

Thinking beyond sanitation Transitioning to a sustainable urban water cycle

SNV Bangladesh in association with the Royal Netherlands Embassy in Bangladesh and The Daily Star, organised a roundtable titled “Thinking beyond sanitation: Transitioning to a sustainable urban water cycle” on February 23, 2023. Here we publish a summary of the discussion.



Ismène R.A.C. Stalpers,
Country Director, SNV
Bangladesh

Managing urban water cycles sustainably is a complex undertaking, particularly in light of climate change and population growth. Cities that lack adequate sanitation and drainage systems are especially at risk, heightening the urgency of a circular approach that reduces vulnerabilities to water-related risks and climate change. To this end, city authorities, service providers, and other stakeholders must embrace an urban water cycle perspective.

To help tackle this challenge, SNV has launched an innovative project titled “Transitioning to Urban Water Cycles in Bangladesh”, which was designed in collaboration with the Department of Public Health Engineering (DPHE) and local government engineering departments. The project recognises the vital importance of financing sanitation and preserving resource quality and aims to engage the private sector in achieving city sustainability. However, realising the potential benefits of public-private partnerships requires careful planning and execution to maximise their impact.



Professor Dr Muhammed Alamgir, Member, University Grants Commission, Ex-Vice Chancellor, KUET & Keynote speaker

Urbanisation and industrialisation have significant impacts on the micro climate, surface water dynamics, groundwater discharge, stream geomorphology, biogeochemistry, and stream ecology. These changes can lead to water quantity and quality problems, such as increased sedimentation, nutrient loading, and pollution, which ultimately disrupt watershed functions, creating a scarcity of clean water.

In addition, Bangladesh is experiencing the effects of climate change, such as salinity intrusion, rising temperatures, natural disasters, and sea-level rise, which further exacerbate water availability and quality issues. Nevertheless, rapid urbanisation is necessary for economic growth. Therefore, sustainable urban development is essential for long term socio-economic progress.

To achieve this goal, it is essential to recognise the importance of clean and reliable water resources. Transitioning to a sustainable urban water cycle system is the key to ensuring this, but it requires long-term planning and government support to implement it effectively in urban areas.

We should learn from current best practices and encourage experimentation with innovative pilot programmes. Because there is no single solution, it is critical to learn by doing and embrace a holistic approach that combines infrastructure, innovation, appropriate water and sanitation system design, and expanded implementation of watershed services management. Policy paradigms must be considered while formulating such an approach. It is essential to think ahead, think again, and think across.



Shahidul Islam, Sector Leader – Water, SNV

To promote sustainable urban water cycle systems, we must move beyond solely focusing on sanitation and consider all factors that impact it. In addition to waste and urban drainage management, we must address faecal sludge and solid waste management to prepare cities for floods and droughts.

Ensuring the sustainability of these services requires significant investment and active participation from private sectors. Public-private partnerships play a crucial role in scaling up these initiatives at the national level.

Our priority is to build the capacity of municipalities and the national government to deliver inclusive services. We must work with the urban poor, focus on financial viability, and expand service coverage.



Folkert G. J. de Jager, First Secretary, The Royal Netherlands Embassy in Bangladesh

In Bangladesh, collaboration between knowledge, government, and business exists, but policies in the watershed and integrated water management sectors remain largely government-dominated. To overcome this challenge, the government must work in partnership with the public, private sectors, and academia.

To cement the progress achieved in the past decades, we must work together and actively collaborate with the private sector. The influence of the private sector on water management in Bangladesh is set to



increase, and partnerships with the private sector are essential. A strong private sector in Bangladesh will also open up opportunities for Dutch businesses to invest in the future.

Dutch expertise on water management is not a one-size-fits-all solution. Instead, we must work together, learn from each other, and collaborate to achieve sustainable water management in Bangladesh.



A.H.M Khalequr Rahman, Executive Engineer, Department of Public Health Engineering (DPHE)

Ensuring water security in urban areas requires a multifaceted approach, including the development of alternative water sources. To this end, rainwater harvesting and wastewater reuse must be actively promoted for non-portable uses such as gardening and water flushing.

The DPHE has already initiated a project focused solely on rainwater harvesting in coastal districts and is investing in collaborating on new water treatment technologies to increase the availability of freshwater in urban areas and reduce dependence on groundwater sources.

To ensure the safety of water, a climate-resilient water safety plan is being implemented in various municipalities with the support of WHO.

Moreover, the DPHE recognises the importance of a highly skilled workforce in effectively managing water resources and is emphasising the skill development of urban water practitioners and technicians in Bangladesh.



Dr Abdullah Al-Muyeed, Chief Operating Officer, CWIS-FSM Support Cell of DPHE

Developing standard modules and training programs is necessary to achieve the goal of a Smart Bangladesh by 2041. We must prioritize data management, IMIS integration, and digital service delivery by municipalities and city corporations, with indicators such as the number of people receiving water, populations served by faecal sludge treatment, and constructed treatment facilities. The focus should be on establishing indicators such as the number of toilets not polluting the environment, rather than the number of toilets constructed. Therefore, we need to prioritize supply service management and not only focus on meeting the demand-supply.



Professor Dr Mahbuba Nasreen, Pro-vice-chancellor (Academic), Bangladesh Open University

We must adopt an intersectional approach that considers the needs of all people, as all challenges are interrelated with water. This approach must not only consider the needs of men and women but also those of transgender individuals and people living in difficult and hazardous conditions or areas prone to climate risks.

While discussions on sustainable urban water cycle, SNV has brought attention to faecal and solid waste management and drainage systems in urban settings, highlighting a new phenomenon. Time poverty is an issue here. Additionally, exclusion from water management decisions in our country is often gendered.

I want to suggest implementing a tariff system for different categories of people to have access to water in the urban water sector.



Mahfuzul Haque, PhD, Former Secretary, Government of Bangladesh

The Delta Plan is an innovative initiative for Bangladesh but concerns persist regarding whether we possess adequate resources to implement it effectively. The plan is designed to be in alignment with the needs and aspirations of local communities, thereby eschewing the traditional donor driven approach. Instead,

it places people at the center of the plan's objectives.

Urban floods are a direct result of human activities, such as the clogging of drains by polyethylene waste. By ensuring that drains are regularly cleaned and that polyethylene waste is appropriately disposed of, we can effectively mitigate these floods.



Md Azmul Haque, Secretary, Khulna City Corporation

The influx of people from outside of Khulna due to climate-induced disasters has contributed to an increase in slum populations, exacerbating the absence of a city plan. While Khulna Development Authority (KDA) is working on a plan, we face difficulties in executing it thoroughly. Khulna WASA, Khulna City Corporation, and KDA are collaborating, but coordination remains a challenge. Fortunately, SNV has made significant strides in Khulna, particularly with sewage treatment and faecal sludge management. The success of these efforts will play a pivotal role in the future of the urban water cycle.

Our roads are narrow, and our water source is limited, further complicating matters. To address these issues, we are currently partnering with Japan International Cooperation Agency (JICA) on a project. However, the salinity of the Madhumoti river has emerged as a new concern.



Nur Azizur Rahman, Chief Engineer, Sylhet City Corporation

Sylhet city has experienced unusual rainfall due to climate change, unplanned urbanisation, and changes in rainfall intensity and patterns. As a result of the limited road width, constructing a full-sized drain proved to be challenging. However, we are actively working with the Institute of Water Modelling to identify potential solutions that can help alleviate the waterlogging problem in our area.

The local government ministry has recently declared that the Sylhet City Corporation will be responsible for water supply. Over the next ten years, we plan to collect water from the Kushiyara river and develop a comprehensive master plan for water supply. Due to Sylhet's high earthquake risk, extracting groundwater is challenging, so surface water is a more viable option.



Syed Monirul Islam, Mayor, Shibganj Municipality

Creating awareness among our people is essential, but unfortunately, our efforts are not always supported. Despite our daily cleaning efforts, people continue to dispose of waste in inappropriate ways, such as throwing polythene and used bottles into drains. Although our seminars and symposiums are generally well received, people tend to forget about them soon after. As a result, our city is prone to heavy waterlogging. To address this issue, the government has launched the Delta Plan in collaboration with local communities, and we are working to ensure its success in the long term.



Md Rezaul Karim Swapan, Mayor, Lalmonirhat Municipality

Every shop owner has been provided with dustbins to store their waste. This is because a large amount of garbage, such as polythene, is produced in the city. The collected garbage is then taken by van pullers. However, the recycling of this garbage remains a challenge, particularly with regards to used polythene.

Additionally, there is no drainage water treatment plan in place, which leads to polluted water being released into

agricultural fields. It is important to create a low-cost, water treatment process that can be implemented locally to help address this issue.



Alok Kumar Majumder, Country Coordinator, WASH Alliance International (WAI), Simavi

To achieve a sustainable urban water cycle, three essential issues require urgent attention: promoting behavioral change in households in slum areas, implementing domestic water recycling, and reducing pollution. Additionally, the allocation of budgetary funds for the Water Sanitation and Hygiene (WASH) sector must be increased and efficiently distributed to achieve our goals.

In Bangladesh, women make up a majority of the population, and their participation is crucial to achieving our goals. However, their help is often overlooked, and they are not given a space in decision-making processes. In order to fully reap the benefits of our investments, it is essential to involve women at the grassroots level in decision-making processes.



Zillur Rahman, Project Manager, BRAC

Fresh water is a scarce resource in Bangladesh, accounting for less than 1% of the country's water resource, and is therefore highly valuable. The cost of implementing modern technologies to manage water resources is often too high, and there are four key challenges that need to be addressed: too little water, too much water during floods, water pollution, and high costs.

In rural areas, people previously did not have to purchase water, but now those living in coastal areas such as Khulna, Bagerhaat, and Shatkhira are forced to buy fresh water treated with reverse osmosis. Rural citizens cannot afford to buy such expensive water, and as a result, they are forced to use contaminated water that carries harmful diseases like arsenic.



Riad Mahmud, Country Director, Bangladesh and Nepal, Max Foundation

The urban water cycle relies on groundwater as its source, but this is often polluted with microplastics and other contaminants, making government and private sector involvement critical to ensure safe water. Once the water is utilised, wastewater or drainage water is produced, which is typically disposed of in rivers without proper quality control or waste removal. This can have a negative impact on river canals and crop fields, as microplastics, heavy metals, and other pollutants are returned to the food chain. The government alone cannot manage the cycle from source to disposal, and private sector involvement is necessary.

The government should focus not only on infrastructure capacity building but also on financial capacity building, including funding flow and investment opportunities for foreign countries. Upgrading policies to ensure the process of returning money to foreign investors should be a priority for policymakers, along with digitalization, which is often overlooked.



Shamima Akhter, Head of Corporate Affairs, Partnerships and Communications, Unilever

Although the Effluent Treatment Plant (ETP) policy has been in place in Bangladesh for a while, the concern is whether it is being implemented properly.

Unilever is implementing a zero-discharge policy and working towards achieving zero liquid discharge.

Effective water replenishment techniques are crucial in areas where water is scarce. As a member of the Managed Aquifer Recharge committee, we are working with the

government to ensure proper tracking and reporting of water replenishment efforts by companies.

Raising awareness is also essential to promote responsible water use among consumers. Unilever is collaborating with a2i to develop a data-driven programme called the Water Innovation Challenge, recognising the importance of data in driving behavioral change.



Saber Hossain Chowdhury, Member of Parliament and Chairman, Parliamentary Standing Committee on Ministry of Environment, Forest and Climate Change

The government of Bangladesh recognises the importance of private and public partnerships and encourages their collaboration. However, attracting the private sector to invest in adaptation projects can be challenging due to the low returns on investment. Despite this, exploring options to mobilise private sector finance should be a priority.

One major challenge in managing water resources in Bangladesh is the lack of a water use intensity matrix, which makes it difficult to accurately identify how much water is being used by industries and consumers. Additionally, food production is a significant water-intensive activity, globally accounting for almost two-thirds of all water consumption.

It is impossible to achieve a sustainable Bangladesh without sustainable water governance and management. A sustainable mindset should be mainstreamed in policymaking, and there should be incentives and strict enforcement against those who break rules to encourage behaviour change. Extended Producer Responsibility (EPR) is a novel legislation that could be implemented in Bangladesh to ensure that producers are held accountable for the lifetime use of their goods and any harm they cause to the environment.

Currently, Bangladesh's economy operates under a linear model of “take, make, and waste,” which is unsustainable. The focus should be on shifting to a circular economy model that prioritises sustainability.

When it comes to changing behaviour, a one-size-fits-all approach is not suitable. Instead, municipalities and smaller communities should be given more focus. In Chattogram, 70% of waste is being collected, and Dhaka is close to reaching 60%. However, the overall waste collection rate in Bangladesh is only 50%, which is a cause for concern in terms of public health. Proper segregation of waste at the source is crucial for effective waste management.



Tanjim Ferdous, In Charge of NGOs and Foreign Missions at the Business Development Team, The Daily Star

The purpose of today's roundtable was to introduce a sustainable approach to urban water management that will strengthen partnerships and achieve sustainable urban services. We explored how different urban sanitation approaches can contribute to making urban water cycles sustainable, as well as the climate and gender sensitivity issues associated with these approaches. It is my hope that this discussion will significantly contribute to improving urban water management in Bangladesh.

RECOMMENDATIONS

- Achieving sustainable urban water cycle systems in cities requires a long-term planning and increased budget allocation for the sector ensuring equitable distribution.
- Establishing public-private partnerships can be a vital means of scaling up sustainable urban water cycle systems.
- IMIS to strengthen governance, regulation, enforcement, and monitoring capacity of the municipal authorities.
- Support cities for the preparedness for city-level floods and droughts to reduce water-related risks and hazards.
- An intersectoral approach could be adopted to address water issues.
- Implement a pro-poor tariff structure for urban water, sanitation and waste management services to promote conservation and equitable access.
- Adopt Extended Producer Responsibility (EPR) policy to encourage producers to ensure circularity of treatment, reuse, and recycling the wastes.
- Promote health and safety of the waste workers to effectively manage urban services to make the urban water cycle sustainable.