



Malaysia

23 Rehabilitation of Tenom Pangi Hydropower Project

A
B
C
D

The project's objective was to stabilize power supplies in Sabah state by rehabilitating facilities that had been damaged by flooding at the Tenom Pangi hydroelectric power plant, and thereby contribute to economic growth in the region.

Loan Amount/Disbursed Amount: 543 million yen/299 million yen

Loan Agreement: May 1992

Terms and Conditions: Interest rate, 3.0%; Repayment period, 25 years (grace period, 7 years); General untied

Final Disbursement Date: September 1999

External Evaluator: Takuya Okada (KRI International Corp.)

Field Survey: August 2003



Evaluation Result

A trash control system (with mobile protection rack, etc.) was developed almost as planned. The completion of the project fell significantly behind schedule because the Malaysian government required time to establish policy on the employment of foreign experts to provide consulting services, but actual project costs were lower than the planned in consequence of competitive bidding, which resulted in efficient ordering. Prior to implementation, annual output at the Tenom Pangi hydroelectric power plant (maximum output: 66MW) averaged 347GWh (1988-1992) as a result of power adjustment operation due to flood damage, but after the project completion it reached 481GWh in 2000, attaining the planned level (475GWh: annual per capita consumption for approx. 160 thousand people). Routine turbine inspections conducted in 2001 and 2002 caused output to drop (2001: 412GWh), but the plant is forecast to produce stable, high quality supplies of electricity from 2003 onwards. Between 1999-2001, GRDP (gross regional domestic product) in Sabah state increased at an average of 6.2%, surpassing the national average of 4.2%, and the Tenom Pangi hydroelectric power plant as the state's main generator, producing around 15% of

total output, has supported economic growth and the livelihoods of state residents (Sabah state population: approx. 2.4 million; Nagano prefecture population in Japan: approx. 2.21 million) by producing stable supplies of power. There are no problems on technical capacity, operation and maintenance system, or financial condition of Sabah Electricity Board (SESB) - the project's executing agency, but it has been advised to replace some peripheral equipment so as to ensure the sustainability of operations at the power plant.

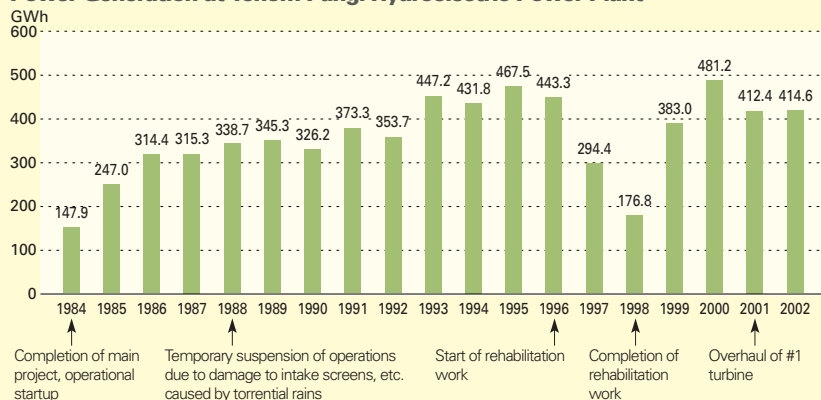
Third-Party Evaluator's Opinion

Cost efficient and reliable production of such energy is essential for the sustainability of local industry and subsequently the improvement of the community's standard of living. Therefore, this project directly contributes to the development of the local economy and the improvement of the quality of life for the people.

Third-Party Evaluator: Mr. Tan Sri Dato' Muhammed Khatib Bin Abdul Hamid

Graduated from University of Malaya. Formerly served as Ambassador to Japan. Presently holds the post of Chairman, Board of Directors of the University of Malaya, and the post of Chairman, University Malaya Medical Center. Specializes in diplomacy.

Power Generation at Tenom Pangi Hydroelectric Power Plant



Source:SESB



As the state's main generator, producing around 15% of total output, the Tenom Pangi hydroelectric power plant is supporting economic growth and the livelihoods of state residents (population: approx. 2.4 million).