

Evaluation Report

2014-5

Ex-post Evaluation on Power Sector Development Project, Sri Lanka

The Export-Import Bank of Korea

(Government Agency for EDCF)

EDCF Evaluation Team

(Evaluated by Korean Development Policy Study Association)

This evaluation was entrusted to
Korean Development Policy Study Association by EDCF
for the purpose of independent evaluation research.
The opinion, findings and conclusion or recommendations
expressed in this report are those of the external evaluator
and do not necessarily reflect the view of EDCF.

Executive Summary

I. Introduction

1. Project Overview

- Sri Lanka had frequent power outages and high rates of power loss which undermined industrial production and decreased the overall quality of life of residents.
- As part of its efforts to stabilize power supply, the government of Sri Lanka requested EDCF to provide USD 8.3 million in loans for the Power Sector Development Project.
- The project's goal was to improve the stability and reliability of power supply by installing transformers at Balangoda, Habarana, and Trincomalee substations and the outdoor circuit-breaker at the Kiribathkumbura substation.

<Table 1> Project Details

Project Title		Power Sector Development Project in Sri Lanka
Project Goal		To reduce electric loss and provide sufficient electric power to near areas through the installation of transformers or outdoor circuit breakers of relevant substations.
Budget	Korea	USD 8.3 million
	Sri Lanka	USD 3.66 million
Location		Balangoda, Habarana, Trincomalee, Kiribathkumbura
Duration	Validity of Loan Agreement	October 1996
	Completion	June 2001
Intended Output Intended Output	Balangoda Habarana Trincomalee	Install 2 transformers (31.5 MVA) Install current transformer, circuit-breaker, control panel, etc. Extend 33 KV distribution lines
	Kiribathkumbura	Install 132 KV outdoor circuit-breaker
Implementing Agency	Korea	EDCF
	Sri Lanka	Ceylon Electricity Board

2. Evaluation Outline

Evaluation Goal

- This evaluation aimed to assess the performance of the Power Sector Development Project in Sri Lanka and provide EDCF with lessons and recommendations for future references.

Evaluation Principles and Criteria

- The evaluation applied the Evaluation Principles (i.e. Impartiality, Independence, Credibility, Usefulness, and Partnership) and used the five evaluation criteria of the OECD DAC (i.e. Relevance, Efficiency, Effectiveness, Impact, and Sustainability). DAC Evaluation Quality Standards (2010) were used for quality assurance.

External Evaluation Team

- KDPSA (Korea Development Policy Study Association)

Duration of Evaluation

- 12nd June 2014 - 31st Oct 2014

II. Evaluation Results

1. Summary of results

- The project was evaluated using all five evaluation criteria of the OECD DAC. The performance of the project was rated against each criterion. The rating scale was 1-4, with 1 being the lowest and 4 being the highest.

- Overall, the project was deemed highly successful (3.74/4). The project was rated as being “highly successful” in terms of its effectiveness, impact, and sustainability, and “successful” in terms of relevance and efficiency. The table below contains detailed results.

<Table 2> Project Evaluation Results

Criteria		Sub-criteria	Score
Relevance	Policy & Strategic Relevance	Consistency with development policies of the partner country	4
		Consistency with EDCF’s assistance strategies	3
	Relevance of Project Design	Adequacy of project goal setting	4
		Adequacy of project design	3
	Ownership of Partner Country	Partner country’s participation level and contribution to the project design	3
	Overall Relevance		3.4
Efficiency	Implementation	Efficiency of project time duration	2
		Efficiency of project cost	4
	Cost-Benefit	Balance between cost and benefit of the project	4
	Overall Efficiency		3.3
Effectiveness	Output	Achieved vs. planned output	4
	Outcome	Achieved vs. planned outcome	4
	Overall Effectiveness		4
Impact	Sector Development	Technical and institutional change in electric power sector	4
	Overall Impact		4
Sustainability	Technical Sustainability		4
	Institutional Sustainability		4
	Overall Sustainability		4
Project Rating			3.74

2. Relevance

- The project is highly relevant to development needs (3.4/4). In 1994, the year of project appraisal, power loss of the substations reached 18.3% on average which was higher than the national average of Sri Lanka (17.6%) and that of low-income countries (14.2%). The project provided much needed facilities to the substations.

- Both *the Transmission Development Plan 2000–2013* (i.e. Sri Lanka's development strategy for the energy sector) and EDCF support strategy were established after project appraisal. However, the project remained well-aligned with both strategies. The Ceylon Electricity Board established *the Transmission Development Plan 2000–2013* which included this project. Furthermore, the project was consistent with *the EDCF Medium-term Management Plan* which was put in place in 2006.

3. Efficiency

- The implementation of the project was delayed by unforeseen external shocks such as the Asian economic crisis and the civil war in Trincomalee. Nevertheless, the project was completed within the planned budget (USD 11.16 million out of 12 million allocated, 93%). Thus, the project was rated efficient (3.3/4).

4. Effectiveness

- All output was delivered as planned and the intended outcome was achieved. The peak load and outage have been significantly decreased after the project completion. The users (local residents) expressed high levels of satisfaction about the power supply. Thus, the project was deemed highly effective (4/4).

- The peak load of each substation was dramatically decreased. First, the peak load of the Balangoda substation decreased from 212% in 2000 to 15.03% in 2012. Second, frequency and duration of outage were also significantly decreased. In the case of Trincomalee substation, the power cuts happened five times for a total of 74 minutes in 2000, but no power cut was reported in 2013. Third, the amount of power generated increased. The Trincomalee substation which generated 40.5 GWH in 1996 produced 158 GWH in 2013. Fourth, people's access to electricity was improved. In particular, the Eastern Province where the Trincomalee substation is located had the population of 20,638 in 1996, which increased to 392,436 in 2013.
- Even though these changes cannot be fully attributable to the project, it is certain that the project has made significant contributions.

5. Impact

- Considering the changes in substation capacity, power coverage and loss, and user satisfaction, the impact of the project was evaluated as being high with the score of 4 points.
- For example, the power coverage in Sri Lanka has greatly increased from 42% in 1993 to over 90% in 2013 while the rate of power loss dropped from 18.3% in 1993 to 11.09% in 2013, according to the "Energy Diagram for the Years 2000 and 2013."

6. Sustainability

- The Ceylon Electricity Board carried out routine inspections of each substation facility. With the routine inspection, the board provided staff training on techniques and substation management. Mechanical parts were also procured and delivered to the substations when they were needed. Therefore, the project was evaluated as being sustainable and received the score of 4 points.

III. Lesson learned and Recommendations

1. Lessons learned

Success Factors

- After the project approval, the Ceylon Electricity Board established and implemented *the Transmission Development Plan 2000–2010*, which reinforced the impact and sustainability of the project.
- The government of Sri Lanka showed high levels of ownership of the project. For example, the Ceylon Electricity Board temporarily created a Project Implementation Office and made efforts to resolve foreign -exchange losses incurred to Korea during the economic crisis in 1999.
- The management capacity and ownership of the Ceylon Electricity Board were the key success factors in maintaining the substation facilities.

Limitations

- The project was delayed by the Asian economic crisis and the civil war in Trincomalee. Even though these shocks cannot be predicted, stronger risk management plans could have reduced their negative impact on the project.
- The residents showed low levels of satisfaction on the price of electricity and repair service. End-user satisfaction should have more weight in project design.

2. Recommendations

Expanding Support to Renewable Energy Sector

- The Ministry of Power and Energy of Sri Lanka plans to increase the use of renewable energy from 6% in 2012 to 20% by 2020 according to the "Performance 2013 and Programs 2014." It is recommended, therefore, that support for renewable energy projects be provided in which Korea has comparative advantage such as wind or solar power sector.
- Assistance for renewable energy can have a positive impact on improving energy access in remote areas where the conventional power grid cannot effectively reach.

Strengthening Monitoring System to Improve Risk Management

- A risk management system that includes monitoring and planned response to risk should be improved. Although EDCF now has a mid-term report system, it is recommended that the system be improved to be able to analyze the current problems of the projects and suggest possible solutions.

Project Design Considering End-user

- The residents showed low levels of satisfaction on the price of electricity and quality of repair service. Hence, factors affecting user satisfaction should be given more consideration in project designing in the future.