

22 Sri Lanka Samanalawewa Hydroelectric Power Project (1)-(3) Samanalawewa Hydroelectric Power Project (Reservoir Remedial Works)

Although the project significantly contributed to the stable electric supply in Sri Lanka, sustainability of the project remains an issue due to an increase in water leakage.

Loan Amount / Disbursed Amount 36,966 million yen / 34,817 million yen
Loan Agreement September 1986 - August 1995
Terms & Conditions 2.5% - 3.25% interest rate, 30 year repayment period (10 year grace period), General untied (part of (1)-(3) is partially untied)
Final Disbursement Date September 1992 - March 2005
Executing Agency Ceylon Electricity Board (<http://www.ceb.lk/>)

Project Objectives

The objective of this project was to respond to a shortage of electricity supply in Sri Lanka by constructing a dam and reservoir-type power plant with a maximum output of 120MW in the upstream area of Walawe River, located about 160km southeast of Colombo and thereby contribute to the improvement of the national economy and the welfare of Sri Lanka.

Effectiveness and Impact

Rating **b**

The planned annual output of this project was 4,625GWh/year at the time of the appraisal of the first phase, and the revised plan at the time of the appraisal of the remedial works was 4,036GWh/year. At the time of evaluation, the output was 271GWh/year (average for 1993 to 2005), 59% of the initial plan and 67% of the revised plan, respectively. The main reason for this was an observed significant disparity between the planned reservoir inflow and the actual inflow due to the trend of scarce rainfall in recent years. It is estimated that this disparity resulted in a reduction in annual output of 100 to 110GWh/year. In terms of maximum output, 120MW or more was recorded for every year between 1993 and 2005, and the power station is accommodating peak load by taking advantage of its reservoir-type power plant characteristic.

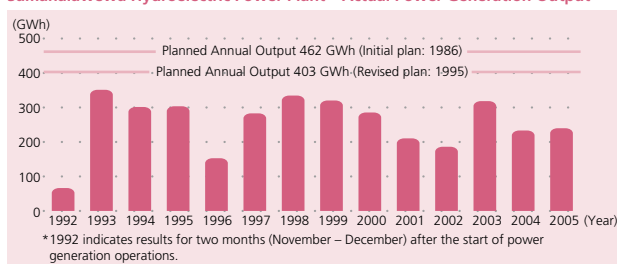
A comparison of the amount of power generation between the beginning of this project (in 1986) and in 2004 shows that annual domestic output and the household electrification rate increased 3.1-fold and 4.2-fold, respectively. This project is playing a role in meeting the rapidly increasing demand for electricity in Sri Lanka (8.2% of the peak demand in 2004). Therefore, this project has brought certain effects and its effectiveness is moderate.

Relevance

Rating **a**

This project has been highly relevant with Sri Lanka's national plans

Samanalawewa Hydroelectric Power Plant – Actual Power Generation Output



both at the time of appraisal and at the time of ex-post evaluation. At the time of the appraisal, this project was considered important in terms of its high economic efficiency in the "Long-term Electric Power Development Plan" of the executing agency. There was no change in the status of this project as a superior hydroelectric power source in the country's policy documents "Victory for Sri Lanka (2005)" and the "Long-term Electric Power Supply Expansion Program 2006-2020" at the time of the ex-post evaluation.

Efficiency

Rating **b**

Project period was longer than planned (129% of planned period), while project costs slightly exceeded the plan (122% of planned); therefore evaluation for efficiency is moderate. The main reason for the increase in project costs was the additional construction work for leakage countermeasures on the right bank.

Sustainability

Rating **c**

Both the capacity of the executing agency and the operation and maintenance system are evaluated to be high. On the other hand, although the dam as well as the power plant was functioning satisfactorily at the time of the evaluation, the leakage volume had increased in December 2006. For that reason, there remains a concern about the stability of the right bank. Therefore, sustainability of this project is low.

Conclusions, Lessons Learned, Recommendation

In light of the above, this project is evaluated to be unsatisfactory because of a concern regarding sustainability. In the future, there is a need to continue periodical observation of the groundwater level of the right bank. Based on such observation results, it is recommended to reexamine appropriate measures for leakage.

Third-Party Opinion

The project's contribution to increasing the electric power supply in Sri Lanka can be duly recognized. However, it is still possible to further seek the project's economical efficiency by making adjustments in water use such as agricultural water. Appropriate monitoring for water leakage is being undertaken.

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