



India

32 Anpara B Thermal Power Station Construction Project (1) - (5)

A This project's objective was to alleviate electric power shortages in UP by constructing a coal-fired thermal power plant with a facility capacity of 1,000 MW (500 MW × 2 facilities) in the state of Uttar Pradesh (UP), and thereby contribute to the economic development of the state.

B

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D

Loan Amount/Disbursed Amount: 119,058 million yen/118,428 million yen

Loan Agreement: December 1984-January 1994

Terms and Conditions: Interest rate 2.5%-2.75%; Repayment period, 30 years (grace period 10 years); General untied (consultant component: partially untied)

Final Disbursement Date: December 1992-September 2002

Executing Agency: Uttar Pradesh Rajya Vidyut Utapadan Nigam Limited (UPRVUNL)



External Evaluator: Chiaki Nakamura (Global Link Management, Ltd.)

Field Survey: September 2004

Evaluation Result

In this project, a coal-fired thermal power plant with a facility capacity of 1,000 MW (500 MW × 2 facilities) was built almost as planned. The project period significantly exceeded the plan due to delays in land acquisition and resident relocation. The project cost was lower than planned.

Whereas in the plan the maximum output was 1,000 MW, electric power generation was 6,318 GWh/year, facility usage rate was 90%, and facility rate of operation was 90%, looking at the actual operation of the power plant, the figures for FY2003 were maximum output of 1,000 MW, electric power generation of 7,616 GWh/year, facility usage rate of 87%, and facility rate of operation of 91%.

The 7,616 GWh/year of electric power generated supplies sufficient electric power for approximately 39 million people, based upon the average electric power consumption per person in UP (194 kWh).

In January 2000, Uttar Pradesh State Electricity Board (UPSEB) transferred operation and maintenance of the power plant to Uttar Pradesh Rajya Vidyut Utapadan Nigam Limited (UPRVUNL), and there are no significant problems in its technical capacity or its operation and maintenance system.

The power plant's revenue from electricity sales is growing steadily, and covers operation and maintenance expenses and fuel expenses fully. Issues such as rationalization of electric fees and improvement of collection rates are not resolved in the electric power sector of Uttar Pradesh and UPRVUNL's financial position is negative. Reform of the electric power sector is urgently required.

Third-Party Evaluator's Opinion

The relevance of this project is high. It is desirable to show remediation after long term examination of effects on environments and relocated residents.

Third-Party Evaluator: Mr. Millindo Chakrabarti (academia)

Obtained a doctoral degree in economics from the University of North Bengal. Currently, serves as dean of the economics department at St. Joseph's University, specializing in agricultural development, administration, and political economics.

Implementation of Impact Study and Feedback

The impact of this project on the environment and on the relocated residents was conducted by Professor Yasutami Shimomura of the Graduate School of Environmental Management, Hosei University.

The study noted no significant problem regarding concentration of SO₂ and NO₂ emitted by the Anpara B Thermal Power Station, however, pointed out the amount of particulate matter constantly exceeded India's emission standards, the environmental monitoring equipment was out of order, and the executing agency did not conduct monitoring properly. The executing agency took many measures for the relocated residents successfully, however, it was pointed out that electricity was not sufficient in relocation area, and that the hospital at power station to be opened to the relocated residents.

JBIC and the executing agency discussed the study results during feedback seminar in August 2005, and they agreed on continual monitoring with environmental monitoring equipment, repair of the environmental monitoring equipment, and strengthening of the monitoring system. There was also discussion concerning the fact that, although it is technically possible to provide electricity to the relocation area, the ability of low-income persons to pay is a problem, and there was discussion concerning plans to open the power station's hospital to the relocated residents.



Interview from relocated residents