

## Unabated atrocity on environment

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### Chemical contamination: Threat to public health

About 11 percent of the rivers in Bangladesh are polluted by industrial wastes. Further escalations are noted from agro-chemicals, marine vehicular discharges and wastes and municipal and domestic wastes. As per a governmental study, rivers around Dhaka, namely the Buriganga, Shitalakshya, Turag, Balu, Bangshi and Dhaleswary, have earned notorious reputations due to very high level of pollutions from industrial wastes (60 percent), and municipal/household drainage of toilet wastes (30 percent). We have heard a former state minister of water resources in the late 90's say that a ten feet thick poly bags layer had caused "carpeting" on the Buriganga river bed! The newly built Hatirjheel project is still pouring its dirty wastes into river Balu through the Narai khal without proper treatment. Especially during the winter season, all these rivers become absolutely filthy and poisonous; devoid of oxygen and aquatic biodiversity. The government seems quite incapable or shy in executing the decisions for mandatory ETP fixation in the industrial plants.

Excreta play a significant role in polluting the rivers in Bangladesh. In spite of prolonged national drives, we are yet to achieve a satisfactory sanitation management system. Rivers and canals are major disposal receptacles for human and animal excreta as well as dead animal bodies, especially by riverside inhabitants. Media sources revealed a few years back that the number of small hanging latrines on both sides of the Karnaphuli was about 1.5 lakhs. It is not a stretch of imagination to say that the rivers and water bodies are considered as the drains in Bangladesh.

About 1.6 million tonnes of chemical fertilisers and 4-5 thousand tonnes of pesticides are used for agriculture every year. Though illegal worldwide, 9 out of 12 Persistent Organic Pollutants (POPs), also known as the dirty dozen, are also being used all over the country for agricultural and household purposes. These are smuggled-in items proven harmful to human health, namely: Eldrin, Dieldrin, Chlordane, DDT, Endrin, Heptachlor, Mirax and Toxafen etc. A huge portion of these dangerous items are carried by rain water and flood, contaminating the rivers, wetlands, ponds, soil and finally entering the food chain, causing numerous deadly diseases including cancers.

**Marine vehicular discharges:** This chemical contamination results in obnoxious chemical pollution in river-water and gets deposited on river beds. Amount of such category is said to be 1.7 to 2.4 billion tonnes, causing 35 million tonnes of silt deposits in the rivers, every year.

**Trans-boundary mixed pollution** Trans-boundary river pollution is also a significant factor for Bangladesh. All the plain land and hilly rivers are carrying huge amount of wastes from a big stretch of India surrounding Bangladesh and a part of Myanmar. The components include eroded river bank soil, peeled off hilly stones, boulders, construction materials from urban developmental projects and hydro-power plants and dam constructions, contaminated mountains and glaciers, run off urban wastes, coal dust, gravels sandy flood, suspected radioactive materials, and municipal wastes from Meghalaya, Assam, Tripura, West Bengal and bordering Myanmar. Bangladeshi rivers work as the gate way to enormous amounts of waste from the upstream region. This problem can

only be solved through trans-boundary planning and cooperation.

### Health impacts of chemical pollutants of rivers

Chemical pollutants of water induce toxic impacts on all the living entities including human beings through water, soil and even air. Common diseases from the polluted rivers are: skin allergy and inflammations, gastroenteritis, typhoid and paratyphoid, liver diseases like hepatitis, jaundice, upper respiratory inflammations, and any of these areas may develop even deadlier cancers. The population around the river

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banks is, in a true sense, a permanently vulnerable society, with higher morbidity and mortality rates, prolonged sickness, having less work capacity and costly lives leading to more poverty.

### World Bank and government study performed by IWM

In general, we know that Dhaka Water and Sewerage Authority (WASA) has a limited capacity (around 30 percent) of managing toilet discharges and the rest goes to the rivers around Dhaka city through the WASA storm water drainage but without formal permission from the organisation. Side by side, the Dhaka City Corporation (DCC) has the capacity of disposing 45 percent of the municipal wastes. The rest remain lying

in or around roadside bins; often find their way back into households through footwear and add to the the cyclic human family disease process. A notable amount flows into the rivers through the roadside drains. There was a governmental study by the IWM in 2007 on the pollutions in the water courses around Dhaka namely: Buriganga, Shitalakshya, Turag, Balu, Bangshi, Dhaleswari and Tongi Khal. The study correctly revealed that 60 percent pollution is caused by the industries, 30 percent by WASA and DCC and the rest by others. This study, in addition to other matters, dealt with the biological pollutions of the rivers around Dhaka city.

Key points on findings from the biological part of the study "Comparative Disease prevalence between watershed (6 rivers around the city of Dhaka) and Control Populations (riverside Tangail town)" reveals:

1. There is strong co-relation between disease and river pollutions.
2. Industrial pollution is widespread and easily affects drinking water.
3. Health care cost of pollution represents 21.5 percent of annual income in Hazaribag area.
4. Jaundice, skin diseases and diarrhoea are very high in watershed areas.
5. Men and children are more affected in watershed areas.
6. Men are more affected by jaundice than women.
7. Infants in control area are less affected by jaundice and diarrhoea.
8. There is co-relation between jaundice and diarrhoea in watershed areas.
9. Major source of water contamination is from piped supply.
10. Productivity loss of polluted land is estimated to be 40 percent.
11. Vegetable cultivation in river beds is severely damaged by polluted water.
12. There is no fishing activity in dry season in rivers and canals in greater

Dhaka.

13. In rainy season, some fish appear here with insignificant reduction in amount but there is a notable number of declining species.

14. The rice-vegetable-fish reduction in the river basin areas is affecting nutrition.

15. Widespread contamination has caused scarcity of safe surface water sources in Bangladesh, except few natural springs in hilly areas.

16. According to IWM, water is so polluted at the intake point that it can't be treated to become safe for drinking.

17. Rivers around Dhaka are at the height of contamination, not only in dry season, but also posing high threat of health calamities.

### Core essence of river pollution and degradation: wrong approach towards lifeline

Historically and traditionally, men wanted to conquer rivers by cordoning them with long embankments, dams, barrages, crossroads, short-span bridges and culverts. People consider rivers as drains and throw all their wastes and garbage into it. This is done not only by individuals but also by corporations and governments. Bangladesh is no exception. But currently the choice for this commercial approach towards the rivers is taking the reverse course worldwide, and sensible people are adopting an ecological approach towards rivers. Science, conscience, awareness and a sense of justice is the way of success to stop the atrocities and pollution of our rivers.

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