



No wonder we stink

By Professor Dr Nizamuddin Ahmed

URBAN Dhaka hardly ever fails to startle by what it has on display – unruly traffic leading to unbearable congestion, insufferable air pollution to which even police vehicles contribute, haphazard construction akin to rape and murder emulated in concrete, subhuman conditions in the slums...

Over the decades we have condemned the city to inconceivable unplanned growth, succumbed to hypocrisy and dishonesty at all levels and chosen corruption as a vehicle to move up the ladder – academic, industrial, mercantile, political and social.

The seminar on Waste Disposal in Dhaka City exposed to the citizenry that there was more to the city than meets the eye. The discussion concluded that we are virtually sitting on an underground volcano contrived by waste mismanagement in the city. If only we could see what lies beneath the ground, we are gradually sinking to a point of no return.

We have filled up our lowlands where once the city's wastewater collected. We have strangled the Buriganga – the river along which the city began. We have blocked our sewerage lines with polythene bags – sixty lakh each day. With the help of government agencies, we have illegally connected domestic sewage lines with storm sewers. We have left eighty per cent of the citizens without any sewage disposal system. For tackling liquid waste we rely on the rather primitive way of disposal to rivers and lowland, and that too without proper treatment. Yet we dare to call ourselves creatures of a capital city.

Dhaka today is a city overwhelmed by the very magnitude of its solid waste. The capital city is caught in a quagmire of untreated industrial waste. It is unable to respond to increasing hospital and clinical waste, which are not separated from other solid waste, a matter of serious health concern. It is helpless in flushing out storm water, causing regular flash floods after even a light down-pour.

So tremendous has been the pressure on the inadequate existing network that liquid waste and solid waste disposal systems – operated as separate systems all over the world – have alarmingly become combined in Dhaka.

Although hopelessly under-strength in terms of manpower and equipment, the Dhaka City Corporation manages to collect and dump in Matuail about 70 per cent of the city's solid waste. Researchers are convinced that because it is not a sanitary landfill site, the dumping of solid waste is causing severe contamination of ground and surface water in and around the dumping yard.

Institutional reforms are required to tackle the frightening situation. Dhaka City Corporation, responsible for surface drain and solid waste disposal, is simply not adequate for a city of 100 million. It needs to be subdivided into separate cities with independent organisational and operational setups.

Dhaka Water and Sewerage Authority (WASA) covers a pitiful 55 per cent of the city's 256 square kilometres and a mere 20 per cent of the population.

More so because of their inadequacies, co-ordination among different government agencies should be top priority. Bickering can only make the city filthier.

Because government agencies are seriously handicapped by lack of personnel, ancillary support, plant and fund, public motivation and awareness programmes, aimed at community-based solutions could be a cost-effective approach in dealing with this massive problem. The government must find a way of making the community its partner in approaching the issue. The solution is now not in sight. It could be beyond the next dump.



Participants

Moderator
Dr Nizamuddin Ahmed



1. Parvez Khan, Leader Trainer, Bangladesh Scouts and Deputy Regional Commissioner (Programme), Bangladesh Scouts Dhaka region
2. Syed Rafiq Ahmed, President's Rover Scout and Member, Task Force, Bangladesh Scouts
3. Syed Amin Al Anas, Student of Social Science, Dhaka University
4. Shahidul Azam Ahmed, Consultant, Water and Sanitation Programme, World Bank
5. Dr Md. Mafizur Rahman, Assistant Professor, Department of Civil Engineering, BUET
6. Md. Shahidul Huq, Senior Officer, Rupali Bank
7. Md. Masudur Rahman, Assistant Officer, South-East Bank
8. Razulur Rahman, Staff Reporter, The Daily Star
9. Professor Dr Md. Nurul Islam, Institute of Appropriate Technology, BUET
10. Professor Dr Md. Mujibur Rahman, Department of Civil Engineering, BUET
11. Professor Dr Feroze Ahmed, Department of Civil Engineering, BUET
12. Engr. Kazi Md. Sheesh, Chief Engineer, Dhaka WASA
13. Dr Mahiudur Rahman, Secretary-General, IPD

14. Md. Zohurul Haque, AIG of Bangladesh Police
15. Dr Farida Nilufar, Assistant Professor, Department of Architecture, BUET
16. Abul Mansour Md. Azad, GM (Acting), Training Division, Petrobangla
17. Engr. Pulak Barua, Research Associate, Waste Concern
18. Architect Maqsood Sinha, General Secretary, Waste Concern
19. Kh. Rashidul Huq, Director-General, Department of Environment
20. Dr Md. Ashrafuddin, Chief Health Officer, Dhaka City Corporation
21. Dr ABM Badruzzaman, Department of Civil Engineering, BUET
22. Professor Dr Farooque Alamed, Department of Civil Engineering, BUET
23. Abul Kalam Azad, Staff Reporter, The Daily Star
24. Dr Aminur Rahman, Associate Professor, IUB
25. Md. Rahmat Ullah Borhan, Student of Dhaka University
26. Afzal Hossain, National Commissioner (Extension Scouting), Bangladesh Scouts

Deliberations at The Daily Star-Bangladesh Scouts workshop on Waste Disposal in Dhaka City

Moderator: This is a discussion to enlighten each other. Perhaps the Department of Environment is working in the same field BUET teachers, as the WASA, RAJUK, DCC may also be thinking on the same lines. This series of seminars bring people together. In our last seminar on traffic problems, the DG Traffic and the BRTA Chairman actually met for the first time. They were very thankful to us for giving them a forum.

Now we will hear from the DG, Department of Environment.

DG, Department of Environment: You all know that there are ways of environment pollution – air pollution, noise pollution, water pollution and, very importantly, pollution from waste. Pollution from waste is extremely harmful and calls for particular attention. Those living in Dhaka now see how the public is protesting against waste pollution. So many associations, seminars and workshops are being organised in this regard.

There are various types of waste in the city – municipal waste, household waste, commercial waste, industrial waste and clinical waste. How are these harming us? The laymen may not know how harmful these are. Various germs and diseases can spread from municipal waste in particular. Serious diseases can spread. This is true of household waste. While half of it is disposed through the municipal system, the other half is scattered haphazardly all over the place. The environment gets polluted.

The worst, to me, is clinical waste. It is extremely frightening. In various residential areas we see clinics being set up. Here too, some of the waste is burnt in incinerators and properly disposed, but some of it is not. Our Prime Minister herself has said that clinics should not be opened in residential areas.

In Dhaka, every day Dhaka Municipality disposes of 4500 tonnes of waste. But there is much more, many more tonnes that are not disposed of properly. In other countries, arrangements are being made for waste storage.

There can be two methods. One can be to dispose waste in an efficient manner. In the past, the garbage was removed at night. This would keep the city clean. Of course, things have changed. People have increased. The social system has changed. People's thinking process has developed, but the system of co-ordination has not developed so far. In other countries of the world waste management has progressed far. There are community-based systems. In the private sector, they manage waste. The governments of those countries encourage the private sector in this field.

Waste is being used in various countries in various manners. In some places it is being used to produce electricity. Here too we are considering a plan – waste to energy. The government has taken up a plan in this regard. The Department of Environment is involved in this, although the Energy Ministry has initiated the project. Our waste is also being taken away by people and recycled. This is applicable to glass, paper, textiles and such. The 'tokais' are collecting and selling these.

In the 'waste to energy' project, waste is burnt and the heat produced is being changed into energy. The residue is being used for road construction. Many people say that this is very costly, but it needn't be that costly. It can be carried out on a BOD system. Considerations in this regard are on.

As for the percentage of waste, 47 per cent comes from the households, according to the municipal statement. Seventeen per cent comes from the commercial sector, 32 per cent from the streets while medical waste constitutes 0.5 per cent.

Residents of Dhaka are not only being harmed due to health hazards waste poses. They want a beautiful city. If a tourist comes and sees the filth on the roads, they will not come for a second time. From the tourism point of view, too, waste should be managed. Tourists say, your country is not clean. The roads are dirty, even around the five-star hotels where the class tourists stay. Not only that – look at the surroundings of the Directorate of Environment.

An American engineer has said that the problem of pollution from autorickshaw can easily be resolved at a low cost of just 100 US dollars. Last month we signed a Tk. 400 million project agreement with the World Bank to deal with pollution. We will set up stations all over the city to control air pollution.

Then there is water pollution, sound pollution along with the air pollution. Then waste must be removed to beautify Dhaka. People want to live well.

Moderator: Recently I saw a signboard near the over-bridge outside Shaheen School. I am an acoustics teacher in architecture for the last 20 years. I was rather taken aback by the sign. It asked the people not to exceed 45 decibels of noise. Now what does decibels mean to the common man? I will admit to you that after 20 years on this subject, I am still not clear. It is difficult to define. It is a ratio, a logarithmic ratio. Yet we are giving this term to the common man on the street, that too 45 decibels. It is impossible to contain the noise level on a street to 45 decibels. In this room alone there will be 45 decibels and we are expecting this level near the over-bridge outside Shaheen School. This needs to be corrected.

The matter of clinical waste, as the Environment DG said, is of utmost concern. Then a few days ago there was a fire in a glue factory. The factory shouldn't have been in the densely populated residential area in the first place. Luckily, there was not too much damage, but there could have been.

We would invite questions now.

Abul Mansur Md. Azad: I am a geologist. We would like to hear something on the waste disposal-related policy and laws of

the country to update our knowledge on the subject.

DG, Department of Environment: The Dhaka Municipality Act of 1997 clearly states that this is the responsibility of the municipality. There is the place in Mirpur where they dump the waste. But you know how things are, even if there is an Act in place. For example, we want to form an environmental court. We have identified 1200 points of pollution, including various industries. These will be highlighted when the environment court is formed.

The civil society must come forward. If the people come forward with a movement, if the government has a commitment, then there is the legal framework to work upon. But then there are limitations, lack of vehicles and so on. I am a part of the government, a policymaker. I have met with the Mayor twice recently. I have seen in New York, Singapore and other countries, even Malaysia and Thailand, they have a kind of covered trucks. If you put in 4000 tonnes of garbage, its compresses it into 1000 tonnes. You will see in big airports of the world, the luggage is carried in a computerised manner automatically to the aircraft. In our country the loaders still physically load them. This does not exist in those countries. So this type of truck is needed. It won't be too costly. The people here can't cope with the garbage.

Our civil society is not conscious. Walking in the early morning, I identified 21 points in Dhaka city. On Green Road, early in the morning, I saw the garbage was cleared. By noon people had thrown garbage there again. The maid servants, servants, just throw the rubbish on the roadside. In New Market you will see that no one throws the rubbish into the cement trash place. They all throw it out on the road. So it is not only the municipality's fault.

The municipality has to take responsibility for this. The private sector cannot deal with such a serious issue. You can have community-based initiatives, create public awareness in the neighbourhoods, but the people don't have that much capability.

I want the relevant ministries and departments to come to a decision regarding the waste, the clinical waste in particular. An immediate decision is needed. Before we may not have thought that way, but today environment is number one in global concern. Information technology has taken second place. Why? Even 20 years ago people wouldn't think about the environment. But now the environment issue is a global phenomenon. There is the climate change, the ozone layer, waste. All these are now global subjects.

Dr. Mahiudur Rahman: You said that clinics shouldn't be allowed in the residential areas of the city. How practical is this? Other than a few areas, all the areas in Dhaka city are residential areas. So how practical is this?

We know that incineration is being phased out in Europe and other countries. Yet we haven't even been able to start it up in our country. They did bring an incinerator plant to Dhaka Medical College, but it wasn't possible to set it up for many days as the Department of Environment and Dhaka Medical College Hospital had failed to reach an agreement on the matter during their talks. I want to know about this.

DG, Department of Environment: I have personally issued notice to persons, who are powerful, to shift their clinics. But we have to think of these matters in long-term considerations. You can't just shift a clinic overnight. As for the incinerator, there is no conflict with us over the issue. Dhaka Cholera Hospital has one incinerator. The question, which has arisen, relates to polythene bags. It is heard that the smoke emitted from the burning of polythene bags can cause cancer. There is a consideration to instruct all clinics to set up incinerators. But now this question has arisen. On top of that, it is very expensive. All these must be taken into consideration. But things will be resolved.

Professor Dr Mohammed Nurul Islam: The DG of Environment has said that initiative has been taken to generate power from waste. Has a clearance certificate been given for this?

From 1976 till 2000, as far as I know, many have tried to come forward with such projects. When they came in 1976, the President was given a letter stating that there were fuel problems and other problems in the country. They said they could resolve these problems if he gave the permission. These proposals came to me for technical comments. I said, as far as I know, there were two mechanical composting plants in Bangkok. They had signed for three, but after two they didn't want the third one. The initiators, however, forcefully insisted that they had to take the third one too. It would have to be dumped.

Calcutta Corporation, in the 1950s, took the first incinerator in the region and that too did not work. I suggested that the experts look into this. This suggestion was welcome by those who could travel for the purpose. They came to me, asking where they were to go, what were they to do, what were they to ask, etc. So they went to Bangkok, came back and said, what you said is true. Why did we take this up? Write us another suggestion and now let us visit Calcutta.

Someone came up with the proposal just before President Ershad's fall. He said he had BOI approval, Ministry of Environment approval, for a project to import waste since we had fuel problems. This would save our energy problem, generate power, this would undergo electrolysis, etc. There would be exported, sodium hydroxide would be exported, the country would benefit. The DG DoE at the time was the since deceased Mr. Bashir. He had said that this was environmentally hazardous

and rebuked him. A committee was formed. I was one of the members. DG DoE was one of the members. We drew up a report, saying that incinerator was a hazardous problem.

Moderator: So your question is whether the government is still carrying on with that policy?

Prof. Islam: We also have to take into consideration that a whole lot of people in our country depend on garbage collection for living. After they take this for recycling, there is very little combustible material left.

DG, Department of Environment: Taking up a project doesn't mean completing a project. That is very important. The Energy Ministry is considering the possibility of water to energy project. There is a committee. You work with the government so you know so many things are involved in a project. There is funding, planning, documents and so on. The committee is seeing how waste can be converted into technology. There is the matter of plasma technology. It is not in a complete form. The matter is under process for long. The eight-member committee is studying the matter. It has to go through so many phases. One sensitive aspect is that our development partners of foreign countries are coming forward to help us.

A participant: The Environment Conservation Act 1995 has given the DG DoE an incredible amount of authority regarding environmental issues. Industrial waste is increasing incredibly. You said clinical waste is a major concern and considered shifting clinics from particular areas. There are industries in the city, in Tejgaon, in the old city. There are tanneries. Has the DoE taken any measures regarding the toxic waste of the industries? How will the industries discharge their waste if they do not have treatment plants? They will have to set up treatment plants to discharge the effluents. Has the DoE, which has the authority, taken any steps in this regard?

DG, Department of Environment: In keeping with the 1995 Environment Act and the 1997 Act. We have taken steps against these queries. Final action is to be taken by others. We are not giving clearance to many industries. We sometimes give temporary clearance for six months. We have rejected many. Many complaints are lodged against us in this regard. Sometimes we don't give clearance to a factory which will certainly create pollution problems. The owner will spread all sorts of malicious lies about us, but we still have to work through this.

Syed Rafiq Ahmed: What action is DoE taking regarding specific industries that are polluting our environment?

DG, Department of Environment: We can take no action if someone disregards our orders. Once the environment court is set up, we can seek assistance there. We will say this person isn't listening to us, close his industry.

Professor Dr Feroze Ahmed: You say that there is a committee for energy from waste. About the energy that you will recover from waste, our waste has a lot of water. The energy required to evaporate that water can't be got from that waste. Where will you get that energy from?

If you say you will separate polythene paper and then recover waste, when polythene is burned, its emissions can cause cancer. An additional energy is needed to burn hazardous waste. Where will you get the energy from? The energy produced from waste is not enough.

DG, Department of Environment: I will introduce you to those who are directly involved in the project as I will not be able to give the technical explanation to this.

Prof. Feroze Ahmed: Do you know this project was once quashed?

Dr Mofizur Rahman: Dhaka City Corporation is involved in the disposal and collection of waste in Dhaka city. The manner in which they are dumping waste in landfill sites, the ground water and surface water are being polluted. What measures are being taken in this regard?

DG, Department of Environment: WASA will have data in this regard. They are the stakeholders, one of our active players.

Dr Mofizur Rahman: What steps are you taking in this regard?

DG, Department of Environment: Day before yesterday I issued a letter to the RAJUK chairman with queries about whether they had any detailed plans in this regard. I asked WASA if they had any Master Plan in this regard too. When I have these, I may be able to work out the total situation. I don't walk around with the data.

A participant: Dumping of solid waste is contaminating groundwater and surface water. The Department of Environment has a key role to stop that. You may have to go into a confrontation with DCC.

DG, Department of Environment: We are taking such steps all the time. I have discussed these issues with the Mayor. These things can't be solved in a day. Like now the issue of dengue has cropped up. I hear that dengue mosquitoes are being bred in the water caught in the crack of trees. Some say that the effect of the warming of the climate is leading to dengue. So many people say so many things. These are all routine matters. We have blocked clearance to many industries.

Moderator: The general consensus is that despite your steps, your threats to go to the environment court, things are not improving. Where do we put our foot down?

DG, Department of Environment: There is an important problem of information gap. We often don't understand each other. You say we are helpless. We are not. We have legal limitations, but we are taking measures. When things go to an

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Recommendations

Rajanigandha Group

Professor Dr Md. Nurul Islam (Leader)
Md. Zohurul Haque
Dr ABM Badruzzaman
Dr Md. Ashrafuddin
Shahidul Azam Ahmed
Md. Masudur Rahman
Parvez Khan (Co-ordinator)

Liquid Waste

Sanitary sewage

- Coverage should be increased, considering various low-to-medium cost options.
- Smaller independent sewerage system including its own treatment plant should be considered instead of a large centralised system.
- Rehabilitation of existing (old) sewerage system. Inclusion of existing unauthorised/illegal connection in the rehabilitated system and prevention of unauthorised/illegal connection in future.
- Emphasis should be on regular operation and maintenance.

Industrial wastewater

- DoE should ensure that no industrial plant discharges its effluent into the environment without adequate treatment.
- Industries should be given financial incentives for effluent treatment prior to disposal.
- Waste minimisation and pollution prevention programme should be introduced in industries.
- Researches should be undertaken to develop low-cost treatment options for industrial effluent.

Storm water

- DWASA and DCC should ensure separate storm water drainage system by preventing sanitary sewage connection.
- The discharge points of drainage networks must be kept clear and operational. Circular waterway around Dhaka should be developed immediately.
- Drainage networks must be kept clear from solid wastes, especially polythene bags.
- Environmental awareness programmes must be undertaken in the industrial sector.

Madhabilata Group

Engr. Kazi Md. Sheesh (Leader)
Professor Dr Md. Mujibur Rahman
Razulur Rahman
Engr. Pulak Barua
Syed Amin Al Anas
Syed Rafiq Ahmed (Co-ordinator)

Solid Waste

- Co-ordination of works of different organisations, who are involved directly or indirectly in solid waste management, should be enhanced. Besides public sector and local public representative, community-based and private organisations should be involved in solid waste management.
- Appropriate technology for better disposal, recycling and resource recovery should be searched, and their technical and financial viability should be assessed.
- Unplanned urbanisation and industrialisation should be stopped. All unauthorised construction, land filling and encroachment should be removed. Existing Zonal Master Plan of RAJUK should be strictly followed.
- Different standard set by DoE in managing industrial, clinical and domestic waste and effluent should be strictly maintained. If required, separate waste treatment plants should be installed by private entrepreneurs. Where required, necessary technical and financial support should be provided by concerned authority.
- Public motivation and awareness programmes about environment should be promoted. Environmental education in formal education system must be introduced. Civil society and other pressure groups should be proactive in seeking transparency in policy-making and of implementing authority.

Krishnachura Group

Professor Dr Feroze Ahmed (Leader)
Professor Dr Farooque Ahmed
Abul Mansour Md. Azad
Architect Maqsood Sinha
Dr Aminur Rahman
Md. Shahidul Huq
Dr Md. Mafizur Rahman
Abul Kalam Azad
Dr Farida Nilufar (Co-ordinator)

Hospital and Clinical Waste

- National policy and legislation to manage hospital and clinical waste needed.
- Awareness among medical personnel, users, community and recycling people required. These may be advanced through pilot projects, mass media, educational curriculum and monitoring.
- Management in segregation, preservation, separate collection and transportation of hospital and clinical waste required as an integrated vehicle of city planning. Appropriate technology should be employed.
- Belief in 'Pollutant Pay Principal'.