



## Bangladesh

# 36 Energy Saving, Environmental Protection and Improvement of On-Stream Factor of Ghorasal Urea Fertilizer Factory Project

The project's objective, through upgrading obsolete equipment, was to improve energy efficiency and prevent ammonia leakage in the Ghorasal Urea Fertilizer Factory, located in the suburbs of Dacca, the capital of Bangladesh, and thereby contribute to achieve a stable supply of fertilizer and environmental improvement.

**Loan Amount/Disbursed Amount:** 5,443 million yen/5,443 million yen

**Loan Agreement:** July 1999

**Terms and Conditions:** Interest rate, 0.75%; Repayment period, 40 years (grace period, 10 years); General untied

**Final Disbursement Date:** November 2001

**External Evaluator:** Keishi Miyazaki (OPMAC, Ltd.)

**Field Survey:** July 2003



## Evaluation Result

In this project, upgrading of obsolete equipment (ammonia plant, urea plant, etc.) was carried out almost as planned. The project period and the project cost were also almost as planned. After the installation of a gas turbine power generator, which ensures a stable power supply, the factory's energy efficiency has been improved, and the annual operation days increased. As a result, the annual urea fertilizer production of the Ghorasal Urea Fertilizer Factory rose from 322,000 tons in FY1999 to 377,000 tons in FY2002. The factory produced approximately 325,000 tons of fertilizer in FY2001, accounting for 21% of the total domestic production of urea fertilizer in Bangladesh in the same year, which was 1,546,000 tons, and 16% of the total domestic supply, which was 2,066,000 tons. Thus, the factory is playing an important role in supplying urea fertilizer to 36 million farmers, accounting for 62% of the working population of the country, on a stable basis. As for the effect of environmental improvement, the standard 5ppm or below for the ammonia concentration in water and 50ppm or below for the ammonia concentration in the air have almost been achieved. According to the beneficiary survey, many respondents say that the ammonia

odor has decreased. The executing agency Bangladesh Chemical Industries Corporation (BCIC) is implementing various measures to improve its operation and management system following JBIC survey recommendations, and there is no problem with the technical capacity, and operation and maintenance system. However, with respect to the financial condition, it runs deficits on a continuous basis because the sales price of fertilizer is controlled at a lower amount than the production cost under the government policy. It is advisable to consider taking drastic measures including the revision of the price system of urea fertilizer.

## Third-Party Evaluator's Opinion

Agriculture has very important role in Bangladesh. To sustain the fertilizer plant, it is necessary that executing agency and people in agriculture sector having a sense of ownership, as well as aid agency as developing partner recognizing the importance of the ownership.

**Third-Party Evaluator:** Mr. A. N. M. Sayeedul Haque Khan

Obtained a doctorate in marketing from University of Strathclyde. Presently holds the post of Professor, University of Dhaka, and the post of President, ADANS (NGO), specializing in social marketing.

### The power generator procured under the project and the control room



The power generator procured under the project

Installation of the new power generator realized stable power supply to the Ghorasal Urea Fertilizer Factory and contributes to the improvement of energy efficiency.



The control room of the power generator

At present, approximately 800 employees are working at the Ghorasal Urea Fertilizer Factory.