

# FOCUS

## The Bell Tolls : Air Pollution Scenario in Dhaka City

by Md Asadullah Khan

*At this hour of peril, we feel concerned not only for our children who will turn sterile in future but for our own existence that is at stake. This city has become unlivable now and it is because of the fact that we have started blithely ignoring the law. We are short-circuiting the system and act only when we are threatened with deterrent punishment, or when the damocle's sword has fallen upon us.*



In a desperate bid to breathe clean air a vendor wears a mask to stave off the black smoke that has turned the city's air dangerously polluted. But, doctors say, the mask cannot protect one against the lead and other dangerous particles in the air. — Star photo.

THE announcement by Begum Sajeda Chowdhury, Minister for Forest and Environment, that an amendment bill would be placed in the Parliament soon to toughen the existing environment protection laws, making inroads for stringent punishment to the defaulters, speaks of the concern of the government about the grim pollution scenario in the country. Discarding the havoc wrought to environment through felling of trees in the forest region or in the countryside or through burning of non-conventional fuels in the slums of the city, Dhaka's air-pollution scenario through vehicle emissions is now possibly the country's worst. The air in the city is so fouled that it can no longer be ignored on any pretext.

Indeed, Dhaka city's sky is no longer blue as a child has learnt in his first lesson in the school. It is grey. It is the colour that a child will paint in his canvas revealing the colour of the sky as he knows from his or her experience. True, in this winter season auto exhausts and chemicals hang lower and longer than ever before in the city's skyline affecting human health and experts fear that the air in this rapidly growing city will soon become unbreathable. All indications are there that an environmental apocalypse looms large over the country urging the ministry concerned and the law enforcers to get into effective action. If things are left as they are today, people will feel like being driven away from an accelerating deterioration in the quality of life: clogged freeways, eye-stinging smog, polluted landscapes — streets, parks, lakes and drains; unaffordable housing; overcrowded schools, colleges, hospitals, market places and last of all the polluting vehicles. The very qualities that lured millions to Dhaka some thirty years ago are threatening to disappear.

Despite the fact that people have seen reports that notices were given to some 1176 severely polluting industries and actions taken against 13,881 vehicles in an effort to stop emission of black smoke, there was no end of the menace. Without a shadow of doubt, the current emergency that the government has declared, the city dwellers' lives is something they could never have envisioned. The citizenry are living in an environmental crisis, an air pollution emergency of an unprecedented severity. Despite the fact that regulation exists, indifference, inaction, and failure in taking punitive measures against the offenders, especially the drivers of vehicles fouling environment with noxious fumes, has deteriorated the situation. The road users of all categories and even police sergeants and other police personnel on traffic duty almost helplessly wear masks. Shockingly, these law enforcers appear to have resigned to the appalling situation although they are supposed to take action against the offenders. People do not know what stands in their way of taking action against the polluters when they are instituting cases against the car drivers taking U-turn on the highway.

metal present in normal petrol that is spewed out by these caravans of cars as fine particles. The assault it imparts to the human body by affecting the central nervous system and causing the real damage and hypertension has hardly been conceived by the administration that is supposed to take care of peoples' lives. Most shocking is the fact that children are three times more at risk than adults. Other than this, vehicle exhausts spew out particles of dust and carbon, coated with toxic gases that are always coating the lungs, bringing in its wake respiratory infections. The most alarming hazard is the carbon monoxide, a colourless and odourless gas that comes from the petrol vehicles, namely two wheelers and three wheelers. It prevents blood from carrying oxygen and causes heart disease. Most damaging is the Polycyclic Aromatic Hydrocarbons (PAHs) that comes out in the form of unburnt fuel in the diesel engines. Suspected to be causing cancer, this PAHs on the other hand causes drowsiness, eye irritation and cough.

The most invisible and insidious culprit is benzene that is a part of unleaded petrol and is emitted even when the catalytic converter is there. Benzene that has been linked to lung cancer and leukemia also damages central nervous system. Most fearful aspect of benzene is that there is no safe limit for benzene. It must not be anywhere around us. Sulphur dioxide, a colourless gas, that is a part of the diesel exhaust is equally harmful and causes bronchial problems. Also spewed out by the motor vehicles is oxides of nitrogen formed during combustion in motor vehicles and power stations which are then converted into nitrogen dioxide that causes bronchial infections, cold and headaches.

Shockingly, in the country we have devised no check against pollution beyond making a murky awareness that creates some concern when say, 'The Daily Star' focuses the severity of the problem by printing a photograph of police personnel on the highway with nose mask. The concern dies off just within a span of a week.

The distressing situation has arisen because of the failure of the technologies to clean-up the engines and in marketing the brand of engines that meet the norms. In the country, two-stroke engine that powers the two wheelers, autorickshaws and tempos is the most inherently polluting one. On the other hand, if we have brought about improvements in the engine condition, the poor fuel quality will continue to remain as a hurdle in improving the situation. The fuel these vehicles are using contains large amount of sulphur. It cannot be burned and ends up in creating smoke. On the other hand vehicles that are plying on the road do not have catalytic converters and are randomly fed unleaded fuel. The function of the catalytic converters is to clean up the most damaging but invisible portion of the auto exhausts like carbon monoxide, hydrocarbons and nitrogen oxides but they can only be helpful

when the petrol used in these vehicles are unleaded. The other requirement is that the carburettor, where air and fuel are mixed and sent out through a jet as a high pressure spray needs to be replaced by an efficient fuel injection system.

The mounting concern for this pollution scenario has come out in recent times, because dust and particles of carbon coated with toxic gas have skyrocketed several times above the standard or safe limit, the reason is that city's vehicle population has increased by about 10 times since 1992 largely because of the failure of the mass transit system. Along with this, the most unrestricted and often illegal growth of industries, most of them without pollution control devices of any kind, has led to poisoning of the air. But the dangerous contribution the vehicles are making has hardly any match with any other agencies. In contrast with Delhi in India that has SPM (suspended particulate matter) level of 460 microgram/m<sup>3</sup>, Calcutta 460 ug/m<sup>3</sup>, and Mumbai 220 ug/m<sup>3</sup> against a safe limit of 200 ug/m<sup>3</sup> fixed by WHO, Dhaka's SPM level has skyrocketed to 493 ug/m<sup>3</sup>. This is a very alarming situation and calls for effective action in line with the announcement of the Forest and Environment Minister of India, who appalled by the Delhi's pollution scenario went so far in saying, 'I am going to personally raid the industrial units very soon.'

To contain the present alarming situation, the DOE, BRTA, law enforcers and the City Corporations must work under one umbrella to implement the laws. The culprits have been identified: urban air is thick with noxious fumes, river waters fouled, land poisoned by unchecked dumping of toxic wastes and deadly pesticides. In our headlong rush to bring about 'comfort' and 'mobility', we forgot the price others have paid, forgot the difference between use and abuse.

At this hour of peril, we feel concerned not only for our children who will turn sterile in future but for our own existence that is at stake. This city has become unlivable now and it is because of the fact that we have started blithely ignoring the law. We are short-circuiting the system and act only when we are threatened with deterrent punishment, or when the damocle's sword has fallen upon us.

The situation calls for concerted action on the part of all. Vehicle owners must be more responsible about vehicle maintenance. But even with the vehicle maintained properly, it is useless if the fuel quality remains abysmal. On the other hand, traffic speed kept at 50 kms and without too many stops, things will drastically improve. But that improvement is a far cry as long as the rickshaws and obliquely parked buses jam the main thoroughfares and traffic intersections creating grid-lock of vehicles. It is a horrible situation when the smog, spewed out by the vehicles creeps along the ground in the still air of the winter sea-

son enveloping the streets in a poisonous shroud.

True, this city has descended into this nightmarish situation because of the absence of effective mass transit system. Added to this is the boom of the autorickshaws and tempos. And this scenario will worsen if mass-transit alternatives are not found soon. The importance of mass-transit system stems from the fact that a car requires almost 40 times as much road space as double decker bus to transport an equal number of people.

It has been learnt through a study conducted by the agencies concerned that a car emits 90 times more carbon monoxide as compared to a bus meeting the same travel demand. Two wheelers emit 50 times more for the same number of passengers as a bus and autorickshaws 60 times more.

The country, especially its capital Dhaka city is passing through a perilous situation because regulations are lax, implementation slow and evasions rampant. But to contain this deteriorating which is a number one imperative, the government must curb unregulated registration of new vehicles including autorickshaws every day. Could we recall the Delhi situation where unceasing smog prompted the Supreme Court to demand that the Government do something? "Get all the autorickshaws off the road," fumed justice Kuldip Singh of Delhi Supreme Court. He asked, "can't the registration of new vehicles stop until the air quality improves?"

The country now needs this sort of judicial activism to come into play to arrest this worsening scenario. Unless very hard decisions and stringent actions are taken immediately, scores of people will fall victim to highly toxic effects of noxious fumes. Allowing the pollution scenario to wreak havoc with the lives of the denizens of the big cities, it is hardly possible to chart out a vision for the future that paves the way for sound environmental practices and effective economic programmes. Our elected representatives must wake up to the realities. They can no longer remain oblivious of the pollution related hazards or remain content with paying lip service when the cost of pollution appears to be so colossal and debilitating for the nation.

A few days ago, I was talking to Dr Nazmul Huq (a chemical engineer from BUET and an ex-student of mine and now a Professor and Chairman of the Environmental Studies in the Colorado State University, USA) who was on a short visit to Bangladesh with his young son. Dr Huq told me that Dhaka city's air pollution scenario appears to be most grim and would possibly defeat Mexico city's pollution menace. It transpired from our discussion that Dr Nazmul Huq would not come back to Bangladesh again with his son, for reasons best known to us. Not only Dr Nazmul Huq, many entrepreneurs, scientists, engineers and physicians living abroad are having second thought if they would come back and settle in this country responding to the call of the present democratic government. They consider Dhaka city "unlivable" and have serious concerns about the fate of their progeny in this city. Surely that fear is neither exaggerated nor unfounded.

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## Dhaka Day by Day

### Tale of a Courageous Girl

by Shehab Ahmed



Papiya Sultana (Ruby) negotiating the streets of Dhaka with her rickshaw. — Star photo by AKM Mohsin

Crossing the gender barrier for a young abandoned woman is not easy, especially if the job in question is pedalling a rickshaw, and that too, on the streets of Dhaka. If the nation's premier and the leader of the opposition could be women, why cannot I earn my bread by pedalling a rickshaw? asked Papiya Sultana (Ruby). She was snaking her way through the cluster of rickshaws, auto-rickshaws and all sorts of vehicles. Wearing a faded pair of jeans on a jogging suit, a faded kameez and a dupatta, two ends tied together, she appeared on the sardine-packed New Elephant Road near PG Hospital and the contrast was quite striking. But she had no passengers.

Two children he lost interest in me. One day he ran away to live with another woman. But I had nowhere to go and had to take care of my children. A number of odd jobs later, including a stint as a housemaid and a garment worker, she found that men were interested more in herself than her job. Besides, the money was not enough to sustain her and the children who she was determined to put through school. So one day she decided to try the rickshaw with sympathetic rickshaw workers who were kind enough to teach her pedalling the vehicle. But it was no easy ride on chaotic Dhaka streets. After all, she made it, but earning enough to pay the daily rent for the rickshaw and to sustain herself is still not easy. Sahibs from a me, some take pity but most reject me thinking I cannot take them to their destinations. Even women also shun her out of fear. Some consider her to be a joke. That was the reason that her rickshaw was empty during the rush hour. "Only those who are in desperate need of a transport and for a short distance hire my rickshaw," Ruby said. When her story was carried some time ago by a vernacular newspaper Prime Minister Sheikh Hasina granted her the audience. She narrated her story to the premier. The latter saw to it that she get a job with a NGO in Bogra. But the monthly salary of Tk 900 was not enough for her. Recently, she left the job and returned back to Dhaka. Again she has been forced to the rough ride of Dhaka streets. "Well, I am happy," the determined woman with a pretty face that glowed with pride, stated.

## The Daily Star Entertainment Guide

Entertainment guide listing TV programs across various channels (BTV, ZEE TV, EL TV, DD 7, SONY ET, CHANNEL V, STAR PLUS, PTV) and a cartoon section featuring Tom and Jerry, James Bond, and Minos.