

Bangladesh Needs A Stable, Integrated Plan To Boost Domestic Gas Supply

Bangladesh needs a stable, long-term plan for gas exploration and field development to increase domestic supply and reduce its growing dependence on imported LNG. The country should not rely solely on natural gas for energy security; it should also expand renewable energy and ensure the effective use of domestic coal for power generation. In the short term, production from existing gas fields should be increased through technical interventions, while gas from Bhola should be brought into the national grid as quickly as possible.

Janifar Hakim Lupin, Assistant Professor of Geology at the University of Dhaka, made the observations in an interview with Energy & Power Editor Mollah Amzad Hossain.

Bangladesh's domestic gas reserves are depleting rapidly while dependence on imported LNG is increasing. It is often said that the country still has significant potential for discovering new gas. Yet, despite drilling around 30 development and exploration wells over the past four years, there has been no major discovery. Are we on the right track?

The present gas crisis is the result of years of inadequate planning and insufficient investment in infrastructure. The gap between demand and domestic supply has continued to widen. To overcome the crisis, we must discover new gas and increase production through development wells.

However, failure to discover gas from an exploration well should not automatically be considered a failure of the exploration program. There is simply no alternative to exploration if we want to discover new resources. Even a dry well generates valuable geological and technical information that can improve future exploration.

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Around 300 million cubic feet per day of additional gas has reportedly been added from about 30 wells, much of it from Bhola. While Chevron can produce 50–60 MMCFD from a single well, national companies often produce only around 10 MMCFD. Is this primarily a technological gap or a planning problem?

I believe both factors are involved.

Two-dimensional seismic surveys have already been conducted over most of the prospective structures onshore. Before drilling new wells, these data need to be reinterpreted using modern techniques. At the same time, three-dimensional seismic surveys should be carried out in priority areas.

Bangladesh is a deltaic geological environment where changes in sedimentation can significantly alter hydrocarbon prospects. Therefore, all available geological and seismic information must be thoroughly analyzed before finalizing drilling locations.

There are shortcomings both in planning and implementation. At the same time, there is no doubt that our national companies lag behind international companies such as Chevron in the use of modern exploration and production technologies.

Our national companies should therefore work with international oil companies and other technology partners. Such cooperation could significantly improve exploration and production outcomes.

A 50+100-well drilling program is currently under way, with around 70 exploration wells. Petrobangla says the program will be completed by 2030. How effectively is the program being implemented, and how optimistic are you about its success as a geologist?

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We should not judge exploration success simply by the number of wells drilled. The key question is whether we are using available geological and seismic data properly to identify the most promising drilling locations. Even then, no exploration program can guarantee success. Therefore, Bangladesh must continue exploration and development drilling as part of a sustained strategy rather than treating exploration as an emergency response to a gas shortage.

Exploration and development should be planned over a 10- or 20-year horizon. Exploration, development drilling and workovers must be integrated into a single program.

Hydrocarbon exploration cannot be judged simply by the number of wells drilled. Targets cannot be achieved through planning and political commitment alone. Political stability, adequate financing, skilled manpower and access to modern technology are all essential.

Given the current condition of domestic gas production, exploration, development drilling and workovers must be pursued simultaneously.

Production from some of Bangladesh's major gas fields is declining steadily. Development wells and workovers are therefore essential to sustain production. Where necessary, field compression should also be installed to maintain output.

Instead of taking action only when a crisis emerges, Bangladesh needs a stable, long-term exploration and development strategy. That is the only way to sustain existing production while adding new reserves.

The government has said that another 150-well drilling program will be undertaken after the existing 150-well program. How do you assess this plan? What should be considered when selecting locations for new exploration wells?

The proposed program appears to focus largely on onshore areas, but we need a comprehensive strategy covering both onshore and offshore prospects.

We already have a good understanding of the hydrocarbon potential of Sylhet and surrounding areas. But exploration planning should also consider areas such as the Hatiya Trough and the northwestern region.

I am encouraged by the scale of the proposed program, but the results will depend on how the locations are selected and how the program is implemented.

Areas where only 2D seismic data are available should undergo 3D seismic surveys before drilling. We should also drill new wells in unexplored parts of known gas-bearing structures and investigate whether additional hydrocarbon-bearing zones exist in producing fields. These approaches could potentially deliver gas at relatively low cost.

Deeper structures also deserve greater attention. So far, our exploration has focused largely on conventional structures. Future exploration should also consider stratigraphic plays.

The data from dry wells should be carefully reassessed before finalizing new drilling plans. A dry well is not simply a failure; it can provide valuable information about the geological system.

Chevron has expressed interest in returning to some of the blocks it previously relinquished under the PSC. The government also appears positive about the proposal. Should Chevron be given an opportunity to invest through negotiations?

If a company wants to return to a relinquished block on a sole-source basis, its entire proposal must be carefully evaluated. We need to examine the terms, the exploration program and, particularly, how the benefits would be shared if gas is discovered.

The government must assess how much the country would gain from such an arrangement. However, rather than relying on a single company, bringing in several international oil companies and creating

a competitive environment could be more beneficial for Bangladesh.

Bids have been invited for oil and gas exploration in 26 offshore blocks, including 11 shallow-water blocks, with November 30 set as the submission deadline. Two companies have already purchased bidding documents, while several others reportedly expressed interest at the London roadshow. How optimistic are you about attracting investment and achieving offshore exploration success?

Bangladesh has an offshore area roughly comparable in size to its onshore area. Unfortunately, we have not yet achieved any major success offshore. In contrast, neighboring India and Myanmar have made significant discoveries.

Considering their experience, the Bay of Bengal is potentially one of the most promising areas for addressing Bangladesh's gas shortage. We need extensive exploration there.

The government's recent initiatives and the London roadshow appear to have generated interest among investors. But offshore exploration requires much greater investment and involves significantly higher risks than onshore operations. Therefore, it would be premature to assume investment will materialize until companies actually submit bids and commit capital.

Bangladesh also has responsibilities in attracting investment. First, we must properly present the geological and seismic data available for the 26 blocks.

In my view, the deepwater blocks may offer greater potential than the shallow-water areas, but very little exploration has been undertaken there so far.

We must also understand that offshore exploration takes time. Even after investment is secured, exploration, discovery, field development and the construction of pipelines to bring gas into the national grid can take many years.

The new offshore PSC is attractive because it clearly defines the rights, obligations and potential returns of both the government and international oil companies. I am therefore hopeful that foreign companies will participate.

Ultimately, however, the success of the bidding round will depend heavily on how effectively Bangladesh can present its geological information and exploration potential to investors.

A draft PSC for onshore exploration, including the Chattogram Hill Tracts, has reportedly been finalized and bidding may be invited soon. How do you view the initiative?

We have a relatively good understanding of the geology and hydrocarbon potential of eastern and central Bangladesh. The geological structures of the Chattogram Hill Tracts, however, are considerably more complex.

This region has received limited attention for a long time. But discoveries and exploration activities across the border in India have increased the prospectivity of the area from Bangladesh's perspective.

Some earlier, limited exploration activities in the region also produced positive indications. I believe there may be unconventional hydrocarbon opportunities in the Chattogram Hill Tracts.

If hydrocarbons can be discovered through systematic exploration, the region could potentially become a new source of energy supply for Bangladesh.

Before restarting exploration there, industry-academic collaboration could be useful. At the same time, attracting foreign investment under the proposed onshore PSC would also be a positive development.

What urgent measures are needed to increase domestic gas production and make new discoveries?

Bangladesh needs both short- and long-term strategies to address the current gas crisis.

In the short term, production from existing fields should be increased, gas discovered in Bhola should be connected to the national grid as quickly as possible, and fields that are currently shut down should be reassessed and brought back into production wherever economically and technically feasible. Gas losses and wastage must also be reduced and the available gas used more efficiently.

In the longer term, Bangladesh needs effective exploration and development programs covering the Bay of Bengal, the Chattogram Hill Tracts and other prospective onshore areas.

This requires a stable, long-term strategy implemented by a technically competent team with clear accountability.

At the same time, energy security cannot be built around gas alone. Bangladesh needs an integrated energy strategy that accelerates renewable energy while also making appropriate use of domestic coal for power generation.

Only through such a diversified and coordinated approach can Bangladesh strengthen its energy security and reduce its vulnerability to imported fuel. ■