Water Security in Secondary Cities of Bangladesh: A case of Mongla

Khandker Tarin Tahsin, Lutfor Rahman & Md Bodrud-Doza

Importance of Secondary Cities

Growing under the cognitive shadow of primitive cities, the importance of secondary/intermediate cities are seldom highlighted by researchers, urban planners, or even the central government. In recent times, such cities in developing countries have been identified as centers for trade and for public and private services. These cities also play particularly important roles in rural development and are now marked as the fastest growing areas which often are the economic engines of their larger counterparts. Nearly two-thirds of all the secondary cities of the world are in Asia and Africa (Marais et al., 2015). Considered as trade hubs, these cities are becoming increasingly attractive to migrants, however, they are treated as subordinates when it comes to ensuring basic services and facilities, particularly in South Asian regions. Mongla city of southern Bangladesh is one such example; playing major role in the country's economy and offering immense employment opportunities, it is currently experiencing sheer negligence from the central government for ensuring basic social services.

Climate-driven Displacements in Secondary Cities

Bangladesh being one of the most vulnerable to climate change has always survived its share of tropical storms, flooding, droughts, and other natural disasters. But as climate change increases the frequency and intensity of such disasters, it creates new patterns of destruction, one of which is migration and the explosion of rapid, unplanned, and chaotic urbanisation (Mcdonnell, 2019). Although there are multiple factors affecting rural-urban migration, climate change recently has been considered as a prime driver of migrants toward urban peripheries in Bangladesh. Most of these migrants are likely to move towards megacities like Dhaka, considering the number of employment opportunities it offers. However, lately, secondary cities like Mongla are known for offering a cautionary tale for climate migrants as well. Mongla currently is known for having the second largest seaport in Bangladesh and is a hub for climate migrants. As a huge chunk of the rural population flows towards this trade hub, land crisis skyrockets which often forces individuals and communities to choose informal settlements and compromise basic services like access to safe drinking water. While this city aspires to be a climate-migrant friendly city, it mostly emphasizes on infrastructure development and economic growth; whilst social aspect of ensuring basic services for residents remains underexplored.

Shilpi Khatun of Signal tower is one example of Mongla's informal settlements, where communities barely have any access to basic services like safe water. Thirty-seven years old Shilpi lives by Pasur River in Signal Tower in Mongla, with her 12 years old autistic daughter, 2 years old son, and 60 years old husband who is currently suffering from cancer. As the freshwater sources are miles away from her residence she often feels reluctant to leave her children alone and fetch water. Moreover, due to freshwater scarcity, water is available at collection points only for an hour or two; which often means dwellers return home empty-handed after waiting for hours in long queues. Options such as buying water from vendors are present, but she can barely avail those as three jars of 30 L cost around US $1. The vicious cycle of poverty, lack of social safety programs, climate change impacts, rising salinity, and constant conflicts within communities in accessing safe drinking water forces Shilpi and many of her community members to depend on

contaminated pond water. And such dependence on saline water has strongly been correlated with multiple health issues like urinary tract infection, diarrhea, hypertension, and strokes; miscarriages and other complications in pregnancy in women.

Existing Interventions

Given the water crisis situation, optimisation of water management systems seems the most reliable option (Hossain et al., 2022). Rainwater harvesting has evolved as one of the most widely used and preferred options by most of the community people considering its social, economic, and environmental benefits. High annual rainfall in Mongla also makes rainwater harvesting a great alternative. One might question the idea of introducing deep tube wells; however, the high salinity in groundwater sources has made tube well an unfeasible alternative (Hossain et al., 2022). Hence, monsoon brings respite to the communities of Monlga, as high rainfall means a rise in river water level, reduced overall salinity in water and people can preserve rainwater for later use. Rainwater harvesting usually refers to a technology of collecting and storing rainwater from rooftops, land surfaces, or rock catchments using jars, pots, or well-engineered structures. Nevertheless, most of these storing containers used by locals are earthenware pots which are prone to breaking, catching molds, and can only hold up to 16 liters of water max.

During the 1990s, World Vision excavated a rainwater harvesting pond for the informal settlements in Mongla which would reduce their water crisis to a certain level. Nevertheless, the pond was far away from the locality and people had to walk at least an hour to fetch water. Other NGOs and INGOs working in Mongla have sponsored a few rainwater harvesting tanks, but unfortunately, those are not enough for the total number of people residing in an informal settlement Additionally, the installation cost of rainwater harvesting tanks is around USD 350 (BDT 30,000), which is quite high for people living in informal settlements, as most of their monthly income ranges between USD 80 to 100. In recent times, BRAC has also taken initiatives to construct several rainwater harvesting tanks which can hold up to 2000 liters of rainwater in Mongla under its climate change program (Web, Relief, 2022). This might reduce the water scarcity issue in the region; however, it's yet to be implemented. The locals are also reluctant to get a legal water connection because of the cost associated with it; as they lack land ownership there's a high chance of them being evicted; therefore, investing around USD 100 may not seem worthwhile for communities. Further Department of Public Health Engineering (DPHE) is providing rainwater harvesting tanks and freshwater lines in the informal settlements of Mongla in consortium with local NGOs free of cost Such initiatives by government organisations and NGOs may seem enough but are far less compared to the population residing in informal settlements of Mongla.

System of Provision as a Possible Solution

The persistent lack of safe drinking water in Mongla despite multiple interventions by government and NGOs, indicates that it is time for a radical shift in the understanding of the problem and solution. A working concept known as System of Provision (SoP) offers such an alternative and is expected to be more effective. SoP calls for problem analysis to be strongly based on specific historical contexts, such as politics and power dynamics of water access. It is built upon five fundamental components of a system: agents, relations, processes, structures, and material cultures (Bayliss & Fine, 2020). By unpacking these five components, the drivers of observed outcomes in communities, especially in relation to under-provisioning and inequalities, can be unpacked. If policies are to be mediated through this approach via the agents identified in a community, there's a higher chance of water reaching the end users. Additionally, this approach puts forward the proposal of empowering slum-dwellers in their relations with the city's water utility to access safe drinking water in informal settlements. Hence, it is imperative that the water crisis issue in informal settlements should be looked through a lens of SoP, which aims to ensure inclusive urban settlements and strengthen central water system for secondary cities like Mongla and promote social awareness.

The researchers have investigated in-depth on this topic as a part of a research project Trajectory for Inclusion at International Centre for Climate Change and Development (ICCCAD). System of Provision (SoP) has been their primitive approach to identifying solutions for the existing problem in Mongla, Bangladesh regarding water security in informal settlements.

Khandker Tarin Tahsin is a Junior Research Officer at International Centre for Climate Change and Development (ICCCAD).

Lutfor Rahman is a Research Officer at ICCCAD.

Md. Bodrud-doza is Operations and Business Development Manager at ICCCAD.

For correspondence, email: khandker.tahsin@icccad.org

References

Bayliss, K., & Fine, B. (2020). *A Guide to the Systems of Provision Approach: Who Gets What, How and Why*. Palgrave Macmillan. http://dx.doi.org/10.1007/978-3-030-54143-9

Hossain, M. R., Khan, M. S., Islam, M. A., & Hasan, M. (2022). Pond sand filter as an alternative system for purifying drinking water: climate change perspective in Mongla, Bangladesh. *International Journal of Energy and Water Resources, 6(2)*, pp. 243–252. https://doi.org/10.1007/s42108-021-00172-y

Marais, L., Nel, E., & Donaldson, R. (2015). *Secondary cities in South Africa. In Secondary Cities and Development* (pp. 9–25). Routledge. https://doi.org/10.4324/9781315667683

Mcdonnell, T. (2019, January 24). *Climate change creates a new migration crisis for Bangladesh.* National Geographic. https://www.nationalgeographic.com/environment

Web, Relief. (2022). *BRAC, Embassy of Denmark sign MoU to implement rainwater harvesting project in Mongla.* Dhaka: BRAC.

"The water crisis issue in informal settlements should be looked through a lens of System of Provision (SoP), which aims to ensure inclusive urban settlements and strengthen central water system for secondary cities like Mongla and promote social awareness."