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Bangladesh will not run out of gas any time soon

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The possibility of natural gas being exhausted within a decade or a decade and half worries us all. It is easily understandable how the industries, power plants and many others could be affected if gas is depleted in near future. In spite of the fact that the government is serious and sincere about finding alternative energy sources, there is not much progress visible in this respect yet.

According to Petrobangla, the remaining reserve of gas in the country at present is about 13 Tcf. In the face of increasing gas demand in the country, this reserve would run for about 10 to 12 years. Or should the gas production be regulated downwards, this would run for some more years. But what will happen after that? Many believe that this will result in the country being devoid of gas.

The idea that reserves can grow and new reserves could be added is not given enough room in the minds of the energy players. This is due to a lack of foresightedness that a strong and long term exploration campaign could change the way we take for granted the scenario of depleting gas sources. In the practical front, we see a very weak exploration programme, whereby drillings are only few and far between.

However, reserve growth and new reserve addition have been noticed in Bangladesh in the previous decades and it would by all likeliness happen further if a strong exploration campaign is launched. The Bangladesh delta, being the largest in the world, is least likely to be devoid of gas so early in its exploration history, because deltas, throughout the world, tend to be very rich in gas or oil. The exploration in Bangladesh remains at an immature stage and it is too early to contemplate a depleted gas scenario.

The reserve growths: In 1993, the remaining reserve of gas in the country was estimated at about 10 Tcf which would run, as it was suggested at that time, for about 10 to 12 years. But in 2001, the remaining reserve of gas was recorded at about 15 Tcf (Petrobangla 2001). It was again thought that this would be

exhausted in around 10 to 15 years. Yet in 2011, the remaining reserve was found to be 15 Tcf (Petrobangla 2011). It means that instead of depleting, the reserve actually grew.

Would this trend of reserve growth continue? Certainly not. Reserve growth will stop at a time in the future depending on the maturity stage of exploration in the area. For an area where exploration reaches a mature stage, depletion of gas may appear to be more realistic. But for an area like Bangladesh, where exploration is far from reaching a mature stage, it is naive to suggest that gas would be exhausted after the consumption of the presently known reserve.

Bangladesh is unlikely to find very large new onshore gas fields, but there are certainly many small sized gas fields waiting to be discovered. The offshore is even less explored, yet it holds great possibilities. For the general readers, a geological review of the above may be put forward in “soft technical” terms.

The onshore prospects: Exploration carried out till date in the onshore has been restricted to simple and 'easy to find' anticlinal fold structures. These are identified by simple geological mapping in hilly terrains or by seismic surveys in plain lands. Almost all the gas fields discovered in the country are found in such anticlinal (arch-like fold that has its oldest beds at its core) structures in the eastern part of the country. There are many smaller to very small fold structures which may still be identified by further seismic surveys for drillings. This will find individual small gas reserves but a large number of such small discoveries would add to a notable reserve.

A second stage of the exploration programme could target more 'difficult to find' and subtle gas pools (traps). These are formed not by any fold structure, but by the inherent lithological changes (called facies changes) within the subsurface rock layers, and hence comes the difficulty in their identification. These are called 'stratigraphic traps'. Geologists argue that these types of gas pools should be abundant beneath the delta plain of Bangladesh, considering the experiences of other deltas around the world like the Niger Delta, the US Gulf Coast, etc.

A third stage of exploration lies beyond the conventional targets; such unconventional targets include synclinal (sloping downward to form a trough) plays, high pressure plays, thin bedded plays and so on, none of which has been targeted seriously in Bangladesh. With modern technologies taking up their share in explorations, unconventional plays have started showing their worth. Attaining a mature stage of exploration implies that Bangladesh has to take all these into active consideration.

The offshore prospects: If Bangladesh hasn't been able to reach a mature stage of exploration in its onshore fields, it remains truly immature in its exploration ventures. Activities in the offshore today runs in very low profile, with only three exploration blocks out of 26 being active by IOCs under production sharing contracts (PSC). There has been no exploration drilling in the offshore in the last seven years, and success in negotiations with IOCs is not visible enough. Yet, just on the other side of the maritime boundary with Myanmar, the offshore Arakan basin has the speed of exploration matching the success of discoveries. The most recent gas discovery, the Thanin gasfield as it is named, took place in January 2016 and is located in the Myanmar offshore block AD-7, adjacent to one of the offshore blocks of Bangladesh. Peter Coleman, Chief Executive of the Australian-based Woodside Oil Company -

which has discovered this and another gasfield - has said that these discoveries testify the high gas potential of the surrounding blocks.

The offshore Arakan basin is a natural continuation of the offshore Cox's Bazar-Teknaf coastal basin (part of the offshore Bengal basin) and hence, both have similar geologic structures and frameworks. There is no reason why the fast track exploration and success in Myanmar's offshore basins should not be replicated in Bangladesh's side of the Bay of Bengal. Some large discoveries (Shew, Phu and Mia gas fields) earlier in the Arakan offshore attracted the major IOCs, and this area has now been proven to be one of the best places to look for gas.

Based on the available data, geologists are almost convinced that the Bangladesh offshore adjacent to the Myanmar maritime boundary is sitting on major gas reserves. It is believed that the number of gas fields would surely be discovered here if a serious exploration drive is launched.

To conclude, we may agree with the geoscientists' belief that a large delta area like Bangladesh should form a very rich gas province. In reality, the expected gas richness has not been visible because of the lack of exploration. Far more exploration needs to be carried out in order to unravel its true gas potential. With all the geological parameters in place for a gas rich habitat, Bangladesh should take this into consideration when forming its future gas exploration strategies.

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