

Striving for Energy Self-sufficiency

by Nuruddin Mahmud Kamal

MORE than three-quarters of the Bangladeshi population, nearly one hundred million, live in the rural areas with agriculture as the main occupation. Cooking and lighting are the major energy end-uses in the villages. Most of the energy demands are met by bio-mass fuels — firewood, animal dung and crop residues or any other non-commercial fuels which they can lay their hands on. Commercial fuels (fossil fuel) have not penetrated the majority of rural areas due to absence of efficient energy networks etc., a consequence of low purchasing power and power infrastructure development.

Energy supply in the country, particularly in the villages, is in serious shortage. Rural electrification through grid networks, despite reasonably rapid expansion since 1978 in terms of villages covered, with the creation of a separate institution called Rural Electrification Board (REB), has not yet been able to provide access to the majority of the rural households. Consequently, even rural electrification has not made any significant contribution to rural development. Continued dependence on bio-mass fuels as a means to achieve sustainable development in the rural set-up has manifested in serious environmental problems such as natural resources degradation affecting the quality of life, especially that of women, who are collectors, processors and users of bio-mass fuels. Environmental impacts of fossil fuels, in the rural areas, restricted to kerosene and diesel use, is very insignificant. However, the increased dependence on the energy requirements over the next few decades thus warrant a search for environmentally sound and economically efficient alternatives. Here comes the issue of energy self-sufficiency.

Throughout human civilization, energy has been one of the prime movers of economic development. Before fossil fuels — coal, oil and gas — came to dominate the energy scenario in the last two centuries, bio-mass, a renewable resource, was known to be the most prominent fuel source the world over. The environmental problems related to fossil fuels, however, are still concentrated in the industrialized economies and pertain to energy-intensive lifestyles. The developing countries like Bangladesh face energy crunch of a different nature — most of the energy resources are exploited unsustainably. Inefficiency in using the resources also contributes to over-exploitation of natural resources. At the local level, erosion in the resource base leads to a deterioration in quality of life. Thus energy self-sufficiency means different things in different societies.

Be that as it may, achieving total national energy self-sufficiency in Bangladesh, like nirvana, is a state greatly to be desired.

sired, but the path to it involves an equally arduous, disciplined effort. Those who know say, any possibility of getting there lies somewhere well into the next century. The rigid definition of the term, as it is understood now, implies zero energy imports. This cannot be a real situation in Bangladesh. Rather, I believe, since we are now able to reckon the energy issues and, see what the problems are, our definition of self-sufficiency may be suitably worded to give a meaningful expression of our own thought process based on actual energy resources position in the country. Although adequate supplies of competitively priced energy is usually a pre-quisite for meeting the country's development objectives, purchasing capability of a common citizen is as important. For example, if the sales price of natural gas, the only commercial energy source in the country, is increased abnormally high commensurate with the international (market) price for local consumption, the likely scenario would be less and less domestic development compared to the desired level. Moreover, gas price equalization concept for all consumers also might give negative signals to the expected socio-economic development of the country.

From a practical view point, what we are shooting for is far too low. The coming five to seven years will be our greatest period of stress, before our drive toward self-sufficiency begins to reduce our import requirements. It will also be our greatest testing period as to whether we are going to continue to live from one summer electricity shortage to the next one.

Still underlying all the economic uncertainties of the international oil scene are the dangers of petropolitical hazards which actually exist in the real energy world. The use of the oil dagger as an economic weapon has been temporarily sheathed in the recent times because of glut in oil supply, geopolitics in the international oil market. Perhaps an attempt would be made again in the near future by the oil producers or the oil companies to stab even a small consumer like Bangladesh. Thus, a non-oil producing consuming country will remain under constant threat, which may seem almost unmountable.

If we try to remind ourselves the fables of Alice in the Wonderland, the Duchess told Alice, "Everything's got a moral, if only you can find it." When we look at the hard realities of the world oil situation, the moral for Bangladesh is rather clear or we can't find it. Our economic and political security depends on having a workable national energy policy to develop energy self-sufficiency at the earliest. It is true that an Energy Policy (1995) exists, but it is alleged to be too verbose and its implementation strategies are by passed. Under the circumstances, we really cannot

be optimistic about the solution of our energy problem particularly when lack of technology, lack of skilled manpower and shortage of funds are not allowing us to move forward. In one word, achieving near self-sufficiency in energy in Bangladesh depends largely on increased investments in the gas industry during the critical transition period when alternative energy sources are being developed to come into play hopefully by 2005.

However, it is desirable that every energy pot must stand on its own legs in accommodating its development for achieving the nation's environmental goals as well. In the energy domain, the indigenous resources (gas, coal) and imported oil industries provide commercial supplies. Admittedly, we have already begun a new environmental conscious society for our urban middle class and elite, which will change the lives of say fifteen per cent of the population for the better. What about the rest eighty five per cent? The sooner we realize the latter stepping on our own feet. Some say that at present we are creating more energy problems rather than solving the one we have. Perhaps we are so psychologically geared to the idea of

are being developed, solar energy and wind offer potential economic and environmental gains. Half hearted efforts to develop a nuclear industry in Bangladesh have never gotten off the drawing board. With regard to solar photovoltaic energy, the country is blessed with abundant solar radiation except during the rainy or very cloudy days. Use of solar photovoltaic system would help deliver electricity to rural households, solar powered water pumps, lanterns, remote communications and rural health care. Prospects for developing wind energy are still difficult to gauge mainly due to the lack of wind speed data in the country. A few other technologies might include bio-mass burning to produce electricity in small units of 100 to 300 KW in rural communities. Nonetheless, commercial use of renewable energy source must start now to obtain a balance on the supply side.

However, in working forward a balance of energy supply and demand, our domestic supply must be increased in the next few years. This, of course, should be pursued in a conscientious manner because of the long lead times, four to five years, if not more, to develop new gas infrastructure after the

near future. These plans and policies give us a realistic appraisal of the enormity of our task in the coming years.

A commonsense approach is to tighten our belts, conserve energy and encourage the public to know-how, technological capabilities and the experience of the industry, to do the job which has to be done. Although gas and coal will dominate the mid-term scenario, to 2010, the groundwork must be laid both to expand their development and use through new technology and to develop entirely new energy sources.

The point is that energy supply must be tackled on many fronts. The cost estimates for such options are very high. But where all the money is going to come from? Energy investment so far has not been commensurate with the demand. In fact it was never tagged to our gross domestic product (GDP) and, to meet the new requirements, will have to be much higher than it is today. The energy sector's share of total business capital expenditure is to be projected to rise, although the country's money supply is limited, and the energy industries have to compete successfully with other users of capital to get

Kerosene is mostly used for lighting purpose in the village homes and urban slums. Almost 83 per cent houses in the country are without electricity. There is thus a great demand for electric energy, which cannot be met with the existing infrastructure including power distribution networks controlled by BPDB, DESA and REB. Of the total number of consumers at around 4.4 million in the country, DESA covers about 14.70 per cent population and consumers over 53 per cent of electricity generated. Between BPDB and REB, the network covers the remaining 47 per cent of the electricity generated and provide electricity to 85.30 per cent population. The system loss of DESA, BPDB and REB is 35.0 per cent, 21.60 per cent and 16.70 per cent respectively.

Out of the total installed capacity of about 3600 MW since the 50's, average generation is over 2200 MW and highest so far achieved was 2382 MW in November 1998 and 2450 MW in June '99 respectively. As was planned in early 1999, overall load-shedding has reduced substantially but DESA's situation has not improved essentially because of its inadequate infrastructure. In fact, DESA cannot receive and distribute more than 1000 MW on a sustained basis with the existing

bio-mass energy sources except forestry sector which supplies a small fraction of total bio-mass demand in the country. As a result, unplanned use of bio-mass fuels has been causing environmental degradation, question may be raised whether in situation matters?

Amongst others, a number of critical issues lingered in the development of energy sector in the past which include but are not limited to donor assistance and shortages of funds. In fact, financing for energy projects largely remained in the quantitative areas rather than the qualitative and quality of energy services. Moreover, due to non-systematic exploration and exploitation of hydrocarbon, balanced development of energy resources of different geologic and geographic locations of the country did not materialize. Further, imbalanced generation and distribution of gas and electricity at least over the last one decade have created a panic situation both in the planning and policy phases as well as in various implementation phases. Though delayed, adequate attention has now been given and appropriate policies to encourage private sector participation to supplement and complement the public sector efforts in the energy sector development programme has been accorded to fill in the gap of shortages of funds. Indeed, other development programmes like industrial development programme has been accorded to fill in the gap of shortages of funds. Indeed, other development programmes like industrial development programme etc. have been constrained due to shortage and unreliable supply of natural gas and electricity. The fact of the matter is that organizations dealing with commercial energy have not been operated and managed efficiently. Worse still is that proper and adequate attention has not been given to meet the total energy needs of the vast majority of rural population.

Therefore, low cost, environment friendly, sustainable and renewable sources of energy must be harnessed for overall development of the country in future. Currently, renewable energy sources contribute about the major portion of the total energy consumed in the country, of which only around less than one per cent is supplied by hydroelectricity. The peculiarity of bio-mass fuel use in Bangladesh is that the consumption is taking place at the nearest proximity of the production except hydroelectricity sent out through grid-line, while commercial fuels, in the transport and long distance through heavy large investment infrastructure. Natural gas is the only conventional source whose expansion beyond river Jamuna has recently been initiated. Consequently, in the coming years the utilisation forecast will increase substantially as new power plant will be erected in the western zone as well as conversion of petroleum

(fuel) used plants machinery and industries would take place. However, in recent times, two exaggerated claims have been noticed about natural gas. One is regarding likely availability of seven or eight times more than the authentically recorded remaining recoverable reserves of around ten and a half trillion cubic feet. Two is that new renewable energy sources have great potential in meeting future energy needs of the country. With a population growth rate of even less than two per cent per year, the total population of the country by the year 2015 is likely to become about 150 million from 125 million in 1998. This will put tremendous amount of additional pressure on energy use and change the forecast to a worst situation unless adequate precautions are taken now. On the other hand, such inflated claims, be it in the gas reserves or in non-conventional sources of energy, without any proper study of supporting documents are neither tenable nor can be relied upon on technical considerations. However, the potential should be assessed soonest.

To recapitulate, Bangladesh population mostly live in the rural areas with agriculture as the main occupation, cooking and lighting are the major energy end-uses in these areas. Due to absence of efficient energy markets, a consequence of low purchasing power and poor infrastructure development, availability of non-commercial energy sources is inadequate. Most of the energy requirements in these areas are met by some form of renewable sources of energy. Rural electrification, in its true sense of the term, initiated through a regular institutional frame (REB) in the late 70s, is gradually covering the green fields through new distribution networks although the organisation started its work after the transfer of lines from BPDB. The transfer is still continuing in phases from both BPDB and DESA and expansion of village cooperatives (54 Pali Bidyut Samitis or PBS) are taking place. Negative environmental impacts of fossil fuel have not yet crossed the urban boundaries to enter into the villages in Bangladesh. Yet it is a common knowledge that despite rapid spread of rural electrification in the last two decades, in the access to the rural households, such significant contribution to rural development has not occurred. However, although no empirical study has been carried out, it is said that continued dependence on some bio-mass fuels has also manifested environmental hazards such as air pollution on the aggravated environmental impacts of fossil fuel paradigm. Indeed, energy is the key to creating wealth, not just for the few, but the many. We must all endeavour towards that direction.

The writer is a retired Additional Secretary.

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doing things slowly that it hardly seems possible that we can't have crash programme to get us out of our predicament. It is also alleged that we do meddle ourselves far too often with

kindergarten exercises compared to the technological, bureaucratic, financial and political obstacles which must be overcome. People say that it is next to impossible to draw-up a specific timetable for energy, how much and what kind we will be using just when because too many unpredictable factors are involved concerning decisions we haven't made yet. That's why even all comprehensive Energy Studies conducted since 1974 and or individual gas or power or non-conventional energy studies carried out over the last 25 years usually present multiple case histories. The number game now is so complex that it's a good thing we have also started using computers, or we'd really be whistling in the dark. Although reasonably generously endowed with natural gas, Bangladesh does not generate enough electricity even to meet current demand. Mid term requirements of commercial energy can be met from fossil fuels but over the longer term, for significant environmental reasons, it would be vital to explore the commercial use of renewable energy sources.

At one end of the energy spectrum, where sources of alternative and renewable energy

discovery is made, or for erecting a major power plant; and six to eight years to sink and produce from a deep coal mine like Barapukuria. We are currently dependent more on natural gas, which will grow more as gas networks are expanded. Very soon, the energy mix will start to change as coal production in commercial scale takes place hopefully by the year 2002.

Admittedly, the awesome magnitude of our immediate problems must be addressed in its proper perspective and dramatic improvement be made without any further delay. In the early part of the century ahead we hope to reach the end of the rainbow by mastering the technology of tomorrow. Before that happy day, we have nothing but hard work and hard decisions ahead of us. For beyond the year 2000 looms an ominous prospect of even greater demands for energy from ever-increasing and ever-rising expectations at home. Unless innovative ways are developed for conserving energy and substantial new sources and new technologies are found for increasing energy supplies, the strategies envisaged in the National Energy Policy (NEP) 1995 and Power System Master Plan (PSMP) 1995 respectively would only postpone a grim future of energy scarcity. The fact that we couldn't do the job by 1999 doesn't mean that we can't be well on our way to doing it in

their job done. The key to financing our energy future will be determined by the political decisions made in the near term of the next few years. A question we have to ask ourselves however, is 'At what cost to the consumer?'

Energy, as we all know, is a prerequisite for technological progress and it plays a very important role for overall socio-economic and political development of a country. Unfortunately, only around 16 per cent of our population have access to conventional electricity and around 6-7 per cent have gas connections. However, with the gas-in-pipe of about 23 trillion cubic feet (TCF) and recoverable of around 13.74 TCF on the basis of present knowledge and technology, use from 21 gas fields is certainly not a happy situation because already over 3.27 TCF gas has been used up and with the remaining 10.47 TCF, as the country's only commercial energy source, the gas utilisation plan cannot go beyond the year 2015. Today, natural gas accounts for 70 per cent of commercial fuels. On the other hand, transport and power sector consume the lion's share of petroleum products, and only about 4 to 5 per cent of population use kerosene for cooking.

It is therefore no surprise that people in the rural areas depend largely on biomass fuel like agricultural waste and animal residues for cooking.

facilities. However, unless proper and timely maintenance and overhauling of some plants, particularly three plants at Ashuganj (150 MW each), are carried out on a priority basis the situation would worsen. By March/April 2000 another set of load shedding might recur.

Since 1972 government has accorded priority to the development of energy sector operating as a monopoly business under the public enterprises. However, allocation of funds has never been adequate which resulted in shortages of supply and at times crisis in management. By mid 90's, per capita consumption of commercial energy was around 65 KGOE and generation of electricity was 90 KWH, which increased to 67 KGOE and 106 KWH respectively by late 1998. Bangladesh remains in the lowest tier among the developing countries. On the other hand in mid 90's, consumption of bio-mass fuels or non-conventional energy and commercial fuel (fossil fuels) mainly in meeting the total find energy need of the country were roughly estimated at 70 per cent and 30 per cent respectively. Although under the Ministry of Energy and Mineral Resources (MOMER) a variety of public and private organisations are engaged in production and distribution of commercial (non-renewable) energy, there is no institutional set-up for non-conventional (renewable) or

The Monster Lurking in Drugs

by Md Asadullah Khan

Given the fact that all countries in the world have agreed in principle that drug trafficking and abuse must be stopped, the agreement must be translated into a vigorous drive against the unscrupulous elements and shadowy godfathers who are mainly responsible for the proliferation of drug abuse.



Injecting drug: Abusing youth.

addicts taking drugs under cover of tarpaulin tents at the newly constructed over bridges in the city and underpass bellys as well as some bustees that have come to be known as safe haven for selling and taking drugs like heroin and phensidyl.

Sadly true, considerable number of people high in intellect and physical vigour as well as affluence seem to be floating high on drugs like heroin, cocaine, phensidyl, pathedrine en route to death. More shocking, to a nation that espouses adherence to religious principles, commitment to piety, morality and strict code of puritan life drug addiction has emerged as the dark side of our character.

The drug dealers, mostly some shadowy godfathers behind the trade, it seems, are bewitching susceptible kids and threatening society's sense of

order and security. The recent tragedy in Narsingdi that took a toll of more than hundred lives on a single night — after consuming spurious alcohol — has sent scary signals to administration about the dismal performance of the implementing agencies in this particular area. Liquor related deaths from Gaibandha, Tangail and others parts of the country only speak of the vicious trade continuing unabated.

As revealed by newspaper reports the drug addiction has alarmingly peaked and the fear that has seized the nation is hardly unwarranted. The administration of the country has to heed the ominous signal of catastrophe nation is headed for. The government must not only promise but implement a massive drug-education campaign and nationwide drive for drug free parks, marketplaces, restaurants, hotels and last of all the educational institutions. Unless the government can rid the country of this scourge by a sustained effort through mobilisation of every segment of society against drug abuse, our chances of living as a healthy nation with commitment to social progress and prosperity and curbing chaos and indiscipline will remain a far cry. True to our expectation, private business and local philanthropic organisations might lead the way or at least foot the bill but the real burden rests on the government that can administer the job through the Youth Development Ministry.

Phensidyl syrup is the most popular 'drug' that has taken over the youths at the present moment in the country. Researchers indicate that phensidyl-addiction can bring about several reactions such as reduction of white blood corpuscles, loss of memory and sexual power and loss of physical and mental balance. Researchers who have studied its effects on the brain believe that it interferes with normal bio-chemical agents that control the desire for food, sex and sleep. Given a choice between food and drugs, in laboratory experiments, monkeys become hooked on to cocaine or heroin and take it

until they starve to death. Humans almost become as manic. "You don't even see it coming," says an addict undergoing a rehabilitation programme at a Dhaka city drug rehabilitation clinic. As the addict says, "I didn't think I was getting addicted. But once you get into it, it's got you." You don't even have a choice.

Fortunately, the country till now remains fairly unscathed by the infiltration or proliferation of more dangerous drugs like cocaine, heroin and crack but we have hardly any grounds to be complacent. Given a lax control by our law enforcers and narcotics control department, these drugs are as easy to come by in the markets of the country as they are in New York streets. Manufacturers of phensidyl located outside the country are now pushing up the sale of this drug by administering excessive amount of 'codeine phosphate' that causes instant intoxication.

Our experience over the years suggests that crime is directly fuelled by drug abuse. In a study conducted by different research groups, "the link between drugs and street crimes in different cities and towns of the country has been established". Taking the fact into consideration, the whole society including the parents, teachers in schools and colleges and the administration have to mount an all-out attack on the loopholes in society and the problem. Experts even point to deep-seated causes that produce a continued craving for drugs: lack of community facilities, disintegration of the family, moral laxity, the relentless pressure to perform in a fast-paced society.

Drug abuse and consumption of spurious liquors like spirit these days take a toll in a country that was once thought to be immune to this evil. Teenagers in a group taking drugs in parks and alleys of the city, even a grown-up man

shooting heroin in an obscure house, are becoming more and more commonplace here. "Drug addiction in the country is a time bomb that is ticking away and will explode in our face," says a doctor who runs a voluntary drug clinic in Dhaka city. For years while much of the world battled the drug plague, we were largely immune. Whether for reasons of history or cultural bias or tradition, or religious values or simply because the country was preoccupied with its survival, drug trade or drug abuse was never much of a problem and never concerned as such. People in the country considered drugs a taboo. Whatever minor drug abuse existed before was treated as a shameful secret. But now that has changed. Traffickers are devising more creative ways to smuggling drugs across the borders.

The Prime Minister recently in her message on the occasion of the observance of International Day against Drug Trafficking stressed that the drug problem today threatens to destroy the very edifice of human civilisation as millions of youths are being pushed towards sure death. Reports indicate that the number of addicts in the country is increasing steadily despite all efforts to contain the drug abuse and trafficking. Regrettably, this is due to the fact that the supply lines could not be snipped and drugs are available at thousands of points in the country. This underscores the fact that international cooperation is needed. Given the fact that all countries in the world have agreed in principle that drug trafficking and abuse must be stopped, the agreement must be translated into a vigorous drive against the unscrupulous elements and shadowy godfathers who are mainly responsible for the proliferation of drug abuse.

The writer is Controller of Examinations, BUET, Dhaka.

TOM & JERRY



By Hanna-Barbera



James Bond



THE SHIP'S BELL DEALS IN THE STILLNESS... WITH NO ANSWER FROM HIS RETAINERS, CHIEF - AT HIS COUNTRY HOUSE, QUARTERDECK.



HAMMOND - ?



SO BOND STAYED INSIDE

