

Pollution of rivers around Dhaka

Increasing threats to life

In many cases the policies and strategies are seemingly far from being practical in terms of implementation. Therefore, a proactive approach instead of a reactive approach might provide a practical and sustainable solution to the problem.

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WITH a population of over 15 million Dhaka is one of the most congested cities of the world. This rapidly growing city is located on the northern bank of the river Buriganga and surrounded by other rivers, namely, Turag to the west, the Tongi Khal to the north and the Balu to the east. The rivers surrounding Dhaka are an advantage to it and essential for the survival of the mega city as these provide drainage system, drinking water, different kinds of fishes and also waterways for traveling. However, being the capital of Bangladesh -- one of the poorest and least developed countries in the world -- the city has been developed haphazardly without considering its physical and social diminution. As a result, the environmental consequences originating from rapid increase of population along with the increase of polluting effluents from industries, and municipal as well as other waste are having profound negative impacts on rivers around Dhaka city. In turn, the polluted waters of the rivers are posing increasing threats to the living organisms including humans residing by the rivers.

Around Dhaka, river water has altered from its natural state in terms of physical, chemical and microbiological composition and lost its suitability for any safe and beneficial use. The signs of contamination have become obvious through bad taste, offensive odours, unchecked growth of aquatic weeds, and decrease in the number of aquatic animals, floating of oil and grease, colouration of water and so on. Generally, rivers surrounding Dhaka are being polluted by the discharge of untreated industrial effluent, urban wastewater, agrochemicals, sewage water, storm runoff, solid waste dumping, oil spillage, sedimentation and also

encroachment.

Over the last couple of decades major industrialisation has been observed in Dhaka, especially in dyeing, washing and textiles sectors. Estimation reveals that there are over 7,000 industries in Dhaka metropolitan area located mostly in three clusters, namely, Hazaribagh, Tejgaon, and Dhaka-Narayanganj-Demra dam area (Roy, 2009). However, among all these the dyeing factories and tanneries are the main polluters of the rivers. Waste from these industries is usually connected to the sewerage system that directly follows to the rivers around the city. As a matter of fact, the rivers have become a dumping ground of all kinds of solid, liquid and other chemical waste.

Dhaka city has been growing without much of plan and the city lacks systematic waste management system as well. Dhaka generates around 0.4 to 0.7 kilograms of solid waste per capita per day but the Dhaka City Corporation (DCC), the main agency responsible for collection, transportation and disposal of the waste cannot manage the task properly with its existing limited logistics. The per capita waste collected in Dhaka per day is 0.2 kilograms (Islam & Rahman, 2002). The waste which is not managed by the DCC is dumped into the rivers by the people living near the river banks.

The rivers, which perform the task of natural drainage for the city are also being polluted as rain water sweeps into them all the waste dumped here and there of the city. Furthermore, liquid waste produced in the city is being poured in the rivers untreated. Of the discharged untreated liquid waste, 61 percent is industrial and 39 percent domestic (Roy, 2009). However, the lone Sewerage Treatment Plant (SWP) situated in Pagla of Narayanganj can treat only 10 percent of the industrial waste. Moreover, Dhaka WASA utilizes the existing canals



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and sewerage pipes to collect waste water from different residential areas and depose, most of it, into surrounding rivers without any treatment. Apart from domestic and industrial waste, oil and other chemicals which are spilled into the rivers from launches, steamers, and trawlers are also polluting river water. Besides in Dhaka contamination of water is occurring from human excreta as well, as 70 percent of the population of the city does not have access to improved sanitation facilities (Islam & Rahman, 2002).

Encroachment on rivers is a common practice in Bangladesh. Most of the natural drainages of Dhaka City disappeared or are in way to due to illegal encroachment. Encroachment on the rivers through unauthorized construction and dumping of solid waste in clearance of regulations to prevent encroachment making it difficult to drain out the runoff and the pollutants i.e., added particles remaining in the rivers keep polluting the environment (Tawhid, 2004).

Polluted water of Buriganga, Turag, Dhaleshwari, Balu, and Narai flowing around the greater Dhaka

city is posing serious threats to public life as it is unfit for human use (Institute for Environment and Development Studies, 2003). People living near the rivers, having no other alternative, are forced to use polluted river water. Some also use the water because they are unaware of the health risks. This causes spread of water borne and skin diseases. Solid waste and different effluents dumped into the rivers make it difficult for fishes and other sub-aquatic organisms to live. When solid waste and effluents run into the river, the Biological Oxygen Demand (BOD) in the water rises, creating oxygen crisis for the sub aqueous life. As the dissolved oxygen (DO) content of the river water is decreased below the critical level of four milligrams per liter it is posing threats to bio-diversity in and around the rivers.

Pollution is so severe in the Buriganga, Shitalakhya and Balu rivers that it is almost impossible to treat the water for making it suitable for human use. The Water and Sewerage Authority (WASA) is supplying stinky water purified by chlorine and ammonia sulfate.

Moreover, due to river encroachment and dumping of solid waste into the rivers the rivers are loosing their natural flow. Thus, the waterways are shrinking and the alternative way of communication around Dhaka city through rivers turned unsuccessful.

Like many other countries of the world, river pollution in Bangladesh is a burning issue. Abundant research has been carried out and many recommendations have been forwarded to protect the rivers from pollution. At the government level since the last quarter of the past century several rules, regulations, policies and strategies have been formulated to save the rivers from pollution. But the implementation and enforcement of the policies and the regulations have so far been very ineffective, leading to poorer river water quality and further pollution. In addition, in many cases the policies and strategies are seemingly far from being practical in terms of implementation. Therefore, a proactive approach instead of a reactive approach might provide a practical and sustainable solution to the problem. In

this regard, provisions of monetary incentives, rewards and recognitions for the polluters who reduce pollution may work effectively. The direct involvement of community and civil society in protecting rivers can also play a great role.

Over the years the government agencies conducted drives against the polluters; however, yielded small success these. Meanwhile, the polluters continued polluting the rivers. Thus, to overcome these problems community people from all level should be encouraged to take part in taking care of the environment. Encouraging debate regarding priorities and developing local strategies, e.g. through workshops involving experts and mass people would produce a people centric action plan. Actions at the individual as well as household level and community level reducing resource consumption and waste production, cleaning up the urban environment and organizing information sharing campaigns would better protect the rivers around Dhaka.

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Tiger Conservation: Reality, recognition and rights

Tigers are essential for ecosystem sustenance. They have to be conserved professionally rather than politically. The forestry people may look at engineers, doctors and agriculturists to recognise what professionalism means in our context.

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TIGERS are maverick animals. They are supposed to live long in this world. Instead, they are disappearing rapidly. No doubt celebrating 'tiger day' will raise awareness to safeguard this majestic animal; however, we hope the affiliated institutions will continue creating a congenial environment for safety and sustainability of tiger population.

Commonly such safety and protection are provided through declaring protected areas (PAs) like game reserves, wildlife sanctuary, and even national parks. There are overlapping forest reserves and tiger reserves in the Sunderbans as well. The overlapping is because what is for the Sunderbans is for Tiger and what is for Tiger is for the Sunderbans. The Sunderbans and Tigers are inseparable. We wish that the 'tiger day' will benefit both Tigers and the Sunderbans.

However, in Bangladesh situation continuing relationship between Forest Departments (FD) in charge of PAs and the local communities living in and around PAs are discouraging. The approach of PA

management in Bangladesh is different from western approach. Western PAs constitute creating pristine zones by excluding local communities whereas Bangladesh PAs invite active participation of communities. Of course people do participate in western PAs as well but such participation is spontaneous and influenced by consciousness; whereas, participation in our country is operational and induced by motivation.

Despite illegitimate human killing is considered as the main reason of tiger disappearance. The Balinese tiger was extinct long ago in 1930s due to hunting. Caspian and Java tiger are also extinct due to human pressure. The extinction of Java tiger is very recent only in 1970s. In that regard the effort for tiger conservation is not very old. Presently there are only six sub-species of tiger remaining in the world. All of them are endangered. The total number of individuals of all tiger species around the world is estimated to be alarmingly low, only 3200. Tigers are visible in only 7% areas of their natural home range. Among them the abundance of the Bengal Tiger is



highest close to 1100 in India and Bangladesh. In the Bangladesh part Tigers are available in the Sunderbans only and their number is less than 500.

Although higher in number, the Bengal tiger is more prone to extinction because they have the highest interaction with human beings. Ecologically they occupy only one habitat, the Sunderbans. They often hunt on livestock and kill people. Many people die in the Sunderbans due to tiger attack. All of them increase the probability of their extinction. They are more vulnerable because they are surrounded by about eight million people living around the Sunderbans and troubled by three million people entering in the Sunderbans every year. There is no doubt that if these people do not cooperate there is no possibility that tigers in the

Sunderbans could be saved.

Albeit, how we arrange participation does matter, the motivational part is very subjective. This is largely because the tools we use for motivation are mainly monetary incentives and NGO perceptiveness. NGOs in general are very active and successful in their missions; however, in practice they are multilevel profit seeking liaison between the government, people and international agencies. If there is no money, there will be no motivation, thereby, no participation can be expected. Moreover, the responsibility and liability of NGOs are minimal. At least the Wildlife Act does not have such provision. Therefore, the long term conservation of tiger may be affected seriously. Though harsh to generalize, we can say motivations are tool-dependent; thereby, motivational participation needs some

additional planning for long term solution.

In our country situation of long term perspective is even bleak, because, NGO involvement is essential tool for any kind of participation. On the other hand, the traditionalism that the forestry people carry from their British ancestors till now generates mistrust. We do not know how many ages they will take to achieve the trust of people. Neither have we known whether tigers will live that long. The least we can say, to save tigers professional people have to be trustable to the general people the sooner the better otherwise many things will be relocated somewhere else including their professionalism. Vis a vis we request the nation to imagine, if any other professional group (e.g., Justice) loses the trust of people, as we see with forestry groups, what would be the setback before the nation could rebuild it again?

Otherwise, the operational participation of people is good. The hardworking people of our country are very much dedicated; however, seldom look at professionalism. Once motivated, our politicians do not necessitate allowing officers and professionals working in their respective areas. As a result, trained professionals cannot exhibit professionalism and eventually lose the attribute. On the other hand, people develop a peculiar skill for making their boss happy (traditionally called oiling) but not professionalism. Therefore, appropriate skills are replaced by 'oiling' and the professionalism gets relocated from

professionals to consultants. If the consultants are from overseas, then the professionalism finds its way seven seas away from the host country.

For tiger conservation FD is much dependent on local people. However, they cannot approach local people directly. NGOs are essential intermediary. It is a pity that people do not trust them directly. Neither the politicians do. Not to blame almost everywhere the forestry professionals have been portrayed not more than burglar of public resources. I do not know how these professionals will work under the teeth of saw. Some people have reservation even to recognize them as professionals; particularly, when they have repeatedly failed to cater a policy for recruiting trained professionals. They do not see how other professionals like engineers, doctors, and agriculturists practice their recruitment. If they think that they can train people professionally after recruitment when they are supposed to practice, they are in wrong mode. It is political rather than professional. They will be losing productive times (Youthful) and public resources for training rather than producing. We hope that our tigers will be saved professionally rather than politically.

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