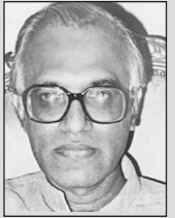


Comments on Tata's proposal: The economic price of gas



WAHIDUDDIN MAHMUD

[This piece is Part II of a 3-part series that contains the full text of a report prepared at the request of the Board of Investment, Government of Bangladesh.]

GAS is an exhaustible resource and it does not also have a global market like any other commodities that can be easily traded internationally. The determination of an "economic" price of gas therefore involves difficult conceptual problems (since market does not provide much guidance for it) and depends on country-specific circumstances.

One plausible way of conceptualizing the economic pricing of gas is by considering that the cost of using an extra unit of it now is the cost that will be incurred for importing an equivalent amount of fuel (e.g. fuel oil, coal or gas) when domestic gas will be exhausted.

Analysis shows the crucial importance of strengthening gas exploration efforts to determine the country's gas reserves, since such knowledge is essential for making long run plans for gas utilization. In all probability, Bangladesh has gas reserves to last a much longer time than is indicated by the currently available estimates of proven reserves. But prudent economic planning should not rely too much on risky assumptions. This is a fundamental problem in making commitments regarding the ensured supply of gas at a pre-determined price as is sought in Tata's proposal.

However, because of society's time preference of income (or money), the future cost needs to be discounted to convert it to its present cost equivalent. Three factors are thus crucially important for the determination of the present economic price of gas: (i) the predicted year of gas exhaustion, (ii) the projected import price of alternative fuels at that time, and (iii) the social rate of discount. For this report, we use a social discount rate of 8 percent per annum, which is admittedly arbitrary, but seems reasonable by the standard of social cost-benefit analysis.

It should be noted that the idea of estimating an equivalent amount of fuel to replace, say, 1 mcf of gas is not a straightforward one. In the energy discourse in Bangladesh, the equivalence of energy from different sources is measured in terms of their heat generating capacity. This is not an ideal basis to determine the "economic price

equivalents", which are those prices that would make the production costs equal for producing, say, one unit of electricity by using alternative fuels. Such price equivalence usually differs from the one derived from the purely physical concept of energy equivalence, depending on the relative efficiency and costs of alternative technologies associated with the use of different fuels. The concept of "economic price equivalents" (sometimes called "replacement equivalents") is a useful tool for energy planning, but not yet familiar in the energy discourse in Bangladesh.

To make some rough calculations, we estimate the equivalent price of imported fuels for replacing gas in the medium to long run to be US\$ 6 per mcf of gas. For this we have taken into consideration several factors. The above price of gas roughly corresponds to the medium to long run oil price projec-

tions of around \$35-40 per barrel of crude oil (notwithstanding the current price hike) converted by the conventional energy equivalence between gas and fuel oil. Another relevant factor is the existing prices of natural gas and fuel oil in countries such as Canada where both the energy sources are abundantly used for electricity generation; the assumption being that market forces would bring the relative prices close to "replacement equivalents". For example, the 2004 plant-gate price of fuel oil in Canada was US\$ 41 per barrel and that of natural gas \$5.42 per mcf. A third consideration is the current negotiations regarding the possible price of gas imported through pipeline in this region (such as by China or India from Myanmar); this price is likely to be nearly \$5 per mcf.

According to some estimates, the country will run out of gas in ten years' time (by 2016) given the domestic gas demand projections

along with the estimated "proven and probable" discovered gas reserves. Applying the annual discount rate, the implied present economic price of gas works out to be \$2.78, which would rise by 8 percent annually during the ten year period (after which imported fuels will replace domestic gas). It should be noted that the estimated present economic price of gas is highly sensitive to the assumed gas exhaustion year. Thus, extending the exhaustion year by 5 years and 10 years (that is, year 2021 and 2026) would reduce the current economic price to \$1.86 and \$1.28 respectively. If, on the other hand, it is assumed that the country will need to start importing fuel to partially replace gas even before the exhaustion year (because, say, the oil fields are not developed in time to meet domestic supply), then that will be the year when the economic price of gas becomes equal to the (equivalent price of imported fuel. The projected economic price will also need to be revised whenever new information will be available regarding the domestic gas supply-demand scenario.

While the economic price is projected to escalate annually under any given scenario, it is interesting to see what would be the equivalent price in a sale contract in which the price in dollar terms were to remain unchanged from year to year. This is not the simple annual

average of the projected price, since paying a higher amount in the initial years is not the same as doing so in the later years (again because of the social discount rate). The annual price of gas in the above three scenarios of gas exhaustion in 10, 15 and 20 years works out as \$4.14, \$3.31 and \$2.60 respectively. If we assume the replacement price of imported energy to be \$5, instead of \$6 as assumed above, these prices will proportionately change to \$3.45, \$2.76 and \$2.13 respectively.

The above analysis shows the crucial importance of strengthening gas exploration efforts to determine the country's gas reserves, since such knowledge is essential for making long run plans for gas utilization. In all probability, Bangladesh has gas reserves to last a much longer time than is indicated by the currently available estimates of proven reserves. As the estimate of proven gas reserves increases, and provided enough investments are made in developing the gas fields to meet domestic demand, the estimate of economic price of gas will have to be revised downward. But prudent economic planning should not rely too much on risky assumptions. This is a fundamental problem in making commitments regarding the ensured supply of gas at a pre-determined price as is sought in Tata's proposal.

A conceptually less appealing but practical way of finding an economic price of gas would be to estimate the average cost of producing an extra unit of gas and then add a premium on it, the premium being the rent earned for the ownership of gas. Additional gas production in Bangladesh will come largely from the fields operated by the IOCs. The average cost of this gas would depend on the share that Petrobangla gets and the price charged by the IOCs for the remaining share. This will vary depending on the stage of the project life cycle (involving the cost-recovery phase) and between different PSCs as well as between off-shore and inland gas. The transmission cost will have to be then added to get the end-user gas cost. Rough estimates suggest that the average wellhead cost may be \$2.00 to \$2.20/mcf in the cost recovery phase and \$1.24/mcf in the later phase. Averaging this and adding a transmission cost of \$0.20/mcf and a minimum premium of \$1.00 will work out to be around \$2.90.

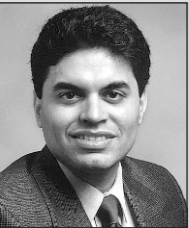
The estimation of economic price of gas is important not only for negotiating the terms of contracts for prospective FDI, it has much wider implications for determining the most economically beneficial use of gas. It is "wasteful" to use an extra unit of gas for uses from which society gets benefit less than the economic price of gas. When it is argued that export-

ing gas can jeopardize the country's energy security, it must be recognized that using gas wastefully for domestic use can equally do so. In particular, when long-run commitment is being made for supplying gas, such as in setting up a fertilizer factory, the social benefit from the investment involved needs to be assessed on the basis of appropriate pricing of gas (along with the option of importing fertilizer instead of producing domestically). Whether gas and fertilizer prices should be subsidized for the benefit of farmers, and by how much, is an altogether different issue.

Bangladesh has a history of subsidised gas supply. Almost 70 percent of the gas produced annually is sold to the state-owned fertilizer factories and power plants at a highly subsidised price of \$1 per mcf. The private power producers also buy gas at a subsidised price of \$2 per mcf. The joint-venture fertilizer factory, KAFCO, has been supplied gas at an average price of \$1.22 for ten years; only recently the price has been raised to \$2.34 which is also about the price now charged for industrial use of gas.

Wahiduddin Mahmud is a renowned economist. Part III of this report will appear tomorrow.

How to stop a genocide



FAREED ZAKARIA writes from Washington

THERE is a glimmer of hope for Darfur, where in the past two years 300,000 people have been killed and 2 million displaced in a genocidal war that has been encouraged and funded by Sudan's government. Last week the African Union declared a six-month extension for its 7,000 troops who are patrolling the region and protecting the camps for the displaced. In September, those soldiers may be placed under UN authority, which would mean a larger, better-equipped force.

So why is Mudawi Ibrahim Adam not cheering? It's not out of any sympathy for the Sudanese government, which has jailed him three times in the past 18 months, placed him in solitary confinement, confiscated his passport at one point and continues to maintain absurd criminal charges against him -- including one that is punishable by death under Sudanese law. (It's a Kafkaesque case: during one of his prison stays he carried out a hunger strike, and as a result has been charged with attempted suicide.) His persecutors want to scare him into silence. But they have failed. Mudawi continues to be an outspoken advocate of democracy and human rights in Sudan. He heads the Sudan Social Development Organization, a human-rights group that monitors the violence in Darfur and, in particular, has documented Khartoum's role in funding, encouraging and assisting the genocide.

Even so, Mudawi isn't clamoring for military intervention. "Simply putting more troops, or better troops in, is not much of a solution," says Mudawi. "They will have some effect in lessening the violence, but only

for a while. Look at what has happened with the African Union peacekeepers. At first they seemed effective, and within a few months they were being ambushed, having their jeeps stolen, and security got much worse." Deputy Secretary of State Robert Zoellick does not dispute that assessment. "The African Union forces have done a tremendous job," he said last week. "But they came in to enforce a ceasefire, and that ceasefire has broken down." The AU's 7,000 peacekeepers -- or even 20,000 UN troops -- can't be expected to control a region larger than France.

The conflict in Darfur arose from a series of political disputes between two groups: the Arabs who make up the government-backed Janjaweed militia versus the region's non-Arab farmers. In 2002, the Janjaweed engaged in particularly bloody massacres, and the non-Arab tribes launched a rebellion against the dictatorship in Khartoum.

The government responded by unleashing the Janjaweed, who since then have engaged in mass rapes, killings and lootings. Mudawi holds Khartoum squarely responsible for the atrocities. "The government of Sudan has taken advantage of political divisions and is perpetrating crimes against humanity," he says. Nevertheless, he adds, there's no choice but to negotiate with the perpetrators: "The solution will have to be a political solution that addresses those divisions and, most important, that includes all the parties in Darfur."

Mudawi holds scant hope for the current peace talks in Abuja, Nigeria. "The parties from Darfur are not really represented," he says. "The Khartoum government is there, but it has no interest in having the talks succeed. Relatively few of the Janjaweed or the other tribes are there. And no one is representing the 2 million people who have been displaced and are living in camps. They have separate but crucial claims that have to be placed on the table." Mudawi wants talks with all major tribes represented. But, he argues, only the presence of a senior American figure at the table can offset the maneuverings of the Sudanese government. "Khartoum

will try corruption, coercion, force, anything to derail such talks," he says. "Only international pressure could counteract this."

Peace in Darfur will certainly depend on talks between the groups who live there. Still, Mudawi and others who want an American at the table should recognize that the African Union and the United Nations might be more help. "If we're out there front and center, the bad guys will discredit the whole process by presenting it as 'American imperialism,' another attempt at regime change and a plot to occupy another Muslim country," says a senior administration official, asking to remain anonymous because of the talks' sensitivity. "That will retard our efforts to stop the bloodshed."

Could the people of Darfur really make peace after so much killing? "It happens everywhere," says Mudawi. "In Sudan in particular, we know that we are a country of tribes. We have to live together." After all, he says, decades of civil war in southern Sudan produced peace accords that are working now under the supervision of only a few dozen international monitors. Mudawi's message appears to be getting through at last. He visited the United States last week and got a receptive ear from the administration. On Thursday he met with President Bush, and the president made sure they were photographed together. Bush wanted to boost the Sudanese dissident's international visibility and send a warning to Khartoum. "I got the sense that Darfur is rising on the president's agenda. And I think he understands there needs to be a broader solution," says Mudawi. "I left the meeting with hope." But as he well understands, it will take more than hope. Even doing good requires a plan.

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Fareed Zakaria is Editor of Newsweek International.

New phase in US relations with South Asia

MOHAMMAD AMJAD HOSSAIN

THE period of honeymoon with Pakistan, which began from the time of Eisenhower administration of the United States in 1957 appears to be over in view of the emerging situation in Asia with the rise of China and India as global powers. This trend has been reflected during the visit of President Bush to India and Pakistan in the first week of

this month. This is for the first time a Republican administration in Washington has made almost a U-turn from Pakistan. History shows that the Republican Party in the United States somehow or other has favoured Pakistan since Pakistan and India became two states after the partition of British India in 1947. All these years as a matter of fact India either remained non-aligned or tilted towards the Soviet Union. With the end of cold war era, China is growing economically and militarily while the Soviet Union crumbled in 1991 and the United States emerged as the only superpower in the world.

Eisenhower administration's tilting towards Pakistan can be seen from the trend of influence of communism in the region. America wanted to contain the sphere of influence of communism. Nehru's non-aligned policy also contributed toward distancing from America. This trend in fact favoured Pakistan to become an ally of the United States by joining South Asian Treaty Organisation (SEATO) and Central Treaty Organization (CENTO). Pakistan's alliance with SEATO and CENTO elevated it to receive US military assistance.

In 1959, bilateral agreement between Pakistan and the United States provided protection

umbrella for Pakistan, which stated: "In case of aggression against Pakistan, the government of the United States of America, in accordance with the constitution of the United States of America, will take such appropriate action, including use of armed forces, as may be mutually agreed upon and as envisaged in the joint Resolution to promote peace and stability in the Middle East, in order to assist the government of Pakistan at its request". This agreement, however, was meant to protect Pakistan from communist attack, not from India.

Dramatic shift of policy was noted after change of administration in the United States in 1961. Secret commitment was made by the United States in 1962 to come to Pakistan's protection against Indian aggression. Apart from verbal assurances from the United States for protection, military hardware was supplied to both Pakistan and India. During the period of Nixon administration, Henry Kissinger, National Security Adviser to President Nixon, played ping-pong diplomacy to establish relations with China. Offering corridor to Nixon administration to reach out to China Pakistan enjoyed unequivocal support, both financial and military, from Nixon administration. During the Bangladesh liberation war, Nixon administration sided with Pakistan.

In the 80's the United States again showed deep interest in Pakistan because of the involvement in Afghanistan by the Soviet Union. Through the help of Pakistan the United States achieved success to drive out the Soviet Union from Afghanistan. With withdrawal of Soviet troops Pakistan's relations with the United States remained cool, and the withdrawal of Soviet troops

from Afghanistan significantly altered the scenario in South Asia.

President Musharraf has been enjoying US favour since Sept. 11, 2001 when he joined President Bush's war on terror project. The Bush administration gave salami for that in the form of writing off Pakistani debt. Bush administration made promise in 2005 for 3 billion in aid over five years and selling another \$ one billion worth of weapons, apart from committing to sale dozens of high performance F-16 war planes. President Bush's war on terror drew Pakistan into much more active role in 2001 which gave it a new status as most active non-NATO member.

But US air strike on January 13 this year in Bajaur near Afghan border is the reflection of a growing discontent against Musharraf regime which failed to contain the influence of Taliban and Al-Qaeda network. With Taliban nowhere near elimination in Afghanistan and Pakistan and Osama and his Al-Qaeda network still in operation, Bush administration is perhaps looking for a new guy in Islamabad to contain these elements as these were the main reasons to bank on Pakistan.

The signing of document on sharing nuclear technology with India has caused concerns to US hard core ally Pakistan. The US President did not comply with Pakistan's request for signing such agreement. Pakistan's track record of exporting nuclear weapons technology to the declared rouge states by its scientist did not qualify it for such demand. Therefore, it appears that Pakistan's relations with the United States are not as static. May be Pakistan is used as pawn on the chess board.

There is no doubt that balance of power in South Asia will favour

India with the signing of the agreement with the US and the proposed sale of advanced fighter planes to India. This represents a major shift in decade long policy for the United States, which

had criticised India after its debut in nuclear arena in 1974 when she conducted first nuclear test and imposed sanctions in 1998 following more tests. Now under the agreement, India would receive nuclear technologies including uranium, fuel while India would separate its civilian and military nuclear programmes and place it under international inspections. The fact remains that India did not sign nuclear non-proliferation treaty as yet despite pressure.

Prime Minister of India Dr. Manmohan Singh's visit from July 18-20 last year to the United States was seen very important to dispel any misunderstandings with Bush administration and to strengthen the existing relations that have been characterised as significant transformation in the recent past following the dismantling of the Soviet Union in 1991.

The agreement between the US President and Indian Premier needs approval of the Congress of the United States. In the Congress the agreement may not have a smooth sailing since the Congress is very vocal against North Korea and Iran on the issue of nuclear weapons. But the pressure from Jewish lawmakers in the Congress would manage to pass the pro-India bill.

China's rising as a global power prompted Bush administration to go ahead with this agreement as a counterweight to China. As part of the strategy Bush administration

places India on the trump card and has been pursuing to bolster India's position in the region. The

agreement can also be seen against recent warning by a Chinese General to hit the United States if Bush administration interferes in the matters relating to Beijing and Taipei.

The sudden growing relations between US and India can be seen from yet another perspective, which relates to dominant role of Israeli administration through the good office of America-Israel Public Affairs Committee in the US and Jewish members in the Congress. AIPAC is regarded as the guardian of Israel in the United States, which weighs influence in formulating foreign policy of America as can be seen from the uniform policy of both US and Israel with regard to the issue of Palestinians.

It is a fact that bilateral relations between India and the United States have markedly improved since the visit of Atal Behari Vajpayee, former Indian Premier, to the US in 2000, who built up relations with Israel following recognition of the country by Narashima Rao government in 1992. The visit of Ariel Sharon, the Israeli Prime Minister, to India in September, 2003 evolved a triad or a core alliance of India-Israel and US which India's National Security Adviser Brajesh Misra spelled out in May, 2003 in an address to the American-Jewish Congress in Washington. Brajesh Misra made the following observations: i) India-US-Israel have some fundamental similarities ii) Strong India-US and India-Israel relations have a natural logic.

Possibly this alliance primarily begins operation against terrorism and to contain China's influence in the region and beyond.

Mohammad Amjad Hossain, a former diplomat, resides in Virginia.

People demand a credible election



MD. ASADULLAH KHAN

WITH the bitter memory of past parliamentary elections in the country, people want a credible election -- an election that must be conducted in a free, fair and peaceful manner to their acceptance. Undeniably true, such brighter election would give the winner legitimacy, bring an end to militancy and investment climate in the country. In that perspective if the alliance government has failed earlier, it must now provide 'a government with a difference.' But the Prime Minister's utterance in a public meeting at Horna in Comilla district that during the tenure of the CTG the defence portfolio and the Armed

Forces Division will remain under the President of the country, elected on party basis, has sparked fresh political debates about the sincerity of her government in meeting the 14-party combine opposition demand or so to say, the people's demand about bringing necessary reforms in EC and CTG. It would be unfortunate if the PM rides roughshod over overwhelming public opinion.

The opposition demand or rather people's demand to place the Defence portfolio under the CTG is a vital issue to be talked about and settled before this government handed over power to a non-party caretaker government. Should she opt to do so, she has everything to gain and nothing to lose. Without any shadow of doubt, the outgoing Prime Minister would be judged not by the words she has spoken but by the effectiveness of her actions.

The report published in The Daily Star on March 16 last outlining the opinion of previous CTG Chiefs and some Advisers dwelt threadbare the enormous difficulties the previous caretaker governments had faced both in 1996 and 2001 in conducting the election in a free and fair manner. Talking to The

Daily Star a number of former advisers in the caretaker government have questioned the purview and intention of 13th amendment to the constitution purported to have been done with a clear partisan spirit. The sentiment expressed in the report and opinion expressed by the former chiefs of caretaker government and Advisers reflect those of every Bangladeshi citizen.

People in the country who had lived through the gruelling days of 1996 parliamentary election still wonder as to what went so seriously wrong that the then President Abdur Rahman Biswas without consulting the caretaker government, the defence ministry and even the chief of staff Lt. Gen. Nasim had to move into action with such lightning speed to axe two senior officers in the army and lastly Gen. Nasim for his refusal in toeing with the President's order. Undeniably true, the President of the Republic can exercise his constitutional obligations in case of national emergency, definitely even during the tenure of the elected government as Shankar Dayal Sharma, the President of India did in forcing the exit of Himachal Pradesh Governor

Sheila Kaul in April 1996. Sheila Kaul, it might be mentioned, was indicted in corruption charges by the CBI.

The then President Abdur Rahman Biswas who could never show his charisma and stubbornness in resolving the political stalemate and crisis that ran for long two years during his tenure of presidency suddenly swung into action at the sight of a crisis that people till now wonder if had ever existed and brewed up to an extent threatening the security and stability of the nation.

Let us assume that the charges made were true but the time and the way action was taken in those days smacked of some ulterior 'motive' and inspiration from some other quarters purportedly aimed at fracturing the election process. Fortunately for the country, the caretaker government at that time even in the face of such a high pitch of provocation to its authority and governance worked most conscientiously and coolly only to ensure that the country did not again slip into quagmire of dirty politics of conflicts and clashes. With only twenty days left for the election at that time, the action by the head of

the state had been most disturbing. Happily for the country, the Armed Forces in the country at that time even in the face of an assault on their image did not allow the crisis to escalate into a wholesale indiscipline just before the election.

In a situation that hardly prompted him to act, President Abdur Rahman Biswas played the dual role of a prosecutor and the judge. People who were witness to that grim situation are questioning till this day if the constitutional obligation that the President of the country had exercised in those days by dismissing the chief of staff and two other officers of the rank of Major General and Brigadier could at all be done at the expense of dignity of the Army Chief and also without instituting a court of enquiry for the offences purported to have been committed by those officers.

The story cited above states the fact as to how things could possibly go wrong if the loopholes were not plugged well ahead of time. Going by the words of the Alliance leaders that they would win the next election because of their track records and better electoral alliance, BNP, the majority partner, should have no reason in refusing to accommo-

date the reform proposals tabled by the 14-party opposition combine. It sounds quite queer and illogical that the safety switch of a house on fire shall remain remote, completely out of reach, and the group of people called to douse the fire will be trying without any success to control it. To be more precise, the difficulties that the previous caretaker governments faced in dealing with the armed forces, now made public by them, reinforce people's demand to strengthen the CTG properly including its empowerment to handle the Armed Forces since security and neutrality are the prime concerns in the polls process.

That will mean scrapping the 13th amendment to the constitution purported to have been made in 1996 with some motive. After all a constitution of a country is not that sacrosanct that it cannot be changed, even if it is needed, to end conflicts, clashes and turbulent situation in the country. Already the ominous crisis of mythical proportions have taken hold over the country breaking down hopes and aspirations of people. Foremost among them is the political crisis bordering on the election issue.

The administration, leaders of the political parties and their operators do not act on the basis of rational discussion and orderly action. The rule of reason and a consensus seem to be an illusion. Beautiful jargons continue to be the guiding spirit in the pages of newspapers, public speeches of the leaders and neatly arranged seminars. But the irony is that people and government are swept away by events that are uncontrollable and that push the country to the brink of an impending disaster.

But leadership in such a paramount crisis is a superhuman quality that must be called into play. There is no second thought or a shadow of doubt about the fact that almost all crises are consequences of blunders we have committed earlier. People raised their voices for a caretaker government in the parliamentary election of 1996 rather outraged by a bitter memory of Magura by-election. There comes the necessity of grasping the future implications of present events, and forestalling any likely catastrophe.

Historical records are galore with instances where great leaders imbued with statesmanship and pragmatism played very crucial role

to set the record straight and saved their country from ignominy. Looking back to America in the last century, we can see that Abraham Lincoln, Franklin D. Roosevelt, Truman and Kennedy, the past presidents owe their reputations to crisis leadership. By the same analogy, many leaders have been disgraced by crises, despite other accomplishments. L. B. Johnson was destroyed by Vietnam war, Carter by Iranian hostage crisis and Nixon by Watergate scandal, Stalin and Khrushchev for perpetrating an oppressive regime.

At the moment, in the country, the ruling party and the opposition parties are caught in a crisis of unusual dimensions with the possibility of either revitalising themselves or hastening their gloom. And because a crisis offers an opportunity to do normally impossible things, the potential of big gains or errors must be there. Still we have to act and our actions must always be backed by rational considerations, welfare of the masses and a look to the future.

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