

## Keeping an open mind on open-pit mining (part two)

SHARIER KHAN

ACCORDING to the power demand forecast outlined in the draft coal policy, in a low GDP growth scenario (5.5 per cent), Bangladesh will need 136 million tons (mt) of coal to add 19,000 megawatt power by 2025. If our GDP goes up to 8 per cent, we will need 450 mt coal to generate 41,000 mw power.

If we continue with the Barapukuria underground mine, we will only produce less than half a million tons of coal each year. That means, till 2025, this mine will only produce 9 million tons! If we spend money for yet another sham like Barapukuria -- how much could it add?

In the best-case scenario, and if there is a miracle, 2 million tons a year? That would, at best, generate 36 million tons. Then in the lowest GDP scenario -- what should we do? Import coal or petroleum to compensate for 100 mt coal? This is a patriotic vision indeed.

Readers should remember, we now have five identified coal zones. The total proven reserve is 2,350 mt (including the deep, and large Jamalpur deposit). Our coal policy should cover development of all of these mines -- not just Phulbari. This coal is worth more than \$100 billion in the current global market! It's up to us to make the best use of it -- not waste it by over-exploitation, and not under-utilise it by not developing it properly.

### Environmental and livelihood threat issues

While underground mines in China kill 5,000 people, unofficially 20,000, every year, there are fewer instances of fatalities in open-pit mines. Typically, all mine related fatalities take place in underground mines, where workers work in a high risk and very hot and humid environment. Open-pit mines are easy to work in.

But that does not make open-pit mines safe enough. There are instances of severe environmental damage caused by open-pit mines. The least of such hazards is the most visible one: the destruction of the natural landscape. No matter what technologies one uses, an open-pit mine will drastically change the landscape as it will strip



German open-pit mine converted to lake being used as a recreational facility.

the top soil, create large voids extending several square kilometres, fill up those voids where mining is complete and, finally, leave a void equivalent to the volume of the coal that has been extracted. In the best practice, the last void will be converted into a lake. The landscape in underground mining changes slowly. This kind of mine also causes land subsidence, but this process is slow.

A less visible hazard is damage caused to the underground water tables, which is an issue that used to be totally overlooked in the past. Mining, underground or open-pit, requires extraction of large volumes of water -- which eventually dangerously dries up the arable land around the mining area.

Unplanned release of the mine's water, which can be toxic depending on the soil condition of the mine, can damage marine life and can make a river sterile. Heavy metals or sulfide oxidation from this water also affect the environment.

Research has found that several open-pit mines in the US (Nevada and other western states) lower groundwater, typically by aggressive pumping, to mine ore below

the water table. In contrast, underground mines need less water pumping, because of the lower volume of coal production -- and, thereby, underground mines pose a lesser threat in this regard.

Open-pit mines are developed by stripping the top soil, unlike the underground mines. The topsoil is fertile, and it is the giver of all agriculture products and forestry. Therefore, when an open-pit mine is developed, an area must be fully dedicated to the mine for at least two decades -- before the people can re-use it for agriculture and forestry.

As open-pit mines are large, they also demand displacement of a higher number people -- which causes social anxiety, uncertainty about the future, and unrest. The other environmental aspects of open-pit mine are sound and dust. Coal-fired power is the chief source of harmful CO<sub>2</sub> emission in the air.

All types of coal mines pose one common health hazard for the workers -- black lung.

Different nations, which are involved in mining for decades have had their hard lessons, therefore, each nation follows its own best practices which it has developed to minimise environmental

hazards and human sufferings.

Some hazardous mines have been closed, but mining has not stopped -- because humans need energy. Some nations don't have the best practices, and some nations follow the best possible practice there is. Germany, France and Australia are some of the countries known for best environmental practices (which is also an evolving process).

The landscape will change, for sure. But it's up to the planners to keep that landscape looking good. In Germany, the post-mine landscape is hilly in some parts and flat in other parts. The residual lakes have been created with water safe enough for children to swim in and fish to grow. It will take years before the water from these lakes will be safe for drinking.

Germany has been addressing the water issues for three decades. It scientifically pumps out water where new mines will be developed and pumps the water back into the places where mining has been completed.

In addition, the pumped out water is distributed among the towns, villages and cities, sensitive water bodies, and, finally, the river. Of course, they make sure that the

water is not toxic when it is pumped out. The end result is a visibly healthy agriculture and forest landscape. The German mining region produces sugar beet and has sugar mills adjacent to the mines.

An external group monitors the mining companies' activities to make sure that the mining is not affecting the water and environment in a way that cannot be addressed.

The German miners do not strip their open-pit mines mindlessly. The fertile top soil is stripped and kept in one location, and the soil layer below, which is basically sand, is kept in another location. When they refill the land, they put the sand layer first and the top soil in its right place. Then they implement a 7 to 10 year soil fertilisation plan to make sure that the top soil is fertile as before.

The human resettlement issue is entirely a political matter, because compensation takes care of the monetary issue, but cannot ensure future lifestyle and livelihood. This is where government and local communities come in. This is why the German government, municipalities, and affected people work with coal mining companies, under certain legal framework, on resettlement.

Best practices demonstrate that mining can be done with minimum environmental damages and minimum public grievances, while keeping the energy supply growth high. To achieve that kind of standard, Bangladesh needs to adopt the appropriate environmental standards, and a set of environment and resettlement rules for mining.

### Review: Barapukuria mine

The Barapukuria coal mine has a proven 389 mt coal. But alas! Because of corruption of the past BNP regime, we are now getting only 6 per cent of that reserve in the next 30 years!

Some geologists say Barapukuria is a bad example. Of course, it is a bad example. This is why one should properly review this example. This is the only example of coal mining in Bangladesh, and only fools will underplay this.

Interestingly, it was Germany's

RWE that made the first proposal with an Indian company for open-pit mining in Barapukuria in 1990-91. The government had ignored RWE (called RE then), and then secretly gone for the Chinese deal.

The internal rate of return (IRR) was inflated from 13 per cent to 39 per cent (The Daily Star ran its reports) to justify this horrendous deal.

The Chinese miners did not carry out any hydrological or feasibility study, and the government, till date, has not even held an environmental study of the site. The Ben itself has not reviewed the mine, which we already have in our hands.

More interestingly, the Barapukuria mine and power establishments have acquired 1.5 square kilometres of agriculture land. As the land is subsiding, the mining company is now planning to acquire eight adjacent villages. But let us stick to the 1.5 sq km area and try to understand the proportion of land that the people have lost because of this mine -- against an open-pit mine.

This 1.5 sq km area has been acquired to extract only 21 m tons of coal from a reserve of 389 mt. The Chinese developers originally had planned to extract 60 mt (which is less than 20 per cent of the reserve). Let's pretend that we will get 60 mt by acquiring 1.5 sq km land.

If, hypothetically, we wanted to increase production at par with an open-pit mine by installing more shafts, we would have to acquire more land. If we wanted to extract 90 per cent of the reserve (or 350 mt) by this method by installing many shafts (which is impossible), we would have to acquire at least 7 to 8 sq km land. This land would have to be dedicated to the mine, as nothing else could have been done on it.

I have put up this technically impossible picture just to illustrate that open-pit and underground is a matter of scale and technology. If open-pit is technically impossible in Bangladesh, we should not have anything to say. If it is possible, let us give it a new look.

### Review: India

If Germany's example is too foreign for us, let us look at India. One

would be surprised that coal mining in the Indian subcontinent started from Raniganj (opposite to north Bengal), Bengal, in 1774 under Warren Hastings' initiative. Coal India, responsible for 85 per cent of India's coal production, is based in Kolkata -- and is the largest coal company in the world in terms of coal production. It employs a little less than half a million people, and its turnover in 2005-06 was Rs. 339.98 billion.

Let us bust the myth that India is highly dependent on underground mines. India has 218 open-pit mines and 354 underground mines.

The 218 open-pit mines produce 85 per cent of the total hard coal production in India. In 2005-06, this amounted to 346 million tons. The largest open-pit coal mine is the South Eastern coal field of Coal India in Bokaro, launched in 1981, with a maximum planned depth of 180 meters, currently being worked at a depth of 100 meters. India follows various international environmental standards in its mining.

### Review: Rajmahal coal field in West Bengal

The Rajmahal open-pit coal field is located in Godda district and eastern Jharkhand in West Bengal -- opposite to Bangladesh's north Bengal. Coal is deposited in small Gondwana rocks -- similar to those in Bangladesh. The underground water table scenario is similar to that of Bangladesh -- with a deep water table reachable from the depth of only 8 to 9 meters.

This field covers five coal basins with a proven deposit of 493 mt, and the quality of this coal is low. Open-pit will allow mining of 468 mt coal in 48 years. The 2.7 km by 2.6 km open-pit mine is producing 10.5 million tons of coal per year, with a future annual target of 15 mt. The coal from this field, that started production from 1985, is being used by the Farakka 1,000 megawatt power plant. Presently mining the coal from a depth of 120 meters, the mine will require a total land of 1,829 hectares of land.

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meters gradually down to 503 meters. The Phulbari coal seam is located at a depth ranging between 140 meters to 250 meters. Germany's highest open-pit mine depth is 400 meters.

### An energy independent Bangladesh

As BEN activists are too focused on opposing Asia Energy's scheme, they may have inadvertently opposed some basic aspects of mining. Of course, open-pit mines can harm our environment -- but from the German experience we can see that there are ways to compensate for that damage. We need this coal to turn Bangladesh into a rich nation. We cannot settle for underground mines that will keep us dependent on energy imports.

Nobody is saying we should cut-and-paste the German experience. Countries learn from each other. Our micro-credit system is being adopted in many countries. We have also adopted many agriculture technologies from other countries.

Some are badly implemented and some are good. It's the proper "localisation" of a foreign experience that should be our focus. In the global politics that revolves around energy, some nations and quarters will be very happy to see Bangladesh stay import dependent and poor.

The plea of environmental damages is so sensitive that some of us cannot keep our minds open to the fact that all except Bangladesh are utilising coal to become rich. We are not a mining nation. This should be our advantage -- because, till date, the only damage was done by a comparatively small mine.

We can easily learn from the best and worst practices around the world. Other countries have paid the price for environmental follies. We can simply avoid those follies and establish a regime of best practices.

This piece does not undermine the concerns of the BEN activists; because I believe in watchful environmental groups for the benefit of the nation. I support organisations like BEN, but I also ask its activists to broaden their views.

Sharif Khan is City Editor, The Daily Star.

## The price conundrum

BINOV BARMAN

If you ask anybody what the number one problem of Bangladesh is at the moment, the answer will surely be "price rise." In a real sense, it has become a more serious problem than corruption, which the government is busy chasing relentlessly when it is itself being chased by the wild beast of rising prices.

Price rise is more serious because it affects the lives of the whole popu-

lous. The four-party alliance government had failed to solve. I daresay, this unresolved problem made the erstwhile government most unpopular, and made people pledge-bound not to cast their votes for them. Sensing danger, they tried to form a caretaker government that would be allegiance to them and would bring them to power again. But the design was torn apart and the result was the present caretaker government (CG).

Therefore, it is evident that price

difference. The differences in price between commodities in the BDR bazaar and regular markets are marginal, so the degree of benefit is hardly worthy of mention. Thirdly, the BDR bazaar covers only a handful of items -- rice, pulse, potato, and the like. But there are numerous other essential things needed for persons and families. Fourthly, and most importantly, the BDR bazaar has to work against the normal market mechanism.

It has little impact on demand

## Bush's history problem

MICHAEL HIRSH

MUCH was changing in Vietnam when I visited in December 1991, in the waning hours of the Soviet Union. The coziness between Moscow and Hanoi, once comrades, had curdled into mutual contempt. The Russians, aware their empire was imploding, had little interest in their former client-state and were looking to leave.

Secondly, the government has to strengthen the market monitoring system. A trained and honest team should be made for the purpose. Dedicated law enforcers may be employed in this job. Thirdly, there should be provisions for trying the price manipulators in speedy trial tribunals. Syndicated traders, wholesalers, retailers -- whoever is accused of perpetration -- must be brought to book. New laws may be enacted in this connection if existing ones do not suffice. Fourthly, the government might consider giving subsidy to certain "very essential" commodities if their "logical" market prices are found burdensome for the common people.

I suggest that the government constitute a powerful body comprising prominent economists of the country, legal experts, and high-ranking lawmakers, who are knowledgeable about the reality here. For God's sake, don't include any businessmen in the body. It will investigate the situation and prepare an action plan for the government. If the government can effectively solve the price problem, it can claim to be successful. Otherwise, it will lose popular support and face the fate of any failed institution. People may forgive for failure in the campaign against corruption, and probably law and order, but they will never forgive for failure in taming the raging prices that make their lives hell!

This is the "harsh" aftermath Bush described last week when he warned against pulling out of Iraq like we did in Vietnam. His speech to the Veterans of Foreign Wars, in Kansas City, Mo., was an abuse of historical fact, mainly because we know now Vietnam was never a central front in the Cold War.

The decision to pull out had little effect on the ultimate outcome of what John Kennedy called the "long, twilight struggle."

America triumphed in the cold war because it had an open economy and its ideas about freedom were more attractive to states in the Soviet bloc than those coming from Moscow and Beijing.

The president is arguing that Iraq is a similar struggle. But in contrast to the Soviet and Chinese communists, Al Qaeda and its ilk have no persuasive alternative ideology to democracy, free markets and globalisation. They're nihilists.

So while a US pullout would inspire Al Qaeda to propagandise that it beat the Americans, the majority of the world's elites wouldn't buy it. The slow bleed of American might and prestige on the streets of Iraq makes for a more compelling picture of US weakness than any Qaeda propaganda could.

If America dramatically reduces its forces in Iraq -- it will be a long time before we can leave altogether -- Al Qaeda will brag on its Web sites, and perhaps win more adherents, but that won't get the terrorists any closer to a "victory" over us than they are now.

The most appropriate analogy to Vietnam is that Bush's policy of Iraqification -- handing control of the country to Iraqis -- is uncomfortably similar to Vietnamisation. Like the South Vietnamese government then, which was despised in the country because of its corruption and ineffectiveness, the Iraqi politicians now hunkered down in the Green Zone have little legitimacy.

Whatever authority they gained in the January 2005 elections has been overtaken by the sectarian power struggle that is the governing reality on the ground. This conflict is why parliament is paralysed -- and why

reach of its ideology in isolated places like Vietnam.

And just as we did during the cold war, America is underestimating its strengths and accentuating its vulnerabilities. In every other developed or developing part of the globe -- the Americas, Europe, most of Asia, even Vladimir Putin-controlled Russia -- the Westernised system

of common sense has been replaced by a new one that is based on the principles of secularism, democracy, and the rule of law. In this new world, the United States is the dominant power, and its influence is growing.

Recent surveys reveal that the inflation rate is about ten per cent. The people feel helpless when they have to buy a kilogram of coarse rice for Taka 20. They become furious when they have to pay Taka 80 for a kilogram of lentil and Taka 20 for a kilogram of potatoes. They feel dizzy when they find a kilogram of chilli sells at Taka 200.

The price rise is one of the

causes of the current political crisis the country is undergoing at present. The CG started its tenure with the commitment of containing prices, along with other tasks. Although this CG has inherited the problem from the previous government, it cannot avoid its responsibility to address it.

The CG is trying heart and soul to solve the price conundrum, which, however, is a hard nut to crack. The BDR bazaar cannot contain the prices, which gallop and gallop, shifting further beyond the reach of the common people. In fact, the BDR bazaar cannot be a permanent solution to the price problem. First of all, its impact is not widespread. Only a negligent number of people are benefited by the measure. Secondly, it cannot make a big price

difference, the two principal determinants of price in market economy. It cannot control other factors like production, hoarding, transport, extortion, profiteering, syndication, import-export, and natural calamity, which also contribute to the price of a commodity. The government might attempt to mitigate the problem with open market sale (OMS), but this system is also fraught with the same range of problems as faced by the BDR bazaar.

Now, the CG has decided to deploy army in a desperate move to suppress price surge during Ramadan. There is, however, room to doubt whether this extreme measure will be effective. Price rise, being a complex problem, related to sociology on the one hand, and psychology on the other, cannot be solved so easily. This multi-

dimensional problem needs multidimensional efforts for solution.

We can think of the nature of the efforts needed to tackle the problem of price hike. Firstly, the government may fix a code of conduct for businessmen, who, regrettably, fall short of showing a sense of decency in case of profit-making. There should be