

Bringing Bhola Gas Into National Grid

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The post-COVID-19 period has seen a growing natural gas supply deficit in Bangladesh, with a 1,000 MMCFD shortfall. Despite repeated government promises, local production remains inadequate, and demand continues to rise, leading to gas rationing. LNG supply expansion by 2027 is uncertain, and domestic fields are unlikely to meet demand unless aggressive exploration campaigns are conducted. The Bhola Island holds potential reserves of 2.047 Tcf but remains underutilized due to a lack of national grid connection.



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The primary fuel supply deficit steadily increased with time in the post-COVID-19 period. Particularly, the natural gas supply deficit widened over the past two years. It is not unknown that the situation has not changed much though the past government repeatedly assured people of addressing it. Pledges were made to increase local production to 2,300-2,400 MMCFD with new supply. But that pledge could not be realized. Production from the local gas fields has depleted to 2,000 MMCFD. Chevron-operated Bibiyana gas field alone is supplying 1,000 MMCFD. Production from this field is on the verge of depletion. Sudden major depletion may happen at any time. The total supply may remain limited to 3000-3050 MMCFD with 1,100 MMCFD of RLNG. The official estimate states a 1,000 MMCFD supply deficit. The deficit will increase with the depletion of production. On the other hand, demand keeps on increasing with time. Gas supply is being rationed for power and fertilizer. Industries are not getting the required gas supply per demand.

The target for increasing the 618 MMCFD addition that Petrobangla adopted through drilling 48 wells by 2025 is heading towards failure. The 100 MMCFD production increase that could be achieved through this venture could not sustain the overall production increase for a long time. To implement the program, arrangements were finalized to conclude contracts with foreign companies for drilling 16 wells under the Speedy Electricity and Energy Supply (Special Provision) Act 2010. The interim government has decided to scrap the contracts and engage contractor(s) through competitive bidding. Another contract was signed with Summit Group to supply 500 MMCFD RLNG by setting up another FSRU. That has been suspended. The initiative for a deep-water LNG infrastructure offshore Kuakata and supplying RLNG to Khulna through a submarine pipeline by Excelebrate Energy under the special



act has also been stalled. Another negotiation with H-Energy that was progressing for RLNG import from India through a pipeline was in progress. The initiative for RLNG import from India through a pipeline by a local group, Dipon Gas, has also been suspended. Therefore, the possibility of increasing LNG supply by 2027 appears uncertain now. The only possibility of increasing the supply is from domestic gas fields. But that is also very unlikely to happen. Rather the possibility of the supply crisis deepening is very likely due to further depletion of reserves over the next three years.

Against the backdrop, the gas reserves of Bhola Island presented a bright prospect. So far 9 gas wells have been drilled in the island. Five are in production. The gas field is known as Shabazpur. Gas in place as per the latest estimation is 2.047 Tcf. The proven recoverable reserve has been estimated as 1.432 Tcf. There is a plan for drilling 14 more wells there by 2028. 80 MMCFD gas is now being produced from gas fields at Bhola. Three power plants at Bhola use this gas. The total generation capacity is 475MW. The capacity of Bhola gas fields cannot be utilized due to the lack of demand for gas. Bhola Island's gas reserves are not connected to the national grid.

Several studies were conducted during

the past regimes of the Awami League for the economic utilization of Bhola gas. Finally, a project was launched to convert natural gas into compressed natural gas (CNG) and transport it to Dhaka for industrial use. The interim government has canceled that project. Vigorous parleys were made for setting up a fertilizer plant at Bhola during the last year. But that also did not proceed. Valuable time was also wasted in the futile exercise of conversion of gas to LNG. The possibility of transporting gas to Feni by crossing the Meghna River was also explored. Due to the technical challenge that initiative was abandoned. Petrobangla conducted a field survey for the transmission of gas to the national grid in 2022. Three alternatives were reviewed for the Right of Way (ROW). The first one was an 80 KM pipeline from Bhola to Barishal via Mehedi Ganj. The second was a 62 KM pipeline from Bhola to Barishal via Laharhat. The third was a 130 KM pipeline from Bhola to Jajira via Mehedi Ganj. The study recommended the second option. GTCL has completed a route survey of this option. The pipeline cost, including 8 river crossings spreading a total of 6,070 meters, was estimated at Tk 2,600 crore.

The consideration of transporting Bhola gas to Jajira stemmed from the previous government's vision of transporting gas to Khulna via

Gopalganj by constructing a gas pipeline along the Padma Multipurpose Bridge. A 6.1 KM gas pipeline has been built along the Padma Bridge. Negotiation was in progress with US company Excelerate Energy on their proposal to supply RLNG to Khulna through the submarine pipeline from a deep-water LNG facility off the coast of Kuakata. To reduce the risks of investment in the pipeline, the possibility of the route from Bhola to Barishal was given priority. Negotiation was progressing on building the pipeline to Khulna via Payra, Barishal, Gopalganj, and Fakirhat. The objective was to connect Bhola with this pipeline at Barishal. It was considered that the two integrated pipelines transporting RLNG and Bhola Gas would make the projects commercially viable. It was expected that the Sundarban Gas Distribution Company's demand may exceed 700 MMCFD by 2041.

The exploration initiative for increasing the gas reserves at Bhola continues although the opportunity to utilize the resources remains limited due to the absence of required infrastructure. Work on drilling 5 exploration wells at Bhola under the 48-well drilling program was finalized. Negotiations with Russian Energy Giant GAZPROM reached an advanced stage. The negotiation has, however, been suspended following the change of the government. Work is underway to engage contractors through competitive bidding.

BAPEX and GAZPROM have developed a joint resource potential assessment for the 5 wells considered here. It stated that at a 10% probability, the exploration area has the prospect for 2.686 Tcf gas. According to the assessment, drilling of 5 exploration wells is required to confirm the reserves there. BAPEX has plans to drill 9 more wells at Bhola besides the 5 wells. As a pre-exploration work, BAPEX has taken the initiative for 1930 Sq Kilometer 3D seismic surveys. The required initiative for drilling exploration wells will be



taken after completing the surveys by 2028.

National Exploration Company BAPEX discovered the Shahbazpur Gas Field in 1995. The recoverable reserve at that time was estimated at 400 Bcf. After tiding across various impediments, the Shahbazpur gas field started production on 9 May 2009. It has already been mentioned that 80 MMCFD gas is now being produced from 4 wells using a gas treatment plant.

Reviewing the chronological development of events, it is evident that due to a lack of firm decisions, the gas potential of Bhola Island has remained virtually underutilized over the past 29 years. The Bangladesh Nationalist Party (BNP) after annexing state power in the 1990s awarded the development work of Petrobangla-owned Jalalabad Gas field to Occidental under the Production Sharing Contract. Later that contract was assigned to another US Company UNOCAL. They started exploring new sources of investment in the Bangladesh petroleum sector. Under such initiative, UNOCAL proposed an integrated project titled Western Region Integrated Project (WRIP) for developing gas resources at Bhola, constructing a gas transmission pipeline from Shahbazpur, Bhola to Digholia, Khulna and constructing gas-based power plants of 150 MW in

Barishal and 200 MW in Khulna. The WRIP project was aimed to invest US\$ 700 million in phases. The project included drilling the required wells at Bhola, constructing a 120 KM gas transmission pipeline, and setting up power plants in Barishal and Khulna.

A positive joint feasibility study was conducted about the WRIP. The route survey and ROW identification were also completed. Petrobangla after getting the report and development plan of Bhola gas resources engaged a consulting company for further detailed study. UNOCAL in its proposal mentioned "Our Money Our Risk". It mentioned that Petrobangla will not have to bear any responsibility if required gas is not found at Bhola. However, the Petrobangla-appointed consulting company raised 5 critical observations. The then Awami League government constituted a committee, headed by then Principal Secretary Dr. SA Samad, to examine the WRIP. The committee, after examining all the pros and cons, recommended not to proceed with the project. Thus, the first initiative to utilize the gas resources at Bhola was nipped in the bud. The Awami League-led government, after assuming office in 1996, started exploiting Bhola gas resources. The production was started by setting up an old process plant relocated from another gas field.

Engr. Ali Iqbal Mohammad Nurullah former director of Petrobangla found

no technical reason for not proceeding with the WRIP. But he said that the WRIP was not approved then for political reasons, maybe. Dr. Badrul Imam, an energy expert, stated that there was not much confirmed information on the gas reserves of Bhola at that time. However, UNOCAL had taken the risk of investment. Hence not taking a positive decision on the WRIP was undoubtedly a wrong decision.

Recently, an initiative has been taken to set up a new gas treatment plant at Bhola North. After awarding the contract, it will take 18 months to bring it into commercial use. The total capacity of the gas supply of Bhola gas fields will increase to 185 MMCFD then. However, it would be a bad investment unless there is a gas transmission line to evacuate the produced gas.

Dr Badrul Imam, Honorary Professor of Geology at Dhaka University, said Bhola has already proved to be the second most potential gas basin after

Sylhet. The Hatiya trap, according to him, is the 3rd prospect. He said Bangladesh has a great prospect of discovering new gas resources through continuous exploration campaigns in the Bhola and Hatiya regions. The present proven reserve is above 2 Tcf. The planned exploration campaign may even lead to 5 Tcf gas reserves. Exploration must continue. At the same time, a decision must also be made to develop a gas transmission facility for the evacuation of gas to the national grid.

Officials at Petrobangla and EMRD did not agree to discuss the government plan for the evacuation of the Bhola gas. However, the prospect of a gas pipeline from Bhola to Barishal is viewed positively. Alternatives to high-risk crossings to tidal rivers of deep scouring are being explored. The interim government has requested the Asian Development Bank (ADB) to finance the proposed Bhola River Bridge. The gas pipeline will be an integral part of the bridge when it will

be built. That will significantly reduce the stability of the pipeline.

Another relevant source claimed that there is not much demand for gas at this moment in the Barishal region but two power plants at Khulna could not be brought into production because of the absence of gas supply. The construction of an 880 MW power plant has reached the final stage. The initiative must also be taken for a gas pipeline from Barishal to Khulna. A Petrobangla source said the initiative is being taken to set up an FSRU and a gas pipeline to Khulna by selecting investors through competitive bidding. Pipeline-related specialists observed that the construction of a gas transmission pipeline from Bhola to Khulna may take 4 years to implement because of the complex nature of the project and aggressive terrain. Hence, there is no possibility for Bhola gas to be connected with the gas grid before 2028.

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