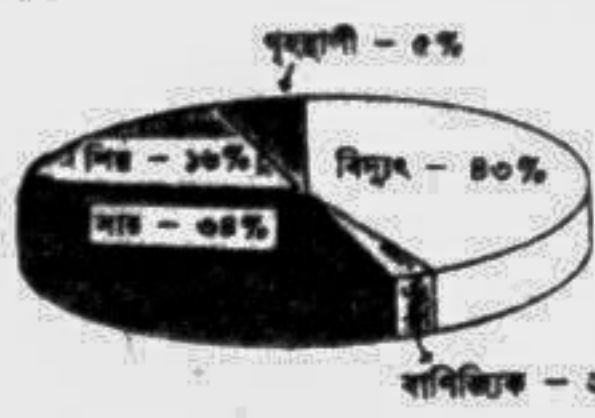
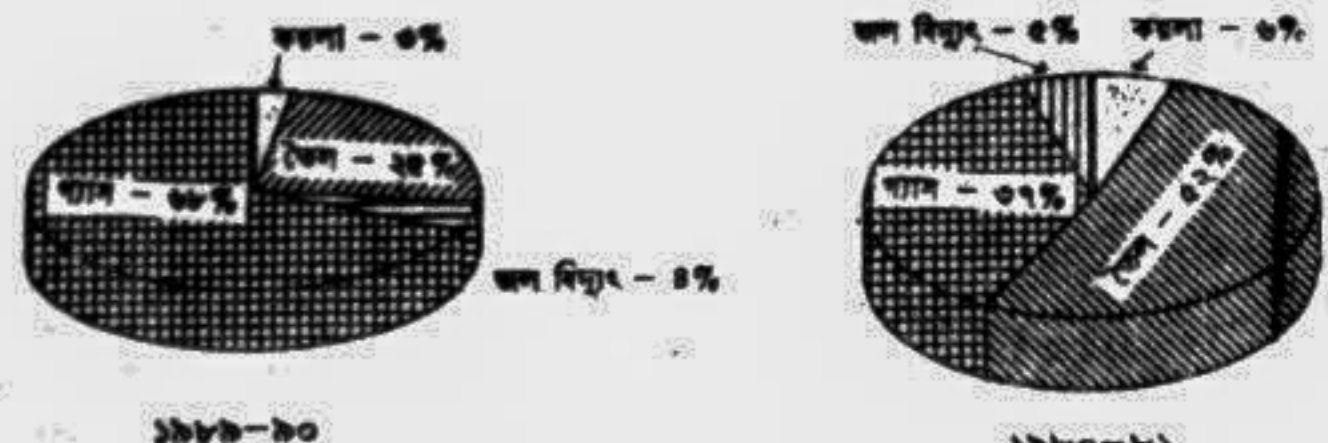


IMPORTANT INFORMATION OF BANGLADESH NATURAL GAS SECTOR

প্রাকৃতিক গ্যাসের ব্যবহার



বাণিজ্যিক জ্বালানীর ব্যবহার



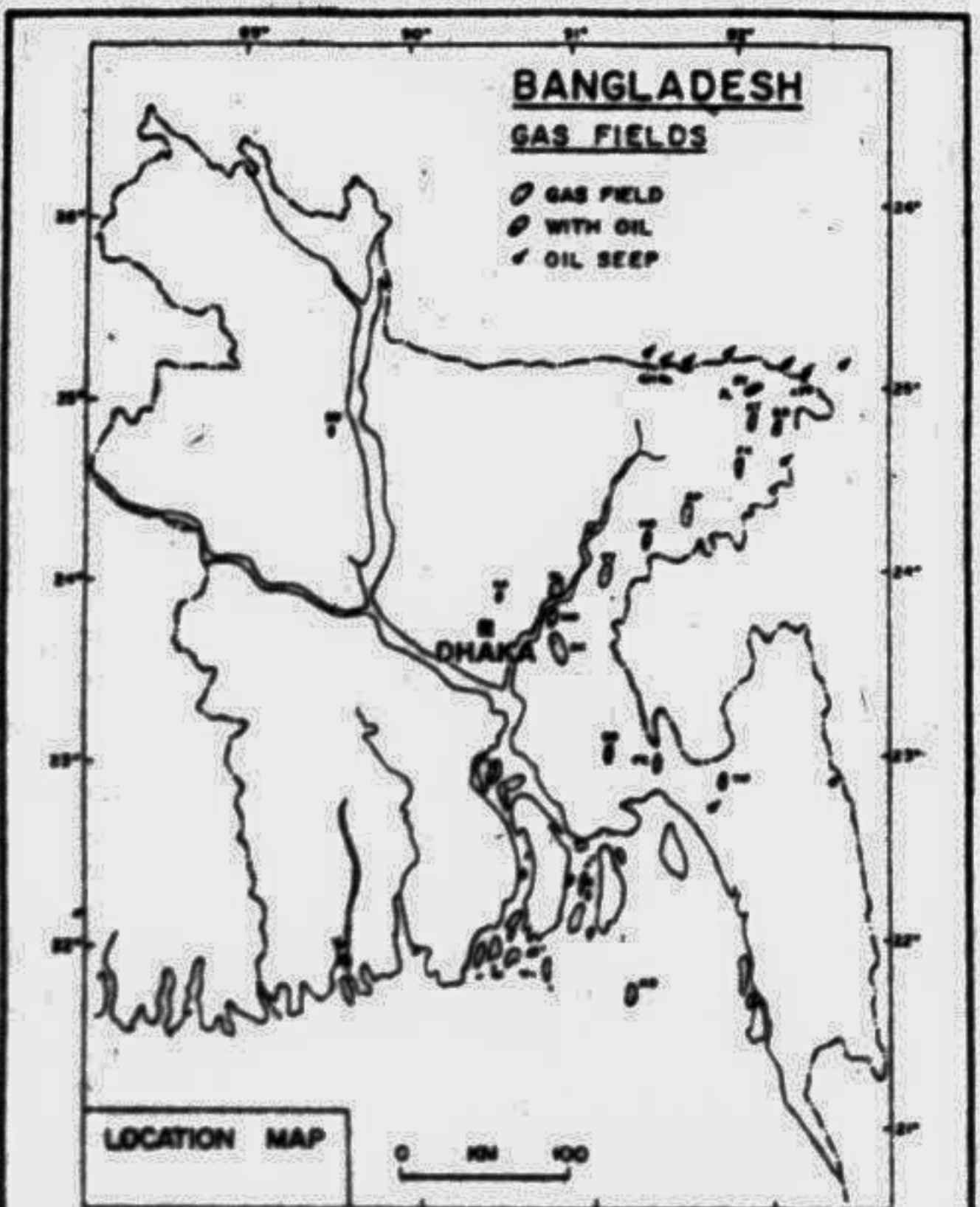
জনপ্রতি জ্বালানী শক্তি ব্যবহারের তুলনামূলক চিত্র

দেশ	জনপ্রতি আয়	জনপ্রতি বাণিজ্যিক জ্বালানী শক্তি ব্যবহারের পরিমাণ
বাংলাদেশ ও উন্নয়নশীল দেশ		
বাংলাদেশ	১০০	১০০
নেপাল	১০৭	৪০
ভারত	১৮০	৪৬৭
শ্রীলংকা	২৫৩	৫০৬
পাকিস্তান	২৫৩	৫০৬
চীন	২০৭	১১৯৮
সুদান	২০০	১৪১
কেনিয়া	১৯৩	২৪০
ইথিওপিয়া	৭৩	৪০
বাংলাদেশ ও শিল্পায়িত দেশ		
বাংলাদেশ	১০০	১০০
আমেরিকা	১১,১২৬	১৬,৯২৬
কানাডা	৯,১২০	২১,৪৫১
সুইডেন	৭,৯২৭	১৫,০৭৪
ব্রিটেন	৫,৬৪০	৮,৩৭৯

খননকৃত কূপ এবং গ্যাস উৎপাদনরত কূপের সংখ্যা

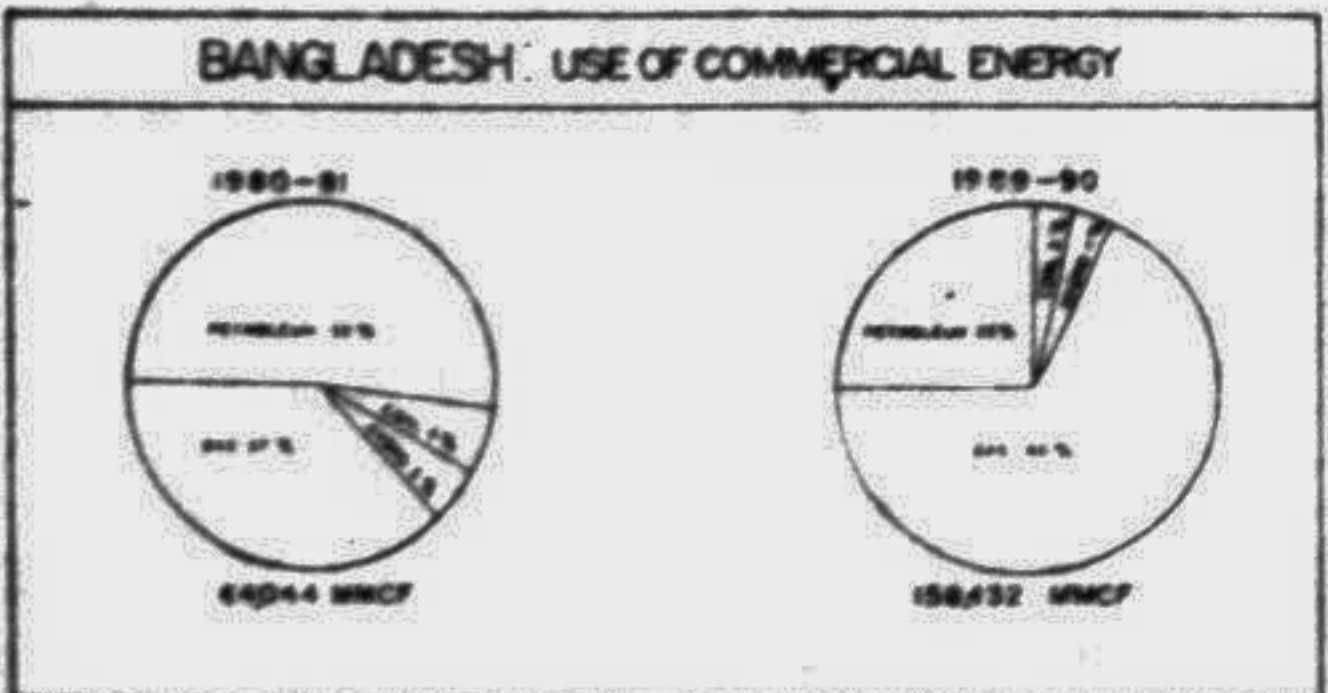
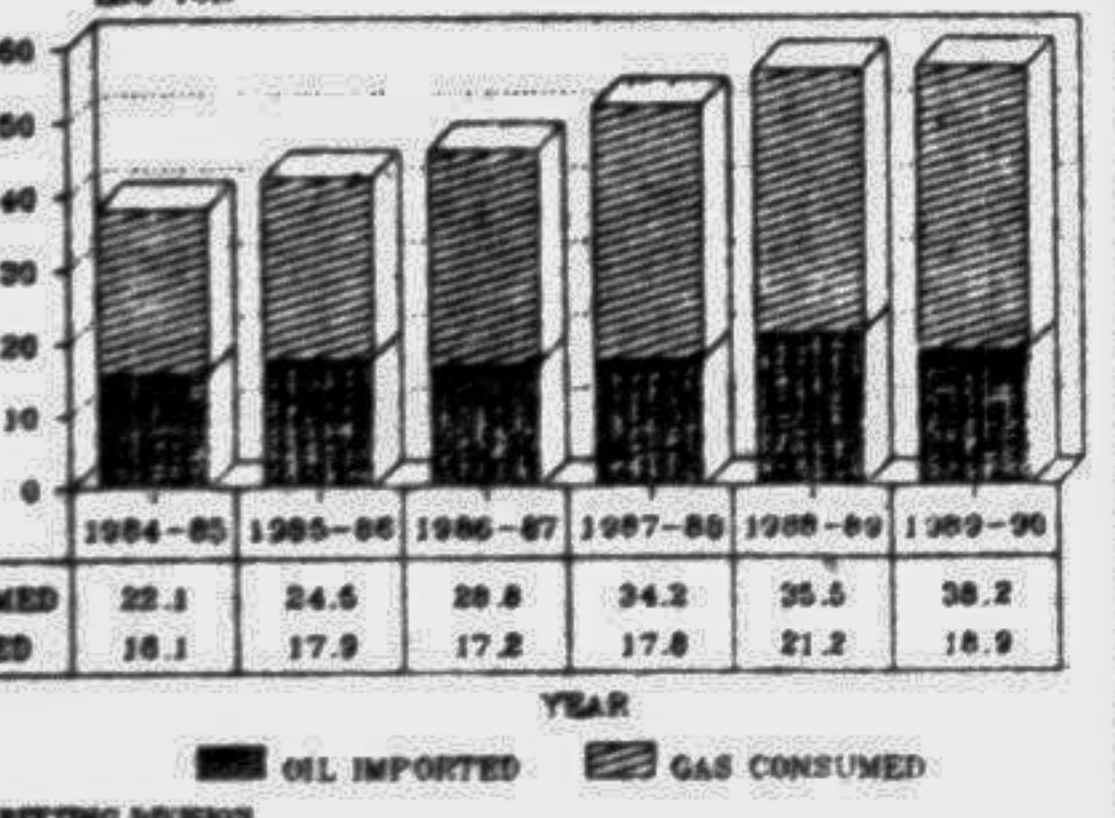
মোট সংখ্যা	উৎপাদনরত গ্যাস ক্ষেত্র	উৎপাদনরত কূপের সংখ্যা
খননকৃত কূপ	৯০	১
অনুসন্ধানমূলক কূপ	৫২	১
উন্নয়ন/মূল্যায়নমূলক কূপ	৩৮	৫
গ্যাস ক্ষেত্র	১৭	১১
উৎপাদনরত গ্যাস ক্ষেত্র	৬	১

মোট ৬টি ক্ষেত্র : ২৭টি কূপ
দৈনিক গড় উৎপাদন : ৫৮০-৬০০ মিলিয়ন ঘনফুট



AS ATORAN	CH CHATTAK	SH SARLASTILA
BE BEAN BAZAR	FR FER	MA MARCHANARAI
BU BOUNDGANJ	FO FENCHUGANJ	BP BASHIRPUR
BL BELABAD	NU NARAYAN	BR BRANTANG
BE BAKHRABAD	LU LALABAD	ST SYLHET
BU BELABAD	KA KAMTA	TT TITAS
BO BOGRA	GR GURUBA	

OIL IMPORT VIS-A-VIS GAS CONSUMPTION



WELLS DRILLED AND PRODUCING WELLS (1908-1991)

- TOTAL NUMBER OF WELLS DRILLED : 89
- TOTAL EXPLORATORY WELLS : 52
- TOTAL DEV / APPRAISAL WELLS : 37
- NO. OF GAS FIELDS : 17
- NO. OF GAS FIELDS ON PRODUCTION : 6

GAS FIELDS ON PRODN	NO. OF WELLS ON PRODN
SYLHET	1
KARLASTILA	1
HABIGANJ	5
TITAS	10
BAKHRABAD	8
FENI	1
TOTAL 6 FIELDS	26 WELLS
AVG. DAILY PRODUCTION	600 MMCF

PER CAPITA ENERGY CONSUMPTION BANGLADESH Vs. DEVELOPING COUNTRIES

COUNTRY	PER CAPITA INCOME	PER CAPITA COMMERCIAL ENERGY CONSUMPTION
BANGLADESH	100	100
NEPAL	107	40
INDIA	180	467
SRI LANKA	253	323
PAKISTAN	253	506
CHINA	207	1198
SUDAN	200	141
KENYA	193	240
ETHIOPIA	73	40

PER CAPITA ENERGY CONSUMPTION BANGLADESH Vs. INDUSTRIALLY DEVELOPED COUNTRIES

COUNTRY	PER CAPITA INCOME	PER CAPITA COMMERCIAL ENERGY CONSUMPTION
BANGLADESH	100	100
U.S.A.	11,126	16,926
CANADA	9,120	21,451
SWEDEN	7,927	15,074
U.K.	5,640	8,379

SOURCE : WORLD DEVELOPMENT REPORT, 1987.

Natural Gas of Bangladesh

facilities to be installed. Besides, World Bank and other donor agencies, the Govt. has to consider to utilise her own resources to implement these development activities. Parallely, discovered alternate source of energy has to be developed for balance utilization of primary energy. In this context, development of coal fields & extraction of coal bed methane gas also to be considered. To meet the energy demand of the western part of the country, LPG will be extracted from the Kailashitia gas field. LPG will be processed at Ashuganj and bottled at Elenga. Tangail for transportation to the Western Zone. Additionally, to meet the LPG demand of greater Sylhet district, a LPG processing & bottling plant will be installed at Kailashitia.

Under the present economic constraints of the country, government is trying to attract foreign oil companies to invest money for oil and gas exploration under production sharing contract. In the mean time, Petrobangla received response from nine oil companies. Out of which representatives of seven companies have already visited Bangladesh. It is expected that in near future production sharing contract will be signed with few companies. As a result, through the financial and technical participation of foreign oil companies, exploration activities will be accelerated. Smaller discovered gas fields of the country could not be developed yet due to financial constraints. To develop those fields government is actively considering participation of local and foreign investors. To meet the future need of gas and discover new reserves for the future generation, Petrobangla is giving relentless efforts or exploration & production of oil. Petrobangla has also taken up definite programme with her own resources.

AN INTRODUCTION TO TITAS GAS TRANSMISSION AND DISTRIBUTION COMPANY LIMITED.

The history of the use of natural gas as a source of energy and feed stock in Bangladesh dates back to early 60's. Haripur Gas Field in the district of Sylhet discovered in the year 1955 came into commercial production in 1961 with the supply of gas to Natural Gas Fertilizer Factory at Fenchuganj through a 28-mile 8" dia Pipeline. Chhatak Gas Field discovered 1959 was brought into commercial production with commencement of gas supply to Chhatak Cement Factory in 1960 through a 12-mile long transmission pipeline.

A new era was opened in the history of the use of natural gas following the discovery of natural gas reserve in the Titas Gas Field in 1962. Titas Gas Transmission and Distribution Company Limited was incorporated on 20th November 1964 under the Companies Act 1913 with an authorized and paid up capital of Tk. 1.78 crores only. Ninety percent of the shares were subscribed by the then E.P.I.D.C. on behalf of the Government and remaining ten percent by the Shell Oil Company.

After the liberation of Bangladesh in 1971 the Company was nationalised in 1972 with all its shares vested in the Government of Bangladesh and placing it under the administrative control of Petrobangla (Bangladesh Oil, Gas & Mineral Corporation). The authorised and paid up capital during 1991-92 are Tk. 200 crores and 41,315 crores respectively.

The Company first went into commercial operation with the commissioning of gas supply to Siddhirganj Thermal Power Station on 28 April, 1968 after construction of 14" dia 58-mile long Titas-Demra Transmission Pipeline during the period 1964 to 1968. The basic objective of the Company is to sell gas within its franchise area and for that purpose to construct, own and operate natural gas transmission & distribution facilities in the mid-eastern region of Bangladesh i.e. greater Dhaka, greater Mymensingh and the district of Brahmanbaria for transmission, distribution sale of natural gas.

Under the overall supervision and control Bangladesh Oil, Gas & Mineral Corporation (Petrobangla) since 1972, TGTDC is managed by a Board of Directors. The Directors are nominated by the Government. The Secretary, Ministry of Energy & Mineral Resources is the current Chairman of TGTDC. Board The Chief Executive Managing Director is an ex-officio Member of the Board. At present the Company has 5 (five) Divisions viz Administration, Purchase and Logistics, Finance, Marketing, and Planning & Development each headed by a General Manager and Secretariate headed by a General Manager and a Secretariate Headed by Secretary. Besides, Brahmaputra Basin Project and Vigilance Division are each headed by a General Manager. The Company has at present (December '92) 599 Officers and 1715 Staff.

BRAHMAPUTRA BASIN GAS T & D PROJECT PROJECT BRIEF

BACKGROUND
The proposal for extending gas facilities to the districts of Greater Mymensingh area was initiated during 1980 based on which an in-house engineering study was undertaken by Titas Gas T & D Co. Ltd. (TGTDC) to assess the feasibility. Another report was subsequently prepared by TGTDC in late 1984 and submitted to the Government for approaching the donor agencies.

The Manila based Asian Development Bank (ADB) in 1985 came up with the proposal of extending a small technical assistance (TA) to the Government to formulate a scheme under the TA. The ADB appointed M/S. STONE & WEBSTER INC, USA to review previous studies as well as Government plan to determine an optimum expansion scheme aimed at supplying gas to the potential bulk consumers located in the project area. The Consultant proposed several options both in sizing of pipes and routes. The final route was established after the selection of tentative site for the proposed multipurpose bridge over the Jamuna River and the Jamuna Fertilizer Factory. Sizing of the main transmission pipeline was finally established at 24" DN after prolonged discussions between the Government and ADB taking into consideration the provision of future extension of the transmission pipeline over the Jamuna Bridge which would be the least expensive way to cross the river for supplying gas to the Western Zone of the Country.

ESTIMATED COST
Local Currency : 12,307.00 Lacs (US\$ 39.70 million)
Foreign Currency : 19,933.00 Lacs (US\$ 64.30 million)
Total Cost : 32,240.00 Lacs (US\$ 104.00 million)

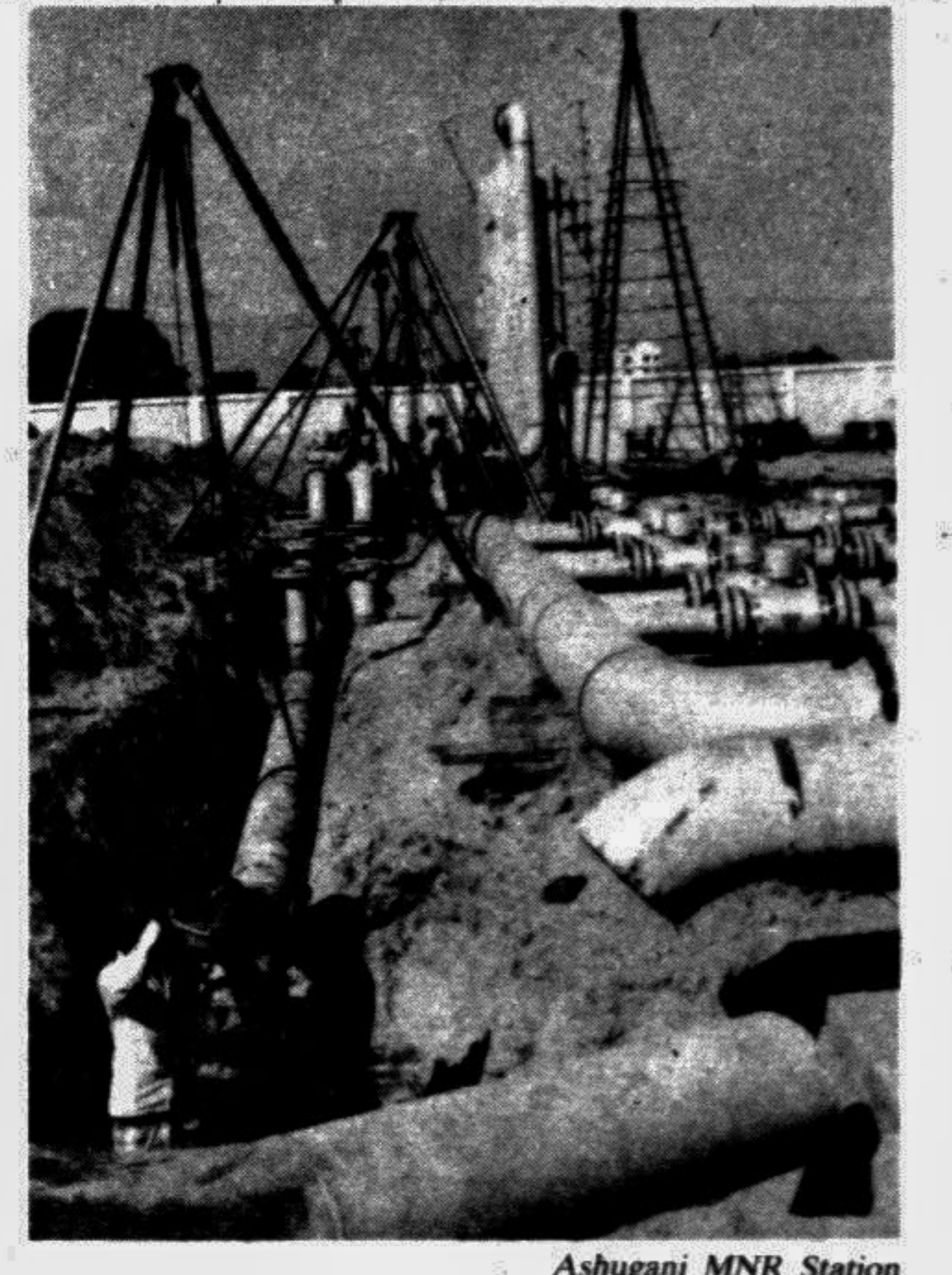
FINANCIAL ARRANGEMENT
A loan agreement has been signed between Govt. of the people's Republic of Bangladesh and Asian Development Bank US\$ 74.00 million (incl US\$ 9.70 million as R.P.A.) for the Project for which land survey commenced in January 88. The Project is scheduled to be wholly completed in June '94.

SCOPE OF WORK

- Acquisition (675 Acres) and Requisition (1250 Acres) of land for R.O.W, construction of Block Valve Stations, M & R Stations, Scraper Stations & other related pipeline facilities, Civil Construction etc.
- Construction of high pressure natural gas transmission pipeline and distribution networks, comprising:
 - 43 km of 12" DN High pressure Transmission pipe line from Elenga to Tarakandi.
 - 56 km of 12" DN High pressure Transmission pipe line from Dhanua to Mymensingh.
 - 125 km (78.0 Miles) of 609.6 mm (24" DN) High pressure Gas Trunk Main Line from Ashuganj to Elenga, including twin crossing of Meghna River and Banar River Crossing by Directional Drilling Method.
 - 435 km (270 Miles) of feeder lines, service mains and distribution network ranging from 33.4 mm (1" DN) to 255.6 mm (10" DN).
 - 121 km of lateral transmission line of varying diameter ranging from 4" DN to 8" DN, including Brahmaputra River Crossing at Mymensingh (8" DN) and at Jamalpur (4" DN) by Directional Drilling method.
- Installation of 10 (ten) Metering & Regulating Stations.
- Construction of Cathodic protection system, Telemetry and Telecommunication network facilities.
- Civil construction including operational/functional/residential buildings etc.
- Provision for consultancy services for assisting TGTDC in design, engineering, pipeline construction, inspection and project implementation.
- Provision of overseas training of TGTDC officials.

EXECUTION / COMPLETION
With the assistance of the expatriate consultants and due observance of the procurement guidelines of the Asian Development Bank, numerous international invitations for bid were floated, bids received and evaluated, necessary approvals of Titas Board, Petrobangla Board and Government obtained, numerous contract negotiated, signed and duly performed along with ancillary works-all leading to completion of the entire scope of work of the project excepting construction of a portion of transmission pipeline and distribution network now underway, and expected to be completed within the scheduled time i.e. June 1994. The project is now about 90% complete.

The most important milestone of this project was laid when the country's largest fertilizer factory, owned by Jamuna Fertilizer Company Limited was supplied with gas on 10.3.91 for trial production (capacity having production commenced on 17.91 as scheduled under the contract dated 18.1.89 between TGTDC and JFCL). The second important landmark in the implementation of the Brahmaputra Basin Project is the formal inauguration of gas supply in the project area in greater Mymensingh on 27.1.93 by the Prime Minister of Bangladesh.



TITAS GAS AT A GLANCE

Name of Company	Titas Gas Transmission and Distribution Company Limited.
Date incorporation	20th November, 1964.
Registered Office	Titas Gas Bhaban, 105, Kazi Nazrul Islam Avenue, Kawran Bazar C/A, Dhaka-1215.
Administrative Corporation	Bangladesh Oil, Gas & Mineral Corporation (Petrobangla).
Administrative Ministry	Ministry of Energy & Mineral Resources.
First Gas Connection	28th April, 1968.
Authorised Capital	Tk. 200.00 crores.
Paid up Capital	Tk. 41,315 crores (30-6-92)
Annual Gas Sale	3834.99 MMCM (1991-92)
Annual Revenue	Tk. 617.25 crores (1991-92)
Contribution to National Exchequer	Tk. 496.00 crores (1991-92)
Foreign Exchange Savings: Customers upto Dec. '92	Tk. 1600.00 crores (1991-92).
Power Station	7
Fertilizer Factories	4
Industries	1291
Brick fields	204
Commercial buildings	6594
Domestic	3676479
Grand Total	375579
Pipeline laid (upto November '92)	
Transmission (Titas)	264 KM-(1000 PSIG)
Transmission (B.B)	222 KM-(1000 PSIG)
Distribution (Main)	2502 KM-(300/150 PSIG)
Distribution (Service)	824 KM-(50 PSIG)
Distribution (Customer financed)	370 KM-(50 PSIG)
Grand total	4182 KM.
Titas Franchies Area :	
Brahmanbaria, Narsingdi, Narayanganj, Dhaka, Munshiganj, Gazipur, Manikganj, Mymensingh, Netrokona, Jamalpur, Sherpur, Kishoreganj and Tangail.	
Sources of Gas	
Titas, Habiganj, Kamta and Bakhrabad Gas fields.	
Manpower (up to Dec. '92)	
Officers	599
Staff	1715

COURTESY : **JANATA BANK**