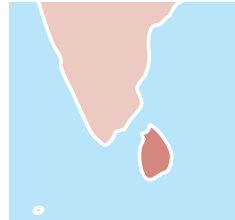




Asia Sri Lanka



Medium Voltage Distribution Network Reinforcement Project

Providing stable supply of electricity through the construction of express lines and the installation of switchyards

[External Evaluator]

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Rating

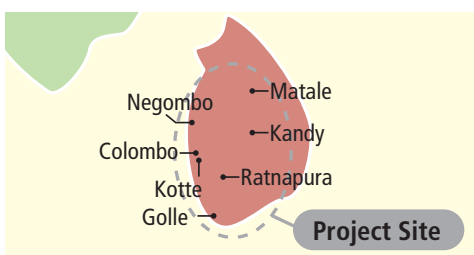
Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To ensure a stable supply of electricity through the reinforcement of system capacity, the reduction of loss and the improvement of the quality of electricity distribution (voltage) by constructing express lines and switchyards within the medium-voltage (33kV) distribution network in Sri Lanka, thereby contributing to the economic development of Sri Lanka and the improvement of the living environment of residents.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 5,973 million yen / 3,411 million yen
- Loan agreement: September 1998
- Terms and conditions: 1.8% interest rate (0.75% for consulting services) ; 30-year repayment period (including a 10-year grace period) ; general united
- Final disbursement date: June 2005
- Executing agency: Ceylon Electricity Board, CEB
- Website URL: <http://www.ceb.lk/>



Standard Operation/Effectiveness Indicators of Distribution Business

	2003 (completion of facilities)	2004	2005	2006	2007
Maximum electric power (kW)	1,516	1,563	1,748	1,893	1,842
Household electrification rate (%)	67.9	73.4	76.7	78.1	80.1
Amount of electricity sold (Gwh)	6,208	6,667	7,255	7,832	8,276
Distribution loss rate (%)*	13.7	13.1	13.3	12.6	11.7

[Source] CEB

*Note: Figures for 2003 and 2004 are based on the CEB loss reduction program report (2003-4), and figures for 2005-2007 are estimated from the figures of system loss.

Effects of Project Implementation (Effectiveness, Impact)

The voltage level indicators for the target regions show that the voltage levels at major points at peak times have improved and generally fit into the scope of 95%-105%, which is the internal target of the CEB. In addition, through the field survey, decrease in the number of power outages at a sewing plant near the switchyard (gantry) compared with before the implementation of the project, and resolution of voltage reduction problems were confirmed. As for impacts on the surrounding environment, it was confirmed that there were no adverse effects on humans, the natural nor residential environment. While protests by landowners occurred during the land acquisition process for the construction of gantries, there are currently no unsolved problems. This project has largely achieved its objectives and its effectiveness is high.

Relevance

The continued expansion of Sri Lanka's medium-voltage distribution resulted in problems such as capacity shortage, voltage reduction and high rates of distribution loss. In order to improve this situation and meet increasing electricity demand, it was regarded that the construction of express lines and the installation of switchyards (gantries) were necessary. The Medium Voltage Distribution Development Plan 1995-2005 by the government of Sri Lanka included the need to tackle this issue. This project has been highly relevant with Sri Lanka's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

The construction of facilities was carried out generally as planned. However, the original plan was modified slightly due to the development of the distribution network that had already been started and due to changes in priorities. Although project cost was lower than planned, project period was significantly longer than planned; therefore the evaluation for efficiency is moderate.

Sustainability

Although there are no serious problems regarding the operation and maintenance system of the facilities, problems are recognized in the shortage of engineers and financial status of CEB; therefore sustainability of this project is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be satisfactory. A recommendation to CEB is to introduce an electricity pricing system that reflects the costs and to clarify the cost structure of the distribution system, thereby implementing an efficient management system.

*All ex-post evaluation reports including this can be referred to in JICA's website. "Evaluations"→"Ex-post Evaluation (ODA Loan)" ([URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/](http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/))