

# The regional energy market and energy security

K.A.S. MURSHID AND ARNE WIIG

It is important to remind ourselves that very few countries are or need to be self-sufficient in commercial energy. Even under the most optimistic scenario, e.g. with regard to gas reserves, it is clear that we will need to think of energy security in terms of energy trade. Bangladesh is strategically located in between two great geo-economic areas, namely South and Southeast Asia. Apart from its strategic location, Bangladesh and its surrounding areas are thought to be rich in energy resources that are largely untapped and unexplored. Bangladesh's own gas reserves may be considerable, but even those will not last forever. Northeast India and Burma are well endowed with gas, in addition to possessing significant oil reserves. Neighbouring Nepal and Bhutan also enjoy a huge, largely untapped hydro-electricity potential.

The South Asian economies (especially India and Bangladesh) have been experiencing good rates of growth in recent years, at around 5-7 percent. The huge Indian economy has opened up gradually to foreign investment. The demand for commercial energy and power has increased rapidly leading to large, emerging shortages manifested in frequent power outages. Demand in Bangladesh is also set to rise quickly (at 6-8 percent) although from a much lower base. Thus, in the medium term demand for power will be high and India will need to evolve a policy strategy to ensure adequate supplies. Bangladesh should also be concerned about its longer run energy security and may need to look beyond its borders to arrive at a sensible and optimal strategy.

**Current Energy Consumption:** South Asian consumption per capita is estimated at 443 kgoe with India having the highest consumption at 479 kgoe and Bangladesh the lowest (at 197 kgoe). As to be expected per capita electricity consumption is also very low by world standards. Bangladeshi consumption is even lower than the (low) regional standards - a paltry 73 kWh per capita compared to e.g. around 423 and 319 kWh for India and Pakistan, and 600kWh for Bhutan.

**Regional Supply-Demand Potential: India, Nepal and Bhutan:** These three countries are likely to be the most relevant for Bangladesh in its endeavour to chalk out a regional energy security strategy. Nepal and Bhutan are endowed with considerable hydroelectric potential and could compete with Bangladesh in the regional export market for power. Alternatively, cheap power imports from these countries may be something that Bangladesh will need to actively consider on a longer-term scale when our gas runs out. This will depend critically on a change in the mind-set, away from an insistence on gas/energy autonomy.

India, on the other hand, is look-

ing for augmenting its sources of energy and is eyeing Bangladeshi gas along with possible pipeline gas from Iran (via Pakistan) and LNG from the UAE. As far as Bangladesh is concerned, India represents a potential market for power and gas. Thus commercial energy demand scenarios in India need to be carefully analyzed by Bangladeshi policy makers. Similarly, Bangladesh too need to focus on potentially energy-rich Nepal and Bhutan to explore the potential for a regional approach to its energy security needs.

**Indian Energy Demand: A Window of Opportunity?** Indian power generation capacity has registered dramatic growth over the years - from 5700 MW in 1950 to over 100,000 MW today. Underlying this growth however, there are a complex array of problems from

Godavari basin) over the next 5-7 years, piped gas from Iran or Central Asia via Pakistan (if the tense political relations with Pakistan can be improved) and LNG from the Middle East. India will have to find some solution to its energy problem, the argument goes, and once it locks itself into a long-term gas/energy contract with another party, this opportunity will vanish forever. Let us briefly review these options: (1) At this point in time a meaningful and lasting rapprochement with Pakistan appears unlikely. The last thing India would consider is to depend on crucial energy sources on a pipeline that cuts across Pakistan; (2) The potential for significant discoveries of natural gas always exists. However, even if explorations were to begin now, actual discovery and development of new fields, and

detailed economic feasibility of this option however remains to be conducted.

As far as Bangladesh is concerned, the energy export market in India should it want to or need to export in the short to medium term. Basically there are two real options: pipeline gas exports or power exports, and these need to be carefully assessed, including the institutional and financial strengths of the Indian entities with whom long-term contracts will need to be signed. If the benefits were about equally distributed between the two options, the latter would be advisable on political grounds.

**Energy Security and the Role of Nepal and Bhutan:** Nepal is primarily dependent on hydroelectricity in which it has a huge potential, as indicated by an annual aver-

formulating its energy development strategy. A more enlightened approach may well be to link up with the Myanmar gas pipeline, which goes all the way to Thailand thus providing access to SE Asia. At least one IOC (UNOCAL) has long term plans of joining up its Bangladesh pipeline with that of its pipeline in Myanmar.

**Potential for Regional Cooperation:** There are significant complementarities in the energy sector amongst countries of the region. Energy endowments include coal (mainly India), gas (India, Pakistan, Bangladesh) and hydropower (India, Pakistan, Bangladesh, Sri Lanka, Bhutan and Nepal). There are no technical or economic reasons that should prevent the development of bilateral or regional agreements to utilize

demand, especially demand for power, examination of development options facing each country and the region as a whole, regulatory policy and pricing-subsidy practices, and estimation of gains from regional energy trade. Simultaneously, political irritants have to be removed before real commitment can be generated for cooperation.

It would be useful to begin in a small way to generate the necessary goodwill and commitment. A potentially useful beginning could be to export energy to India's Northeast from the Eastern Grid in Bangladesh (where there is a surplus) and import to its Western Grid from West Bengal, where there is a large deficit. Such an exchange could serve to initiate a potentially significant process of energy trade as the much-needed trust is created between the neighbours.

**Should Bangladesh Export Gas?** The question should be seen in the context of our overall energy security needs. This requires that we explore for gas more aggressively and bear in mind the huge potential gains from regional energy markets. Both considerations require that we export a limited quantity of gas or power, say equivalent of 1.5-2 TCF of gas, mainly to fund a more concerted effort at further explorations. This is a relatively small amount and will almost certainly be covered by additional discoveries. At the same time, the opportunity should be used to create the infrastructure so that Bangladesh can eventually tie into the regional energy hub comprising India, Bhutan, Nepal and Myanmar. Bangladesh will need a lot of energy in the coming years and it would be foolhardy to assume that all of it will always be met from our own resources.

A strategic approach is needed to break out of the current, rather static and unproductive debate about gas exports. The gains from regional cooperation are tremendous and not necessarily tied to just gas or energy concerns. There is the question of market access to India and renewed quota for RMG exports to the USA. The gas export option is an opportunity to involve all the potential stakeholders, including India and the US in arriving at a comprehensive package that will involve some gas exports, energy security and market access for our products. A mature, sophisticated and longer-term perspective is essential if we wish to progress on this front.

Dr K A S Murshid is a Research Director, BIDS and Dr Arne Wiig is a Senior Research Fellow, CMI, Norway. This article is an extract from a comprehensive paper on energy policy produced

**A strategic approach is needed to break out of the current, rather static and unproductive debate about gas exports. The gains from regional cooperation are tremendous and not necessarily tied to just gas or energy concerns. There is the question of market access to India and renewed quota for RMG exports to the USA. The gas export option is an opportunity to involve all the potential stakeholders, including India and the US in arriving at a comprehensive package...**

which the sector continues to suffer: huge power shortage, high pipeline rates, low metering, unequal access, low reliability of supplies and frequent power cuts, financial losses incurred and high subsidy levels. Steps are being gradually taken to address these problems including strategies for institutional and "functional" reforms, setting up of an independent regulatory body and conducting energy auditing. The hitherto "untouchable" question of agricultural subsidies to farmers is increasingly being discussed.

Despite these serious problems, India faces an acute power crisis with current generation being 30 percent below demand, requiring heavy investment in capacity generation. The Indian government has targeted additional capacity investments in the order of 40,000 MW over 1997-2002 and forecast additional needs of 111,500 MW by 2007. Overall Indian power demand is projected to increase to 1192 billion kWh in 2020 (i.e. three times the level of 1996).

India generates around 70 percent of power from coal-fired plants, 20 percent from hydroelectricity plants and the rest from natural gas, oil and nuclear sources. It is gradually increasing its use of natural gas (both LNG and piped gas) and the scale of future power demand bodes well for a strong gas/power market in India. Should Bangladesh decide to export piped gas the Indian market holds out definite promise. It is being argued by IOCs and other observers that this is a constrained "window of opportunity" that should not be taken for granted.

The main arguments put forward in support of the "limited window of opportunity" hypotheses include the possibility of significant gas discoveries in India itself (especially in the

setting up transmission and distribution systems etc. means that actual availability of gas would take a minimum of 6-8 years. This particular type of threat, therefore, is not of immediate relevance, giving Bangladesh sufficient time to make up its mind about exports; (3) Cheaply produced LNG is available from the Middle East but this is a viable option in areas close to the coast but not in points deeper inland. Thus, a solution would still have to be found to meet the energy demand for major urban-industrial configurations (e.g. for the Delhi area).

There is the additional question of the nature of energy demand that Bangladesh could meet. Possible options include conversion to power and power exports or pipeline exports of gas for ultimate conversion to power or fertilizer. There seems to be an excessive eagerness on the part of IOCs to prove that the best option is to export via pipeline, mainly to feed power plants in India. There may also be some demand from Indian fertilizer plants who are reportedly paying a high price for their input supplies. The option of conversion to LNG has been quite thoroughly appraised and found sub-optimal. Whether power exports are a good, cost-effective option has not been adequately investigated. A technical feasibility study undertaken suggests that this is feasible since the Eastern grid in India (where initial exports would have to be made) is well under way in being connected up with the Western and Northern grids where these exports would ultimately need to be channeled. In other words, the Indian electricity grids are undergoing quite significant changes that will give them the ability to move power around from one part of the country to another. A

age flow of 225 billion cubic metres. In terms of hydropower potential, Nepalese rivers have been graded into three categories, based on their origins. Those originating from the Himalayas have the highest potential (Koshi, Narayani, Karnali, Mahakali), while those originating in the Mahabharat Range come next (e.g. Mechi, Kankai, Kamala, Bagmati etc.). The remaining is in category 3, which are seasonal rivers with the least potential. Category 1 and 2 rivers are thought to have a combined technical potential for generation of 83000 MW of power, of which around half is economically feasible. Projected power demand for 2005 is estimated at 622 MW. A number of projects are under development and mainly aimed for exports around 18000 MW. In other words there remains very significant additional potential left for domestic use or further exports, including exports to Bangladesh.

In the case of Bhutan the technically feasible hydroelectric potential is around 21000 MW of which only 334 MW are being generated. Steps have been taken to unbuckle the electricity sector and plans are underway to commission a 1020 MW plant in 2003. This will allow Bhutan to undertake additional exports to India. It may be mentioned that the Power Grid Corporation of India awarded a contract to a Japanese firm to provide technical consulting services for the supply of electricity from Bhutan to New Delhi along a 1,116 mile route. Given the far closer proximity to Bangladesh urban-industrial centres, exports to Bangladesh may be economically viable in the long run.

The energy resource base in Myanmar and NE India is also considerable - a fact that Bangladesh will need to keep in mind while

these resources more efficiently and contribute towards the creation of a regional energy hub.

Economic and technical advantages of a regional electricity and gas grid/pipeline are many. This ensures greater supply security and reliability, reduces reserves needed for meeting peak demands, lowers costs through economies of scale, increases diversification of primary sources of energy and contributes to overall efficiency. The formation of a SAARC committee (Technical Committee on Energy) that is being mooted is a small step in the right direction.

Five types of (inter-related) barriers that constrain regional cooperation in energy have been noted: policy barriers, technical barriers, institutional barriers, commercial barriers and financial barriers. We would introduce one other barrier - political barrier -, which in fact may prove to be the most intractable. The main policy barrier is the concept of self-sufficiency espoused by each country and the use of different technical standards and specifications that make coordination difficult. Energy authority officials in these countries rarely meet to coordinate policy or design standards. The large financial resources need not impose a binding constraint as long as markets are identified, and firm contracts and guarantees against risk are provided to domestic and foreign investors. Fundamentally however, there remains considerable distrust and sensitivities amongst the countries of the region, which must first be overcome. The largest country here, India probably needs to assume a critical responsibility in this matter. Thus necessary first steps include development of an adequate database on regional energy supply-

# Housewives: The unpaid professionals

SYED KAMALUDDIN AHMED

It was 1984, about 17 years back, when I wrote an article in a vernacular daily titled "How much is the salary of a housewife?". In that article I tried to assess and project, very arbitrarily, the work output of a housewife in financial terms. Being a professional of different kind I am not very comfortable with economic issues. Moreover, the issues related to this subject matter never occurred in my mind till I got married. I saw my mother working all through the day and managing a big family only to have an almost sleepless night because of unending worries and very frequent attacks of asthma. Like many of us, probably, I also had the similar idea that it was the way the mothers were supposed to play their 'role' in a family. I could never realize that her work also had some contribution in family exchequer and needed to be compensated. When I saw my wife, herself a professional, very closely and found doing all household work where I had very little participation, I thought, it needs to be sorted out. She had the similar kind of job as I had; still she had to take the responsibility of managing the family. We talked of sharing the responsibility, and she was surprised and impressed at the same time. I could not decide why she did not raise the issue earlier. Did she think that it was my birthright to not to take household responsibilities except washing my own clothes and doing once a week grocery? I tried to estimate, again very arbitrarily, the amount we were saving because of her doing all the household work. I got inspired to write the article. Unfortunately, the article could not attract any public opinion. There was no appreciation, neither was any criticism.

English thesaurus and dictionaries defined the word 'housewife' differently. "The woman who stays home and manages the household, and is not working", "the woman who stays home and does only household works" were among others found in different dictionaries. One thing that is apparent from these statements is that the very word in question has been seen from a particular perspective where her staying home was the issue rather than her contributing to the family management. The dictionary

meaning of 'profession' is somewhat imprecise and ambiguous. "Occupation", "job", "career" and similar kind of words are found as the meaning of profession. Now the question is that the woman who is not "working" or does not have a "job" or does not intend for a "career", is she a professional? Can we define the household work as professional work? In some of the dictionaries the 'professionals' are defined as ones having "special skill" acquired after particular type of "training" and "education". Is it necessary to undergo certain spe-

pride and sometimes with insolence and reluctance. Now I have changed my strategy to rephrase the question "Do you do anything other than your housework?". I may sound little tactful but I find it a better way to avoid often an embarrassing situation.

I am sure, invisible contributions of housewives at microeconomic level are definitely considered in calculating the GDP of a country. Many of the household works, besides home management, are very labour intensive. If the work output is converted into commodity

Moreover, over time, the housewives acquire certain knowledge and skill in managing the household that many formal training and education cannot provide.

Now let us try to look at the privileges the housewives get in day to day functioning. It is an unpaid skill intensive hard work without much variation. There is no bonus, gratuity or savings provisions, or retirement package. Very often the service is not recognized and, if at all, only distantly appreciated. There is no scope for taking leave or absent from work unless one is

their credentials, and should be considered in alternative occupations, public or private. They should have right to decide on their health and pregnancy, and there should be provision for legal protection in case of any imposition on those issues. Housewives should learn to negotiate and actively participate in family decision-making including those on financial matters. Working hours should be decided and there should be provision for leave. Extra hours work should be compensated. All those should come under a package that might ensure a social and financial security. As monetary compensation often may not be feasible, and as their contribution at microeconomic level can never be ignored, there may be provision at state level for their security. There should be age bar for continuing the profession which may be complemented by a retirement package.

All those propositions may have some degree of ambiguity and appear very thematic, and to many, may sound somewhat unrealistic. I do agree. Those are only initial thoughts, may be ideas, but can surely be converted into realistic action plan if the matter is given a serious consideration. It needs establishment of a participatory forum, forum of housewives, to translate the ideas and thoughts into action. Formation of such a forum, may be an earlier version of a professional body, will be the stepping stone of a process. Reform comes through such a process and the process needs to be started somewhere. Reform is necessary when there is conflict of interest leaving possibility of exploitation of one cohort of population by another. Then it becomes a question of rights, more specifically human rights, breach and violation of which may lead to extinction of integrity of a yet to be recognized "profession". My mother never got paid for her contribution of whole life as a home management person, neither did my housewife sister get compensated for her share of unpaid housework. They would never bargain, I am convinced, but rest of the human community should positively reciprocate to recognize their professional dignity. It is their right, very much a human right.

seriously ill. There is no scope for negotiation, protest or appeal. There is no health insurance, injury compensation or legal protection. Housewives often suffer from preventable health consequences like malnutrition and multiple pregnancy. They eat last, least and often leftovers. They cannot demand planned family because they "do not work", and repeated childbirth should not be a problem for them! These are the things oft repeatedly persuaded by women lib activists. I find these are more specifically true and appropriate for housewives than working or professional women.

Whenever we talk of human rights we frequently refer to gender issues and rights of the women. Talking about housewives, as I perceive, is not talking about women's rights, rather it is talking about a profession that exists in this God's earth since antiquity, but is seldom recognized. It is a profession that needs its own identity, principles of functioning and at the same time rights and privileges. Housewife as a profession should be defined in economic terms and its contribution as a professional group in national growth and development deserves special mention in national fiscal documents. Their skill, self-learned management endowment, contribution to family growth and stability should add to

Dr. Syed Kamaluddin Ahmed is a medical professional and works in National AIDS/STD Programme as a Behaviour Change Specialist.

Lest we forget

# Ataur Rahman Khan 'Nanu' as I saw him

ALIYA FARZANA KHAN (LIYA)

My life has been enriched by the presence of my grandfather. Even today as I walk down the long corridor in my grandparents' house I can still clearly hear him talk and laugh. 'Nanu' that's what I called him in Bengali. He was the most wonderful person I have ever met. To a girl of nine-and-half he was like a character from a book. A wise old wizard who could grant all my wishes. His wisdom, his kindness, his tremendous patience are qualities I have not found in any other. As I would talk and walk side by side I would feel this sense of peace coming all over me. He taught me so much. He made me understand the value of honesty and integrity. He made me realize that we should love people for who they are inside and not who they appear to be on the outside, and that we had no right to stand in judgment of anybody else. He was always busy, yet even in his hectic schedule he found time to talk to me. At a time when I felt confused about so many things he held my hand and led me the way. He never shunned me or ever made me feel silly or small. His zest for life, his fun-loving nature made even the younger generation seem old. His wit and sense of humour made him the centre of all the attention. I think that he made an impression on everyone he met. He was a politician and acquired positions of great power and respect, yet there was a humbleness in his character. Which made me realize that one must never loose tracks and become too arrogant, because that's when your downfall comes.

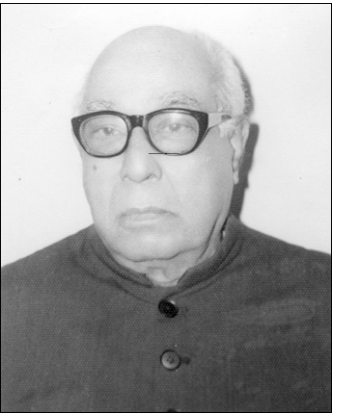
Even after arriving from hectic schedules, he would always enquire about the servants and the drivers. He would not eat unless they also ate. I would watch him treating everyone, whoever that person may be, with equal love and respect. When I commented on it one day, he just smiled and answered that everyone is equal and work whatever it may be, should also be given equal respect.

So many little incidents stand out and make me love and appreciate him even more. Even when he became sick he was brave and fought with a courage I have not seen in any other. All his life he fought for justice and peace. He was never afraid of voicing his opinion.

He was also a lawyer and he believed that justice should always be served. When I would feel sad I would just sit quietly and sit beside him, and instantly he would know something was wrong with me. All he would do is pat my head or put his arms around me and I would feel so happy. I know some people found it really amusing that I preferred spending time with my grandfather to those my age, but it wasn't because I was mature it was because I saw in him a child unlike any other.

He would always say to me that 'appreciation for the beautiful lasts only for a few days but appreciation of kindness and talent lasts forever.' These words always ring in my mind and make me determined to want to make a success of myself. I learned to love nature and cherish the little things which one tends to neglect in everyday life. He taught me so much and I wish I could have given him so much more too. As I stand in front of my grandfather's house and hear the echoes of the two of us laughing I cannot help but feel empty and lost.

His death came as a blow to me, yet I also feel that he watches me and as I enter his room I can almost see him smile and say to me that he is fine. Wherever he is I know he is happy. Memories of him will always be etched in my heart. Time doesn't stand still, it goes on. My life was enriched by him and I will always be grateful for knowing him. He enabled me to be the person I am today and for that I will always be grateful to him. Death he would say will come to everyone. He met his way he wanted - by smiling.



He was also a lawyer and he believed that justice should always be served. When I would feel sad I would just sit quietly and sit beside him, and instantly he would know something was wrong with me. All he would do is pat my head or put his arms around me and I would feel so happy. I know some people found it really amusing that I preferred spending time with my grandfather to those my age, but it wasn't because I was mature it was because I saw in him a child unlike any other.

He would always say to me that 'appreciation for the beautiful lasts only for a few days but appreciation of kindness and talent lasts forever.' These words always ring in my mind and make me determined to want to make a success of myself. I learned to love nature and cherish the little things which one tends to neglect in everyday life. He taught me so much and I wish I could have given him so much more too. As I stand in front of my grandfather's house and hear the echoes of the two of us laughing I cannot help but feel empty and lost.

His death came as a blow to me, yet I also feel that he watches me and as I enter his room I can almost see him smile and say to me that he is fine. Wherever he is I know he is happy. Memories of him will always be etched in my heart. Time doesn't stand still, it goes on. My life was enriched by him and I will always be grateful for knowing him. He enabled me to be the person I am today and for that I will always be grateful to him. Death he would say will come to everyone. He met his way he wanted - by smiling.

'Have A Nice Day' and cartoon strips are held over for next 'Focus' page.