

Bleak Power Generation Scenario : Alternative Source is a Must

by Md Asadullah Khan

THE power generation scenario, with the onset of summer season is going from bad to worse. It has been learnt from the PDB sources that the country's power generation capacity has come down to 1700 megawatts as against the PDB's estimated demand of 1950 megawatts. On a certain day in March 14th March, 1997 power shortage stood at 480 megawatts. Reports have it that more than 400 megawatts generation capacity remained idle in the absence of gas supply. There is a glimmer of hope that with the commissioning of Ashugaj-Bakhrabad 58 km gas pipeline by April next, the 210 megawatt Roazan first unit power plant will be operational and the present critical situation would show some signs of improvement. There is another insidious culprit in the power generation scene that seems to aggravate the situation such beyond rectification. It is DESA's system loss that takes away 30 per cent of the generated power causing loss of 200 crore taka every year.

In such a desperate situation of declining power generation, the possibility of importing electricity from West Bengal that whipped up mounting criticism for a section of politicians has ultimately fizzled out because of West Bengal's refusal to supply electricity at the peak hour in the evening, and the other alternative of bringing power from Meghalaya in India has ultimately evaporated on grounds of feasibility.

Gaining Ground

MASSAGERS are now increasingly becoming popular with teenage students and young adults, especially women office workers. Light, compact units developed recently in Japan softening up stiff shoulders and the lower back can be bought for prices below \$88.50. Sixty per cent of the domestic market is captured by Omron Corp with its Elepus series and has introduced two more models. There is provision to shift between sharp stimulus to milder sensations. Omron's top seller is the HV-R123, featuring five pre-programmed modes for massaging shoulders, back, arms and legs, joints and the soles of feet. A liquid-crystal display panel shows the pressure level and frequency of massage stimuli.

Glowing Toothbrush

A toothbrush that beams in light and a special toothpaste may make breath fresher than any currently-available dental accessory. Light from a compact source in the handle of the toothbrush is guided to the end of the bristles, which act as optical fibres. Brushing brings the photosensitive compound into contact with the oral bacteria. The light activates the photosensitive compounds in the toothpaste, destroying the bacteria that cause tooth decay, gum disease and bad breath. Scientists at the Imperial College and the Eastman Dental Institute are now adapting this technique to fight oral bacteria.

Blitzkrieg Against Polio

EFFORTS to vaccinate children in Eastern Africa against polio have been so successful that the region should be polio-free by 2000, according to the US Centers for Disease Control and Prevention in Atlanta. The incidence of polio in East Africa dropped by 91 per cent between 1988 and 1995, from 1813 cases to 160 cases. Mass vaccination campaigns, in which polio vaccine has been given to under-fives across entire East African nations within the space of days have been particularly successful.

Twin Benefits

RESEARCHERS of the Indian public sector firm Bharat Heavy Electricals Ltd, based in Hyderabad, have developed a solar thermal collector that produces power as well as hot water. The new device can provide 100 litres of hot water per day at 75 to 80°C and also generate enough power to run one DC fan and an 11 W CFL lamp for five hours a day and operate during night through a charged battery. The device - combined photovoltaic and thermal hybrid solar flat plate collector - can store about 4.6 per cent more energy than a normal thermal collector.

Breaking New Grounds

TEVA Pharmaceuticals of Israel is all set to make its mark in the European pharmaceutical market by launching its multiple sclerosis drug Copaxone. The drug will be launched initially in the UK and in rest of Europe within six months. It has already been launched in Israel and approved by the US Food and Drug authorities.

Technological advances that are now available are likely to make wind power more appealing. Engineers plan to boost the tower so that machines can escape ground turbulence and tap more consistent winds. Lighter materials that are now available could reduce the cost of towers. And researchers are looking into ways to store excess energy produced during windy periods so that it could be used during calmer days or during peak energy demand.

enough megawatts of excitement to light up an entire new industry in the developed world. Spurred by generous government tax incentives, investors in the US poured more than \$2.5 billion into wind projects during the early 1980s. It is instructive to analyse the story of the enigmatic success and daunting failures of the wind energy programme in the US in the past decade. True, in the US, this idea at the beginning of 1980s could not show enough promise because wind developed a reputation for not working, and it had the stigma of a tax scam. Eventually all these problems caused power companies to back away.

But now after the onslaught of Gulf War that shot the oil prices up and made supply uncertain, there is, however, new energy in the wind. Engineers there have used advanced technology to make wind turbines that are far more efficient cost-effective than those of yesteryears. So says J Michael Davis, Chief of Renewable Energy Programmes at the US Department of Energy. "These machines are real and reliable". To-day's models in the US are capable of meeting 10 per cent of America's energy demand and within 30 years, never versions could provide for a quarter of the US's power needs. Such figures have re-energised manufacturers of wind power equipment and attracted the interest of international competitors. Utilities are conducting wind surveys and starting pilot projects. Amazingly, a new breed of wildcatter is scurrying to buy wind rights - licenses to erect what may be the oil wells of to-morrow.

Reports have it that machines now operating in California can produce energy at 7 cents per KW (kilowatt). In areas of high winds, the next generation, currently being developed, will bring that cost down to 4 cents by 2000. More advanced designs are likely to shave off another cent. While it is true that many places around the US do not have enough wind to use the technology, enhancement already in the works will expand by a factor of 20 the area of land that can generate wind power profitably, according to experts at the National Renewable Energy Lab.

To-day American technology dominates the wind power field. And it dates back to 1900, when most of the electricity on US farms was provided by windmills. To meet an ever increasing demand due to increasing number of households these were replaced during the 1930s, when Rural Electrification Administration wired the countryside. But the technology staged a comeback when the oil embargoes and environmental concerns prodded politicians to look for alternative energy sources. With states urging their utilities to spend between per cent and 2 per cent of profits on research and US government making generous tax credits, investments in renewables started climbing up.

Unfortunately, as it happens in all places at the initial stage, the credits were more for investments than performance. Shockingly, many wind power machines seemed to be designed to capture more deductions than breezes. Some towers were planted in fields of feeble winds. Others broke down in frustrating regularity. But a few companies persisted and California in particular became the nursery of advanced technology. The state's hot central valleys are linked to the cool ocean by a series of gorges and valleys along the coast that act like wind tunnels. It was in these natural labs that engineers began to test new designs.

In the US alone this technology showed a lot of upheavals. The failure of the 1980s showed the researchers their fallibilities. They had hardly any knowledge about building machines that could withstand and harness the turbulence of wind. Early models used blades of a type originally designed for helicopters. Since wind pressure could vary considerably from one end of the blade to the other, the rotor would wobble wildly and eventually break off. Sudden gusts of wind could overpower the machine and burn out its energy converting turbine. Some engineers tried to solve the problem by building heavier machines, but that simply made them more expensive.

As it happens in all scientific research, after much trial and error, researchers modified the contour of the blades; some for instance, are thicker in the middle in order to provide more stability. Engineers put electronic sensor atop the towers that constantly monitor wind direction and turn the machine to correct direction for changes. The sensors do not respond to every fluctuation but when a computer calculates a sustained 15° shift, it signals for a turn into the wind. The leading American manufacturer, US Windpower of Livermore, California, has built machines with electronic components that act as a giant surge protector, keeping sudden bursts of energy produced by gusts from overpowering the turbine. In recent times, with the advancement of technology, computers are being used to simulate varied terrain and calculate how to produce the most energy.

In the US or in other Western countries, it is not the failure of the technology, rather it is the vested interest that has kept the technology away from the people. In the US outside California, wind power still carries the past failures. Even though a government survey found that 10 mid-western states could more than meet all their electrical power needs from wind, no major wind power projects have been planned.

But the tremor it has caused in the developed world over the growing public concern from pollution through burning fossil fuels has increased the pressure for renewable energy. Several states in the US, in a bid to draw people to wind power technology, are starting to require utilities to factor the cost of environmental damage into the cost of power production. In California where the process of calculating environmental cost is just beginning, wind power may be assigned a price 15 per cent lower than that for energy from traditional sources.

In their case it is the choice of technology, in our case it is the desperate need to opt for alternative source of power, say wind power technology at the moment that seems most feasible in view of the availability of vast coastal areas of the country that offer bright prospect of harnessing power through setting up of wind mills in those locations. Interestingly, India has switched over to second position in respect of harnessing

power with the US leading the race on a global market, and all available information suggests that India will be able to generate 3000 megawatts by the end of 1997, almost double the amount that Bangladesh can generate through fossil fuel consumption and other means. Ironically, power has so far been provided to 15 per cent of the total population in our own country. By the year 2000, our requirement will be in the neighbourhood of 3000 megawatts. Without contradiction, the country needs to increase the production of electricity in order to achieve poverty alleviation and other socio-economic goals. That calls for tapping the alternative source of energy like wind energy or solar energy through allocation of funds to gear up research in these areas, especially in the technological universities. Encouragingly, the present government, it is learnt, has focused its attention to promote the cause of exploring possibilities of tapping wind energy on a commercial basis. But this enthusiasm of propelling an idea that is almost a dream till now into reality needs to be geared up by generous allocation of funds into research pools of renewable energy application programme in the engineering university and science laboratories like BAEC and BCSIR, the only research laboratories of its kind in the country. Donor agencies like the UNDP, the World Bank and Asian Development Bank must come ahead to help Bangladesh with technological and financial assistance for studies, pilot projects, and training of manpower with regard to the development of such infrastructure. It is most encouraging to learn that government has already opened the power sector to private investors and would further gear up the efforts by opening another window to environment-friendly power generation, that seems to be an inexhaustible source of power - a source that will never dry up.

Encouragingly, technological advances that are now available are likely to make wind power even more appealing. Engineers plan to boost the tower in some areas higher than they are at present so that machines can escape ground turbulence and tap more consistent winds. Lighter materials that are now available could reduce the cost of building the towers. And researchers are looking into ways to store excess energy produced during windy periods so that it could be harnessed for use during calmer days or during peak energy demand.

The country, it appears, is bracing for an ordeal in the power generation front that will last at least up to June next. With such bleak scenario very often engulfing the nation, the government cannot fail the nation for all time to come or go on trimming a sort of distress management. People hold the same view as the comment made in "The Daily Star" editorial on 26th February last suggests. "Problems of power are not created in eight months - the time this government has been in power - but are an accumulation over years and years of neglect and bad performance". The government, understandably, realises that energy or power is the prime mover of a modern state and investors from home and abroad will be shying away as long as the state of our energy has not improved. With such bright prospects available in the country, if windpower does not fulfil its promise as a major energy source, it will not either be a failure of the technology or engineers or scientists. It will be a failure of vision on the part of the administration to make the necessary commitment.

The writer is Controller of Examination, BUET.

Making it to Office and Home

by Fayza Haq



Going to work and returning home from there now give you a real fight. The process involves time, effort, money, patience and temper control. People have to take it in their stride as they have a living to earn and a job to do.

Azhar wakes up at six to be at his workplace by eight in the morning. He walks to the station at Narayanganj and takes a train to Kamalapur, spending Tk 5 as fare. From Kamalapur he walks to the Bangladesh Bank and catches a bus for Tk 1.50 to the Science Laboratory - and then I walk the rest of the way.

"When I have my afternoon shifts I catch a rickshaw near my house at Narayanganj for Tk 3 to reach Fatullah bus stand where I buy a ticket of Tk 5 to catch a bus to the Ittefaq square. I walk to the Bangladesh Bank and for Tk 1.50 I get a bus to the City College. I then have a 10 minute walk to my office. I don't find this routine of travel easy but I don't have any other recourse. I have sometimes taken the office scooter to go home but so far I have been mugged twice," he says.

"Chandra comes for work from Nawabpur. I have to serve him, so I must finish cooking, cleaning, washing and dusting before I leave for work at 1 pm. This I find cumbersome and arduous but it is a must. I have also to get my daughter ready for her school. I take a rickshaw to Gullistan and then take the bus. It costs me about Tk 24 to get to work, and back every day. By the time I reach office in the afternoon, my hair is awry, my make-up melting and my shirt out of crease. Fortunately I have a desk job and can take the pushing and milling in the bus everyday," she narrates.

Inam takes the bus from Mirpur every morning. "It is just not safe in the bus. Apart from the crowd, there are pickpockets (I've had my wallet pinched twice). After I reach Farmgate, I take a tempo or a rickshaw. Sometimes I can't get a bus, so I take a rickshaw all the way from Mirpur to Dhanmandi, costing me Tk 35, and it takes me at least half an hour by bus ride. I get out of breath before I begin my leg work for the advertising firm that I work for. When I am returning late, I sometimes take a scooter at

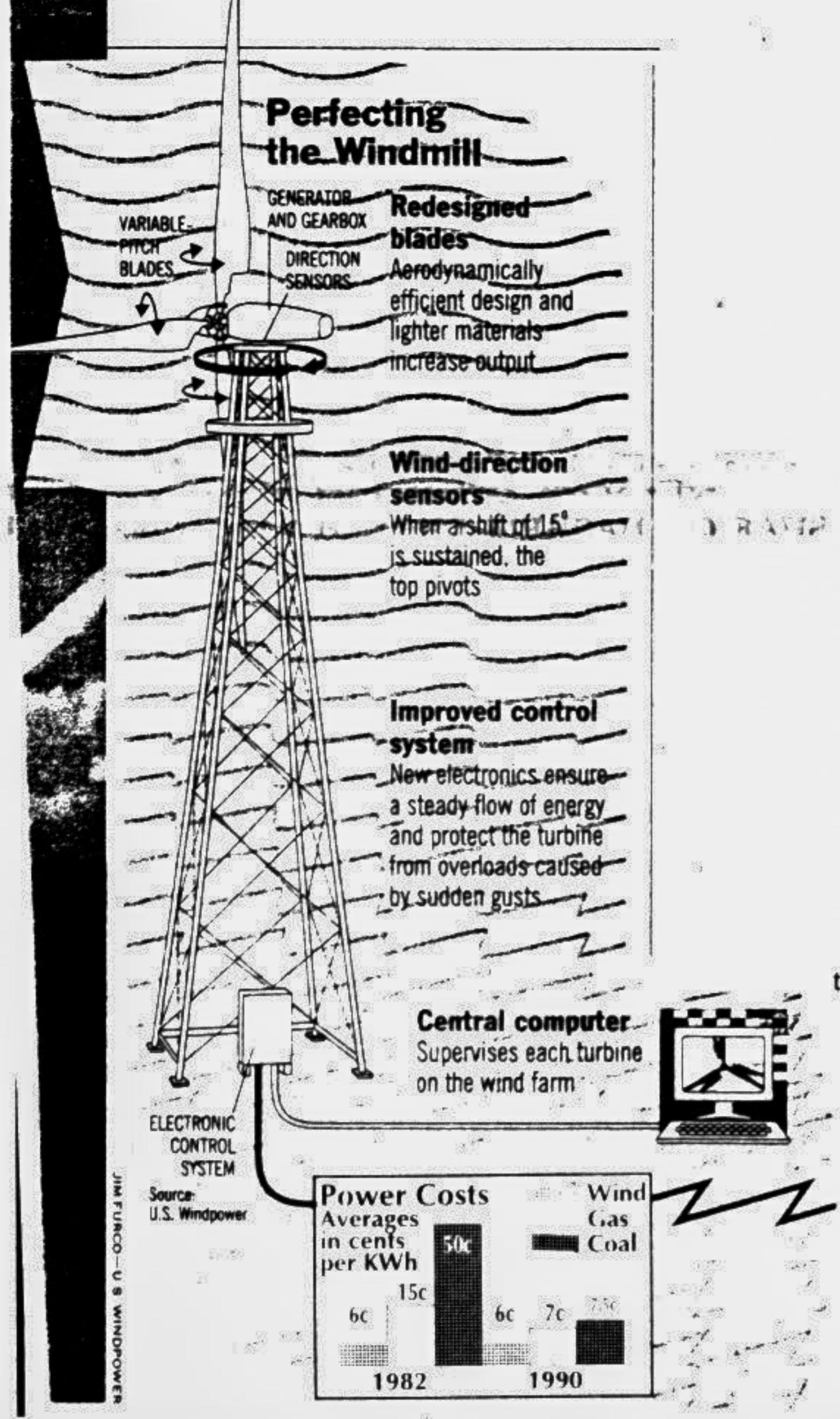
about 8 pm but this costs me Taka 40 everytime.

Parveen comes to work at Motijheel from Uttara. "I come and go by car but once I had a terrible accident after which I always get a driver to drive. I was at the car wheel with a servant at my side when two mobsters in motorcycle got after me. They damaged my car's side and fenders and later bashed their helmets on the car screen, smashing the glass, so that splinters fell all over my body. In the pandemonium that ensued somebody from the crowd pinched my purse that contained my entire month's salary plus my driving licence. There was police at hand but he would take no action on my behalf and only wanted me out of the way. So it is definitely risky for women to drive in Dhaka," she narrates.

Another office worker, Rahat, hurt herself badly on her way to office. "A car hit my rickshaw and I fell and became unconscious. My papers, shoes were scattered on the road. Some passers-by picked me up and admitted me to the Holy Family Hospital. I was left to my own devices in the hospital. Because I had no money with me my X-rays were delayed. Fortunately, after an hour, I contacted my brother and boss in the office. They came and took over the affairs and eventually I was properly looked after. Even today, after this accident, my leg hurts sometime. Some of the muscles of my face are still numb due to this episode. Going home I had another accident on another occasion. I guess I am accident-prone; and saying prayers does not ensure a safe trip to the office."

Yet another office worker complains, "I have been mugged thrice in one year - every time, going back home from the office. I shiver as I take my rickshaw and say my suras and hope for the best. Lonely roads tempt muggers but I must take the Satmasjid Road to reach home."

People would rather be safe in their homes but must travel on the roads to make a living, and keep themselves productively occupied. Danger stalks the office-goers and changing buses and rickshaws is no joke, yet people take it in their stride as there is no other alternative.



The Daily Star Entertainment Guide

Thursday 20th March
(All programmes are in local time. There may be changes in the programmes.)

BTB
3:00 Opening Announcement - Acuran Programme Summary
3:10 News in Bangla 3:15 Re-telecast of selected programme from TV Archive 4:00 News in Bangla 4:15 TV Couching 4:45 Cartoons: Shazzam 5:25 National Television School Debate 6:30 Sor Goal 6:50 Religion and Life 7:00 The News 7:25 Sandha Malatee 8:00 News in Bangla 8:25 Arabian Nights 9:00 Package Programme
10:00 News 10:25 Switch 11:30 News in Bangla 11:35 Friday's programme summary 11:40 Close down

BBC
06:00am BBC World News 06:10 Newsnight 07:00 BBC Newsroom inc. World Business Report/Asia Today/24 Hours 10:00 BBC World Headlines 10:05 World Focus: Pandora's Box 11:00 BBC Newsday 2:00 BBC World Headlines 02:05 World Focus: Great Journeys 03:00 BBC World News 03:30 Time Out: Holiday 04:00 BBC Newsdesk 06:00 BBC World Headlines 06:05 World Focus: Horizon 07:00 BBC World News 07:15 World Business Report/Asia Today/24 Hours 10:00 BBC World Headlines 10:05 World Focus: Pandora's Box 11:00 BBC Newsday 2:00 BBC World Headlines 02:05 World Focus: Great Journeys 03:00 BBC World News 03:30 Time Out: Holiday 04:00 BBC Newsdesk 06:00 BBC World Headlines 06:05 World Focus: Horizon 07:00 BBC World News 07:15 World Business Report/Asia Today/24 Hours 10:00 BBC World Headlines 10:05 World Focus: Pandora's Box 11:00 BBC Newsday 2:00 BBC World Headlines 02:05 World Focus: Great Journeys 03:00 BBC World News 03:30 Time Out: Holiday 04:00 BBC Newsdesk 06:00 BBC World Headlines 06:05 World Focus: Horizon 07:00 BBC World News 07:15 World Business Report/Asia 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