

The growing threat in Bangladesh's rivers



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Once a vital lifeline for trade and daily life, the Buriganga River now tells a tale of contrast—while boats still carry fresh produce across its surface, untreated industrial waste and sewage pour directly into its waters, turning it into a toxic channel threatening both livelihoods and ecosystems.

PHOTO: AMRAN HOSSAIN

are not hidden from the national and global community. Transboundary rivers such as the Padma and the Brahmaputra have water quality that is close to an unsuitable level for fisheries. Our research findings coincide with the field-based observations and water quality testing results of research led by Dhaka University. In summary, several studies highlight the presence of microbiological (e.g., bacteria and coliforms) and chemical (e.g., chromium, lead, and arsenic) contaminants in the Padma River due to industrial effluent, untreated sewage, and agricultural runoff. This is highly alarming because the Ganges in India and rivers in China are among the most polluted rivers in the world, and many of these transboundary rivers flow through Bangladesh. The growing economy, industrialisation, and population are projected to increase significantly in India, Bangladesh, and China, where industrial waste, urban sewage, and agricultural runoff are poorly managed and often discharged into rivers without proper treatment.

There are many initiatives taken to reduce river pollution, mainly around Dhaka city. River water quality shows improvement, but not enough to avoid risks to the ecosystem and human health. If current trends continue, river pollution in Bangladesh will worsen. Though we do not plan to provide an exhaustive list to reduce river pollution, we underscore some of the key policy implications to avoid social-ecological catastrophes.

First, there are no alternatives to regular monitoring and assessment of water quality. There are several reports and media recommendations for zero tolerance of illegal discharge. Industrial and agricultural pollution data for rivers can be made public through a digital dashboard, where cutting edge technology, such as machine learning, can provide real-time information on pollution and risks to health and the ecosystem. The government should consider a new rule for sustainability reporting (also known as ESG reporting). This would apply to all government offices, private organisations, and industries in Bangladesh. ESG (Environmental,

Social, Governance) reporting is how a company shares information about its impact on the environment, society, and management (governance). For example, the European Union already uses a rule called the Corporate Sustainability Reporting Directive (CSRD). This law requires large companies to be transparent about their environmental and social risks.

Second, the government should impose higher taxes on small plastic packaging, such as mini-packs for shampoo, toothpaste, and biscuits. While these mini-packs are cheap and popular, they cause significant harm to the environment. For example, a large bottle of shampoo is easier to recycle. In contrast, small 5-taka packs usually end up in landfills, drains, and rivers. These packs contain plastic, chemicals, and toxic dyes that pollute the environment. To protect nature, the government should either ban these mini-packs or tax them heavily. This will encourage people to use larger, more sustainable containers. In addition, the collection of household waste (category wise) systems needs to be urgently addressed to prevent plastics and other waste from entering the water. An E-waste disposal policy is timely, considering the increase in usage of mobile phones, computers,

and related electronic devices.

Third, our garments and other industries are rapidly moving towards sustainability. However, governments need to build strong collaborations with all stakeholders to reduce river pollution. Utilising economic instruments such as water tariffs, enforcement incentives, and a cap-and-trade system can be instrumental in changing the behaviour of private polluters towards supporting river protection. The education system needs to be revisited and tailored to local and national needs while remaining globally excellent. There is an urgent need for collaboration between academia, industry, and other stakeholders to ensure that future leaders are equipped to combat river pollution.

Fourth, negotiation for transboundary waters to ensure the safe operating space of river water is a must. Transboundary water diplomacy needs to include transboundary pollution. This needs to be underscored urgently, as the rapidly growing economies of India and China will generate more waste, possibly without proper wastewater treatment infrastructure. Climate change will add an extra layer of risk to river pollution due to changes in

rainfall, and an increase in drought can concentrate pollutants during the dry season and spread contaminants more widely during floods. Negotiating upstream flow agreements and joint monitoring of transboundary rivers are imperative to ensure rivers are safe for people and the ecosystem across South Asia.

Fifth, a systems approach is a must to ensure cost effectiveness and to avoid the ripple effects of mitigation strategies. This can combine with a push towards a circular economy to ensure maximising the use and reuse of resources by eliminating waste and pollution, circulating products, and regenerating natural capital towards achieving net zero. Thus, systems-thinking based circular economy is critical to prioritise with a proper, workable action plan in the 'National Industrial Policy 2022'. The National Industrial Policy 2022 must be effectively linked to relevant government institutions within the official policy framework. For instance, while the National Industrial Policy 2022 provides a detailed timeline of actions and identifies responsible government bodies, a significant implementation gap exists. Specifically, the Medium Term Budget Framework (MTBF) and the Annual Performance Agreement (APA) of these implementing institutions are seldom synchronised with the action plans outlined in the policy. Furthermore, there is a critical absence of a dedicated monitoring body to oversee and follow up on the progress of these inter-institutional actions.

Restoring wetlands and rivers can offer nature-based solutions to river pollution. A large part of the wetlands, canals, and rivers are degraded and lost due to the growing population, urbanisation, and industrialisation. Restoring these wetlands and rivers can help naturally mitigate the risk of pollution to avoid a social-ecological catastrophe.



PHOTO: RASHED SHUMON

An oil tanker collision near Gabtali on March 11, 2023, released a thick oil slick across a 7km stretch of the Turag River, seriously polluting the water.



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