each stage such as feasibility study (KOICA), detailed design (ADB) and construction & supervision (EDCF), the errors in detailed design were not detected until the construction stage of the Project. This led to problems such as design changes, increased volume of construction materials, need for a supplementary loan, and extension of the project period.

- (Efficiency) The Project has obtained a score of 2.28/4.00, and therefore can be considered to be 'partly efficient'.
 - Due to delays associated with the selection of consultants and contractors, and design changes, the Project took additional 37 months longer than the planned period. The project cost also increased by 42.1% with a supplementary loan, compared to the initial budget.
 - When compared to the original project plan, there are some differences in the final outputs, such as road extensions, bridges, and drainage facilities. However, these were technical modifications needed to reflect the local surrounding factors, 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 projects. The result showed that this Project had a higher cost per unit (km) than others. However, it should be noted that this Project, unlike other similar projects, had a feature that brought up a massive increase in the cost for cutting the steep mountainous slopes and increasing the pavement thickness.

- (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 traffic volume increase and travel time reduction.
 - The vehicle operation cost reduction was evaluated to have achieved 75.5% of the target, with the target rate of 39.4% and the achieved rate of 29.7%.
 - The Project set the International Roughness Index (IRI) target of 2.5m/km as an user convenience indicator. At the time of this evaluation, the measured IRI was close to the target with an average of 2.53m/km. Considering that the evaluation

was taken place about 3 years after the project completion, it is deemed that the IRI target has been achieved.

- (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 it is necessary to secure a stable budget for road maintenance.
 - The government of the partner country has a high sense of ownership for this Project.
 - In regard to the technical aspects, the application of the asphalt concrete pavement method had led to the good condition of the pavement. However, as this site is located in the mountainous region where slope sliding is inevitable, reinforcement of drainage and slope and proper maintenance are required.
 - The organizational system for road maintenance is evaluated to be appropriate. However, the maintenance budget is evaluated to be insufficient.
- (Cross-cutting issues) The Project's negative impact on the environment and the 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 reduction of dust.
 - The Project's negative impact on vulnerable groups is insignificant, while the Project had some positive impacts, such as increased local employment opportunities and improved quality of life for local residents.

3. Lessons and Recommendations

1) Lessons Learned

- Despite some issues with increase in project costs and construction period due to design changes, the Project is evaluated to be successful due to the achievements of the performance targets and the Sri Lanka government's high sense of ownership.

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 expansion of road width between Hatton-Nuwara Eliya section of the National Highway 7 in central Sri Lanka. This is aligned with and relevant to the national development policy and national road plan. Therefore, the Project is evaluated to be very highly consistent with the development policy of Sri Lanka.
 - In particular, the project executing agency, the Road Development Administration, not only paid high attention to quality control during the project implementation but also made great efforts to continue the maintenance and promote follow-up projects after the project completion.
- Through cooperation between relevant stakeholders, various issues that came up during the implementation could be resolved, ultimately leading to the successful completion of the Project.
 - Through close cooperation between the project executing agency, EDCF, consultant, and main contractor, the supplementary loan could be implemented in a timely manner, and various issues such as design change problems and increase in construction costs could be resolved.
 - The main contractor, with an experience of local businesses in Sri Lanka since 1978, was able to efficiently carry out the construction taking advantage of its local network and close cooperation with 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.
- The lack of logical relevancy of some performance indicators with the project goals, as well as the lack of objective statistical data at the project planning stage, had been limiting factors for systematic and consistent project monitoring and evaluation.
- As the aid agencies were changed at each phase such as feasibility study (KOICA), detailed design (ADB) and construction & supervision (EDCF), the errors in the detailed design were not detected until the construction stage. This resulted in an increase in project costs and an extension of the project period.
 - Specifically, the road width and the thickness of the pavement were not appropriately designed in accordance with the road construction regulations and standards of Sri Lanka in the detailed design. This eventually led to the modification of design during construction and a significant increase in construction volume and costs.
- Due to the lack of maintenance budget after the project completion, problems such as damages to the road and safety facilities, slope sliding, soil leakage, and lane discoloration have not been addressed in a timely and proper manner. This has become a limiting factor in the stable and sustainable maintenance of roads.

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 order to establish a practical and effective plan of the project, feasibility study and technical review should be thoroughly carried out at the planning and appraisal stage.
 - A more strengthened feasibility study and technical review for project planning and design are needed so that they can reflect the comprehensive analysis of the climate and terrain conditions of site, and technical regulations and standards of the partner country.
 - When feasibility study or detailed design is conducted by other aid agencies' support, it is necessary to conduct a thorough review of the feasibility study or the design at the appraisal stage to ensure that the project plan and design are appropriately made.
 - 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.
- In order to enhance the sustainability and effectiveness of the project, it is necessary to strengthen prior consultations with the partner country so that the project executing agency can secure organizational system and budget for sustainable maintenance.
 - It is required to guide the project executing agency to decide the appropriate number of maintenance personnel and the amount of budget for the sustainable maintenance, and reflect them in feasibility study at project planning stage.

B. Project executing agency (RDA)

- In order to minimize unnecessary project delays, thorough preparations are needed to follow the planned schedules such as consultant selection and procurement.
 - For this Project, the procurement was delayed by 5 months due to the delay of the project executing agency's internal procedures for selecting consultant and contraction.

- Continuous and stable maintenance after completion is important in order to increase sustainability of road improvement projects. In particular, it is necessary to secure the minimum amount of budget for the sustainable maintenance of roads.