

# Bakhrabad Natural Gas Development Project (II)

Report Date: December 1999

Field Survey: July 1999

## 1 Project Summary and Japan's ODA Loan

### (1) Background

Natural gas is the only plentiful energy source in Bangladesh and the government has been promoting the development of this resource since the launch of its 1st Five-Year Plan (1973-1980). When plans for this project were first created in 1994, 17 gas fields were already being developed in Bangladesh (21,354BCF from estimated in-place reserves and 10,428BCF from remaining recoverable reserves). Use of natural gas has also been increasing rapidly, with an average annual increase of 14% since the early 1980's. At the time of planning this project, there was a particularly strong demand for natural gas from the Chittagong area where fertilizer factories, electric power plants and other new plants are being operated. Improving the ability to provide natural gas to the Chittagong area had become a very important policy issue.

### (2) Objectives

This project aimed to improve capabilities for providing natural gas from the Bakhrabad Franchise Area to the Chittagong economic zone, where supply shortages were predicted to occur between December 1994 and June 1996.

### (3) Project Scope

The project scope was to increase natural gas production by performing a workover of two wells in the Bakhrabad Gas Field and drilling and completing a new well in the Feni Gas Field.

The ODA loan covered the total foreign currency portion and the local currency portion excluding administrative expenses, taxes, and expenses for preparing the land.

### (4) Borrower/Executing Agency

People's Republic of Bangladesh / Bangladesh Gas Fields Company Ltd. (BGFCL)



## (5) Outline of Loan Agreement

Loan Amount	¥1,405 million
Loan Disbursement Amount	¥1,270 million
Date of Exchange of Notes	March 1994
Date of Loan Agreement	June 1994
Loan Conditions	
Interest Rate	1%
Repayment Period (Grace Period)	30 years (10 years )
Procurement	General Untied
Final Disbursement Date	September 1998

## 2 Analysis and Evaluation

### (1) Project Scope

One of the two existing Bakhrabad Gas Field wells to be improved was changed. However, this was deemed to be an appropriate course of action, as the change helped to achieve the stated goal of bolstering production for the overall Bakhrabad Franchise Area. Furthermore, some of the contingency was used to expand the scope of the project, but this expansion contributed to better production from the Bakhrabad Franchise Area.

### (2) Implementation Schedule

The original plan called for the project to be completed in December 1994. However, the original scope of the project was completed in June 1996 and the additional scope of the project was finished in September 1998. This was due to delays in procuring ground equipment and faults with some of the drilling equipment that needed to be repaired.

### (3) Project Cost

There was 12% cost underrun for the operating expenses covered by the ODA loan. This is because lower prices were obtained through international competitive bidding on contracts for funding/equipment procurement and installation.

## Comparison of Original Plan and Actual

Item	Plan	Actual
<b>1. Project Scope</b>		
i) Bakhrabad Gas Field		
- Workover of well BK-2	Workover to upper D level for well BK-2	Recompletion to lower D level for well BK-5
- Workover of well BK-4	Workover to G level for well BK-4	As planned
ii) Feni Gas Field (FN-2)		
- Drilling and well completion	Drilling of new well FN-2 and well completion to lower level	Drilling of new well FN-2 and well completion to upper level
- Procurement and installation of ground equipment	Construction of plant with treatment capacity of 60MMCFD	As planned
iii) Engineering service	Dip digging, cement work etc.	As planned
iv) Consulting service	Construction supervision, procurement monitoring etc	As planned
<Additional scope>		
v) Investigation on production status of existing wells and their repairs	No plan	Investigation on production status of BK-1, 2, 3, 7, 8 and their repairs
vi) Pipeline laying	No plan	Laying of gas pipeline (28km)
<b>2. Implementation Schedule</b>		
	Jan. 1994 to Dec. 1994	Jan. 1994 to Sep. 1998
<b>3. Project Cost</b>		
Foreign currency	¥1,163 million	¥1,179 million
(ODA loan portion)	(¥1,163 million)	(¥1,179 million)
Local currency	¥639 million	¥753 million
(ODA loan portion)	(¥242 million)	(¥92 million)
Total	¥1,802 million	¥1,932 million
(ODA loan portion)	(¥1,405 million)	(¥1,270 million)
Exchange Rate	1 Taka=¥2.7	1 Taka =¥2.99

#### (4) Project Implementation Scheme

Bangladesh Gas Fields Company Ltd. (BGFCL) was the executing agency in this project. The performance of both the consultants and contractors was good, and there were no particular problems with the implementation scheme.

#### (5) Operations and Maintenance

There was a decrease in production output upon completion of this project. However, this was due to water and sand that was brought forth at the production level, and is not a reflection on the operations of the project. Furthermore, there were no problems with the maintenance scheme.

#### (6) Project Effects and Impacts

##### (i) Gas Provision Results

Gas was provided as shown in the table below following completion of this project. Capabilities to provide gas from the Bakhrabad Franchise Area were enhanced, thus helping to alleviate the supply-demand gap. It has been said that this improved supply and demand situation helped users avoid having to shut down operations, thus reducing a hindrance to industrial activities in the Chittagong area. This project resulted in stable gas field production and made possible improved monitoring capabilities by the executing agency.

Table 1 Average Daily Gas Production

(unit: MMSCFD)

	FY1994/1995	FY1995/1996	FY1996/1997
Total for Bakhrabad Franchise Area	150	152	108
Total from wells covered by this project (BK4,5,FN-2)	35	32	13

Source: BGFCL



Equipment of the Bakhrabad Gas Fields