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SOLVING THE CLIMATE CRISIS

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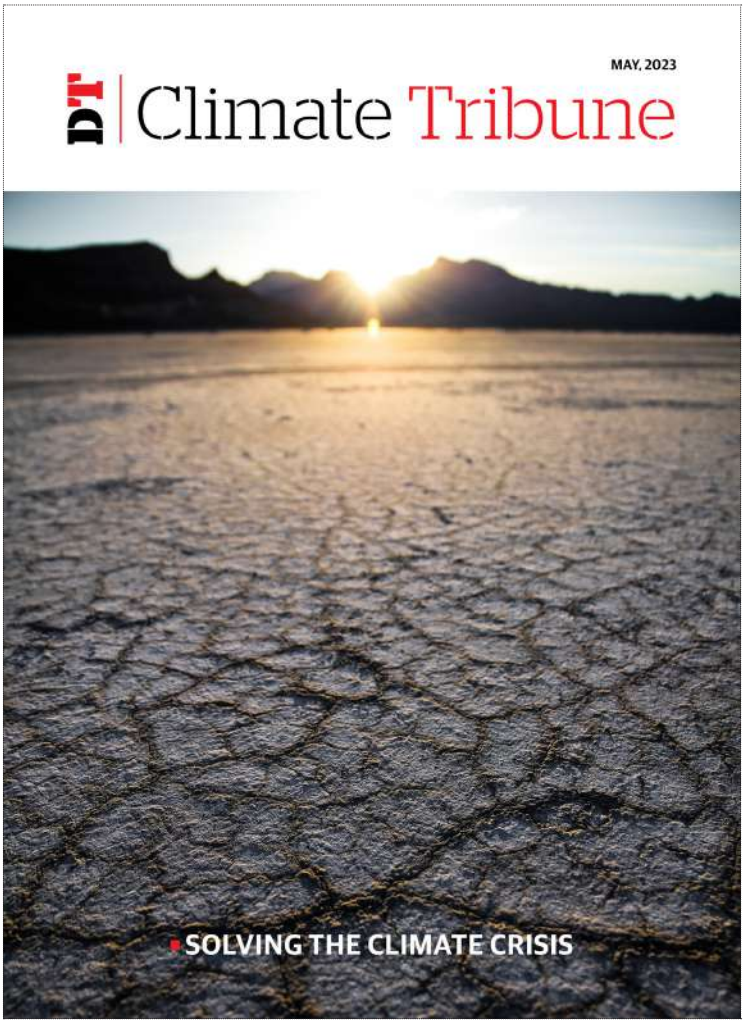

DHAKA TRIBUNE

A snapshot of the governance issues of Natural Resources Management of Bangladesh

Madiha Chowdhury and Tasfia Tasnim

Cyclone Amphan in 2020 caused massive destruction across 26 districts of Bangladesh. It reportedly destroyed more than 200,000 houses affecting the lives of approximately 2.6 million. Geographically, this country is more vulnerable to specific hazards. For instance, the south-western coastal areas with mangrove ecosystems of Bangladesh are prone to cyclones and salinity. In contrast, the north-eastern parts of the country with diverse wetlands are highly vulnerable to extensive siltation, extensive rainfall, and flash floods. The south-eastern hilly region of the country is prone to earthquakes, landslides, and flash floods. A wide range of people are included in the diverse ecosystems of these places. Factors such as financial circumstances, adaptive abilities, livelihood opportunities, and political viewpoints also trigger their vulnerability. Additionally, research from around the world demonstrates that within a community, those who depend more heavily on natural resources and reside in fragile ecosystems are more sensitive to shocks and calamities brought on by climate change.

> “Management demands for data and information to take stock of previous and existing statuses”

Among the numerous reasons for the loss of natural resources, climate change and rising temperatures, increased erratic frequencies of climate-induced disasters have surfaced as added stressors to the degradation of ecosystems and their biodiversity. Ironically, these ecosystems encompassing natural resources, communities of organisms, and their surrounding environments, hold the potential to act as climate change adaptation tools. For example, forests and wetlands act as buffers to the impacts of cyclones and floods, respectively. The dense canopies of the forests function as shields reducing the momentum of the strong gusts of winds and torrential rains brought by cyclones, while the basins of wetlands help retain water and moderate floods. Furthermore, when and if adequately channeled, these systems can help empower the vulnerable groups of their dependent communities.

Issues of natural resources management

Unfortunately, the management and/or conservation of ecosystems in Bangladesh is challenged mainly by existing top-down practices regarding its management. It is said that any natural resource is made for grabbing. And the more powerful, local elites of the ecosystems’ community tend to do so more often in the country. From the inclusion lens, the most vulnerable poor and disadvantaged groups of adjacent communities are usually excluded regarding social structure, decision-making, and benefit-sharing. They are mostly unaware of their rights which are primarily violated. Furthermore, the environmental governance structure of the country mainly works in silos, with a lack of coordination which stands as a significant barrier to the effective management of natural resources.

Management demands for data and information to take stock of previous and existing statuses. The lack of scientific conservation data for ecosystems hampers the process of implementation. Another neglected area is conservation finance. The conservation funds which do exist in the country are either non-functional or are not disbursed to the right people in need of it.

The policy and governance agenda

A significant strand of the conservation and preservation of natural resources is the governance and management agenda. To ensure the protection of the ecosystems, it is imperative to have a legal framework and policy setting in place. The policies, in turn, need to be implemented through action plans. Simultaneously, a capacitated and coordinated institutional system needs to be in place to translate the policies and plans of action into realities.

Bangladesh is a country enriched with national treasures of forested landscapes, haors (wetlands), and beels. Some of the policies in place for these resources include the 1927 Forest Act, Forest Protected Area Rules 2017, Jalmahal (water body) Lease Policy 2009, Permanent Fish Sanctuary Guidelines, and Ecologically Critical Areas (ECA) Rules 2016. As the names of these policies already suggest, multiple government bodies are sharing the legal authority for implementing them - the Bangladesh Forest Department (BFD), the Ministry of Fisheries and Livestock (MoFL), the Ministry of Land (MoL), the Ministry of Environment, Forests, and Climate Change (MoEFCC), the Department of Environment (DoE), the Department of Fisheries (DoF), and the Ministry of Land (MoL).

Each of these legislations comes with their own challenges and gaps. The 1927 Forest Act does not mention conservation; it was all about livelihood. The Forest Protected Area (PA) Rules 2017 is the country’s most advanced natural resources co-management legislation that provides a specific set of guidelines for managing the PAs. Co-management is a globally accepted governance and management tool that aims

to conserve forests and their biodiversity while providing sustainable benefits to the surrounding communities. One of the significant challenges the co-management organizations and their communities faces is receiving financial support through different beneficiary mechanisms despite the PA Rules defining the allocations through the legal authorities. The declaration of Ecologically Critical Areas (ECAs), followed by the ECA Rules, was a mature step taken by the country. The rules laid out a bottom-up governance structure for the management of the ECAs and fell under the jurisdiction of the DoE. The Jalmahal Lease Policy is a people-centric document, but unfortunately, not so much in practice, where it tends to favor the rich and elite. Last but not least, over 200 permanent fish sanctuaries exist in the country, as declared by the MoL, though their existence and management are largely questionable. These permanent fish sanctuaries do not have an approved management guideline to date.

Way Forward

There exist both thriving living examples of the ecological interventions made through the co-management projects in the country, such as the Lawachara National Park (LNP) and the largest and only permanent sanctuary of the nation, Baikka Beel. The stories of these places narrate the success of piloting co-management through locally-led, participatory, and adaptive management approaches. They also happen to narrate the demerits of project-based approaches, which lead to sustainability issues in the long run. For example, under the USAID and GoB-funded MACH project, endowment funds were created for resource management organizations (RMOs) co-managing the Pas. However, administrative interferences have hindered the disbursement of the endowment funds to the RMOs. Thus, current work in these areas should primarily focus on strengthening the policy and governance agenda from a system-level approach with governance reformations that will empower the communities. Transparent accountability mechanisms and smart patrolling are also needed. ■

“The stories of these places narrate the success of piloting co-management through locally-led, participatory, and adaptive management approaches”

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Low Income Housing in the Dhaka Slums COURTESY

Tenure insecurity: An unseen threat for the climate induced IDPs within urban discourse

Shamrita Zaman

According to the 'Census of Slum Areas and Population - 2014' conducted by the Bangladesh Bureau of Statistics, nearly 14,000 slums are the house of the 2.23 million people. Whilst Dhaka Division (the capital of Bangladesh) holds about 47% of the total slums, Chittagong and Khulna divisions occupy the second and third place in case of having slums, respectively. Notably, Dhaka city has experienced an imbalanced urban population growth as the city mandates to house 300,000 to 400,000 internally displaced persons (IDPs) annually.

Generation of IDPs is a consequential phenomenon for several reasons where climatic hazards play a major role in driving people towards significant cities, such as Dhaka, Chittagong, Khulna, and Rajshahi, in search of livelihood opportunities. To embed the climate-induced IDPs within the urban network, the urban slums grow in a disoriented and unplanned way, typically in low-lying and hazard-prone areas. Gradually, both happiness and opportunities remain elusive to them as they face another dreaded phenomenon

in cities: ' tenure insecurity' and the threat of eviction.

UN-Habitat defines tenure security as the right of households to have adequate formal or informal protection against forced eviction. In line with the definition, the status of tenure insecurity will be activated if neither the house owner nor the landlords (in the case of the tenants) have the land-property ownership on which the house has been built. Therefore, it is a very common for slum dwellers to suffer from tenure insecurity as their settlements have been developed over government-owned land (Khas land) or private owned land. For instance, dwellers of Korail slum (the largest informal settlement of Dhaka with over 100,000 population) have constantly been suffering from the threat of eviction because of the absence of tenure security. Three parties, including the Ministry of Telephone and Telegraph, the Public Works Department (PWD), and various private owners, have become clear stakeholders in today's Korail Informal settlement.

Scientific pieces of literature are still in a disputable state to establish the proposition that having tenure security is all about beneficial and desirable for slum dwellers. Once IDPs enter urban slums, they struggle to make meaningful investments to enhance the functionality of the services and basic infrastructures within their surroundings due to the prevailing tenure insecurity. However, the process regarding land formalization possesses some sort of affordability constraints. Climate-induced IDPs struggle with higher rent once formal housing builds on land with secure tenure. Thus, IDPs flee from their original place due to the effects of climate hazards and face new emerging challenges after entering into urban slums with precarious housing and the absence of secure tenure. The Housing and Building Research Institute under the Ministry of Housing and Public Works (MoHPW) may play a pioneering role, which is currently not to that extent, to upgrade the slum housing with resilient construction materials and practices to address climate change adaptation and disaster risk mitigation. MoHPW can collaborate with other ministries, for example, the Ministry of Disaster Management and Relief (MoDMR), to institutionalize these resilient housing construction methods.

So far, it is high time to discourage any new addition of IDPs within urban slums. Future projection is frustrating. According to the National Strategy on Internal Displacement Management, a comprehensive strategy published by the MoDMR acknowledges that climatic hazards will create around 26 million IDPs by 2050 in Bangladesh. The Mujib Climate Prosperity Plan (MCPP) confirms that 30 million people are at risk of internal displacement in the coastal belt of Bangladesh. So, the right kinds of climate finance investments to target the right risks and the right communities in the climate hotspot regions of Bangladesh should be in place to avert internal displacement. The government's decentralized and resilient initiatives, for instance, 'My House My Firm', 'My Village - My Town', and 'Palli Janapad' - projects, should be geared up to alleviate poverty through providing skill development training, seasonal credits, entrepreneurship development for income generation, and modern facilities including bio-gas plant as a source of renewable energy, solar power system as an alternate source of electricity, rainwater harvesting, waste management facilities to the rural communities especially who are exposed to climatic shocks. MCPP sets its target to establish Mujib LLA (Locally Led Adaptation) Hubs in the most vulnerable areas to boost LLA activities through mobilizing additional funding and thus to make coastal-belt climate resilient by eradicating human mobility due to climatic hazards by 2030. ■

"So far, it is high time to discourage any new addition of IDPs within urban slums"

Shamrita Zaman is currently working at the International Centre for Climate Change and Development (ICCCAD) as a Senior Researcher. She is enthusiastic about working on various domains of climate change including climate change adaptation & amp; environmental migration, disaster & amp; conflict, risk-based coastal infrastructure design. She can be reached at shamrita.zaman@icccad.org

Resilience is tested in the face of increasing Loss and Damage as climate change continues to wreak havoc in Bangladesh

MONIRUZZAMAN SAZAL / CLIMATE VISUALS COUNTDOWN)

Correlation of Loss and Damage and Internal Displacement

Nazmus Sakib

A fisherfolk Ayesha Begum who lives in Mongla of the Bagerhat District, could not find fish much nowadays because of high tide and salinity intrusion. Also, a three-foot-high tide enters her house every morning, and her whole family gets stuck due to the tidal surge. Fishermen in the coastal embankment became the primary victims of the cyclone as it washes away everything that they have earned. As a result most of them are now working as day labourers at Mongla port," Ayesha Begum mentioned.

Right now, one of the most pressing losses and damage issues in Bangladesh is the displacement of people from their homes and communities. The increasing frequency and intensity of floods, cyclones, salinity intrusion, and sea level rise have displaced millions of people in Bangladesh, who are forced to leave their homes and communities in search of safer places to live. According to the United Nations Framework Convention on Climate Change (UNFCCC), as mentioned in their report, displacement due to climate change and disasters has, on average, affected 22.5 million people between 2008 and 2015. This displacement has resulted in the loss of social and cultural connections and means of livelihood for many communities in Bangladesh.

Bangladesh bears witness to the harsh realities of climate change, where Loss and Damage become an undeniable truth. As rising sea levels engulf coastal communities and extreme weather events wreak havoc on livelihoods, the nation faces the brunt of environmental injustice. In Bangladesh, the impacts of climate change are no longer distant projections or hypothetical scenarios; they are unfolding before our eyes. The country's geography, with its low-lying coastal plains and a dense network of rivers, makes it particularly vulnerable to the adverse effects of global warming. Cyclones, floods, and droughts have become more frequent and intense, leaving a trail of devastation in their wake.

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The term 'loss and damage' describe the permanent loss or repairable damage caused by climate change-induced extreme weather events and slow-onset events, such as sea level rise. Losses and damages can be both economic and non-economic. After decades of advocacy by the most climate-vulnerable nations, COP27's establishment of a Loss and Damage Fund was broadly recognized as a significant victory. The fund aims to financially support the most vulnerable and climate-affected countries to address loss and damage.

The issue of non-economic Loss and Damage came into the limelight through UNFCCC. A technical paper published by the UNFCCC identified eight categories of non-economic loss and damage: life, human health, human mobility, biodiversity, ecosystem services, territory, indigenous knowledge, and cultural heritage.

According to IPCC Sixth Assessment Report, climate-related disasters destroy, on average, about 850,000 homes and 250,000 hectares of arable land in Bangladesh between 2014 to 2021. The loss of agricultural land leads to the loss of livelihoods.

Over the last decade, nearly 700,000 Bangladeshis have been displaced annually by natural disasters. As people flee vulnerable coastal areas, most are arriving in urban slums—particularly in Dhaka; already, up to 400,000 low-income migrants arrive in Dhaka every year. Multiple displacements have also been identified due to river bank erosion. Even some families were found to get displaced 20 to 27 times, according to the Internal Displacement Monitoring Centre.

According to the National Adaptation Plan of Bangladesh, as one of the worst victims of climate change, Bangladesh spends about $5 billion, about 2.5 percent of its GDP, on climate adaptation and resilience-building measures. This is because heavy monsoon rains in upstream regions continue to cause flooding in 30 districts in the north, northwest, and southwest of the country, affecting 54 million people.

There are many untold stories of people who were forced to be displaced from their homeland to another place for their livelihood. Monir Hossein, 28, lives in Korail Slum (in Dhaka city) and displaces from the Bhola region due to river erosion. He was forced to move to Dhaka with his family because he lost his farming land and home. Now he works as supporting staff at a mechanical shop and earns 5000 to 7000 monthly. He said that I had nothing to do when I lost my land. My income is insufficient because I have to come here for livelihood purposes.

Most people from the coastal region (Bagerhat, Khulna, and Shatkhira districts) are prone to successive tides up to 10 to 12 feet high during cyclones. And saline water from the bay enters the estuaries and mixes with the upland flow during high tides. Tidal flow and salinity pollute and damage houses, farmland, and fishing enclosure raising the salinity density in water sources for drinking and daily use. Farmers have already lost considerable farmlands in this region and were forced to migrate to nearby districts for living while the remaining started working as day labourers.

Salinity has also been taking its toll on the health of coastal women and children as pure water sources continue to decline. Several diseases - including skin diseases, urinary tract infections, genital itching, leukorrhea, and reproductive health issues - have been rising among women, the international NGO ActionAid in Bangladesh said in a recent study.

Bangladesh has significantly improved its adaptation approach to managing its climate risks and related policies over the past several decades. However, the increase in temperature and sea level rise still harms those communities and forces them to be displaced.

Climate-induced displacement is a growing problem in Bangladesh, and it is likely to become an increasingly significant issue in the coming years as the effects of climate change continue to escalate. According to a World Bank report in 2018, worryingly, some 13.3 million Bangladeshis could be displaced by 2050 following varied impacts of climate change, making it the country's number-one driver of internal migration. Dr. Saleemul Huq, Director of the International Centre for Climate Change and Development, made the remarks while speaking at a seminar on "Addressing Climate Change-Induced Migration in Bangladesh: Taking a Human Rights-Based Approach". He said that this is not just an issue of Bangladesh, it's a global issue." In consultation with the public, private, and civil society, we can raise the issue at international conferences, including the COP conference, based on research data to pave the way for resolving the issue at the international level. He called for more work to be done at the local level to prevent any migration due to climate change. The government, global community, and all stakeholders must take urgent action to address this crisis and help the people of Bangladesh to adapt to the changing climate. ■

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Insights from Experts on the UNFCCC Transitional Committee Meeting: Progress towards Operationalizing the Loss and Damage Fund

S M Saify Iqbal

Background

The Loss and Damage Fund was the UN climate summit's most significant breakthrough agreement in a very long time. Members of the developed countries of the United Nations Framework Convention on Climate Change (UNFCCC), who had long blocked the idea after it was first put forth by the group of climate-vulnerable Small Islands Developing States (SIDS), finally reversed course at Conference of Parties (COP27), which was held in Sharm El Sheikh, Egypt, last year. But the fund is still bare. The UNFCCC established a Loss and Damage Transitional Committee (TC) in accordance with the Sharm El Sheikh Implementation Plan to discuss the key components of the fund, including how it will operate, who will pay for it, who will benefit from it, and how it will be governed.

A total of 24 specialized climate negotiators, including 14 from developing countries and 10 from developed countries, make up the TC. They are assisted by some technical experts from the UN climate convention as well as a number of international organizations, such as other UN agencies, humanitarian groups, development banks etc. At the most recent COP27, the international community gave them the assignment to work over the course of the year in a series of four meetings and two additional workshops.

The TC's mandate is to make recommendations to all countries at COP28, where decisions will be made, regarding how the fund should be operated and governed. The TC will determine funding sources, consider ways to increase the sources, and consider how it would integrate with current climate finance arrangements. Four meetings of the TC are included in the Workplan, which was approved at the Luxor meeting.

This Luxor meeting was planned to establish the tone and decide on the framework for the work to come. The TC has a sizable amount of work ahead of it in a short amount of time as it will lay the fundamental direction and components of the future loss and damage financing structure. The TC members pledged to continue to be innovative and adaptable while working to create a financing system that is future-proof. They are aware that they have a difficult but historic opportunity to change how people respond to loss and damage in favor of a planned, methodical strategy based on responsibility, solidarity, and predictability. A Technical Support Unit (TSU) made up of representatives from operational UN agencies and international financing institutions was established by the UNFCCC Secretariat in order to assist them. The TSU's synthesis report, a first draft of which was presented at the meeting, will be a significant contribution to the discussions.

“This Luxor meeting was planned to establish the tone and decide on the framework for the work to come”

Expert's Opinion

Sumaya Zakieldeen, Assistant Professor of Institute of Environmental Studies at the University of Khartoum narrated that the TC should give the fund and its terms of reference space while working on both funds and funding arrangements, which should be done concurrently. According to her, the new fund must be governed by the Convention and must adhere to its principles. The funding arrangements will determine how institutions inside and outside of the Paris Agreement are linked. Additionally, she stated that the fund shouldn't raise the debt loads of developing nations and suggested they collaborate closely with the Santiago Network on Loss and Damage and the Warsaw International Mechanism on Loss and Damage (WIM) of the UNFCCC.

According to Adao Soares Barbosa, the Climate Change Ambassador of Timor Leste, the focus of the discussion appeared to be more on paragraph 6 of the decision when operationalizing the fund is actually the single most crucial discus-

sion to have. The funding is new, additional, and predictable, and the fund's scope needs to take that into account in order to respond to real loss and damage in terms of extreme events and slow-onset events, as well as economic and non-economic losses. He added that the fund must report to the COP and be under the control of the CMA. He further emphasized the importance of using public financial resources as the primary channel of resources in order to ensure sustainability. Regarding the delivery methods, there is no need for a protracted bureaucracy and that the fund needs to have a Board as its governing body. 'In terms of coordination and complementarity, it would be helpful for transparency arrangements to know who is contributing what and how much, as this would be a component of the accountability to the COP' portrayed by Adao.

In addition, Olivia Serdeczny and Manjeet Dhakal from Climate Analytics stressed that there is no established strategy for addressing the critical problem of non-economic losses such as culture and identity. The loss of cultural heritage, knowledge, and identity are just a few examples of non-economic losses that naturally cause the most concern for those affected. Even though they have been discussed under the UNFCCC for more than ten years, Vanuatu and other vulnerable countries feel that these losses are still being underestimated in the TC meeting. Possible options include funding discrete activities to address non-economic losses, specific requirements for monitoring and evaluation, mandatory safeguards in each funded activity, and specialized rules for decision-making.

Colin McQuistan, Head of Climate and Resilience, Practical Action thinks that the source of this new and additional funding will be a significant obstacle to the loss and damage fund's progress. However, this won't be the only obstacle that negotiators must overcome. Instead, separating the loss and damage fund from the larger, largely insufficient funding landscape for global development will be the first challenge. Success on an incremental and business-as-usual basis will be identifiable. Additional millions will be raised for disaster risk reduction and the humanitarian system. Although this is greatly needed and will be helpful, it won't deal with loss and damage. This strategy won't fundamentally alter how we approach development, so it won't deal with the underlying and connected causes of vulnerability and climate impacts.

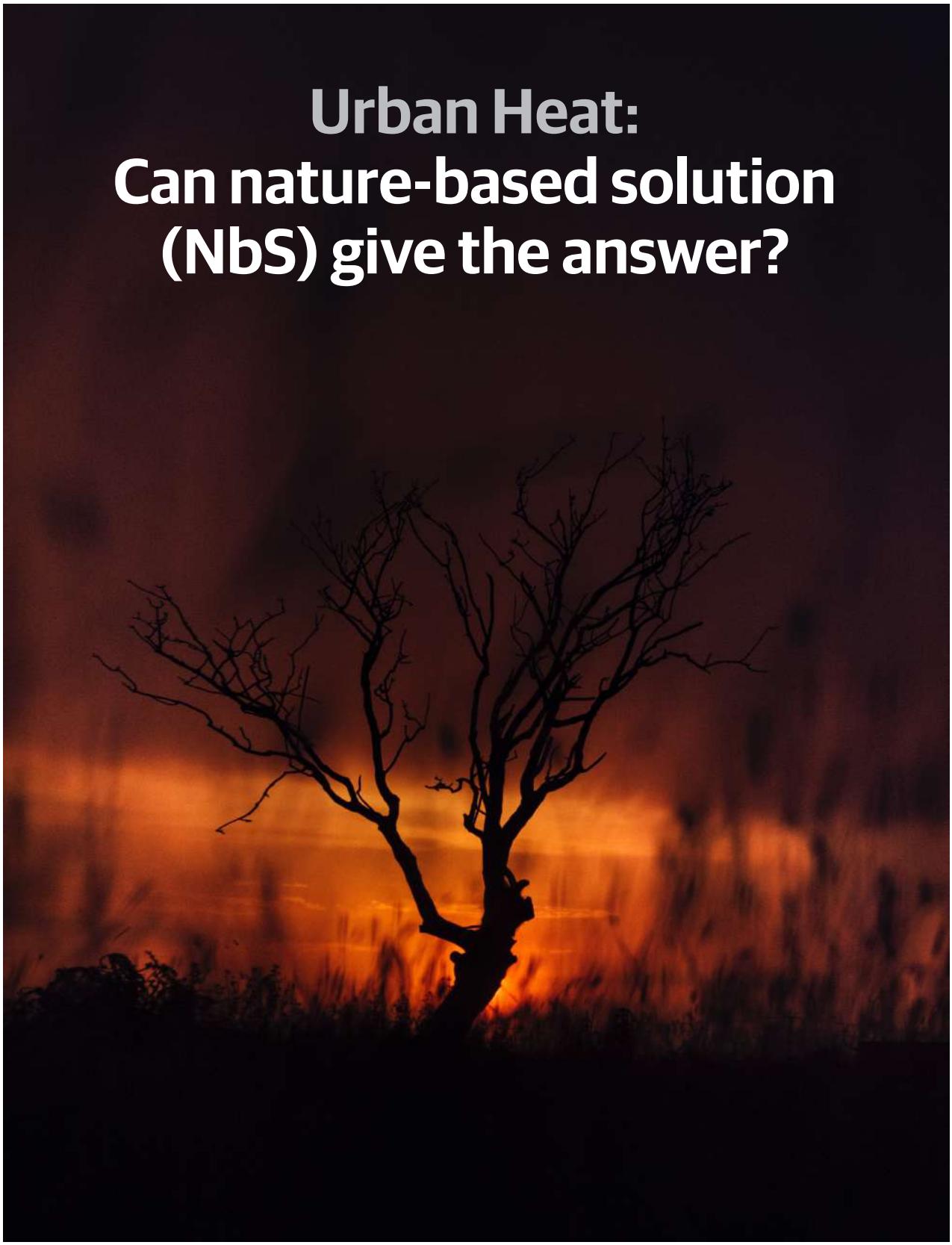
Prof. Saleemul Huq, Director of ICCCAD, urged the UNFCCC Secretariat and the TC to prioritize the creation of a thorough communication strategy that is effective and strong, ensuring regular updates on the works. Observers' participation in meetings should be promoted and decision-making processes must be transparent, emphasized by Prof Huq. He also hopes that at the end of the day TC will set an example as the first UNFCCC Committee to work in "reality time" as opposed to the more cumbersome "UNFCCC time."

> "The loss of cultural heritage, knowledge, and identity are just a few examples of non-economic losses that naturally cause the most concern for those affected"

Way Forwards

The TC members must make some challenging decisions. The gaps that need to be filled the most must be identified, and recommendations must be made for (a) establishing institutional arrangements, modalities, structure, governance, and terms of reference for the fund; (b) defining the components of the new funding arrangements; (c) identifying and expanding sources of funding; and (d) ensuring coordination and complementarity with existing funding arrangements. The TC will meet three more times prior to COP28 in order to be able to deliver recommendations on time. At the June 2023 Bonn Climate Change Conference, two workshops and a conversation will be held. Before the fourth and final TC meeting, which is anticipated to take place in October or November and at which the recommendations will be adopted, a ministerial meeting will also be held. Before the meetings, expert organizations will have a chance to offer suggestions and submissions. The Loss and Damage Fund should be operationalized at COP28 so that developed countries can quickly contribute funds to it. No later than 2025, fund should then start to flow to low-income countries that are vulnerable to climate change. ■

Urban Heat: Can nature-based solution (NbS) give the answer?



Rukhsar Sultana

Dhaka, the capital city of Bangladesh, is infamous for its intense summer heat, which worsens the urban heat island (UHI) effect. The UHI phenomenon results from the rapid expansion of cities, which happens when metropolitan areas absorb and emit more heat than their rural surroundings, raising city temperatures. From 1989 to 2020 Dhaka experienced a 56% loss of green cover (Nawar, Sorker, Chowdhury, & Rahman, 2022). Excessive urbanization is causing temperatures to rise (Das & Karmakar, 2015), especially on April 15th, 2023, the city experienced its hottest day in 58 years with the temperature rising to 40.4 degrees Celsius.

The high population density, lack of green spaces, and air pollution are particularly serious in the city. Moreover, the traditional concept of urban development with grey infrastructure (concrete-based hard surfaces - such as drainage canals, flood walls and river embankments), dredging and paving the wetlands and flood flow zones for the construction of new housing, and very limited provisions of parks and open spaces are adding to the problem (Ahsan, 2020). To address the urban heat problem in the city, Nature-based Solutions (NbS) could be a valuable tool. NbS are approaches that work with nature or mimic natural processes to find solutions to environmental challenges, which involve utilizing natural processes or simulating them to improve, protect, or restore ecosystems and the services they provide.

NbS can aid in minimizing the detrimental effects of urbanization on the environment and the welfare of individuals in urban settings. Investment in locally-led NbS, in urban infrastructure such as enhancing low-cost, climate-resilient, environmentally friendly, context-specific, and culturally sensitive options is critical to the urban problems. In recent years incorporation of NbS into policies and initiatives on climate change has advanced significantly in the country. The draft Mujib Climate Prosperity Plan, , demonstrated how NbS is being mainstreamed in policy agendas. Following that the National Adaptation Plan of Bangladesh chose NbS as a critical strategy to combat climate change. The momentous 15th constitutional reform of 2011 declared the state responsible for nature protection and accelerated the drive to conserve biodiversity. Furthermore, the "Perspective Plan of Bangladesh 2021-2041" (PP 2041), documents, gave importance to controlling the urbanization process, guaranteeing sustainable ecosystems, building a country that is robust to climate change in a dynamic delta, and unleashing the potential of the blue economy through investment in NbS. While the benefits of NbS are widely discussed and acknowledged, the implementation or exploration of urban NbS is not happening at scale, especially in Dhaka or other urban centres in Bangladesh. Therefore, the resilience of city dwellers to the impacts of rising temperatures is still being challenged.

> "Increasing green cover could be one of the main NbS that can help address urban heat in Dhaka and reduce the absorption of solar radiation by surfaces"

Increasing green cover could be one of the main NbS that can help address urban heat in Dhaka and reduce the absorption of solar radiation by surfaces. Mixing planting strategies with both native, and non-native species will provide resources for other species they can be considered a contribution to biodiversity conservation or even a net gain (Kabisch, Frantzeskaki, & Hansen , 2022). This will help to cool the surrounding air and reduce the city's overall temperature. Additionally, provides opportunities for citizens to enjoy recreational activities and improve mental and physical health. In Dhaka's context, a very contemporary example of NbS solution combining grey, green and blue solutions is the Hatirjheel Integrated Development Project including Begunbari Khal. The restored jheel (wetland) have improved storm-water management of Dhaka and made aquatic biodiversity better. It also increased green and open space in our busy capital.

Another NbS that can help address urban heat is implementing green roofs and walls. These are vegetated surfaces on the roofs and walls of buildings, which can help to reduce the amount of heat absorbed by the building, or

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tin shaded low-cost housing infrastructure. These also improve the energy efficiency of buildings reducing the need for mechanical cooling while bringing countless quality of life and health benefits to urban communities.

However, there are challenges as well in implementing NbS. One of the major challenges is the lack of space for green infrastructure, especially in densely populated areas. This can be addressed by using innovative approaches such as vertical gardens, which can be installed on the walls of buildings. Another challenge is funding, as NbS may require significant investment. This can be addressed through public-private partnerships or international funding.

Therefore, in the growing concern over heat stress, overpowering city dwellers NbS could be a powerful instrument for regenerating urban areas by identifying new uses for under-used and unused lands and grey infrastructures. This will improve the well-being in the urban areas by providing access to green spaces and good quality landscapes to all citizens in order to promote human health, well-being, social cohesion and reduction of crime. Furthermore, conserving genetic resources, protecting wildlife habitats, and improving the condition and quality of ecosystems for multiple dimensions of resilience (Mujib Prosperity Plan,2021). Thus, NbS, and the co-benefits they provide make them a worthwhile investment to address the urban heat problem in Dhaka, by reducing temperatures and the urban heat island effect, improving air quality, and increasing green space in the city. Therefore, It is time for policymakers, citizens, and stakeholders to work together to implement NbS.

> “One of the major challenges is the lack of space for green infrastructure, especially in densely populated areas”

Disclaimer: The issue presented, and thoughts expressed in the articles are of the authors, it does not necessarily represent the organization’s mission and program priorities ■

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Coastal women exposed to saline water

PHOTO: COURTESY

Necessity of re-shaping climate adaptation policies in response to women health crisis in context of Bangladesh

Naznine Nahar

Climate change is our planet's greatest existential threat. We are experiencing the highest rate of negative impact of climate change in this decade. It has impacted in our lives, security, well-being and where not? It also impacts severely on our health sector and makes us more vulnerable in both direct and indirect way. It affects our health through a multitude of mechanisms, including heat, poor air quality, and extreme weather events, as well as through meteorological changes that alter vector-borne disease, reduce water quality, and decrease food security and so on.

Everyone in this planet is experiencing the health impact but not in equal way. Women health are disproportionately affected by climate change health impact. A growing body of research suggests that women are the most vulnerable to the health impacts of climate change and the least likely to be able to adapt. Climate change health impacts multiplier gender-based health disparities in developing countries like Bangladesh.

Women suffer disproportionate mortality during natural disasters like cyclone and flood. As an example, in the 1991 cyclone disasters that killed 140 000 in Bangladesh where 93% of victims were women and similarly at Sidr 2007, total 35,000 people has died where 83% of them were women. Women suffer adverse reproductive outcomes, gestational hypertension, congenital defects, respiratory and cardiovascular disease due to excessive heat and air pollution. Women suffer higher rates of macro and micronutrient deficiencies and diseases like anaemia due to draught and other climatic impact that are responsible for agriculture production reduction. Moreover, women are responsible for household chores and handle water related issue, and so water scarcity & water salinity issue impact them most. Women have to walk a long run to collect water that has both physical and mental health impact. Women are also suffering from sexual and reproductive health issue due to use of saline and dirty water for hygiene purpose.

As climate change is amplifying gender-based health disparities, it calls for gender-sensitive approaches to climate change adaptation plan, programs and policies. Bangladesh is one of the very few countries that has developed a series of climate adaptation plans to reduce the vulnerability of climate change. But very few (except BCCSAP)of them has taken health as one of their priority areas. Most importantly, we have a separate Health National Adaptation Policy (HNAP) to guide our health sector for taking appropriate adaptation measure. But the question is, how gender responsive this plan is? Is this guiding document can ensure equity and justice in health sector for women?

> "Women suffer disproportionate mortality during natural disasters like cyclone and flood"

Bangladesh government has adopted Health National Adaptation Policy (HNAP) on 2018 to introduce climate adaptation strategies to mitigate the adverse health effects of climate change and variability in the health system of Bangladesh. The document is considered as a guiding document to guide the country toward building resilience to climate change impacts on health. The policy adapted 04 components out of 06 components of World Health Organization's equitable health system framework. But the policy skipped 02 most gender sensitive components of health system (Health Service Delivery & Health System Financing). Exclusion of these two components will make our women less accessible to health services. The policy should have a clear health financing guideline with the segregated need of men, women and other groups to ensure a equitable health system.

Moreover, though the policy has 04 similar components referred by WHO but none of the component has designed to make the policy gender equitable. Nowhere they mention any strategies or adaptation plan that introduce the specific need of women health. The document only has one component named "Vulnerability, capacity and adaptation assessment" with a potential scope to incorporate women health needs under the broad term of "Vul-

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nerable Group" but the document focuses more geographical vulnerability rather than gender or other vulnerable groups. So, here the big question is how this gender blind document can ensure climate resilient health system in Bangladesh?

However, recently Bangladesh has developed National Adaptation Plan (2023-2050). The good sign of this document is, the policy recognizes the prominent health consequences on women due to climate change but, the policy has no single intervention out of it's total 113 interventions to protect women health because of climate crisis. The policy has allocated only 03 partial inventions with the health concept but again none of them has any clear direction to address women health crisis.

Bangladesh prepared Climate Change Strategy and Action Plan (BCCSAP) in 2008 and revised it in 2009. This policy included health sector as one of its building pillars. This plan outlined only 02 programs for improved health system among total 44 BCCSAP programs but none of the program outline any scope to meet specific women health issue and need. This policy included gender equality concept but mostly in livelihood sector, not in health. Even in Climate Change and Gender Action Plan-2013 , only 01 adaptation program has been taken out of total 107 programs in broad health sector, let alone women specific health system promotion.

> "The good sign of this document is, the policy recognizes the prominent health consequences on women due to climate change"

So, in conclusion it can be said that, our climate adaptation and health policies still have some drawbacks in addressing women health issue. This is high time to re-shape our climate adaptation and health policies to address the growing risk of climate change on women health otherwise, it will be impossible to build a climate resilient society. ■

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A village of Kalapara in ruins with landless people, where broken embankment and devasteted landscape bear witness to power of cyclone

RAWNAK JAHAN KHAN RANON

Neglected and perpetual displacement of landless people demand urgent attention

Hyeonggeun Ji and Rawnak Jahan Khan Ranon

Displacement remains a growing concern in Bangladesh, as highlighted in the country profile by the Internal Displacement Monitoring Centre (2022). On average, a million people are affected by floods yearly, leading to displacement. Additionally, cyclones annually contribute to the displacement of around 110,000 individuals. Despite the advanced early warning system of the country, it failed to prevent 480,000 displacements in Sylhet last year. Similarly, cyclone Sitrang 2022 left 219 displaced people in Cox's Bazar. While some affected people attempt to return to their damaged houses to rebuild their lives, many are permanently and repeatedly displaced.

To tackle this matter, the government and NGOs collaborate on disaster risk reduction, climate change adaptation, and humanitarian assistance in disaster-prone areas across the country. However, during fieldwork conducted in Patuakhali and Kurigram, it was observed that landless people are often left unattended.

Landless people in riverine villages in Kalapara (Patuakhali District)

The authors visited several riverine villages in Kalapara Upazila to interview the displaced people between the Rabnabad Channel and the Bay of Bengal. Identifying interview

Livestock rearing the ethnic communities in Bandarban ABID SHAHRIAR

participants was relatively straightforward, as the appearance and construction materials of the houses provided clear indications of which belonged to displaced people. Furthermore, the village had a desolate atmosphere due to the limited number of houses. In light of the unpredictable nature of cyclones, people possessing financial resources have proactively relocated to safer areas. Presently, the houses lining the riverfront are predominantly occupied by landless people. Many of these houses are located just 20 meters from the river without embankment and adequate tree cover for protection against cyclone and their consequential displacement. Thus, these seemingly fragile houses are also the most susceptible to the impact of cyclones.

What they are on full alter extend beyond the cyclones themselves. They are additionally distressed by the government's recent warnings, indicating that they must vacate the area for a harbour and navy base development project. Whereas the government may provide compensation for the landowners whose land are acquired, the landless people who have built temporary houses on Khas land (the government owned land) are compelled to look for alternative accommodations on their own. In such circumstance, landless people are faced with displacement even from areas that are undesirable for habitation. The society must be held accountable, not only in terms of providing proper compensation to landowners but also in addressing the needs and sufferings of the landless people, who often remain invisible throughout the land acquisition process. If not, landless people are likely to shift to other vulnerable Khas land when the next cyclone strikes, perpetuating the cycle of displacement.

> “They are additionally distressed by the government's recent warnings”

Landless people in Char islands in Ulipur (Kurigram District)

Char islands are dynamic riverine islands that appear and vanish within the river systems of Bangladesh. The authors visited several Char islands in Begumganj and realised that each island possesses its own unique characteristics. Some are situated on higher ground and relatively stable, with basic infrastructures in place. In contrast, one particular island, inhabited by fewer than 20 households, is low-lying and seems to float on the river. Houses in the island can be easily washed away because of the absence of natural and man-made obstacles that might protect their property from flooding. Char dwellers acknowledge the risk so planted vegetation around the islands to mitigate the impact of floods, yet it is doubtable that this measure alone can prevent displacement in the upcoming monsoon season, based on our observation.

The inhabitants of Char islands express their limited resource to relocate to the mainland. The onset of each monsoon poses a harrowing ordeal for this vulnerable communities. Moving their homes, compound by the limitations of an inadequate communication system, becomes another hurdle. It is not only contended with shifting their belongings and livestock but also grapple with the uncertainty surrounding their livelihoods. Displacement and relocation to another Char island have become an inherent part of their lives, but they are afraid and tired of this perpetual cycle. In this way, their life is profoundly intertwined with endless sufferings brought by floods, erosion and displacement.

> “The inhabitants of Char islands express their limited resource to relocate to the mainland”

Call for attention to landless people

Who are the most vulnerable people? This is the question that civil servants and NGO workers in Kalapara and Ulipur have in mind when they begin to support climate-related displaced people. Their efforts include building embankment, raising awareness, providing emergency aid and employing various other approaches to assist those who have lost their properties and values constituting their life. Despite these efforts, as this article emphasizes, the outcomes remain unsatisfactory for landless people who find themselves trapped in a cycle of displacement. Many of them have experienced displacement even more than ten times and, even though we do not want to admit it, they are certain that the next displacement will occur within months.

The problem lies in the ease with which this harsh reality is accepted within society. Displaced communities, humanitarian/development workers, government authorities, journalists, researchers or other stakeholders engaged in this issue tend to operate under the assumption that landless people will be displaced each year, without questioning it. Neither prolonging the precarious life of landless people with temporal assistance nor the trickle effect of regional development project cannot put an end to the climate-related displacement faced by landless people. It is crucial to shift focus and allocate more resources to the landless population, who are undeniably ‘the most vulnerable’ due to their socio-economic marginalization and exposure to extreme weather events. ■

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