

# Small Power Plants: Key to Electrification

by Muhammed Aziz Khan

BANGLADESH has never come across an opportunity to alleviate poverty as profound in importance as finding gas in the poor country.

Bangladesh is afflicted by shortage of electricity, stifling economic growth and social welfare. We have ample gas resource; estimates vary from 30 trillion cubic feet (TCF) to 70 TCF. The best transformation of natural gas for Bangladesh is in to electricity, which can be applied for maximum value addition. Until now this has not happened as fast as desirable, due to lack of investment.

In the recent past, Government of Bangladesh (GOB) had invited international oil companies (IOCs) to invest in gas exploration and for power generation in private sector. The response received is good; IOCs are now producing about 35 per cent of country's gas requirement and one US company AES's power plants come on stream with about 1100 MW, that is about 35 per cent of electricity would be provided by independent power producers (IPPs).

The challenge the government faces in the short term is how to pay for all this energy in foreign currency and in the long run how to bring the sector in the hands of Bangladeshi companies both in the form of technology transfer and management transfer, thereby improving the net worth for the country.

jects can be implemented within a year as demonstrated by a 100% Bangladeshi company, United Summit Power Co. Ltd (USPC); quite to the contrary large project typically takes four years. This allows implementation of small power plants to actual demand rather than waiting for years. For example, demand in Sirajganj area is currently 50 MW, plant for which is available, as they typically require huge investment, as such large projects are implementable only by multinational companies.

**Sense of belonging:** Smaller power plants being distributed around the country will bring in a sense of belonging to the villages and will have a ripple effect on the local economy. This will not only provide impetus to growth but also encourage customers in Taka.

**Equal opportunity to local entrepreneurs:** Infrastructure such as electricity is very sensitive and GOB should provide, if not more, equal opportunity to local entrepreneurs to get involved in this sector. Unfortunately, today the bidding process followed by GOB not only supports foreign companies but often effectively bars local companies from participating in the electricity sector. For example GOB discounts prices received over a period of time at 12 per cent whether the offer is in Taka or in US Dollar. This is most unjustified as Taka interest rate is 14 per cent vs.

land labour, capital and enterprise. For small projects, we have the entire aforementioned ingredients available in Bangladesh. A 50 MW power plant would require about \$30 million, for which equity is available within our private sector; debt is available from our banking system. Whereas for large projects of 100 MW to 400 MW these are not available, as they typically require huge investment, as such large projects are implementable only by multinational companies.

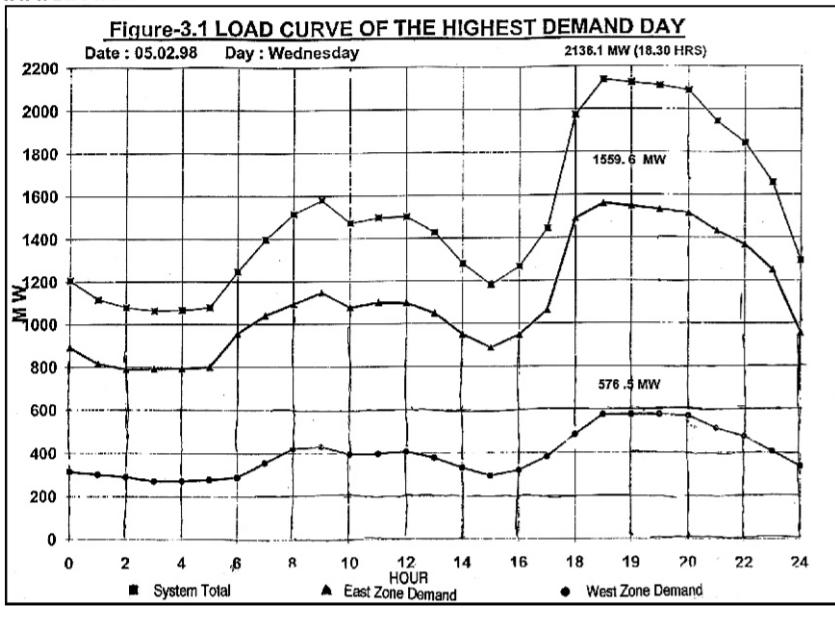
**Taka vs Dollar:** Bangladeshi entrepreneurs investing in Taka will seek their equity return in Taka. Should the local banks provide fund the debt repayment would also be in Taka. Further there is another dimension to it. If part of the equity comes from the stock exchange, the stock market will get a boost from the quality stocks, therefore the infrastructure of capital market itself will improve. On the other hand debt provided to these generating companies are of best quality, and local banks will have better loan portfolios. Local bank's understanding of the business and project financing will improve the country's overall banking sector. As a consequence GOB will be able to buy electricity in Taka and relieve the pressure on foreign exchange reserve.

From the above it is amply clear that distributed small power plants are the right solution for Bangladesh. If we consider the gas pipeline network and the electricity transmission network, I believe we can start by opting for smaller power plants in Syhet area on the existing gas network. This way we can add 150 MW, which is the current shortfall, within two years. In Baghabari where gas has already reached, two 50 MW power plants in 2001 and 2003 can be built. Similarly Sirajganj can have 50 MW by 2001 and another 50 MW by 2003. Subsequently as gas transmission progresses distributed small power plants can and should be built.

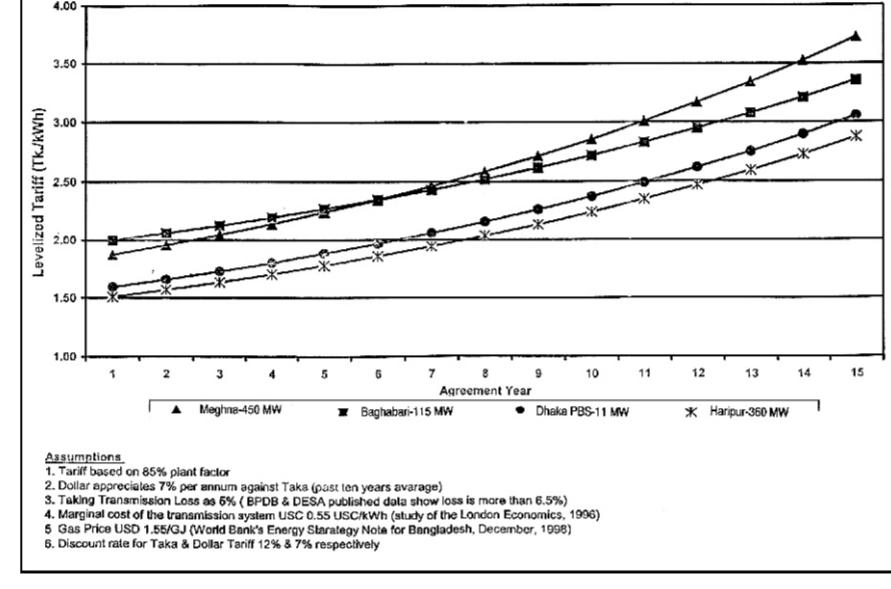
**Conclusion:** Bangladesh needs power, which is a basic infrastructure. Only 18 per cent of Bangladesh's population has access to electricity. It's sad to say that we have about 50 TCF gas and our people do not have electricity. Through small power plants we can help ourselves and lighten up Bangladesh.

*The author is Chairman of Khulna Power Company Ltd. He is also the Chairman of United Summit Power Company Ltd, and Summit Group of Companies. The article is based on his discussion paper presented at Tech Transfer 2000: Bangladesh' held recently at BUET, Dhaka.*

ANEXURE-1



ANEXURE-2



The GOB's privatization policy for gas and electricity is too specific and thus not fruitful, the solution is total all-encompassing privatization with a regulator's role for the government.

Here, however I will discuss how and why small power plants are the right solution for Bangladesh.

**Electricity demand curve:** The demand of electricity in Bangladesh as expressed in the load curve (Annexure-1) shows a 40 per cent difference between peak demand and off peak demand. At 8 PM, night demand is about 3000 MW, compared to 1600 MW, say, 3 AM. Small plants can be put on and off in tandem with the demand curve. Large power plants on the other hand cannot handle this variation in demand, resulting in huge inefficiency. Large power plants can only work as base load plants.

**Lead time:** Small power pro-

gram is much more economic, (c) all the areas of Bangladesh deserving gas for their various usage should get gas, (d) there is little or no system loss in gas transmission and (e) less maintenance is necessary for gas transmission lines, so we must all hope and believe gas network will be expeditiously implemented all over the country.

But large power plants require more electricity transmission capacity and stability at huge cost and expenditure. A parallel electricity transmission network to a gas transmission network is certainly a waste. It will be inappropriate to transfer two easily convertible energy in parallel.

A good solution for Bangladesh is to set up small power plants along the gas network. This is also suitable from the socio-political-economic point of view. Let us take:

**Enterprise:** I will start with the basic factors of production,

improvement in growth performance has been rather modest or could not be sustained.

While the sphere of public investment was curtailed, the response of private investment to reforms was mostly lacking. Apart from the desire-to-invest factors, the domestic saving rate could not also be sufficiently increased while net external assistance as a proportion of GDP declined continually. Another common feature is that the fiscal deficit has been reduced by curtailing the development part of the budget and not by reducing current expenditure or by mobilising more revenue (the only exception was a once-and-for-all increase in the tax-GDP ratio in Bangladesh following the introduction of the value-added tax in the early 1990s). As a result, public saving as a proportion of GDP has increased very little, or has in fact declined, and remains much too low by the East Asian standards.

Improving the quality of fiscal adjustment and making provision for better institutional and policy environment for private investment appear to be the common challenges facing South Asian economies. In fiscal adjustment, there is some debate about the desired level of public investment, since such investment can, in some contexts, both 'crowd in' and 'crowd out' private investment. The key requirements for improving the investment climate include adequate infrastructure provision, strengthening of the financial and legal systems and a general improvement in the quality of governance that can help to reduce the so-called transaction costs of doing business.

The reader will thus be exposed to a whole spectrum of viewpoints and be able to make his own judgement on the issues discussed.

The book has six parts; the

first provides the country over-

views of reform experience in

Bangladesh, India, Pakistan and

Sri Lanka. The other parts deal

with the specific issues of macro-

economic policies under global-

ization, adjustment and poverty,

sustainability of reforms, less-

ons of the East Asian crisis, and

the emerging issues beyond

structural adjustment.

Among the South Asian coun-

tries, Sri Lanka was the first in

moving markedly towards eco-

nomic liberalization during the

end-1970s, followed by Pakistan

and Bangladesh in the late

1980s and India in the beginning

of the 1990s. In spite of the dif-

ferences in the timing and the

extent of reforms, the country

overviews bring out some com-

mon features of the South Asian

reform experience, as briefly

summarised in the editor's

introduction. In none of the

countries, there is evidence of

any sustained increase, if at all,

in the investment-GDP ratio (this

is so even after discounting the

expected initial investment

squeeze needed for achieving

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largely explains why any

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per cent for Dollar. US Dollar also appreciates by about 7 per cent per annum. These should be adjusted in the evaluation process of the GOB. Annexure 2 compares cost of different IPPs with these adjustments showing a very competitive price for small projects.

Small power plants with appropriate bid documents can provide the equal opportunity to local entrepreneurs and benefit to the government and people of Bangladesh by making the cost of electricity affordable and payable by small companies.

**Taka vs Dollar:** Bangladeshi entrepreneurs investing in Taka will seek their equity return in Taka. Should the local banks provide fund the debt repayment would also be in Taka. Further there is another dimension to it. If part of the equity comes from the stock exchange, the stock market will get a boost from the quality stocks, therefore the infrastructure of capital market itself will improve. Through small power plants we can help ourselves and lighten up Bangladesh.

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# Lest We Forget

## Mirza Golam Hafiz: Leader with a Mission

by Md. Anwarul Afzal

**H**ISTORY becomes eloquent about the men she loves. The frosty barriers of time melt down to reveal the many splendoured colours of rainbow in warm radiance as the chronicles are related to men and women who boldly faced their restless times and yet retained their composure and visions that transcend their own age. Mirza Golam Hafiz (1920-2000) was among them.

Like others of his generation and the one that followed them in the sub-continent, Mirza Golam Hafiz lived courageously under their flags. Born as a British subject he lived to work for and saw the departure of British colonial rule from the sub-continent. Hafiz was born in Dinajpur district in 1920. He did M.A. in Economics from Calcutta University in 1941 and BL from Dhaka University in 1948. He began his early life in Jalpaiguri, took active part in politics in pre-partition India, joined All India Muslim League Federation in 1938, went to Dibrugarh (Assam) to participate in the Anti-Line Movement launched by Maulana Abdul Hamid Khan Bhashani and was imprisoned. He took part in Tevaga Andolan (peasant movement) of North Bengal and was absconding.

As a citizen of the post-1947 two-part state of Pakistan he fought, with quiet dignity to establish, protect and preserve the inalienable rights of the Bengali citizens of Pakistan as he rose to the high position of a reputable lawyer both nationally and internationally. During this period he strived for ensuring justice, human rights, democracy. He was one of the lawyers from Asia who pleaded in Vietnam War Tribunal of Bertrand Russell, the great philosopher, in Paris. He also pleaded in the Agartala Conspiracy Case in the erstwhile East Pakistan and escorted Sir William Thomson, the UK Queen's Council Lawyer from London to Dhaka for pleading in the Agartala Conspiracy Case. But Thomson was not allowed to enter Dhaka city by Pakistan Government and he had to return to London straight from Dhaka Airport.

Mirza Golam Hafiz was associated with East Pakistan Civil Liberties League as its Secretary General from 1948 to 1950, participated in the language movement of 1952, a noble dream inspires humanity to strive to be true humans. So do the life and work of men like Mirza Golam Hafiz who passed away on 20.12.2000. We pray for the peace of the departed soul.

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little voting power but can create serious short-term disruption, such as the privatization of state enterprises resisted by trade unions. There are yet some reforms that will hurt only a small group of rent-seeking political-bureaucratic elite, but are likely to get general public support; these would include institutional reforms, such as for dealing with wilful default of bank loans or tax evasion or corruption in high places that subverts the effectiveness of the government's regulatory functions.

Clearly, the degree of resistance to these different types of reforms depends on the nature of prevalent political cultures. It is noteworthy that the politically-blocked reforms in India belong to all the above three types. In Bangladesh and Pakistan, on the other hand, the reforms of the first type have