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# Climate Tribune

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Enhanced direct  
access:  
**Costly in the  
short term  
but worth it in  
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# Climate finance in Bangladesh: A critical review

The overwhelming share of climate finance is simply official development assistance repackaged



Sirazoom Munira, Saleemul Huq, and Mizan R Khan

The concept of climate finance (CF) originated as an obligation of the developed countries under the UN Framework Convention on Climate Change (UNFCCC). There are competing interpretations over CF due to a lack of conceptual clarity in provisions of the UNFCCC. Further, overlapping and fragmented sources, delivery channels, governance processes, and operational challenges stand in the way of defining what 'climate finance' is. Also, the difficulty in differentiating between adaptation and development complicates the

problem. The focus of this article is to explore the status of CF in Bangladesh. So, we begin with its status internationally.

At the Conference of Parties (COP15) to the UNFCCC, developed countries pledged \$30 billion as fast-start finance (FSF) for the period 2010-12 and as long-term finance, pledged to mobilize \$100 billion a year by 2020 to support developing countries. However, the claim by developed countries of delivering about \$34 billion by end of 2012 as FSF was severely contested by developing countries.

What is more disquieting is that the overwhelming share of CF (about 76-80%) is official development assistance



Of this adaptation money, again less than 20% goes to the particularly vulnerable countries, which number about 100 countries including the LDCs, small island developing states and African countries

(ODA) repackaged, according to Oxfam report (2012). Therefore, the overall status of CF delivered to developing countries shows a gap in orders of magnitude compared to the estimated needs. Yet, Parties to the Convention unanimously agreed that CF and development assistance are qualitatively different, and this is reflected in the UNFCCC provisions, such as Article 4.3 (new and additional, adequate, and predictable funding) and Article 4.4, stipulating that industrial countries “shall also assist ... in meeting the costs of adaptation” in the particularly vulnerable countries. The Paris Agreement also obligates the developed countries to provide CF support (Article 9.1) under the Convention principles.

As the CF could not yet be defined because of opposition by many developed countries, the latest figure of mobilizations shows for an amount of about \$79 billion in the OECD report of 2020. However, Oxfam again contests this figure and they come out with a figure of max \$22 billion, out of which about 25% goes for adaptation. Of this adaptation money, again less than 20% goes to the particularly vulnerable countries, which number about 100 countries including the LDCs, small island developing states and African countries. Let us now turn to Bangladesh, a country regarded as ‘ground zero’ of vulnerability.

**Bangladesh's vulnerability and climate effort**

The vulnerability of Bangladesh emanates mainly for its geographical locality, as the lowest riparian country of the Bay of Bengal. Despite Bangladesh's highly dense population and resource constraints to cope with climate adversities, questions persist whether the country receives its fair share of CF compared to other least developed countries (LDCs).

Over the past few decades, Bangladesh has integrated climate change into its national legal and policy framework, placing a stronger emphasis on conservation of environment, biodiversity and protection of people. The government initiated many policies and acts, such as Climate Change Trust Fund Act (2010), Bangladesh Climate Change Strategy and Action Plan (BCCSAP), Country Investment Plan for Environment, Forestry and Climate Change (CIP-EFCC), Prospective Plan (2021-41) and the 8th Five Year Plan (2021-25).

The BCCTF allocated \$447 million (Tk38,000 million) from FY 2009-10 to FY 2019-20 according to a CPD study (2020). The Government of Bangladesh has also set a cumulative budget allocation for 25 ministries/divisions

accounting for 56.69%, of which 7.52% is climate-relevant. Based on priority, Bangladesh is planning for the effective utilization and need-based allocation of the proposed climate budget of \$2,850 million (Tk242,260 million) for FY 2020-21 - this contrasts with last year's allocation of 7.81% according to a CPD study.

The effective use of this budget will require a concerted effort of the government, non-government, private sector, financial and other institutes to monitor the climate budget expenditure, thereby enabling to exercise overall ownership of the concerned in the climate investment process. To that, the ‘Climate Financing for Sustainable Development: Budget Report 2020-21’



“Over the past few decades, Bangladesh has integrated climate change into its national legal and policy framework, placing a stronger emphasis on conservation of environment, biodiversity and protection of people”

calls for the integration of 25 ministries through a programmatic approach in interventions across key thematic areas and cross-cutting issues. The latter may include social and environmental safeguarding, knowledge management, and gender mainstreaming. The Sustainable Development Goals (SDGs) have now made it possible to integrate CF quite easily into the national planning strategies. However, to meet the needs of the vulnerable and end-mile population sustainably, innovative climate-resilient, context-specific, and nature-based solutions should be promoted that enable communities to be resilient beyond the lifetime of project interventions.

**International Support for Bangladesh**

At present, several multilateral and bilateral sources of funds have been operating globally. Bangladesh has accessed some significant bilateral channels of climate funding including DFID, USAID, SIDA, and GIZ. In addition, key international funding sources for Bangladesh include the Green Climate Fund (GCF),

Climate Investment Funds (CIF), Global Environment Facility (GEF), among others. In 2012 and 2014, Bangladesh received CF from both bilateral and multilateral agencies. However, CF inflow rather decreased between 2015 and 2016, as data from the Aid Information Management System (AIMS), Economic Relations Division (ERD) show between 2010 and 2016.

Among the multilateral sources of funding, Adaptation Fund, for the first time, approved a grant amounting to \$10 million for vulnerable small islands and riverine *charland* islands in Bangladesh to enhance the resilience of its vulnerable communities. Further, the allocation for the Nationally Determined

voice to have CF as grants, especially for adaptation, as promised at Copenhagen in 2009 by the developed countries. For that, the country should continue to remain well-equipped to meet the standards set by the GCF and other adaptation fund windows.

The Pilot Program for Climate Resilience (PPCR) has approved 11 projects in Bangladesh so far with a total fund of \$176.66 million of funding and \$1049.01 million co-financing. PPCR's role in improving climate-resilient agriculture and food security, reliability of freshwater supply, sanitation and infrastructure, and enhancing the resilience of coastal communities in Bangladesh has been effective in creating other co-benefits. On the other hand, the Global Environment Facility (GEF) which has funded 43 projects in Bangladesh, has provided a grant total of \$160 million, which generated \$1,037 million as additional co-financing from other sources including from Bangladesh.

Bangladesh incurs roughly 2.5% loss of GDP each year due to natural disasters. In addition, human development progress sets back through loss of life and livelihood, with an annual average number of 13,200 deaths and millions affected. However, the country receives only about 20% of CF. Currently, it spends about \$3 billion a year to address climate change. This is only one-fifth of the amount the World Bank estimates the country would need as adaptation finance by 2050.

Despite contextual realities, compounded by Covid-19 emergencies and the influx of 1.2 million Rohingya refugees in Bangladesh, the country has continued to make efforts to strengthen its adaptive capacity. Bangladesh's Presidency of the Climate Vulnerability Forum (CVF) and Vulnerable Twenty (V-20) group of finance ministers during the 2020-2022 term under the leadership of Prime Minister Sheikh Hasina, gives it a unique opportunity to share its climate experience globally - also foster South-South collaboration, knowledge sharing, and capacity building. So, the two years will remain critical for Bangladesh to champion towards enhanced adaptation and mitigation efforts at this critical time of ‘Planetary Emergency’.

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PROJECTS & PROGRAMMES

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# Bangladesh

Asia-Pacific

LEAST DEVELOPED COUNTRIES

A screenshot of the Green Climate Fund official website

## Enhanced direct access: Costly in the short term but worth it in the end

Enhanced direct access under the Green Climate Fund can be an effective vehicle for Locally-led adaptation

Mizan R Khan and Saleemul Huq

Direct access to climate finance as a new modality was introduced in 2007 while operationalizing the Adaptation Fund (AF) at the 3rd meeting of the Parties to Kyoto in Bali. This means that national institutions with approval by the governments will be allowed to submit proposals, while funding oversight and management lie in the hands of domestic institutions, rather than in multilateral or external agencies. The domestic institutions will operate under the AF's guidance and rules. However, the progress was not as expected, as the National Implementing Entity (NIE) applications often failed to meet the oversight and fiduciary standards set by the AF and the Global Environment Facility (GEF). Then came the concept of 'enhancing direct access'

(EDA).

The Green Climate Fund (GCF) -- the fund established within the framework of the United Nations Framework Convention on Climate Change to "support projects, programmes, policies and other activities in developing country Parties using thematic funding windows" -- also took the initiative to pilot EDA in 2015. The goal was to allow national Direct Access Entities (DAEs) to move beyond the financing of individual projects toward a more stakeholder-driven programmatic approach. The GCF has other windows for funding projects, such as the common funding window, Simplified Approval Process (SAP, with max \$10 million allocations), and Private Sector Facilities (PSF). Also, the GCF provides financial support to enhance the capacity of the nationally designated authority

(NDA), established at national level as the oversight body, and of the DAEs under its Readiness Support program and Project Preparation Facilities.

Unlike other GCF access windows,

decision process and the composition of the decision-making body as well as how they will be managed and implemented. This way the EDA projects provide flexibility to accommodate a



EDA has several advantages including enhanced level of country ownership

EDA projects/program proposals do not need to submit detailed individual sub-projects for approval by the GCF. Instead, the decision-making mechanism for such sub-projects is devolved at the country level through pre-approved selection criteria. The funding proposal should elaborate on the

broad range of country conditions and circumstances.

Specifically, EDA has several advantages including enhanced level of country ownership, more effective use of financial resources, stronger involvement of local organizations and other stakeholders; and flexible and



with climate investment criteria that are comparable with those of the GCF investment framework.

Community-led initiatives, as well as local/regional institutions, often face significant difficulties in accessing climate finance due to lack of capacity. However, they represent the key elements of the success of climate projects, especially those focusing on adaptation outcomes. An EDA proposal should not present communities as mere beneficiaries of the GCF finance, but rather as active agents of change, who have the potential to realize a paradigm shift as well as its medium and long-term sustainability.

As the proponent, DAEs should therefore demonstrate that the EDA pilot will empower local communities and groups and/or support local MSMEs thanks to its structure based on local/regional institutions, partners, and grassroots organizations, including local women's unions and associations. The DAE should also demonstrate how such groups are involved in the consultation processes of the EDA proposal and how their specific needs are addressed through the grant/loan facility. The representation and ability to contribute to decision making in the grant/loan facility should be ensured. The DAE should ensure that relevant communities and indigenous peoples are closely involved in the designing, appraisal, and implementation of sub-projects. This will not only lead to climate impact at the community level, it will also result in longer-term empowerment of local communities and indigenous peoples.

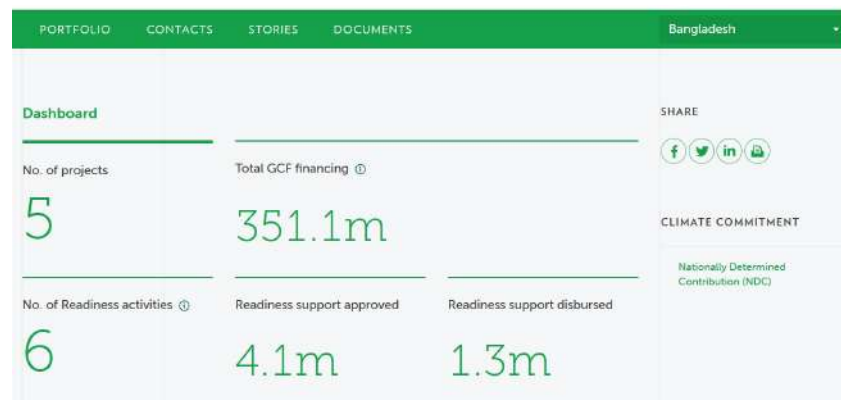
The EDA process has two components: (i) support for the implementation of sub-projects and (ii) funding facility. The first component involves capacity building through technical assistance. Here the university networks like the LDC Universities' Consortium on Climate Change (LUCCC) can play a crucial role in developing endogenous capacity through training and awareness-raising programs of stakeholders including the local community and women leaders.

Both the locally-led adaptation (LLA) and nature-based solution (NbS) components of the Global Commission on Adaptation can be promoted under the GCF-EDA, as the local communities to a large extent depend on natural resources for their livelihoods. Also when they are in the drivers' seat, they can find indigenous and innovative ways of diversifying their livelihoods and conservation of natural resources.

There are several challenges in the

way the GCF investment framework works. It calls for a paradigm shift through transformative adaptation. At the same time, the criteria require projects to be bankable, founded on a sound business model. However, the GCF does not focus on how its funding can help such an outcome. For example, transformative adaptation can be achieved gradually, with a focus on locally-led adaptation, which requires reallocation of local resources and

building culture. Students guided by faculty members go to the field, observe the implementation process and their after-completion sustainability. Based on this, they submit their report as part of their degree requirements. This process involves little costs only in terms of the cost of field visits. Thus, EDA facilities are expected to live past GCF's exit from the EDA interventions. Lessons learned through MEL will increase the chance of the grant/loan fa-



A screenshot from the Green Climate Fund official website showing key facts on Bangladesh country dashboard



## Both the locally-led adaptation (LLA) and nature-based solution (NbS) components of the Global Commission on Adaptation can be promoted under the GCF-EDA

resetting the rural governance structure. Besides, adaptation projects are largely of public good's nature, so it is very challenging to have economically viable business models. The Guideline also does not spell out clearly the relationship between national governments and DAEs of EDA. How much autonomy the DAEs and their sub-projects can enjoy is not clear.

However, the GCF-EDA can learn lessons from the pilot projects under the Adaptation Fund. EDA is costly in the short term but worth it; it requires, at least initially, a higher level of technical assistance, monitoring, and oversight, such as the development of capacity building tools and a higher level of monitoring through frequent field visits, and contracting at multiple levels, which has an impact on the operational costs. Therefore, any specific funding window for EDA might need a higher provision for overhead costs.

Finally, monitoring, evaluation, and learning (MEL) through action research by faculty members and graduate students are part of the LUCCC capacity

cility to last over time and to potential scaling-up. Once a good amount of experience and evidence of best practices are available, GCF-EDA is expected to scale to realize its vision of transformative adaptation, led by Locally Led Adaptation.

EDA projects also allow action research that could have been otherwise difficult under the usual adaptation projects. It also raises awareness of small, local organizations on climate change issues and builds their capacity to address climate-related risks and impacts by enabling such local organizations to identify their adaptation needs by themselves and implement adequate measures to address those needs. ■

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context-specific approaches. EDA pilot proposals can support community-based small and medium-sized enterprises (SMSEs), provide small grants or extended lines of credits and activities that target local actors, addressing the gender aspects and needs of vulnerable communities. It also allows the flexibility to create local funds for sustaining the process of community adaptation.

Accordingly, the Board of the GCF approved a pilot in 2016 to channel funds to NIEs in developing countries with a fund of \$200 million for this program. Usually, each project/program can apply for a \$20 million pilot. The first pilot included three countries - Antigua and Barbuda, Dominica, and Grenada in the Caribbean. There is yet no evaluation available on this pilot.

In the meantime, the GCF has drafted a detailed Guideline for Proposal Development under the EDA. The objective of these guidelines is to provide detailed guidance about the GCF-EDA Pilot to set up and operationalize EDA related processes. The EDA facility will award funding to sub-projects with impact-potential in climate adaptation and/or mitigation, in line with the areas detailed in the GCF Results Management Framework. Also, the appraisal of sub-projects would be carried out

# In the climate finance universe, programs and policies should align

Protecting people from losing their homes and assets due to climatic hazards should be a top priority for the government when it comes to financing climate action



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Prodip Kumar Roy

According to experts, the intensity and frequency of cyclones, floods, and other climatic hazards are increasing due to climate change. Recognizing the reality of the phenomenon, the Government of Bangladesh has adopted different policies and measures such as the Bangladesh Climate Change Strategy and Action Plan (BCCSAP), National Adaptation Programme of Action (NAPA), Climate Fiscal Framework (CFF), Country Climate Investment Plans to support climate action in the country. Programs like BCCTF facilitate allocation of fiscal budgets in climate change adaptation. But are these policies and programs successfully protecting the people of Kamarjani, Mollar Char, Padmapukur, Gabura, Bedkashi, and Koyra Sadar Union?

Eight hundred families from Mollar Char union and four hundred families from the Kamarjani Union, situated in the Sadar Upazila of Gaibandha, have migrated elsewhere following the loss of their homestead, assets, and means of livelihoods due to river erosion of the mighty Brahmaputra. Year after year people inhabiting the south-west coastal region, including Padmapukur and Gabura union of Shymanagar of Satkhira, and Dakhin Bedkashi, Uttar Bedkashi, Koyra Sadar union of Koyra Upazila of Khulna, continue to be affected by coastal river erosion and are forced to migrate to other regions only for survival.

The National Adaptation Programme of Action (NAPA), formulated in 2005, has 15 priority activities listed for adaptation. However, embankment construction has not been included in the priority list. BCCSAP, developed



In the past, influential ministers, lawmakers and politically powerful leaders have often secured climate funds for their own constituencies under these macro policies

Number of projects implemented in divisions (2010-2015)							
Division / Fiscal Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Total
Dhaka	8	5	8	11	12	22	66
Chattogram	6	6	11	10	20	11	64
Barisal	3	3	4	8	15	28	61
Khulna	1	0	7	3	8	7	26
Rajshahi	0	0	0	4	6	4	14
Sylhet	0	1	2	2	4	8	17
Rangpur	1	1	1	4	5	5	17
More than one division	32	24	37	49	76	88	306

in 2009, provides some considerations for embankments and coastal polders under the thematic pillar of Infrastructure. However, evidence suggests that these macro policies have not adequately taken the needs and priorities of those at the micro-level into consideration, failing to benefit or protect people most affected by climatic hazards.

In addition, top-down programmatic approaches have also created some loopholes, resulting in irregularities in climate fund allocation. In the past, influential ministers, lawmakers and politically powerful leaders have often secured climate funds for their own constituencies under these macro policies. Since these macro policies are not supported by the micro-level and community needs, it provides an opportunity for those with influence at the local level to leverage the funds for their own benefit, often with a complete disregard of the needs and priorities of those most affected. As a result, substantial resources are often channeled for implementing climate change projects in the country, which do not successfully protect those most susceptible to the impacts of climate change. Table 1: Annual allocation of BCCT projects by division (Source: BCCT)

Coastal districts such as Satkhira and Khulna, flood-prone riverine districts such as Kurigram and Gaibandha, as well as the Haor region of Sunamganj and Sylhet, are some of the most vulnerable areas in the country to coastal and riverine floods. People are frequently displaced from these districts following a natural disaster. However, as we can see from table 1, according to the project implementation scenario from 2010-2015, the highest priority was given to Dhaka, Chattogram, and Barisal division. During this period, the Ministry of Forest, Environment and Climate Change (MoEFCC) had ap-

pointed ministers who originally hailed from the Chattogram and Barisal divisions, resulting in these divisions being prioritized against the local adaptation priorities of other regions.

The sufferers in the coastal and riverine regions have long been demanding the construction of sustainable embankments for protecting their homes and livelihoods. But the government is yet to allocate the necessary funds for replacing the presently old and fragile embankments, built around 60 years ago. BCCSAP uses macro terminologies like adaptation to floods, tropical cyclones, storm surges, etc, and has policy directions on embankment repair and maintenance. But these are not specific and do not consider localized priorities and needs. So, the government continues to allocate funds for embankment repairs, while the local people continue to demand sustainable embankment construction.

Protecting people from losing their homes and assets due to climatic hazards should be a top priority for the government when it comes to financing climate action. However, macro-level climate policies do not adequately reflect these priorities. As such, funding to date has often been allocated towards comparatively low priority action areas priorities. It is imperative that the government resolves these priority gaps between policies and programs.

Campaign for Sustainable Rural Livelihoods (CSRL) has identified the union level priorities on climate change adaptation for 3 vulnerable Upazilas in the country, following consultation with riverine and coastal communities and local government institutions (LGIs). The government should refer to these experiences and utilize the LGIs to better understand local priorities on adaptation so that micro-level adaptation priorities can be effectively incorporated within macro-level poli-

cies and programs. A national adaptation priority and action plan could be developed based on these micro-level adaptation priorities, and priority projects could be funded accordingly in a chronological manner.

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The sufferers in the coastal and riverine regions have long been demanding the construction of sustainable embankments for protecting their homes and livelihoods

# Without the right M&E, funds can go astray

## Importance of monitoring and evaluation in accessing climate finance

Istiaq Ibne Rouf

Climate change is happening right now. The signs of a changing climate have become apparent in many regions of the world, impacting the lives and livelihoods of millions across the globe. According to the Global Climate Risk Index 2020, Bangladesh is ranked seventh among the top 10 countries most affected by climate change. Its geographical location, flat and low-lying topography, high population density, high incidence of poverty and illiteracy, as well as the lack of institutional setup, make the country highly susceptible to climate change impacts. Over the years, a substantial amount of financial resources have been mobilized by the Bangladesh government, as well as various other national and international organizations for managing the effects of climate change in the country through adaptation and mitigation projects. To ensure the sustainability of such interventions, there is a crucial need for comprehensive monitoring and evaluation processes

Monitoring and Evaluation (M&E) is a system or tool which helps organizations improve their project performance and allocate resources efficiently. By tracking the progress of an adaptation initiative, M&E promotes learning and evidence-driven decision making in terms of adapting to climate change. M&E processes also help ensure greater commitment towards transparency and accountability when it comes to implementing adaptation actions.

Developing a robust monitoring and evaluation plan is increasingly becoming a key requirement for accessing global climate change funds. Many international and multilateral funding bodies such as the Green Climate Fund (GCF), Climate Investment Funds (CIF), Global Environment Facility (GEF), Asian Development Bank (ADB), World Bank (WB), etc, typically require applicants or beneficiaries to provide an elaborate section in the preparation of all project proposals, explaining how M&E of the project will be undertaken. This includes identifying what sort of data would be needed, what means of data collection will be employed, how

data will be analyzed and interpreted, and subsequently reported on a periodic and routine basis. Having an M&E plan in place helps measure the progress of the project, informs better implementation, and ensures accountability to donors. By understanding what works and what does not through M&E processes, the sustainability of

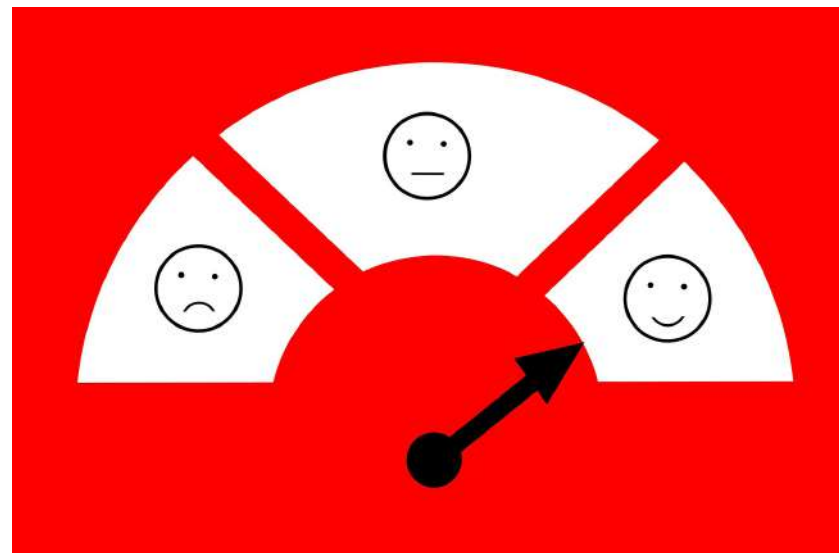
ests and Climate Change (MoEFCC), for supporting climate action in the country. In addition to overall fund management, BCCT is responsible for tracking project progress through maintaining coordination with the project implementing entities i.e. different government ministries and divisions, as well as carrying out the post-imple-

plays a key role in supporting the attainment of socio-economic development of the country through effective implementation, monitoring as well as a qualitative evaluation of development projects, thereby ensuring robust public procurement. IMED has proper project inspection guidelines in place which indicate how to undertake M&E of development projects. While IMED is also responsible for carrying out the M&E of projects funded by BCCT, they do not yet have comprehensive guidelines set in place to effectively monitor and evaluate climate change projects. As a result, external consultants and organizations are often recruited by BCCT for executing the M&E of their projects.

In order to keep up with other developing countries in accessing global and national funds, Bangladesh needs to pay more focus on developing and implementing effective M&E strategies successfully. Till date, in many developing countries like Bangladesh, the practice of monitoring and evaluation has been largely donor-driven, being mostly used for accountability and reporting purposes. The value of M&E for improving project implementation has largely been ignored. To achieve the long-term sustainability of climate change adaptation programs or projects and ensure better access to climate finance, effective M&E is indispensable.

It is critical for the country to design and establish robust mechanisms and guidelines undertaking M&E of climate change and set up performance indicators in alignment with the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) and National Adaptation Programme of Action (NAPA). The capacity of government officials and other relevant stakeholders in the context of climate change, project management, and monitoring and evaluation will also need to be enhanced.

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**Monitoring and Evaluation (M&E) is a system or tool which helps organizations improve their project performance and allocate resources efficiently**

project outcomes can also be ensured, which is another requirement that donors often seek. As such, for developing countries to better access and utilize climate finance, it is crucial to have effective plans and strategies for executing M&E of climate change projects.

In 2010, the Bangladesh Climate Change Trust (BCCT) was established as a national climate change fund under the Ministry of Environment, For-

mentation evaluation. However, BCCT presently has a very limited capacity to undertake effective monitoring and evaluation of these projects.

A number of public institutions and practices have been established in Bangladesh to govern the monitoring and evaluation of development activities in the country. Implementation, Monitoring and Evaluation Division (IMED) of the Ministry of Planning



# Microfinance in climate action: Why not?

Unlocking the potential of microfinance for facilitating climate change adaptation at the local level



PIXABAY



Effective channelization of these funds to the local level continue to be a challenge due to a myriad of structural and governance barriers

Tasfia Tasnim and Riadadh Hossain

Climate change poses a severe threat to the livelihood security of low-income and otherwise disadvantaged groups in Bangladesh. Livelihood options available to the poor, particularly those dependent on natural resources, are increasingly shrinking with the growing intensity and frequency of extreme weather events and other climatic stressors.

Adaptation to climate change has long been a key priority for the country. Over the years, substantial financial resources have been mobilized,

both from domestic and international sources, to help build resilience of climate affected communities. However, effective channelization of these funds to the local level continue to be a challenge due to a myriad of structural and governance barriers. With the impacts of climate change rapidly intensifying and Bangladesh determined to continue its upward trajectory towards socioeconomic development, there is now a crucial need to explore financial mechanisms that are effective in supporting the adaptation needs of the poorest and most vulnerable. Microfinance promises significant potential in this regard.

### Microfinance and climate change adaptation

Broadly speaking, microfinance refers to financial services typically targeted at low-income individuals and small businesses who lack access to conventional banking and related services. Since its inception in the 1970s, microfinance has proven to be a successful vehicle for poverty alleviation and socioeconomic empowerment of impoverished communities in several developing countries across the world, including Bangladesh.

However, microfinance has received very little attention within the context of climate action. It has recently begun to emerge as a vital topic in climate policy discussions and debates. There are a number of ways in which microfinance can be linked to climate change adaptation.

Firstly, a key feature of microfinance programs is that they are primarily directed towards poor communities in rural areas, especially women, who are often considered to be the most vulnerable owing to their low adaptive capacities. The nature of microfinance lending, consisting of high volume, limited value loans towards income generation is also consistent with the fundamental nature of most adaptation actions which typically entail mobilizing decentralized actions by households and communities for building their adaptive capacity to current and anticipated climate risks.

Microfinance services enable low-income households to build and diversify their asset base by delivering small loans and other financial services to them, and thereby expand the range of coping strategies available to them. Therefore, these core characteristics of microfinance make them particularly attractive vehicles for facilitating climate change adaptation at the local level.

### Fostering livelihood capitals through microfinance

An exploratory study undertaken by ICCAD last year has found that microfinance has a definite influence in promoting various types of assets of capitals considered crucial for ensuring sustainable livelihoods for low-income individuals and households. The structure of credit and savings delivery is designed as such that it incentivizes borrowers to invest their cash resources into sustainable income generating activities, so that they are able to repay their loans on schedule and subsequently request for larger sums of loans which can then be reinvested. This teaches clients to make reasoned

investment decisions and better manage their finances. Responsible use of loans can thereby help build their financial capital over time and improve their overall adaptive capacity through economic empowerment.

Service providers also have specific schemes and programs targeted at enhancing the quality and productivity of natural resources available to clients, and also for improving household infrastructure. As such, microfinance plays a role in enhancing the natural and physical capital base of clients. In addition, delivery of microfinance occurs via social groups or 'samity', which entail a small group of women from the same locality who routinely convene with respective service providers for loan collection and payment. These groups are comprised of an elected leader, and other members are assigned different functions for the group, such as managing cash, organizing weekly meetings, etc. This in turn serves to strengthen relationships and social ties among women within a locality, thereby effectively contributing to crucial social capital.

Finally, service providers extend a range of benefits to their clients, which are not directly related to economic production. This includes providing training on a wide variety of skills such as agricultural practices, livestock management, ICT, etc to develop their capacity for effectively utilizing available resources towards income generation. Some service providers have been found to provide merit-based scholarships to children of clients. The weekly 'samity' meetings also serve as a platform for discussing and raising awareness on various social and environmental issues. Evidently, microfinance institutions play a vital role in building critical human capital at the local level.

### Leveraging microfinance for local level climate finance

Despite the immense potential that microfinance services possess for helping vulnerable communities adapt to the impacts of climate change, this prospect is hindered by a number of challenges. Firstly, the current structure of microcredit delivery entails a strict loan repayment schedule. As weather patterns and climatic events become increasingly unpredictable, clients' livelihood sources are and will be disturbed by unprecedented climatic events, affecting their ability to pay back loans on time. This is likely to propagate debts and reduction of adaptive capacity.

Secondly, there is generally inadequate coordination among different

service providers in an area. As a result, clients continue to borrow from multiple sources, while still in credit with one or more MFIs. This restricts their incentive to invest in sustainable income generating activities, and in many cases clients fall into a cycle of indebtedness. Service providers also lack the necessary capacity to monitor and supervise what borrowers do with the loans. This enables clients to use money borrowed for unproductive purposes, instead of undertaking activities which the credit was originally requested for, which again contributes to the indebtedness cycle.

As a result, envisioned economic empowerment and adaptive capacity

schemes which take into account specific climatic vulnerabilities in a particular area. These schemes might entail integrating contingency measures and plans, as well as flexible payment schedules, to respond to unexpected climatic events.

To address the issue of overlapping loans and the cycle of indebtedness, there needs to be enhanced coordination among the different service providers in an area. This would help disaggregate clients and their tendency to borrow from multiple sources simultaneously can be averted.

To this end, service providers can create a shared database of clientele in their respective locality and provide



As weather patterns and climatic events become increasingly unpredictable, clients' livelihood sources are and will be disturbed by unprecedented climatic events, affecting their ability to pay back loans on time

building of the poor through microfinance services are largely rendered unsuccessful. Lastly, with women being the primary clients, microfinance is deemed as a vital medium for women's empowerment in rural Bangladesh. However, in reality, while the loans are applied for and received by women, it is often the male counterpart of a household who utilize these financial resources for pursuing income generating activities. Most microfinance programs also consider unmarried females to be ineligible for their services. These limit the potential for adaptive capacity building and women's empowerment at the rural level.

In order to effectively channel microfinance for facilitating local level adaptation and resilience building of vulnerable communities, a number of action steps might be prudent going ahead. Considering that the impacts of climate change are highly localized, it would be useful for microfinance institutions to design programs and

identity cards to keep track of their clients. Finally, it would be essential to develop the capacity of both the service providers as well as the beneficiaries on climate change issues. While many institutions conduct social awareness and disaster management training for their clients, issues arising from climate change are not particularly covered. This can be attributed to limited understanding among different service providers on the issue. Developing their knowledge and capacity in this regard would in turn enable them to provide clients with various forms of training on climate sensitive and adaptive livelihood practices. ■

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# Financing climate change induced loss and damage in Bangladesh

The scope for public-private partnerships

Riadadh Hossain and Saleemul Huq

The impacts of climate change are becoming increasingly apparent with rising sea levels, warming temperatures, and increased frequency and severity of extreme weather events already being observed across the globe. There is an overwhelming body of evidence which suggests that these hazards will intensify in coming years, triggering far-reaching consequences on human health, livelihoods, infrastructure, ecosystems, biodiversity and the broader society.

Over the past couple of decades, significant global efforts have been made to address the issue through mobilizing resources towards reducing greenhouse gas emissions and building resilience of vulnerable communities. However, it is now widely acknowledged that there are physical and social limits to adaptation. The capacity of economies and communities to cope is only finite, beyond which certain residual impacts from human induced climate change will be inevitable. In the climate change discourse, these impacts are collectively termed as “loss and damage”.

Loss and damage refers to irreversible losses (eg loss of human life, species, land, etc) as well as repairable damages (eg destroyed embankments, roads, buildings, etc) that are caused by the impacts of climate change. It can be economic in nature, encompassing losses that can be quantified, and also non-economic, which could include loss of health, cultural heritage, indigenous knowledge and ecosystem services. Non-economic losses often amount to far more than economic losses in the case of many developing countries.

The issue of loss and damage first emerged in international climate policy discussions nearly three decades ago in 1991, when the United Nations Framework Convention on Climate Change (UNFCCC) was being established. However, for the next twenty years, the issue continued to be raised in international climate negotiations without reaching any concrete agreement, and only insubstantial developments being made on how it should be financed.

Eventually, in 2013, the Warsaw International Mechanism on Loss and Damage (WIM) was set up at the annual 19th UN Climate Conference in 2013, which formally institutionalized the issue. An Executive Committee (Ex-Com), was put in place to oversee the mechanism. They were tasked with three major functions - enhancing knowledge and understanding of loss and damage; strengthening dialogue and coordination; and enhancing action and support, including finance and technology. In the years following

the establishment of the WIM, the Ex-Com largely focused their efforts on the first two functions. However, the issue of financing loss and damage continued to be a topic of contention in climate negotiations and only limited progress has been made in terms of furthering the agenda.

Adoption of the landmark Paris Agreement in 2015, saw loss and damage being included as a separate, stand-alone article within the agreement. This development was vital as it effectively established loss and damage as one of the three pillars of international climate policy, alongside adaptation and mitigation. This also indicated that financing for loss and damage should be considered as separate and additional to adaptation finance. However, while several global funding mechanisms have been introduced over the years to address climate change mitigation and adaptation, a dedicated financing facility for loss and damage is yet to be in place.

Bangladesh, attributing to its geophysical and socioeconomic characteristics, is highly susceptible to a range of climate change impacts. As climate change continues to exacerbate, it is apparent that loss and damage, both economic and non-economic, from climate induced shocks and stresses will be unavoidable for the country. The Government of Bangladesh (GoB) has made remarkable strides over the last decade or so by devising necessary strategic policies and mobilizing substantial financial resources towards combatting climate change issues in the country.



While several global funding mechanisms have been introduced over the years to address climate change mitigation and adaptation, a dedicated financing facility for loss and damage is yet to be in place

There is also a vital need to explore means and approaches through which loss and damage in Bangladesh can be addressed. At COP24 in 2018, a decision to set up a National Mechanism on Loss and Damage was taken by the Ministry of Disaster Management and Relief (MoDMR). The mechanism will entail a two year pilot phase that will experiment with different aspects of loss and damage, including both fast onset and slow onset impacts, insurance as a potential coping mechanism, enabled migration, etc. This marks a step in the right direction.

Concurrently, the Government of Bangladesh has also been placing a lot of emphasis on public-private collaboration for advancing socioeconomic development in the country over the last decade or so. In 2010, the “Policy and Strategy for Public-Private Partnership (PPP)” was issued and subsequently a Public Private Partnership Authority (PPPA) was set up under the Prime Minister’s Office. In the following years, the national budget has seen substantial amounts allocated for taking PPPs forward in the country. Several large scale projects, across a range of sectors, have also been financed through PPPs.

Recently, the potential of PPPs for financing climate action has been gaining traction in climate change discussions. PPPs provide frameworks to ensure public leadership and accountability towards addressing climate change, while enabling ownership of certain components of financing to be transferred to private hands.

PPPs facilitate optimal allocation of risks between the public and private party, and can therefore generate discernible “value for money”. Private sector involvement also provides an enabling environment for innovative solutions to emerge, which would be crucial for fostering long-term resilience. Therefore, PPPs are increasingly being recognized as a prospective vehicle for financing climate action. Mobilizing PPPs towards addressing loss and damage from climate change in Bangladesh offers a promising way forward. ●

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The issue of loss and damage first emerged in international climate policy discussions nearly three decades ago in 1991, when the United Nations Framework Convention on Climate Change (UNFCCC) was being established

# A warning

## Covid crisis echoes the need for improved access, mobilization and utilization of financial resources to tackle climate crisis and biodiversity loss

Soburun Nessa Chowdhury and Farah Anzum

Nature is sending us a message with the ongoing pandemic and the ongoing climate crisis”, a well-known statement by Inger Andersen, Executive Director, United Nations Environment Programme. Leading scientists pointed out that Covid-19 outbreak has been a “clear warning”, that far more deadly diseases exist in wildlife, and that today’s civilization has been “playing with fire”. They also highlighted that it was almost always human behaviour that has caused diseases to spill over to humans.

Even during this unprecedented time of the pandemic, climate shocks, biodiversity loss and extreme weather events have not been halted. All countries, particularly the poorest and most vulnerable ones, are now facing the compound impacts of climate change and Covid-19. For instance, during Cyclone Amphan, it was highly challenging for the relevant authorities in Bangladesh to balance the competing goals of evacuating to cyclone shelters while maintaining social distance to keep communities safe. As countries begin the process of recovering from the pandemic, it is crucial to focus on building climate resilience and protecting biodiversity by anticipating future risks. This calls for particular attention to reducing vulnerability and boosting shared prosperity through “No-regrets” investments - particularly for the local communities who live close to nature and are the first ones to take the hit from any disaster.

Taking a closer look at the local level, the status of the healthcare system in Bangladesh has already been brought to our attention during this pandemic. In spite of the initial lag in taking action to control the spread of coronavirus, the national healthcare facilities are eventually picking up momentum. However, these efforts towards enabling the local institutions and workforce need to be continued in order for us to be able to tackle the upcoming climate crisis and threats posed by biodiversity loss on the ground.

According to the World Health Organization (WHO) (2020), there are an estimated 3.05 physicians and 1.07 nurses per 10,000 population in Bang-

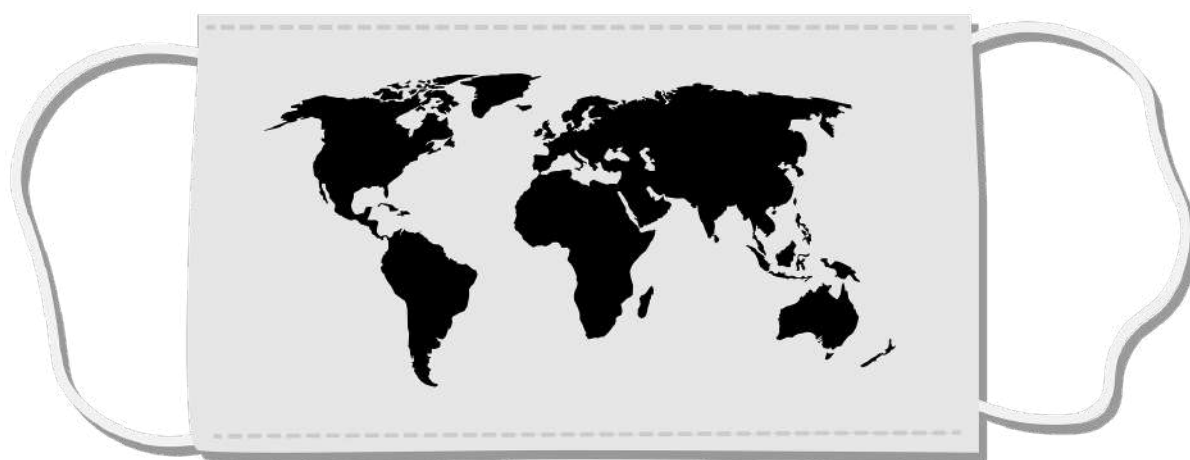
ladesh. This shortage in healthcare providers is further emphasized by their concentration in urban areas, despite the fact that 70% of the population of the country live in rural areas. Besides having an overly-centralized healthcare system, WHO identified some other challenges for healthcare in Bangladesh including weak governance structure, lack of institutional capacity, inefficient allocation of public resources and poor maintenance of healthcare facilities. These are alarming tissues owing to the evident impacts of climate change on

expected to mainstream climate change adaptation into the country’s planning process, institutional arrangements, capacity building activities, and financial mechanism.

Regardless of the number of initiatives that are being taken by the government, concerted effort from the non-governmental and private sector is required for Bangladesh to be able to protect and restore its natural resources and become climate resilient. Many donor partners are already supporting this process by funding projects that

drawing from local knowledge to guide adaptation efforts, and help coordinate across various sectors and levels.

Resource allocation and mobilization have been the primary challenges in Covid response. Reflecting on our experiences in emergency response to the pandemic, it is safe to deduce that the existing institutional architecture is not sufficient to overcome the projected climate crisis and loss in biodiversity. Therefore, in order to enable communities to safeguard biodiversity and become climate resilient, a



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health and can only be estimated to rise over time coupled with the dwindling biodiversity and deteriorating conditions of our natural resources.

Thus, Bangladesh needs to enhance its readiness to combat the impacts of climate change and biodiversity loss on the lives and livelihoods of its people. Even though the country remains a leading example for its efforts towards adapting to climate change, it is still inadequate to meet the needs of the most vulnerable and marginalized population. Bangladesh has pioneered in administering two national climate funds - Bangladesh Climate Change Trust Fund (BCCTF) and Bangladesh Climate Change Resilience Fund (BC-CRF) - while owning an eloquent array of policies, plans and strategies in addition to playing a significant role at the global climate negotiations. Nonetheless, not much of these are exercised at the grassroots. We can now hope that the National Adaptation Plan (NAP) that is underway will stand out from all existing national documents and act as a road map to achieving the climate goals and targets of the nation. The NAP is

are contributing to these issues in close collaboration with the government and the local communities. With an increasing trend in global funds for adaptation to climate change, there is prospect for climate vulnerable countries like Bangladesh to cope with the additional stress and challenges posed by climate change in face of this pandemic.

However, availability of these funds do not ensure local level action in countries such as Bangladesh due lack of capacity to access these resources. The fund allocation process is usually rigorous and competitive while the proponent needs to comply with the fiduciary standards of the fund authority. Even after accessing funds at the national level, adaptation money often fails to reach the local communities due to lack of institutions, inadequate capacity of local government agencies, absence of relevant experts and other factors. Irrespective of the fund flow, there are still gaps in utilizing climate finance to support local level adaptation action. Strengthening local governments can contribute to infrastructure building and service delivery,

substantial proportion of funds must be channeled to the local government institutions for strengthening their capacity in supporting grassroots adaptation efforts. In this way, local government institutions could serve as key actors in bottom-up interventions and as gateways in ensuring access and utilization of financial and natural resources within communities in a sustainable manner. ■

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# Downscaling disasters

The need to invest in small-scale climatic disturbances



Sakib Rahman Siddique Shuvo  
and Adiba Bintey Kamal

**N**atural disasters are a frequent phenomenon in Bangladesh and cause immense damage to large segments of the population. The country is regularly subjected to annual floods, droughts in the northwestern region, cyclones in the southern coastal belt, landslides in hilly regions and flash floods in the eastern wetland area. Due to climate change, these extreme events are intensifying.

As a disaster-prone country, Bangladesh has taken a range of different measures over the years to tackle these hardships. The country has been a role model in terms of combating natural disasters and building resilience of vulnerable people. Various national plans and strategies have been devised to address climate change impacts in the

country. For instance, the Ministry of Environment, Forestry and Climate Change (MoEFCC) and the Ministry of Disaster Management and Relief (MoDMR) have their own action plans to tackle the issue, and a combined strategy deployed by the government is also in place.

The country's first climate change related policy document came under the Coastal Area Research Development and Management Association (CARDMA) in 1989, which aimed to develop a broad understanding of climate change impacts in Bangladesh. In the following three decades, several policy documents and plans have been developed under the supervision of different government agencies and international organizations. These include the Bangladesh Climate Change Strategy and Action plan (BCCSAP) and the Intended Nationally Determined Contributions (INDC), prepared by the MoEFCC,



Projections from NASA suggest that for every 1°C (1.8°F) rise in ocean mean temperatures, an increase of 21% in storm frequency at the tropics can be observed



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to “events which exceed the ability of the affected community or society to cope using its own resources”. Governments as well as international humanitarian organizations generally refer to this definition in order to declare an event as a disaster and to subsequently take action. Nevertheless, these small-scale, micro-climatic events often have long-term impacts, which remain largely undocumented and neglected in terms of policy response. In some cases, the negative impacts are far more than those caused by large scale disasters. According to the Food and

stential as other natural disasters in the country, they do have significant impacts on agricultural activities and the education sector. A study undertaken in northern Bangladesh by UNESCO’s Climate Change Education for Sustainable Development (CCESD) program has found that school hours are often shifted due to thunderstorms. Thunderstorms hit mostly in the evening and students are unable to leave their homes when a thunderstorm strikes at that time, to avoid falling prey to its rage. On-farm activities during that time are also hindered, affecting agri-

can be undertaken to address the challenges posed by these small-scale disaster events. Firstly, in regard to thunderstorms, a comprehensive study assessing thunderstorm patterns and exposed areas needs to be undertaken. While scientists struggle to understand the nature of clouds, it is possible to draw a socio-economic study to determine the extent of damage caused by thunderstorms. Secondly, awareness raising campaigns should be mobilized to make people more conscious about this hazard. These need to be done both at the local level as well as at the policy level, so that comprehensive action plans and strategies can be developed. It would also be useful to establish storm shelters across the country, especially in thunderstorm-prone areas. Doctors and medical practitioners should also be specially trained to treat people struck by lightning. To address the issue of waterlogging, it would be important to invest climate finance towards resilient urban planning. This would include upgrading drainage systems, improving waste management and also investing in waterborne disease control.

It is evident that small-scale climatic disasters have a range of adverse impacts on our lives and well-being, and as such, they cannot be ignored. There is a vital need to mobilize investments and financial support towards addressing these micro-climatic events. Integrated efforts from local level actors, academics, practitioners as well as policy makers will be required to ensure these events receive their due recognition in policy and planning processes. ■

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### Excessive rainfall coupled with unplanned urbanization, often lead to waterlogging in urban areas, a problem that will be exacerbated by rising sea levels along coastal cities in the country

the Climate Public Expenditure and Institutional Review (CPEIR) by the Planning Commission, the Bangladesh Country Investment Plan (CIP), as well as the Standing Order on Disaster (SOD) - all of which entail concrete action plans to tackle natural disasters and climate change impacts in the country.

These policy and planning documents, and their associated budget allocation, tend to cover almost all major climatic events, starting from cyclones to flash floods, salinity intrusion to river erosion, etc. However, certain climatic events or disasters are not adequately addressed by policy makers, scientists, climate activists and to some extent, by the victims themselves. While not as damaging as severe cyclones or big floods, they also bring forth significant hardships for the population. These events are often unrecognized because of their failure to meet the standard definition of disasters, which according to UNISDR refer

Agriculture Organization (FAO), small scale disaster events accounted for more than half of human losses caused by climatic events in Latin America and the Caribbean.

Bangladesh faces various small-scale disasters on a regular basis, such as thunderstorms and waterlogging. Thunderstorms have a complex relationship with climate change. Projections from NASA suggest that for every 1°C (1.8°F) rise in ocean mean temperatures, an increase of 21% in storm frequency at the tropics can be observed. The incidence of thunderstorms will also increase as a consequence. Recent studies demonstrate an increasing trend in terms of thunderstorm related casualties in Bangladesh. Between the years 2011 and 2020, there have been 260 deaths and 211 injuries per year due to thunderstorms, whereas between 1990 and 1999 the rate was only 30 deaths and 22 injuries per year. While thunderstorms are not deemed as sub-

cultural production. Despite the notable impact on education and agriculture, there are yet to be clear directions in policy processes or financing plans in place to address these challenges.

Waterlogging is another commonly occurring micro-level climatic disaster faced by Bangladesh. Excessive rainfall coupled with unplanned urbanization, often lead to waterlogging in urban areas, a problem that will be exacerbated by rising sea levels along coastal cities in the country. In addition to creating various disturbances in people’s daily lives and the economy, waterlogging for long periods of time are likely to intensify the propagation of both waterborne and vector borne diseases. Dhaka, for instance, has been plagued by dengue and chikungunya in recent years. Waterlogging has been a major reason for this, considering logged water is the birthplace of their vector -- the Aedes mosquito.

There are a number of actions that



Damaged embankments in Bhola district.

DIN MOHAMMAD SHIBLY/COAST

# Flood control intervention sustains when local people participate

Effective coastal embankment management needs collaborative actions from government, local people, and local leaders

Md Zahidul Islam

Due to climate change, extreme weather events like cyclones, storm surges, and high tides have been increasing in both magnitude and frequency in recent years. This irreversible change is causing severe damages to the coastal embankments of Bangladesh. If embankments are in place to protect people from the impacts of cyclones, and tidal surges, why are they causing more damage than good?

An embankment typically represents a wall or bank made of earth or stone, which prevents tidal water from flooding riverside lands. In response to

the dreadful back-to-back floods that hit the country in 1954 and 1955, the East Pakistan Water and Power Development Authority (EPWAPDA) was established in 1959 to compensate for the damages caused by floods and to protect agricultural production. Following the independence of Bangladesh, the institution was renamed as the Bangladesh Water Development Authority (BWDB) and set up as an autonomous organization in 1972. The institution has been implementing various interventions to protect Bhola district in the southern coastal region of Bangladesh, from tidal waves and riverbank erosion. Among these interventions, flood



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control dams are one of the major ones.

Bhola district is the only deltaic island situated in the ancient Ganges basin of Bangladesh. The district is

surrounded by two river systems - Meghna on one side and Tetulia on the other. This island, located along the coast of the Bay of Bengal, has an area



of nearly 3,500 square kilometers and an elevation of 12 feet from the ocean surface. The ever-changing and unpredictable nature of adjacent rivers has long been a source of suffering for the local people.

Presently, the water levels in the rivers are rising due to climate change. At the same time, the depth of the rivers are reducing as a result of sedimentation, leading to the formation of submarine islands or 'chars'. These in combination have led to increased incidence of cyclones, high tides, and low pressure exerting substantial stress on the embankment in the area. Damages to the embankment have caused significant adverse impacts on the lives and well-being of people inhabiting this coastal district.

**Current situation of embankment in Bhola**

As per the plan outlined in the 'Vision-2100' of the Government of Bangladesh, BWDB started working on flood and cyclone protection in the Bhola district by separating it into two divisions. The primary measure employed has been the construction of flood control dams or embankments. There are presently 250 kilometers of embankment around Bhola district, 30 kilometers of which have been damaged by recent floods, cyclones, and high tides. Negligence from responsible authorities in terms of maintenance have also affected the durability of the current embankment. As such, in addition to embankment construction, there is a crucial need to improve the maintenance system.

**Aftermath of Cyclone Amphan**

Following Cyclone Amphan in May 2020, large extents of the embankment have been damaged across several unions and Upazilas in the district. This includes a total of 644 meters in Ilisha, Rajapur, and Dhania in Bhola Sadar, 150 metres in Lalmohon, 350 metres in Daulatkhan, 500 metres in Borhanuddin, 1 kilometre in Tajuddin and Monpura, and more than 2 kilometres in Charfasson.

High water pressure resulting from severe high tides, and extreme water flows in the two adjacent rivers - Meghna and Tetulia - have incurred severe damages to various points of the embankment. 50 metres of embankment have been breached by high tide,

flooding agricultural lands and households. Apart from that, the majority of the Tetulia river bank remained unprotected, resulting in significant flooding of the area, and damaging households, infrastructure as well as agricultural production. 19 kilometers of embankment in Bhola Sadar, Borhanuddin, and Doulatkhan upazila continue to be vulnerable and would need to be reconstructed using concrete blocks

**Improving embankment management**

Currently, the government is focused on investing in embankment construction. Accordingly, a project worth nearly Tk1 thousand crore is under implementation in Bhola district. However, BWDB does not have an embankment management policy in place at present, and this problem has been very apparent during recent high tides. A collapse of 50 meters of embankment could have been easily averted had a management policy existed. Reports show that if swift initiatives were taken to cover up the preliminary cracks and gaps in the embankment, flood damage would have been significantly limited. BWDB presently has limited capacity in terms of technical expertise, and inefficiencies in fund usage has also been observed. Furthermore, BWDB often carries out their operations during the monsoon season, leading to delays in work.

As a result, flood control interventions are hardly successful in benefiting local people. It is clear that the lack of a robust local level maintenance system is often a key cause for embankment collapse and failure. In light of this, the government should allocate the necessary budget towards embankment construction and management, taking into consideration the current water levels. To sustain the effective functioning of an embankment, it would be vital to develop an integrated plan that entails construction of embankment, setting up concrete blocks, regular dredging, etc.

It is also important to have the participation of local people and the government to ensure optimum utility and benefit from these interventions. For an intervention to sustain, it is important to ensure local ownership. Thus, it is imperative that local people are engaged alongside local leaders, in the implementation and management of embankment projects across all stag-

es. Collective efforts are likely to help enhance the durability and quality of flood control interventions. Considering that Union Parishad is responsible for maintenance tasks after construction is completed, it would be useful for BWDB and Union Parishad could establish a joint committee for undertaking embankment management.

Various projects are presently being implemented by BWDB to protect the coastal region from the adverse impacts of climate change. However, it is a monumental task for BWDB to operate and maintain such a vast area alone.

The government should consider immediate steps to overhaul the current embankment management system. Where needed, legal jurisdictions and policies should be revised. It is clear that collaborative participation of the government, local people, and local leaders are in a need for enhanced embankment management in Bangladesh and for building flood resilience for the most vulnerable populations. ■

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DIN MOHAMMAD SHIBLY/COAST



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