Nepal

45 Kulekhani Disaster Prevention Project (2)

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This project was designed to ensure the safety and the efficient operation of the hydroelectric power plant by undertaking full-scale disaster prevention construction such as the construction of soil erosion control dams, above the Kulekhani Dam near Kathmandu, and thereby contribute to the stable supply of electric power in Nepal.

Loan Amount/Disbursed Amount: 3,484 million yen/2,466 million yen
Loan Agreement: May 1996
Terms and Conditions: Interest rate, 1.0%; Repayment period, 30 years (grace period, 10 years); General untied
Final Disbursement Date: July 2001
External Evaluator: Ayako Namura (IC Net Limited)
Field Survey: July 2003

Evaluation Result

In this project, disaster prevention construction was implemented almost as planned. The project period was extended considerably beyond the planned period due to a delay in the internal processing of the executing agency and also due to unsuccessful contract negotiations because bidding had to be redone. The project cost was less than planned due to efficient ordering through competitive bidding, etc. Due to the construction of soil erosion control dams and prevention countermeasure for water intake blockage, the annual inflow of sand to the reservoir was greatly reduced from 4.8 million m^3 in 1993 to an annual average of 290,000 m^3 during 1996 through 2002. The life spans of the power plant (power plants No. 1 and No. 2 total 92 MW) and the reservoir were 15 years prior to the project, but following the project, their life spans were extended by approximately 3.3 times, to 50 years. As the result of the establishment of a disaster prevention system, there was no effect on the operations of either power plant during the heavy rain equal to 100-year probability precipitation*, which occurred in 2002 (with daily precipitation of 325 mm to 455 mm). The operation rate of power plants is maintained at 99% (cf. 80% prior to the project), and this has been contributing to the stable power supply in Nepal. There are no problems in the technical capacity, operation and maintenance system, or financial status of the executing agency, Nepal Electric Authority (NEA). However, regarding financial status, although NEA does possess sufficient equity capital, it needs to strengthen its profitability since it posted a deficit from fiscal year 2000 to 2002. In a JBIC study, NEA is required to collect electricity bills more efficiently and to reduce personnel, etc. The Kulekhani Hydroelectric Power Plant is the most important site in the nation's electric supply, accounting for 16% of the country's electric generation capacity, but since it is located in severe natural surroundings, it is desirable to pay maximum consideration to its operation and management, including budgetary measures.

* The amount of rain falls that occurs once in about 100 year.

Third-Party Evaluator's Opinion

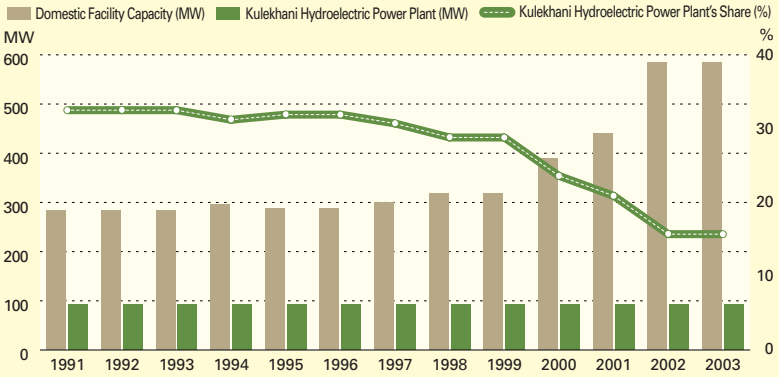
Kulekhani Power Plants faced severe disaster problems from unexpected heavy rains at first in 1984 and 1986. The project has helped to stabilize the power supply of the plants and also immensely contributed to contain the probable steep rise in the prices of electricity.

Third-Party Evaluator: Mr. Dilli Raj Khanal
Obtained a doctorate in economics from University of Rajasthan. Presently holds the post of Chairman, Institute for Policy Research and Development, specializing in national planning.

Remodeled dam water intake

To prevent blockage of the water intake by sand, this project remodeled the water intake so that it rises to the height of the sand pile.

Kulekhani Hydroelectric Power Plant's Share of Facility Capacity in Nepal



Source: NEA

Since Kulekhani Hydroelectric Power Plant continues to be an important site in the nation's electric supply, it is desirable to pay maximum attention to the operation and management (including budgetary measures) of the power plant, which is located in a severe natural environment.