

Strengthening Inclusive Disaster Risk Governance for Climate Resilience in Asia (SIDRRA):

A case study of Bangladesh

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Strengthening Inclusive Disaster Risk Governance for Climate Resilience in Asia (SIDRRA)



List of Acronyms

ADAB: Association of Development Agencies in Bangladesh

BCRA: Bangladesh Community Radio Association

BDM: Bangladesh Department of Meteorology

BDRCS: Bangladesh Red Crescent Society

BNNRC: Bangladesh NGOs Network for Radio & Communication

BYEI: Bangladesh Youth Environmental Initiative

CAN: Climate Action Network

CANSA-BD: Climate Action Network South Asia – Bangladesh

CBO: Community Based Organisation

CC: Climate Change

CCA: Climate Change Adaptation

CCNF: Cox's Bazar CSO-NGO Forum

CDD: Centre for Disability in Development

CDMP: Comprehensive Disaster Management Programme

CJA-BD: Climate Justice Alliance-Bangladesh

CPD: Centre for Policy Dialogue

CPP: Cyclone Preparedness Programme

CPRD: Center for Participatory Research and Development

CRA: Community Risk Assessment

CVA: Capacity and Vulnerability Assessment

DMC: Disaster Management Committee

DRR: Disaster Risk Reduction

EWS: Early Warning System

FGD: Focus Group Discussion

FNB: NGO Federation Bangladesh

GDN: Gender and Disaster network

ICCCAD: International Centre for Climate Change and Development

ICT: information and Communications Technology

IDI: In-Depth Interview

IFRC: The International Federation of Red Cross and Red Crescent Societies

KII: Key Informant Interview

NAWG: Need Assessment Working Group

NGO: Non-Governmental Organisation

NPDM: National Plan for Disaster Management

PRA: Participatory Rural Appraisal

RRA: Rapid Rural Appraisal

RRAP: Risk Reduction Action Plan

SDG: Sustainable Development Goals

SoD: Standing Orders on Disaster

RIMES: The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia

TIB: Transparency International Bangladesh

UDC: Union Disaster Management Committee

VGD: Vulnerable Group Development

VGF: Vulnerable Group Feeding

WDMC: Ward Disaster Management Committee

WFM: Work for Money

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1.Introduction

1.1 Background

Despite Bangladesh's noteworthy advancements in the field of disaster management, the challenges posed by its geographical features, such as the low-lying delta and vulnerability to cyclones and floods, persistently escalate the risk of disaster exposure (A. K. Azad et al., 2013; Dewan, 2021; M. R. Islam, 2018). Bangladesh, ranked as the sixth most disaster-prone nation globally, faces severe challenges due to climate change (CC), with nearly its entire population and land area at heightened risk from sea-level rise, cyclones, and other climate-related hazards.

In response to the frequent and devastating impacts of floods and cyclones, Bangladesh has undertaken significant measures to mitigate disaster risks through collaborations between the government, non-governmental organisations (NGOs), international NGOs (INGOs), and community-based organisations (CBOs). Notably, the drastic decline in death tolls from cyclones - from 147,000 fatalities in 1991's Cyclone Gorki to just 26 in 2020's Super Cyclone Amphan - despite the challenges posed by infrastructure damage, agricultural losses, and displacements worsened by the COVID-19 pandemic, signals meaningful progress. This success raises discussions on how well these efforts align with both global and national disaster management standards, such as the Sendai Framework for Disaster Risk Reduction and the 2019 Standing Orders on Disasters (Alam, 2023; IFRC, 2021; Ministry of Disaster Management and Relief, 2019).

Bangladesh faces a complex combination of socioeconomic and environmental vulnerabilities, which are frequently intensified among marginalised groups. Women and marginalised individuals often face a higher degree of vulnerability due to limited access to resources, restricted mobility, and abridged agency roles in decision-making processes. The country showcases a rich assortment of varied identities, including those related to gender, social class, caste, ethnicity, religion, and (dis)ability. The convergence of these identities leads to intricate layers of disadvantage, which distinctly shape the vulnerabilities of various groups. For instance, the difficulties experienced by a woman belonging to a lower income or caste group, and having any form of disability, is significantly different from the challenges faced by a woman belonging to a higher income/caste group in the context of a disaster situation.

In addition to capturing existing approaches and best practices, the country-specific case studies should delve into the nuanced reasons behind their success or failure. Understanding the contextual factors that contribute to the effectiveness of certain strategies is crucial for informing future decision-making and resource allocation. *It is essential to identify not only what works but also why it works in specific contexts, taking into account socio-cultural, economic, and environmental variables.*

- **Changes? (Why networks run by communities are different?)**
- **Connections? (Policies and Practices)**
- **Cases? (Urban-rural, top-bottom/ bottom-top/ blend, country-specific disasters, locally-led change-tracker system)**

1.2 Aim of the study

The aim of this scoping study is to investigate the role that networks play in disaster risk reduction (DRR) efforts as opposed to dedicated organisations (both private and State-led), and the need for such networks in Bangladesh.

1.3 Research questions

- How do networks strengthen and amplify community voices and concerns in DRR efforts?
- How does this translate into meaningful change on the ground?
- What is the added value of networks vis-à-vis other modalities, and how can they improve in better serving local communities?
- What are the best and good practices for integrating gender and social inclusion (GESI) and protection mechanisms in disaster risk governance?

About Network: Networks range from national, regional, and international networks. Furthermore, the Sendai Framework for Disaster Risk Reduction acknowledges that multi-stakeholder platforms can take different forms including formal or informal communities of practice or thematic working groups, all of which can function as a network. Multiple definitions have been provided for networks. This research utilises the definition provided by Willard and Creech (2006) that networks are a “social arrangement comprising either organizations or individuals that is based on building relationships, sharing tasks, and working on mutual or joint activities” (as cited in Izumi & Shaw, 2012).



2. Methodology

2.1 Study Purpose and approach

To investigate the role of formal and informal networks in enhancing DRR and climate resilience by amplifying marginalised community voices and promoting inclusive practices.

The utilisation of both primary and secondary data sources offered a comprehensive approach to understanding the multifaceted landscape of DRR and climate change adaptation (CCA) networks for comprehensive disaster management. Complementing the primary data, the review of secondary sources provided valuable context and insights drawn from a wide array of national and international resources.



A comprehensive literature review has been done, encompassing scholarly publications, including books, journal articles, and review papers, offering theoretical frameworks, empirical evidence, and case studies on disaster management practices and policies. Additionally, the analysis of newspaper articles, websites, and online repositories captured real-time developments, public discourse, and emerging trends in DRR and response efforts. Moreover, an in-depth review of existing literature on inclusive DRR and CCA programmes was conducted, followed by an analysis of these programmes and policies in terms of their practicality and level of accomplishment (strengths and gaps) at the ground level. The analysis also involved conducting key informant interviews (KIIs) with key stakeholders from relevant sectors, including network members, community leaders, and members of disaster management committees (DMCs).

The discussion encompassed a wide array of topics, including the climate vulnerability of marginalised groups, particularly persons with disabilities. It delved into existing DRR and CCA initiatives aimed at enhancing the inclusion of individuals with diverse disabilities, ages, genders, and their intersecting identities.

The effectiveness of these policies, programmes, and measures was scrutinised, along with their relevance in the context of evolving social, economic, and vulnerability landscapes. To foster a national and local understanding of Inclusive Disaster Risk Governance for Climate Resilience, several key policies and acts were reviewed and analysed, including the National Climate Change Adaptation Strategy, Disaster Management Act, Standing Order on Disasters (SoD) 2019, Disaster Management Policy, and the Dhaka Declaration 2015+1.

2.2 Location and Sampling

The study employed a qualitative methodology for data collection and analysis to present its findings. This approach involved a comprehensive examination of the phenomenon to thoroughly understand its complexities, providing a detailed and nuanced description (Sarantakos, 1998).

Given the strict timeline and scope of the study, data collection took place by focusing on two broad groups. Cases were developed by purposively selecting interviewees, blending both urban and rural contexts.

Insights for At-Risk Communities

- Policy makers, Practitioners, Experts, Disaster Management Committee (DMC) Members, Network Mmbers

Insights from At-Risk Communities

- Affected people, Community, Cyclone
- Preparedness program volunteers, Persons with Disability, Women-led Organisations

The study employed purposive sampling to select four regions representing diverse vulnerabilities and networks: cyclone-prone Bagerhat, flood-affected Kurigram, landslide-prone Bandarban, and Dhaka with unique urban risks. This approach ensured a comprehensive assessment of the country's vulnerability to various natural disasters. The Bagerhat district faced severe destruction during the flash floods of 2022, highlighting its vulnerability to such hazards. Finally, Dhaka, the capital city, was selected to incorporate the perspective of urban disaster risks, given its exposure to a range of urban hazards. Figure 1 presents a hazard-sensitive map of the study areas, illustrating the geographical spread and disaster risks associated with each selected region.

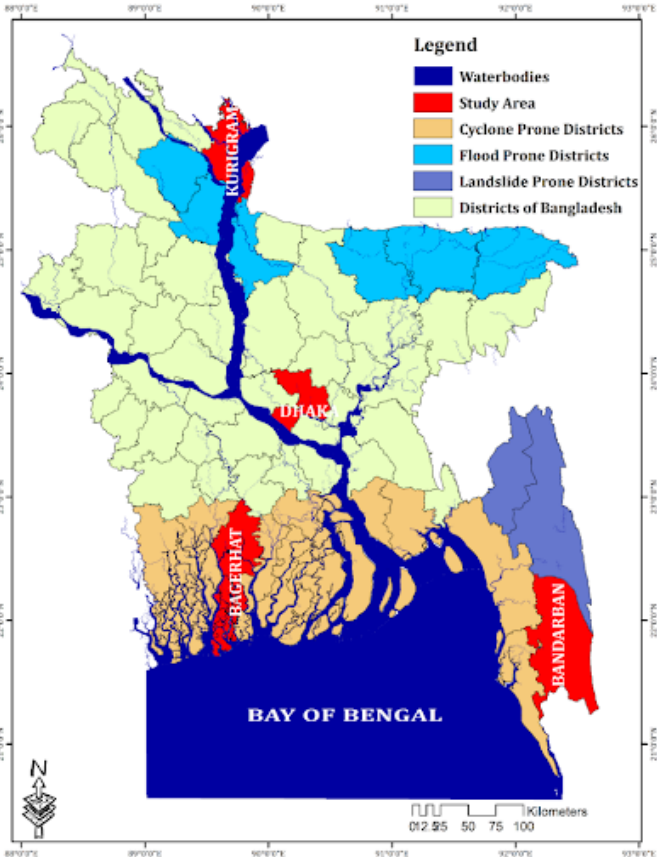


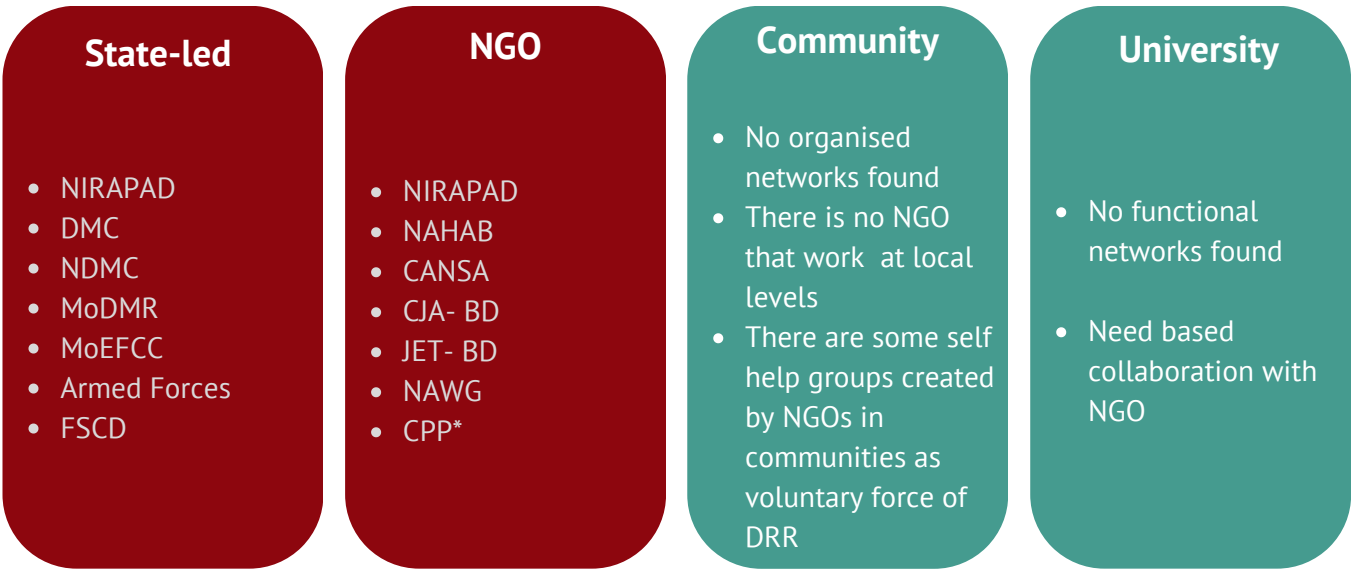
Figure 1: Study areas and their hazard specific zone

Cases from community level, local government, NGO, NGO-network, Gender and Disaster network (GDN), academic networks (universities), DMCs and volunteers of the Cyclone Preparedness Programme(CPP) have been recorded and analysed for accomplishing the scoping study. A synopsis of the characteristics is given below:

Characteristics	NGO	NGO Network	University
Target group	<ul style="list-style-type: none"> At risk community 	<ul style="list-style-type: none"> Local NGO 	<ul style="list-style-type: none"> Researchers
Level of operation	<ul style="list-style-type: none"> Local National 	<ul style="list-style-type: none"> National 	<ul style="list-style-type: none"> National
Primary Activity	<ul style="list-style-type: none"> Project implementation Advocacy Capacity building 	<ul style="list-style-type: none"> Capacity building Advocacy 	<ul style="list-style-type: none"> Research Knowledge Generation Innovation & Invention Capacity building
Fund flow trend	<ul style="list-style-type: none"> Static 	<ul style="list-style-type: none"> Declining 	<ul style="list-style-type: none"> Static
Approach	<ul style="list-style-type: none"> Reactive Proactive 	<ul style="list-style-type: none"> Reactive 	<ul style="list-style-type: none"> Proactive
Challenges	<ul style="list-style-type: none"> Sustainability of Solutions 	<ul style="list-style-type: none"> Secure funding Maintain Activities 	<ul style="list-style-type: none"> Permanent Partnership with Community Network
Limitiations	<ul style="list-style-type: none"> Lack of research 	<ul style="list-style-type: none"> Lack of implementation 	<ul style="list-style-type: none"> Minimum networking

The rights and welfare of individuals and the communities they belonged to were respected and protected. Every necessary effort was made to ensure that the study was planned and carried out in this manner. Prior to the field survey, study participants' full consent was gathered. Throughout the study, the research team adhered to the "do no harm" philosophy. Engagement in the research was entirely optional. The study took care of the delicate needs and, if any, respected the community's cultural norms.

Existing and Potential Networks (BD)*

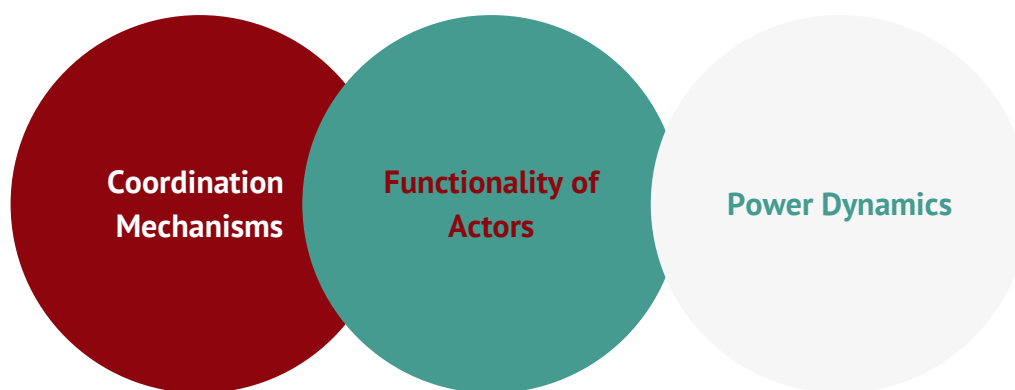


Three unique cases were selected amid many DRR networks considering community engagement, education, youth collaborations, risk communication and transfer, and the integration of gender and social perspectives. An in-depth review of existing literature on inclusive DRR and CCA programs was followed by the analysis of those programmes/policies in terms of their practicality and level of accomplishment (strengths and gaps) at the ground level. The analysis also required KIIs with key stakeholders of relevant sectors (network members, community leaders, DMC members). A total of 08 KIIs, 2 focus groups discussions (FGDs) and 2 in-depth interviews (IDIs) have been conducted throughout the study.

*NIRAPAD - Network for Information, Response, And Preparedness Activities on Disaster, DMC - Disaster Management Committee, NDMC - National Disaster Management Council, MoDMR - Ministry of Disaster Management and Relief, , MoEFCC - Ministry of Environment, Forest and Climate Change , FSCD - Fire Service and Civil Defence, NAHAB - National Alliance of Humanitarian Actors of Bangladesh, CANSA - Climate Action Network South Asia, CIA-BD - Climate Justice Alliance-Bangladesh, JET-BD - Just Energy Transition Network Bangladesh, NAWG - Need Assessment Working Group, CPP - Cyclone Preparedness Programme

2.3 Key Indicators for Strengthening Inclusive Disaster Risk Governance for Climate Resilience

To address the research questions some key indicators have been identified under three core lenses of disaster governance.



To conduct a comprehensive analysis of DRR networks in Bangladesh, the study used a multi-dimensional approach, focusing on qualitative data collected through interviews with network members, community representatives, and policymakers, as well as a detailed literature review to contextualise findings. This methodology provided a nuanced understanding of how DRR networks operate, the extent of community engagement, and the structural or policy-driven obstacles that impact network efficacy.

- **Effectiveness of Coordination Mechanisms:** The interactions among various DRR actors, such as governmental organisations, NGOs, and CBOs, were examined in order to assess the effectiveness of coordination. According to the interviews, there were differences in the effectiveness of coordination, which were frequently caused by resource and bureaucratic limits. Although there are coordinating frameworks at the national level, the results indicated that local implementation of these frameworks varies. Respondents emphasised, for example, the functions of DMCs in promoting collaboration, but they also pointed out that these committees frequently lack sufficient funding and decision-making authority, which restricts their capacity to respond quickly and impartially during emergencies.
- **Community Voice and Involvement:** This indicator evaluated how DRR networks make community issues, especially those of underrepresented groups, more prominent. Underrepresentation of communities in DRR planning was discovered through the narrative analysis of community interviews. In particular, at the policy level, community members reported there were few possibilities for direct participation in decision-making. Nonetheless, in several instances, local NGOs and CBOs effectively promoted community involvement by serving as go-betweens, communicating grassroots viewpoints to higher-level decision-makers. In addition to enhancing local engagement, this strategy made clear the urgent need for additional formal channels that allow community opinions to be consistently heard at all DRR governance levels.
- **Resource and Knowledge Sharing:** The analysis of DRR networks' resource and knowledge sharing procedures revealed notable differences in the information and resource accessibility of various geographical areas and community groups. The allocation of resources across DRR stakeholders is required by national legislation; however, interviewees said that resources are frequently concentrated, with little outreach to rural or extremely vulnerable areas. Numerous community members complained that early warning systems (EWSs) and other DRR information were either unavailable or insufficient. NGOs and unofficial networks, on the other hand, have filled these voids by promoting resource sharing and offering localised expertise. The ability of non-state actors to support governmental initiatives and guarantee resource accessibility at the local level is demonstrated by this grassroots mobilisation.

- **Gender Sensitivity and Inclusivity:** Knowing how inclusive DRR networks are, especially with regard to gender and marginalised groups, was a crucial part of the analysis. While gender inclusion is emphasised in national policies, women and vulnerable groups are still underrepresented in DRR networks in practice, according to a narrative analysis of interviews. Numerous respondents brought up the issue of the underrepresentation of women in local DRR committees, which frequently leads to a male-dominated setting for decision-making. While gender-focused NGOs have been instrumental in promoting more inclusive DRR practices, additional institutional assistance is needed to achieve long-term effects.
- **Challenges and Impediments:** Several structural impediments and challenges impacting DRR networks were brought to light through interviews with policymakers and network members. These included a lack of defined procedures for community engagement, financial constraints, and bureaucratic hold-ups. According to the content analysis, bureaucratic inflexibility frequently impedes prompt decision-making and resource distribution, particularly in regions vulnerable to disasters where prompt action is essential. Although they acknowledged these problems, policymakers pointed to ongoing difficulties with complicated administrative procedures and limited resources. The lack of openness in DRR projects was another issue raised by community members, who pointed out that information on available services and support was frequently out-of-date or unavailable.

By using a narrative analysis of interview data, the study was able to gather detailed firsthand information about the experiences of many stakeholders and how DRR networks operate in practice. Community members' stories, for example, showed a heavy reliance on informal social networks for assistance, especially in rural areas where official DRR structures are either non-existent or underperforming. The difficulties of working with government agencies were discussed by network members, who frequently mentioned the gap between policy and actual execution. There is a need for more congruence between local reality and policy aims, as evidenced by policymakers' narratives that centred on the administrative and technological limitations of DRR planning. Through the integration of results from the literature review, narrative analysis, and content analysis, the study was able to make well-informed conclusions regarding the advantages and disadvantages of DRR networks in Bangladesh. One gap between policy and practice was brought to light by the narrative analysis, and future improvements might be informed by the evidence of best practices presented in the literature review.



3. Findings of the Study

3.1 How do networks strengthen and amplify community voices and concerns in disaster risk reduction efforts?

For the analysis of community voices in DRR effort, this study used the definition of Petiwala et al. (2021), ***“community voice is an all-encompassing term for inclusion of community members in collaborative activities.”*** The authors identified two spectrums of community voice strategies: Passive and Active community voice strategies. These strategies in the context of DRR networks are discussed in this report, on how the networks strengthen and amplify community voices and concerns in DRR effort.

A) *Passive community voice strategies*

Holding community settings

Community network formation is essential for effective information sharing. This is why community networks are important in community voice amplification and encourage discussion about the efficiency of DRR approaches taken by stakeholders.

In Bangladesh, there is a union disaster management committee (UDMC) and a ward disaster management committee (WDMC) at the lowest level of governmental networks for DRR-CCA activities. According to Standing orders on Disaster (SoD) 2019 which is a comprehensive directive for the role of stakeholder in disaster management, these committees regularly convene meetings to discuss the local concerns of DRR. Therefore, through these committees, community voices are regularly amplified.

On the other hand, in Kurigram, a local NGO named Centre for Disability in Development (CDD) has formed a community network which regularly sits with the community to discuss their concerns. According to Fastring et al. (2018) the effectiveness of community forums lies within these discussions and the comparison of the latest data and community perception. In this way, data and information are shared with the community, ultimately amplifying their voices.

Youth networks of Bangladesh prominently dominate the movement of DRR, CCA, sustainability throughout the country. Especially in the sector of environmental awareness and climate stewardship, youth network Bangladesh Youth and Environmental Initiative (BYEI) have been able to coalesce more than 5,000 people through its rapidly expanding network, which consists of more than 60 clubs working with different communities. This large youth community forum created by ardent young university undergraduate students, is significantly building the capacity of future leaders to take community action for environmental justice.

Thus, the amplification of community voices and concerns regarding DRR takes place through the participation of community representatives in WDMC and UDMCs at governmental network, and by community groups of some NGOs who meet at regular intervals to communicate their concerns to the network. Here, a hybrid collaboration among UDMCs, NGO networks, and community groups can achieve a collective and comprehensive voice of the community.

Measuring community intervention experiences

This strategy for community voice amplification focuses on evaluating the community experience with specific interventions or programming (Fastring et al., 2018). Community networks can easily extract the ideas and experiences of the community by using the community connections in their network.

The governmental network at the community level, mainly UDMC, can amplify community voices in the context of governmental DRR interventions by measuring community intervention experiences. However, this is not usually done in Bangladesh. This lapse can be supplemented by the other networks.

Community intervention experience measurement is continuously practiced within project or programme evaluation practices in the NGO sector. New methods like network based common community intervention experiences of a community can improve the cost effectiveness of programme evaluation, and at the same time amplify community voices.

In this context, the community network can again play a pivotal role of connecting other networks with the community for measuring community intervention experience.

Conducting community assessments

Community assessment of capacity, vulnerability, and risk assessment is prominent in the DRR-CCA sector of Bangladesh. Many participatory tools like participatory rural appraisal (PRA), rapid rural appraisal (RRA), community risk assessment (CRA), and capacity and vulnerability assessment (CVA) are being frequently used

by NGOs like **Bangladesh Disaster Preparedness Center (BDPC)** to assess the perceived and actual community risks and vulnerability, and to determine the risk reduction action plan (RRAP) for each community.

There were many union level RRAPs developed after the **Comprehensive Disaster Management Programme (CDMP)** which was a comprehensive effort to mainstream DRR in Bangladesh, and this was a collaborative programme with multiple development partners. Community assessments are also embedded in the regular project operations of all the NGOs in Bangladesh. In this context of conducting community assessments, NGO networks have been effectively amplifying community voices by regularly integrating the assessment findings into their DRR-CCA efforts.

The governmental network, **UDMC**, conducts rapid damage assessment after any disaster to estimate the amount of damage and loss. In addition, there is **Need Assessment Working Group (NAWG)**, which is a collaborative network of NGOs, which immediately estimate the needs after any disaster in Bangladesh.

Through these interventions, community voices are also reflected in the DRR-policies and interventions in Bangladesh. In this strategy of community voice amplification, Bangladesh has been actively working. The formation of local level NGO and community networks can further help amplify community voices by being able to timely and accurately assess the community's need, perception, or concern about DRR-CCA and the conditions of the affected community. Free information sharing among local NGOs to accurately and smoothly conduct community assessment can be facilitated by NGO network's effective collaboration and coordinated efforts at the local level.

B) Active community voice strategies

Priority setting

Priority setting involves a more inclusive and participatory strategy for amplifying community voices in setting priorities. In this process, the community is not an idle participant, but an agent who identifies and collects important data. This is an essential strategy for including the community in diagnosing their problems and identifying their priority requirements to reduce disaster risks. It empowers the community, giving them the authority to decide their collective priorities, thus, building agency.

Community based networks are at the heart of this strategy. Community networks like **Self-help groups** in Kurigram can discuss and decide their priority needs for reducing the risks connected to disaster and CC. Local NGOs facilitating the formation and continuation of this type of community networks can devise ways for communities to decide their priorities, or high-risk areas, by means of different PRA tools like risk mapping and venn-diagrams drawn by community members. Governmental and NGO networks can arrange such interventions by connecting with community networks.

This strategy of community voice amplification requires the community to be aware of their local risks and vulnerabilities. Therefore, networks need to first build the capacity of the community to be able to prioritise their needs. In the case of Bangladesh, there is a favourable context for this strategy, as due to a long presence of NGO interventions in most of the country's vulnerable areas, community people are well aware of their risks and vulnerabilities.

Therefore, it will be easier for networks to amplify community voices by using this strategy.

Participatory decision-making

According to the **SoD-2019**, participatory decision-making is ensured in the local level disaster management committees by mandating the seats of local DRR governance to be held by community members and representatives of vulnerable groups. This decision-making strategy is extremely prominent in the policy documents regarding DRR-CCA in Bangladesh.

Creating local networks can enhance a community's capacity to take appropriate decisions by providing updated knowledge and researched information concerning disaster risk and CC risk from a local context. Collaboration between community networks with research institutes like **International Centre for Climate Change and Development (ICCCAD)**, **Centre for Policy Dialogue (CPD)**, **Center for Participatory Research and Development (CPRD)** have been providing the technical and academic support required for developing instrumental policy analysis and technical reports which have contributed towards advancing the knowledge regarding DRR-CCA in the context of Bangladesh.

NGO networks and community networks can collaborate with other networks to strengthen evidence-based advocacy and participatory decision-making in DRR-CCA sector of Bangladesh. Academia and community can collaborate to form hybrid network with NGOs to enhance knowledge and capacity to facilitate participatory decision-making.

Training

Currently, most of the NGO networks focus on the training and capacity- building of community networks and local NGOs in the network. This is to empower the vulnerable communities and amplify community voices by providing them with the sufficient working and technical skills and knowledge to voice their concerns, identify problems and negotiate their rights at a global platform.

Local NGO networks can provide training to communities so that the community can organise itself into a network with the common goal of reducing disaster risk and climate vulnerability. Furthermore, these networks can train the community network to be able to collaborate effectively with other networks, which will in terms amplify community voices.

In the current context, the community level governmental DRR network, **UDMC** suffers from a lack of training in accordance with their occupational duties and responsibilities. Essential operations like evacuation, search and rescue, shelter management, and relief and rehabilitation require specialised training and capable human resources, both of which are missing in the lowest tier of the DRR governance and implementing agency. Therefore, governmental institutions/ government-led institutions can collaborate with the appropriate agencies and academia as well as NGOs to ensure effective DRR interventions.

There is a lack in contextual understanding of DRR-CCA among local level organisations, hence networks focusing on locally-led adaptation and DRR can leverage the existing local capacities to enhance community resilience in Bangladesh.

Employing community members

This strategy mainly encourages the active hiring of community members for DRR-CCA activities. Tasking community members with the responsibility concerning their community's resilience is sustainable and effective in every manner.

Cyclone Preparedness Programme (CPP)

incorporated this model of community voice amplification and it has been recognised to be the best practice in the world in terms of reducing disaster risks, early warning dissemination and evacuation. Employing community volunteers in the service of their own community usually empowers the young people and fosters community communication with the governance structures. Such initiatives have also been able to increase the community's trust in early warning by reducing disaster casualties.

Employing community members enhances the sustainability of CCA-DRR interventions, as the interventions get locally replicated and owned by the community. Although CPP is a voluntary network, employing community members creates a chance for income generation which is the most effective and strongest network aspects for sustainability, as functions from accumulating funds to rolling out activities are led by community members, according to Rotberg (2010).

Employing community members as mediators and linkers between the community network and other networks is an effective measure to ensure the sustainability of DRR-CCA practices.

Community-led coalitions

Community-led coalition is the ultimate goal of community networks. This amplifies community voices from a point of equal power relationship with the other networks to maximise community resilience to disasters and climatic hazards. Such coalitions enable communities to take leadership in community level interventions.

The governmental network at the community level can currently embody this type of community voice strategy as they have the constitutional mandate to represent the community. However, in a practical scenario, community led coalitions should avoid vertical relationships and foster horizontal expansion of the community network.

The role of NGO networks in building community-led coalitions can be to build the capacity of the community to realise their collective solidarity and obligations towards a sustainable, equitable, just and resilient community. Though this is a long-term process, Bangladesh has made much progress and so has the communities. The sustainable community-led coalitions with multiple stakeholders, including government, NGOs, aid organisations, academia and research organisations should be the cornerstone of the DRR-CCA network.

C) Cases Discussion

Union Disaster Management Committee

- Supplying prompt relief delivery
- Managing response in the fastest possible time.
- Reporting local loss and damages due to disaster to governmental agency.

- Regular monitoring and early warning services reducing the risk of unpreparedness.
- ***Ensuring automatic activation of disaster management activities up to the local level.***

Cyclone Preparedness Programme

- The great Bhola Cyclone in 1970 devastated the vast coastal region of the East Pakistan and caused around 1 million deaths and extensive economic damages.
- After this catastrophic cyclone, right after independence Bangladesh established the CPP with the help of current Bangladesh Red Crescent Society (BDRCS) and The International Federation of Red Cross and Red Crescent Societies (IFRC) in 1972 at the request of the UN general embassy.
- CPP is the largest body in the country, with a unique institutional arrangement for community preparedness created to mitigate the disaster risks due to cyclonic events in the coast of Bangladesh, with the help of community and by the community.
- ***Currently, CPP has 76,020 volunteers across 7 zones, 42 upazilla (administrative divisions), 3801 Units.***

Bangladesh Youth Environmental Initiative

- Bangladesh Youth Environmental Initiative (BYEI) has been formed to build a more just, fair, equitable and prosperous Bangladesh through the nurturing of planetary stewards. Its mission is to empower Bangladeshi youth with the consciousness, knowledge and leadership capacity needed to tackle the emerging socioeconomic and environmental challenges, and contribute towards building a thriving society.

- BYEI has organised many efforts to create a network of people from different settings of Bangladesh based on lived experiences from community. The BYEI network has initiatives across country as it picks a diverse cohort with which to work. The Earth Champions programme fellowship works to enhance the leadership of university students to enable their voices and efforts to be heard and recognised at an action level. National Earth Olympiad focuses on creating an environment concerned generation across the country. BYEI works to strengthen community entrepreneurship through its Accelerated Green Innovation for Youth Entrepreneurship (AGIYE) programme. These efforts have made a space for accumulating community lived experiences that shape DRR, CCA and many other initiatives.

3.2 How does this translate into meaningful change on the ground?

The advent of a comprehensive governmental DRR network has ensured **rapid relief delivery** in affected communities, but the distribution of such relief is questionable. The entire operation time required for disaster management is reduced significantly, due to proactive resource mobilisation and the maintenance of local storage of emergency supply throughout the year. The NGO networks can ensure accountability and transparency of the DRR mechanisms by enhancing the awareness of the people and advocacy.

NGO networks in Bangladesh broadly work within the **advocacy and capacity-building** sectors in DRR. It is mainly the international NGOs which arrange training for national and local level members of the networks. This is mainly due to the increased priority placed by donors on the empowerment of, and collaborate with, local NGOs in implementing projects. For instance, the interviewee from Climate Action Network South Asia – Bangladesh (CANSAs-BD) network informed us,

“Last year the CANSAs-BD members from the local level were trained on the basics of climate negotiation, project management and proposal development. The aim of the workshop was to build capacity of the members. They were provided with accommodation and food as well.”

Workshops and training sessions are important for the vitality of these networks, otherwise network activity is limited to the publication of annual reports and case stories that their member organisations undertake. Therefore, the NGO networks only work effectively due to organisational capacity-building and experience sharing among the organisations.

The increased activities of NGOs and government has widened community access to institutions and innovative technology to address DRR-CCA concerns (C. E. Haque et al., 2024). In addition, the discussion platforms provided by community networks, like Village Development Committee, are essential for the exchange of experiences, to generate new knowledge. These combined forces of access and knowledge generation facilitate the prompt adoption of innovations like CBDRM and early warning dissemination.

The emergence of community networks backed by local NGOs have created risk aware communities in Bangladesh, which have enhanced the disaster and climate resilience of the country.

There have been changes in the **logistic support** response due to the concerted advocacy efforts of community networks and NGO networks. The inclusion of child food, health items like medicine and dignity kits containing hygiene products for women and adolescent girls, marks significant advancements made by the DRR networks, as was pointed out by the representative of climate justice alliance-Bangladesh (CJA-BD).

The **connectivity and communication** related to disaster and CC has been bolstered by the collective networks established by the NGO, government and community stakeholders. **Songjog MSP¹** is a multi-stakeholder platform for appropriate data collection and sourcing. This is both a training and networking tool maintained by the NGO networks. Connectivity and information sharing networks like these are enhancing the effectiveness of risk informed decision-making and community involvement in the DRR-CCA context of Bangladesh.

Collaboration and partnership in DRR have expanded the DRR scenario of Bangladesh, especially in improving EWS. Partnerships, like **The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES)**, have increased the capacity of flood forecasting in Bangladesh. Meanwhile, community level volunteers, especially the **CPP**, have been amplifying the dissemination of early warning in coastal communities resulting in a rapid reduction in disaster fatalities. Communities are now more reliant on the warning disseminated by CPP. Currently 96% of the coastal community people trust the early warning they get through CPP (Alam, 2024). This community and governmental collaboration have been most effective in terms of reducing the cost of disasters at all level.

Bangladesh has been dealing with an exceptional regional case of refugee response. This portrays the biggest joint collaboration and orchestrated effort in the humanitarian sector. In the latest **Joint Response Plan 2024**, strategic objective 5 deals with strengthening of disaster risk management and combating the effect of CC. Ninety-four implementing partners are working together in a concerted effort to help this huge migrated community, exhibiting the **capacity** of the Government and non-government networks to execute large scale DRR-CCA projects in Bangladesh.

Community networks in Bangladesh play a very effective role immediately after a disaster. The operative structure of community networks relies on their role of linking the community with the larger governmental and non-governmental agencies. But in the Kurigram District of Bangladesh, a community network named **“Self-help group”** set an example for the NGOs to adopt. This volunteer group is dedicated to serving the needs of the affected during disasters, especially for the vulnerable groups in the society. This community practice has been adopted by the NGO **“Centre for Disability in Development (CDD)”**. This illustrates how the local community networks create a bridge between community members and local NGOs.

¹ <http://www.shongjog.org.bd/>

The linking and bridging network of the community acts more effectively in the context of disaster in Bangladesh. For example, in the aftermath of Cyclone Sidr, **more than half** of the pelted households received direct help from their bonding networks and **60% of households** were sustained through their bridging network with neighbours and friends (R. Islam & Walkerden, 2014). This bond is functional in case of floods as well. In addition, these social bonds imbue young leaders with a sense of responsibility as they are rooted deeply within the social tapestry of Bangladesh (Rotberg, 2010). However, these bonds function less with the passage of time after a disaster due to the lack of resources in the community (R. Islam & Walkerden, 2014).

In our search for case studies, we found a prime example of how CBOs can enhance community resilience by creating consensus and collective restraints on unsustainable practices. On 07th November 1998 the movement of “**Bhumihin Songothon (Organization of the Landless)**”, an informal community network, formed a movement against saline water that saved the community from salinity intrusion. This illustrates how community networks amplify community voices and concerns in a time of need.

This role community networks play is essential for bridging the local-national gaps in policy and practices. Social solidarity formed through the activities of community networks can give the community the collective strength to bring social changes in terms of DRR-CCA.

However, community trust is a major issue for CBOs to effectively function and reduce the risk of disaster and CC. Community trust must be achieved by consistent and reliable information sharing and actions that bring tangible outcomes. The **CPP** as an extensive community volunteer-based network, has been able to significantly increase its credibility and efficiency. It has been found that **96%** of coastal population trust CPP, compared to **40%** peoples’ trust in 1991, and these statistics correlate with the efficiency of this network as well, as it is reported that the fatalities of super cyclone Amphan was **26** as opposed to **147,000** fatalities in 1991’s Cyclone Gorki (Alam, 2024). This is a testament to the influence of community trust in the functioning of CBOs.

Youth based networks are also realising solutions to multifaced problems like livelihood diversification, promotion and alternative livelihood strategies. **BYEI** curate green business ideas through its **AGIYE** programme. Through this programme it has been able to successfully initiate a business named ‘**Gunoboti**’ which creates a community network of artisans and crafting community ensuring women’s participation in sustainable production. **This has certainly increased these women’s agency and adaptive capacity through the generation of income** (Ghosh et al., 2021; Kabir et al., 2019; Mamun & Hoque, 2022; Shamsuddoha et al., 2024). More environment friendly solutions like producing an inverter from waste plastic paves the way for the sustainable and cheaper production of inverters. These initiatives have certainly been impacting and contributing to the formation of a constructive society with equitable means.

The DRR governance in Bangladesh is well described in the Standing orders on Disaster (SoD-2019). However, there is a critical factor of localisation and the imbedded lack of institutional memory due to the frequent change of key personnel within the governance structure. Often it is observed that during a time of transition, the institutional network, connectivity and knowledge at the district level is missing as there is no practice of formally handing over these informal networks and storing the institutional knowledge for future incumbents of the position. Therefore, the newcomer has to restart the DRR governance network from scratch. This often creates a backward moving phenomenon for local level disaster governance. Especially political influence on disaster governance at local and national level are very prominent. On the other hand, the young people of the country are an important, enthusiastic, agent of change in the DRR-CCA sector, dominating the community level interventions and making meaningful strides to enhance community resilience.

Challenges

In terms of DRR governance, there is a significant issue regarding relief distribution by both governmental and non-governmental bodies. In 2019, **Transparency International Bangladesh (TIB)*** conducted research on flood relief operations and reported that 73% of the households to whom relief was distributed reported receiving less than the stipulated amount. These types of instances illustrate the lack of transparency and accountability at local level DRR governance in the country. Whereas, community people often complained about NGOs being very selective to their beneficiaries irrespective of their needs. This concern is also very important to consider - how DRR governance can be ensured and at the same time inclusive.

The DRR governance at local level, especially at the union level, suffers from resource constraints and the lack of coordination among the NGOs and upper-level governmental administration. The top-down approach of the bureaucratic institutions often strangles the timely and effective DRR measures, due to challenges like the potential disconnect between national authorities and local communities, lack of local perception, and administrative decision-making delays. Local knowledge and context-specific needs may be overlooked, leading to ineffective disaster management strategies.

In this context, local NGO networks can significantly step up to ensure accountability by raising awareness among the community and building consensus about advocacy to the decision-making bodies. The lack of transparency and accountability is a byproduct of the country's short response time after a disaster, and is also due to the lack of a database and information sharing. Establishment of a network at the local district level must place emphasis on information sharing and dissemination among the community, to ensure community accountability.

Most of the networks in Bangladesh take a top-down approach during implementation/practice but are inclusive in policy. The centralised character of governmental networks is well criticised in literature, but it is also true of existing non-governmental organisations' networks. One of the representatives of CJA-BD informed us that, **“there is no NGO network working in the local level. These networks consist of local NGOs but it works in the national sphere.”** This reality, to some extent, diminishes the direct participation of community representatives in the network. Governmental strategies, like SoD and National Plan for Disaster Management (NPDM), emphasise the inclusive participation of women, persons with disabilities, and marginalised groups in the DRR governance framework at local level. It has ensured the presence of marginalised and vulnerable groups in the decision-making process of DRR at local level. However, the level of effective participation is still subject to investigation, but our observations revealed that the sociological context of the remote areas and vulnerable areas hinders effective participation in the decision-making framework.

However, it is true that the reach of government services has been faster than previous times due to the utilisation of Information and Communication Technologies, and decentralised resource distribution for disaster relief at district level. This type of decentralisation to enhance the utilisation of local resources, social networks, and networked person/social organisations or nodes and capacities are very effective but untapped in Bangladesh.

Hybrid networks provide the most successful outcomes in terms of DRR and community-based adaptation to CC. A hybrid network like CPP is the most successful network for DRR in Bangladesh. It has enough access to both the community end and the governmental end. That is why it can rapidly bridge the gap between governmental agencies and communities. Moreover, CPP is **absolutely gender equal** in terms of human resources. This type of network benefits from both connections. Hence **more hybrid networks which include multi-sector stakeholders should be effective** in the context of Bangladesh.

There is a significant coordination gap at the local level and also at national level DRR CCA networks in Bangladesh – often causing repetition, redundancy, wastage, as well as scarcity. Lack of incorporation of community perceptions due to the top-down approach has increased the cost of disaster management activities. The governmental network of DRR in Bangladesh have been quite coordinated in terms of bureaucracy but it is often time consuming. On the other hand, NGOs are fast responders but they too create redundant distribution and wastage. One additional challenge within the networks is that most do not bear any formal registration which limits the inflow of foreign funds to bear the expense of the initiatives. This limited flow of resources further **impedes the decentralisation** of the network as it requires additional capital.

In this juxtaposition of lacking coordination, the networked approach can be effective in minimising wastage and maximising the outcome. Also, the risk of exclusion of marginal groups due to political influences and top-down approach of governmental networks can be reduced by forming an effective NGO network at the local level.

*<https://shorturl.at/WZJTQ>

Case Discussion

Union Disaster Management Committee

- During the initial stages of disaster governance in Bangladesh, there was less opportunity for the community to participate in disaster management through networks - disaster management was limited to just relief and was response based.
- This changed positively when the UDMC started their proceedings. It hosts its meetings once in two months, holding discussions on different DRR functions.
- Community voices reach local government leaders, and subnational actors get an opportunity to design their activities by consulting with the Union committee. For example, project implementation officers who work for the government at a subnational level consult with the committee at the piloting stage of a DRR project.
- Due to the presence of a governmental network, the accountability of the network to the community increased.
- People know where to go for compensation of disaster losses and damages.
- There has been participation from women, persons with disabilities, as well as marginalised and vulnerable groups, in the decision-making of disaster management related concerns.
- Due to this extensive network, people get immediate relief and response support.
- The evacuation and early warning dissemination is efficiently carried out, reducing the costs of disasters.
- Shelter management is one of the core tasks of the local level DMCs, hence the presence of these networks means accessible and maintained emergency shelter.

Cyclone Preparedness Programme

During disaster

- CPP ensures rapid dissemination of official Bangladesh Department of Meteorology (BDM) warning signals to at-risk communities.
- CPP assists in evacuating, sheltering and offering immediate medical attention.
- CPP is heavily involved in post-disaster recuperation and extensive rehabilitation operations.



Regular activities

- Raising awareness through volunteers
- Cyclone drills and demonstrations
- Development and distribution of posters/leaflets/booklets
- Staging of dramas
- Folk song on cyclonic storm
- Training / Seminar/Workshop for volunteers, government, non-government officials / community members
- First aid, search and rescue training
- Leadership training

Bangladesh Youth Environmental Initiative

- **2000+** Youths have been trained in environmental stewardship.
- **500+** Academic institutions have collaborated with BYEI to sensitise nearly 500,000 Youths across the country.
- **Earth clubs** established across the country in 60+ academic institutions.

3.3 Added value of networks vis-à-vis other modalities

The value of networking in a DRR scenario is largely symbolic and most effective in advocacy-based activities in the current context of Bangladesh. It is the number of members in a network that provides leverage to these NGO networks, providing a credible voice on the global stages. However, the governmental network is very specific in its task, but it is underperforming. In addition, the disaster management role is often regarded as an additional duty by officers, often a secondary responsibility apart from their departmental roles.

“At the time of emergency, we need human resources from the other departments who very often feel overburdened by this external imposition. They feel this duty to be secondary apart from their departmental responsibilities.”

-PIO

This scenario of understaffed, untrained and incoordination is prevalent in the local level tier of the governmental network. On the other hand, representatives of the union parishad disaster management committee and WDMC feel underappreciated by their authoritative bodies, as this governmental network functions on a voluntary basis. Thus, the members of this network do not receive any type of extra incentives for their roles in disaster management and DRR. This mode of operation acts as a deterrence for the government network member and is a cause of discouragement.

“The government at least should incentivise us with the compensation of transporting and locomoting due to the works of the committee. On top of that, they do not provide us with any training on disaster risk reduction, evacuation, or search and rescue.”- UDMC member

Therefore, manifold obstacles impede the functionality of the government network. However, this network adds the value of a formal administrative hub of local level coordination for DRR activities. The lack of an **incentive mechanism** in the government DRR network undermines its effectiveness.

Networks like **CPP** exhibits the real value that every network should hold given they function appropriately. The success stories of CPP encourages the local youth about their empowerment in the process of DRR efforts for their own community.

Where formal external agents cannot reach the affected in time, community-based volunteer networks like CPP step in and excel in such conditions. Actually, youth empowerment directed towards a right cause is the most efficient use of human resources for a country with a demographic dividend like Bangladesh. University networks also add value to the country's overall DRR effort as a source of reliable scientific solutions, knowledge and an expert human resource pool.

“During the disaster time, our CPP volunteers relentlessly act to safeguard and minimise the loss of a cyclone. It feels great to work for the safety of my community.”- CPP volunteer

Networks provide the scope of doing something out of the regular activities of the individual organisation. The combination of multi-stake expertise and intersectoral experience, paves the way for vivid discussions and helps solve multisectoral challenges in a way that enhances the coherence and unity of the allied members. Through this interaction of diverse perspectives, a network can implement innovative interventions beyond the conventional confines of its work. These types of initiatives are more prominent in the youth-led networks. For example, the **climate migration stories** initiative by BYEI, included within the youth forum the process of documenting stories of social and environmental injustice. These types of initiatives are possible due to the flexible space of creative intervention within the network.

NGO networks create space for collective resource sharing and capacity-building among members, which is not mandated within the general regulations of any specific NGO. **NGO Federation Bangladesh (FNB)** had arranged applied information and communications technology (ICT) training for 25 individuals representing their NGOs from 18th to 20th July 2023, in order to enhance the capacity of those NGOs. This type of non -implementation activities are rife among the NGO networks in Bangladesh. **The Association of development agencies in Bangladesh (ADAB)** has divided its core activities into four categories: coordinating and networking, policy advocacy, rights promotion, and capacity-building. This illustrates how NGO networks mainly confine their working area to in-house activities rather than interacting directly with the communities. **Cox's Bazar CSO-NGO Forum (CCNF)** represents the local network actively participating in local knowledge generation, but again the functions of the network are confined to meetings and in-house activities with an occasional days celebration. Another network, which is exceptionally focused on local communication and awareness building through radio is **Bangladesh NGOs Network for Radio & Communication (BNNRC)** working in the coastal zone for education and advocacy regarding DRR-CCA. Another community radio-based network is **Bangladesh Community Radio Association (BCRA)**.

Project based governmental organisations-NGO collaboration is prominent in Bangladesh. Few examples of projects where this partnership worked are; **Khulna-Jessore Drainage Rehabilitation Project** (1994-2002), **Char Development and Settlement Project** (1994-2004), **Coastal Embankment Rehabilitation Project** (1996-1999, 2000-2003), **Sundarban Bio-diversity Conservation Project** (2001), **Empowerment of Coastal Fishing Communities Project**, **Rice Diversity Sub-Project**.

Private sectors conglomerates mostly look for marketing and branding opportunities by means of their corporate social responsibility fund. In Bangladesh, these funds are increasingly being siphoned by the NGOs. There is evidently an increasing trend of private sector and NGO sector collaboration where both their individual purposes are served. But visibly, these modalities are still not extensive enough to orchestrate community level large scale DRR efforts. The value in this modality lies within the service of their vested interests. Empirically, these modalities largely carry a funding value that are essential for DRR measures, however, there is a lack of direct networking between communities and private organisations, with a few exceptional cases. In Bangladesh, currently there are **54 of the top 100 LEED-certified green factories**, which is an encouraging fact. But the dearth of community-based private sector interventions for DRR is proof of the fact that these certifications are only to divert foreign investment rather than really being conscious of the DRR need. A networked approach with the private sector to reduce the disaster risk of vulnerable communities would be highly effectual. **Currently this link is missing.**

<https://www.facebook.com/ngofederationbd/>

<https://www.adab.org.bd/>

<https://cxb-cso-ngo.org/>

<https://bnnrc.net/>

Transnational networks like CANSA and Climate Action Network (CAN) seem to be effective in policy advocacy and NGO capacity- building. But this does not necessary translate into the empowerment and risk reduction at the ground level. Although these types of networks play an important role in global negotiation, the outcome would be more inclusive and translated into the development of the community if community-based organisation and networks get support from these platforms. The local NGOs are improving but it will take time for complete localisation of DRR projects as the capacity of local NGOs needs to be developed so that they can effectively access global donors and funding sources.

Capacity building workshops organised by the transitional network serves as a platform for exposure for the local organisation to learn how the regional or global level mechanisms work to develop their locality. When they will learn to negotiate for themselves there will be no need for such platforms, and that is what we are targeting. - CANSA member

Transnational networks are comparatively complex compared to local level organisations. They act as the medium of change for the local NGOs. On-the-ground change will only be possible if the organisations and networks working on the ground are capable enough to drive change. Until then, these transnational networks continue to carry the value of capacity-building and linking media to local organisation and the collective voice of vulnerable communities to the global sphere. The trend of outcome-based metrics of the network exhibits that young people-oriented networks are performing most effectively with maximum proportional impact. The young people-based organisations are thriving and expanding quickly.

Case Discussion

Union Disaster Management Committee

- A network serves as an entity in a community which creates a strong voice and a space for providing reliable modalities for better service operations in a community.
- For example, UDMC consists of both apolitical and political representation - it makes a credible space for other modalities, like NGOs, to collaborate for different work like community livelihood, WASH development, Mitigation and Adaptation.

To improve, Networks can:

- Conduct social meetings with different modalities (e.g., NGOs) to maintain solidarity in development efforts.
- Organise volunteer efforts for both disaster management and other development work so that development relies more on the community.
- Keep the community informed about activities of both government and non-government actors so as to facilitate community understanding, and enhance efficacy.
- Due to the presence of this network, NGO interventions can be more sustainable in at-risk communities.
- This network maintains the only operational network for the common public.
- Whereas, NGOs specifically cater their efforts to their beneficiaries, this government network ensures that those who aren't affiliated with any NGO also gets their basic needs met in the aftermath of a disaster.

- If the members of this network are trained properly, this network has the potential to bring about the most effective outcome in disaster management.
- There are both elected and selected members in these networks, which ensures the balance of community participation and expertise-based representation.

Cyclone Preparedness Programme

- Early warnings for ALL is a groundbreaking initiative to ensure that everyone on Earth is protected from hazardous weather, water, or climate events through life-saving EWS by the end of 2027.
- The first cohort of the EW4ALL initiative covers 30 countries, in particular at-risk countries, including Small Island Developing States and Least Developed Countries and Bangladesh is one of the countries of this cohort.

Bangladesh Youth Environmental Initiative

- BYEI has various programmes, as previously mentioned. The Earth Campaign programme is a year-long fellowship programme which is conducted in partnership with other stakeholders. A cohort is selected from different parts of the country which ensures representation from different communities with diverse lived experiences. This cohort is trained on critical environmental discourse, their community action projects are mentored throughout the year. Everyone under this cohort has to also set-up a club or platform in their community to gather more people to strengthen community efforts.
- AGIYE is another programme of BYEI that focuses on accelerating green business based at community level. Entrepreneurs are trained in equitable business models ensuring community justice and participation. Potential businesses are funded to a certain level for their acceleration.

3.4 Gender and social inclusion (GESI)

Gender and social inclusion have become a policy mandate for the development sector of Bangladesh following the Sustainable Development Goals (SDG). In the governmental network for DRR, the participation of persons with disabilities and women has been included in the local level disaster management committees including UDMC and WDMC. How meaningful the participation of these groups is, is not yet clear. However, empirical observations reveal somewhat contrasting scenarios. While women are present, their voices are often not heard due to the socioeconomic context of the vulnerable areas. But their inclusion itself serves as an empowering factor in the social sphere which yields benefits for these groups. In the case of the CPP, gender inclusion is the priority specification. In every team of the CPP, there is an equal number of men and women. This network includes the active young people only due to the nature of their undertakings. Women are a useful resource in evacuation and gender sensitive interventions. Meanwhile, the evacuation response of women has increased due to the participation of women volunteers.

“Women of our para (one part of a village) usually prefer to go alone rather than going (to evacuation center) with other men. But when we (women volunteers) go to their house, they happily move with us to the cyclone shelter.”- CPP volunteer

This socioeconomic reality needed an intervention like the women’s wing of the CPP, which is why the network has succeeded in reducing the cost of disasters, especially cyclones. The community network **Kishori Shova** operated in rural areas, training teenage girls in different aspects of social roles, leadership and other functions. Gender based need assessment during the disaster response and rehabilitation phase is currently a priority agenda, which the government attempted to implement. Moreover, **the disaster related statistics is reporting data in an intersectional disaggregation format**. Government initiatives are increasingly ensuring women’s empowerment in their social safety net initiatives like, **Work for Money (WFM)**, and **Micro-credit for Women Self-employment** projects. These projects illustrate the government’s emphasis on women’s empowerment while, **Vulnerable Group Feeding (VGF)**, **Vulnerable Group Development (VGD)** and **disability allowances** etc. interventions are aimed to promote social inclusion. Inclusive shelter management is limited due to the infrastructural insufficiency of the shelters. Particularly significant are issues of safe WASH and child feeding corner as well as disability friendly infrastructure which are deficient compared to the need.

On the other hand, NGO networks predominantly and strategically choose women as their target beneficiaries. Their initiatives are also inclusive. Though there is an allegation of NGOs being extremely biased towards women than men in selecting beneficiaries, which naturally reduces participation of men in their programme interventions. However, such allegations are refuted by an NGO representative.

“Generally, we maintain the gender balance in our projects, except few projects dedicated to women’s health, empowerment and homestead gardening as these projects are primarily focused on women beneficiaries.”

Therefore, in a normal scenario, gender and social inclusion is maintained in the DRR projects of NGO networks. But men’s precedence over women is still prevalent in the intervention areas. Therefore, the ground level change for gender equality is subject to social and psychological change and the dismantling of unequal power relations prevalent in marginalised communities. This change is happening gradually for which NGO-community networks can be credited.

Youth-led networks harbour the spirit of inclusivity at their core. BYEI has a dedicated programme for children named **Kids for nature** through which they integrate children from different socioeconomic strata to introduce environmental values, done through learning and activities. On the other spectrum of inclusivity, businesses like **Gunoboti** which mainstreams women-led green entrepreneurship, highlights the gender inclusive approaches of the youth led networks. University and youth led networks are functional at a better level due to the fact that the university students constitute a significant part of the country’s aware youth.

In the university network there is a prevalence of women's inclusion, as these are mostly interventions or machine/device-based projects. But inclusion in some interventions like salinity tolerant crop variety production is largely dependent on the existing agricultural practices of the area. For example, in some southwest coastal parts of Bangladesh, like men, women take part in the farming sector. Therefore, in these areas gender and social inclusion is ensured. However, in the case of household level interventions, mostly women beneficiaries are selected due to their gender roles in the household. For example, a **rainwater harvesting system is primarily targeted for women beneficiaries**. This also serves the equity purpose of the household power dynamics.

Case Discussion

Union Disaster Management Committee

In the revised SoD of 2019, women's empowerment is ensured at the local level of this network. The latest SoD imposes the following duties and responsibilities on the DMCs;

- Representation of different groups in networks (e.g. persons with disabilities, women, intersexual groups etc.)
- Capacity-building for, minority and groups with special needs for developing leadership.
- Kishori Shova in rural areas where teenage girls are trained in different aspects of social roles, leadership and other functions.
- Gender based need assessment during disaster response and rehabilitation phase.
- Assisting in the evacuation of people.
- Fast service delivery after any disaster, especially response and relief.
- Filling up Damage Assessment Form (D-form) by inputting the damage information as early as possible.
- Ensuring the safety of the humanitarian workers working after a disaster.
- Inclusive shelter management

Cyclone Preparedness Programme

CPP has a great commitment to ensuring the integration of gender and social inclusion and as a part of this, the institution changed its by-laws in 2020. It has ensured;

- A substantial volunteer network of 76,020 individuals ensuring gender parity (38,010 male and 38,010 female volunteers)
- Advancement in capabilities, enhanced with proper training and guidelines
- Increased women leadership in functional roles
- All women volunteers receive personal protective equipment and first aid kits
- The reputation of the CPP has led to an improvement in the social status of women volunteers

Bangladesh Youth Environmental Initiative

- Gender balance in a cohort.
- Representation of minority groups (indigenous groups, religious minority)
- Prioritising the lived experiences of at-risk communities while ensuring participation in different programmes.



4. Discussion and Concluding Remarks

this study is a composite of four different risk sensitive areas in the country - ranging from the northern flood prone area, southern coastal area, and from the hill tract area to urban area – aimed at presenting a holistic view of the risks and related DRR scenario.

The success of community driven networks makes them the most effectual intervention in Bangladesh. However, this type of network has only a small voice in policy making despite their on-ground success. Rather, community networks are considered mainly as an operational force during disasters.

NGO networks have enough space and scope to influence the DRR efforts of Bangladesh, but their on-ground activities as a network are not prominent. but individual NGO networks have been the most extensive operational and advocating force in Bangladesh.

The field level impacts of community driven networks, like CPP, are high. However, the socioeconomic dynamics of resilience has also changed a lot due to increased NGO activities. In urban centres like Dhaka, NGO collaboration and networks function mostly for policy advocacy and sector- wise awareness-raising. The governmental network has been able to reduce the time of post-disaster response but political influences greatly impede efforts to bring about real change on the ground.

CPP has been the cornerstone of gender inclusion in DRR efforts. The governmental network brings the representation of persons with disabilities to the decision-making table. Different NGO platforms work for the inclusion of marginalised communities, like third genders, river gypsy (Bede), and different occupational groups.

There should be a subnational level of the network where there will be university affiliation facilitating community-NGO-University networks.

Thus, by accumulating the tri-sector confluences, this network based on locally-led ecosystem-based adaptation and DRR will be able to amplify community voices and present the local scenario to the global level.

Networks in general follow very flexible governance structures than the other entities. Therefore, it is possible for these networks to combine their collective forces, beyond any boundary.

Structure/Operations of Disaster Management

The government network for disaster management is highly bureaucratic in nature up to upazila level, whereas, the UDMC is very political at the community level. NGO networks mainly function in a centralised way by creating core periphery power relations among member NGOs. The most horizontal structure prevails in the youth-based networks which operate in the

most flexible manner. The operations of youth-based networks are most diverse and effectual. On the other hand, NGO networks are mainly confined to advocacy and capacity- building, lacking direct community-based interventions. Governmental DRR governance is also most effective in the immediate aftermath of a disaster. The network can perform effectively only if there are dedicated funds and programme allocation from within the individual governance framework of the member NGOs.

Functions of network members

The members of a network mainly contribute through their shared resources and expertise. However, members of the Disaster Management Committees are public representatives and hence they are also the community leaders who unite the community for shared goals, but usually their capacity and skills in disaster management are very limited. On the other hand, NGOs are well equipped and funded for implementing DRR-CCA projects hence their functions ranges from building awareness to creating advocacy movement. The youth forces of the country are the most enthusiastic, requiring the expedient channelling of their efforts in the right direction. But youth-based networks are mostly active in the community intervention field. NGOs can leverage their united resources for implementing common projects – piloting innovative and efficient interventions at the community level.

Training/Support Received

There is a significant lack of capacity and training in the governmental network of DRR. They often lack motivation due to no additional incentives being provided by the government and no provisions for the responsible personnel. In addition, this governance structure often suffers from institutional memory loss due to the transfer of focal personnel. The NGO networks are advanced in this matter, whereas youth-based networks can have limited access to training/support but the inclusion of university students from diverse but relevant disciplines sometimes supplements their needs and they also get opportunities to participate in training sessions conducted by NGOs or the government sector.

Services Provided

Services in the disaster management sector are chiefly community oriented. In reality, the governmental network mainly operates in the immediate pre- and post-disaster management activities. Early warning dissemination and evacuation are predominantly coordinated by the UDMC. The government network leads the response, shelter management and recovery efforts. However, they are less functional after the immediate disaster period. They have more resources but their action has been limited. On the other hand, youth-based networks have proportionally more of a footprint compared to their resources. Youth-based networks go further by volunteering, advocacy, and movement. Based on their proficiency, youth networks dominate the field of evacuation, warning dissemination, response, community mobilisation and knowledge sharing. University networks are a dominant aspect of youth network formation and operation.

In addition, university and research networks provide specialized services in the form of research, innovation and technical advancement, solution designing, capacity-building and policy dialogues. In this scenario, NGO networks particularly function within the boundary of capacity-building and advocacy. However, they fail to deliver research-based evidence through their advocacy due to the lack of research-related collaborations.

NGO network: Capacity-building, Advocacy.

Governmental network: Disaster mitigation, response and relief, recovery, early warning, shelter management, evacuation.

Youth-based network: Project implementation at community level, knowledge dissemination, awareness raising, advocacy, promotion of best practices, volunteering, response, recovery, evacuation, community mobilisation, youth movement.

University/research network: knowledge generation, technical and technological innovation, solution designing, evidence building for advocacy, policy dialogues.

Coordination Mechanism

Most of the networks are centralised in nature. Coordination becomes more complex at the community level. Due to informal nature of NGO networks, there is no concrete coordination protocol present in the sector. Mostly NGO networks get to align its members through annual general meetings. The coordination mechanism of NGO networks functions through secretariat members and steering committees. However, there is a significant lack of local voices within the mechanism, mainly reinforcing a top-down approach. Bureaucratic coordination of governmental networks also suffers from occasional coordination problem. The political nature of the local level DMCs heavily influences the coordination. The lack of adequate human resource and frequent institutional memory loss hampers the coordination of the governmental network. But youth-based networks adopt very direct communication channels, focusing on self-regulating participatory coordination; club-based coordination is an exceptional feature of youth-based organisations.

NGO network: Centralised clique-based coordination, lack of coordination protocol, general meetings, secretariat, steering committee, very poor and infrequent communication and coordination in the long-term, lacks representation of local voices, top-down approach, communication gap, lack of common activities.

Governmental network: Highly scattered, decentralised, bureaucratic dysfunctionality, lack of coordination, politicised nature, corruption, institutional memory loss, lack of human resources.

Youth-based network: Volunteer coordination, simple and direct communication channel, club-based coordination, self-regulating interconnected coordination.

Inclusion/Gender Lens

Inclusion is a prerequisite of sustainable development. Keeping pace with the global agenda, inclusion has been a key priority in the DRR-CCA landscape of Bangladesh. The governmental DRR network functions at local level. The mandatory representation of women, persons with disability and vulnerable groups in local disaster governance has certainly empowered them directly and indirectly. Inclusion of local people in the DRR-CCA projects is a very efficient and sustainable initiative of the government body. NGO networks provide capacity-building training on inclusive DRR-CCA measures. On the other hand, through youth-based networks, intergenerational equity is ensured. These networks implement a targeted campaign for community, children, women, and marginalised groups in order to create an inclusive and resilient society.

Governmental networks: Mandatory representation of women, persons with disability and vulnerable groups in local disaster governance, gender inclusive policy formulation, prioritisation of women employment in projects, inclusion of local people in operations and governance.

NGO network: Women empowerment, attention on unpaid care work, gender diverse individual, and women headed household, child feeding infrastructure in shelter management, WASH and sexual and reproductive health and rights, inclusive shelter and evacuation.

Youth-based network: Equity, climate justice, local people's involvement, intergenerational equity, local business promotion, women entrepreneurship, community targeted campaign.

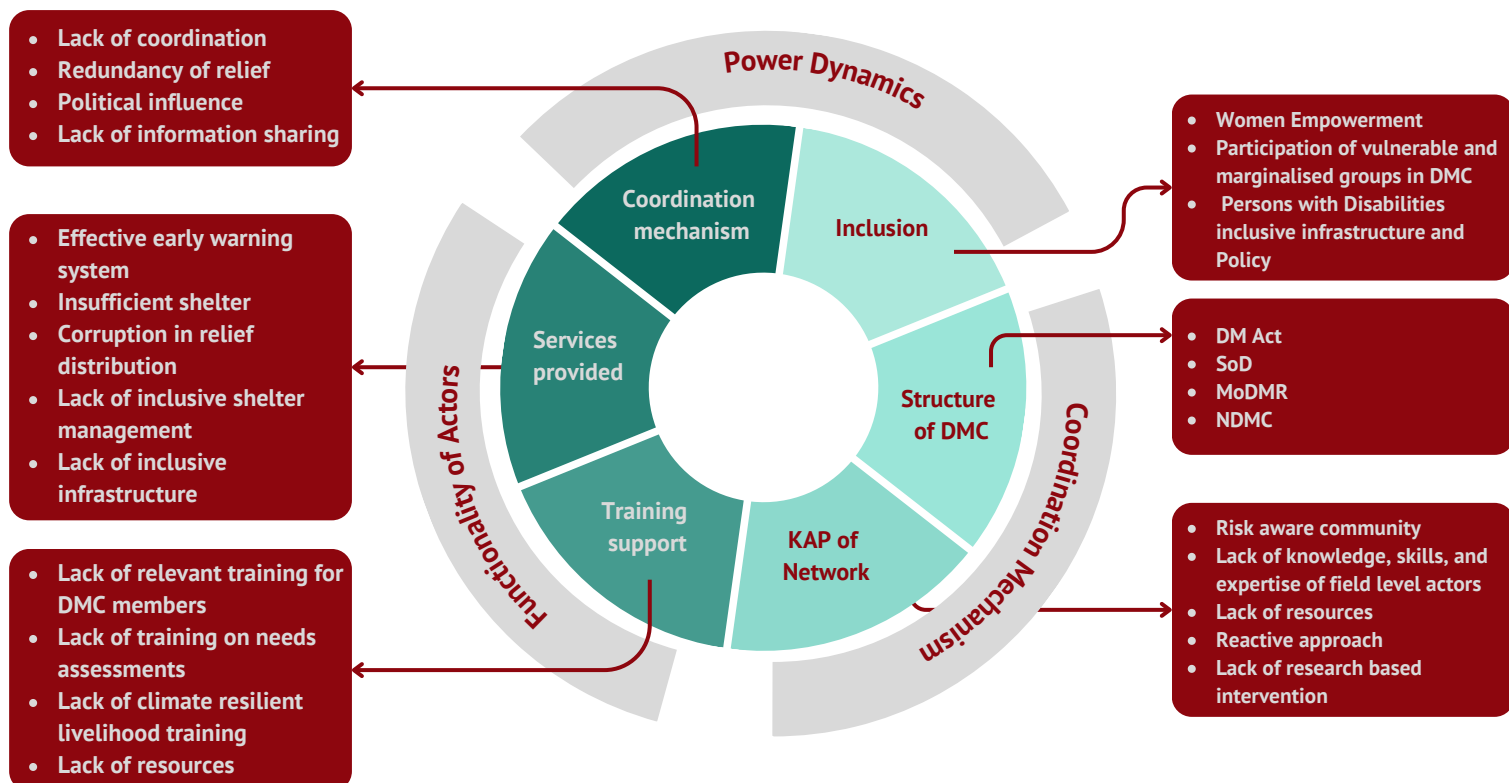


Figure 3: Disaster risk governance

Challenges Faced

A major challenge for networks is the declining flow of funding. Networks do not usually have any registration, which further reduces the opportunity for them to mobilise large funds from overseas. In addition to this resource constraint, challenges related to cultural and social diversity and political and systemic infringement add to the impediment. Political instability and the frequent transfer of government officials often undermines the capacity of the governmental DRR arrangement. Lack of decentralisation limits the level of local representation within the community. The lack of collaborative effort between academia, research organisations, NGOs and community networks creates deficiency in interpreting local problems through research-based advocacy to influence policy and practices. Integrating local government and community enhance the sustainability of any intervention. But it also increases the chance of politicisation, corruption and biasness within the project.

Recommendations

Bangladesh is a land of fertility and fraternity. Communities in the vulnerable areas are more altruistic during times of dire necessity and disasters. This unique sociocultural tapestry forms the basis of the social resilience of affected communities around Bangladesh. This study – a composite of four different risk sensitive areas in the country, ranging from the northern flood prone area, to southern coastal area, and from the hill tract area to urban area — aimed to present a holistic view of the risks and the related DRR scenario. The success of community driven networks is the most effective intervention in Bangladesh. However, this type of network only has a small voice in policy making despite their on-ground success. The community network is considered as an operational force during disasters. On the other hand, the NGO networks have enough space and scope to influence the country's disaster risk reduction efforts, but their on-ground activities as a network is not prominent. However, individual NGO networks have been the most extensive operational and advocating force in Bangladesh. Local level NGOs are gaining importance in the development sector due to the focus placed by donors on localisation. This has increased the participation of local NGOs at national level NGO networks, which have been primarily focused on capacity-building based on experience sharing. Through this participation of local level NGOs in national forums, it is expected that local concerns and issues will get prioritised, but this sort of change is a long-term process in the view of one key interviewee. The governmental network grapples with the lack of coordination, co-operation, and human resource at the local level, and it is mostly active in response and relief activities. These findings are similar with that of Mohibbullah et al. (2021).

The local disaster risk and climate vulnerability scenario is not alleviating if not aggravating. The fact that global climate change is changing the types and nature of the risk distribution on a global and local level is obviously impacting the resilience and coping capacity of communities. By living with similar disasters, communities have become experienced and they produce local interventions and techniques for DRR. However, the changing weather patterns are nullifying the use of these indigenous knowledge and skills. In this reality, networks at different levels can play multiple roles of negotiator, facilitator, implementer, and adviser. The field level impacts of community driven networks like CPP are the highest, but the

socioeconomic dynamics of resilience has also now drastically changed due to increased NGO activities. In that sense, NGOs as a local network have played a strong role to bring about a radical change through awareness-raising, capacity-building and organising community peoples for disaster risk reduction and climate change adaptation at rural level. NGO networks also have an indirect influence by building capacities of the local NGOs. At urban centres like Dhaka, NGO collaboration and networks function mostly around policy advocacy and sector wise awareness-raising. The governmental network has been able to reduce the time of post-disaster response but political influence is impeding efforts to bring about real change on the ground.

These networks bring their own pros and cons in the disaster risk reduction efforts. Local NGOs provide expertise and resources to the community and bring local concerns to national level discussion by utilising their networks. This unique capability adds to the value of NGO networks. But serving local communities requires sustained effort. Most of the NGO projects are short-terms and often stop functioning beyond the lifetime of the projects. Therefore, the creation of sustainable and self-governing community networks better serve the purpose of sustainable disaster risk reduction efforts. Hence, the NGO networks should focus on capacity and institution building that can sustain beyond their project's lifetime.

The community is the driver of its own functioning. Hence, community networks are of enormous value to disaster risk reduction. Community networks can best voice the needs and problems of the community; hence these networks should build their capacity and act as linking and supporting organs to external actors. The community network should help in the building of the information database on the community's risk scenario. Community networks are also effective in building consensus, monitoring the just and equitable distribution of resources and building resistance against any malpractices.

The best practices for integrating gender and social inclusion and protection mechanisms in disaster risk governance lies in the integration of all vulnerable groups in the decision-making process. CPP has been the cornerstone of gender inclusion in disaster risk reduction efforts. The governmental network also brings the representation of persons with disabilities to the decision-making table. Different NGO platforms work for the inclusion of marginalised communities like third genders, river gypsy (Bede), and different occupational groups. Success stories of university invented devices like rainwater harvester, drone surveillance for monitoring response needs, salinity and drought tolerant crop varieties are well established. However, networks and stakeholders need to better identify the local needs that are arising in the changing weather and risk environment of the country. The sustainability of interventions is also a major concern for disaster risk reduction. Social inclusion in disaster risk reduction mechanism requires proper implementation of existing policies, minimising corruption and empowering community members at national, regional and global level.

In the flood prone area, the creation of flood preparedness programmes like CPP is a widely solicited demand. Creating community groups for awareness-rising about landslides and participatory land use planning is a prerequisite for reducing the risk of landslides. The alliance among the marginalised peoples of hill tract can be used for alternative livelihood training and deciding upon their risk reduction approaches. A strong network is required for the coastal regions in order to stop the bad practice of saline water shrimp cultivation which is aggravating the salinity intrusion condition of the coast. Whilst in urban areas, sustainable energy consumption, building code implementation and fire hazard mitigation are priority concerns. It is necessary to form networks to create awareness and policy advocacy to enhance community resilience. Moreover, the decentralisation of power is a prerequisite for amplifying community voices.

There is no local level network on locally led adaptation, ecosystem-based adaptation and sector-wise network of disaster risk reduction and climate change adaptation, effective at the local district level. Though there are NGO networks at national level where these local NGOs take part, at the local district level there is no sector-wise networks in the mentioned sectors. Another major opportunity is in the integration of universities into these networks. There should be a subnational level of the network where there will be university affiliation facilitating community-NGO-University networks. This will be beneficial for all parties.

Universities will provide the research and development as well as monitoring and evaluation support, reducing the burden on NGOs, while at the same time increasing the scope of knowledge generation for the academia and building evidence for project proposal and donor persuasion. The NGOs will be the operational and community networking agents in the proposed network. There will be a national level platform as well, to steer and coordinate the network, here too the participation of NGO-University-Community representatives will be ensured. Finally, through this network's regional connections, the locally sourced knowledge, context, and scientific research will be presented in the global platform.

Thus, by accumulating the trisector confluences, this network based on locally-led ecosystem-based adaptation and disaster risk reduction will be able to amplify community voices and present the local scenario at a global level. This network may as well integrate the local level disaster management committees to enhance their skills and training according to the specific needs of their operations. The institutional framework of the proposed network is as denoted in Figure 4.

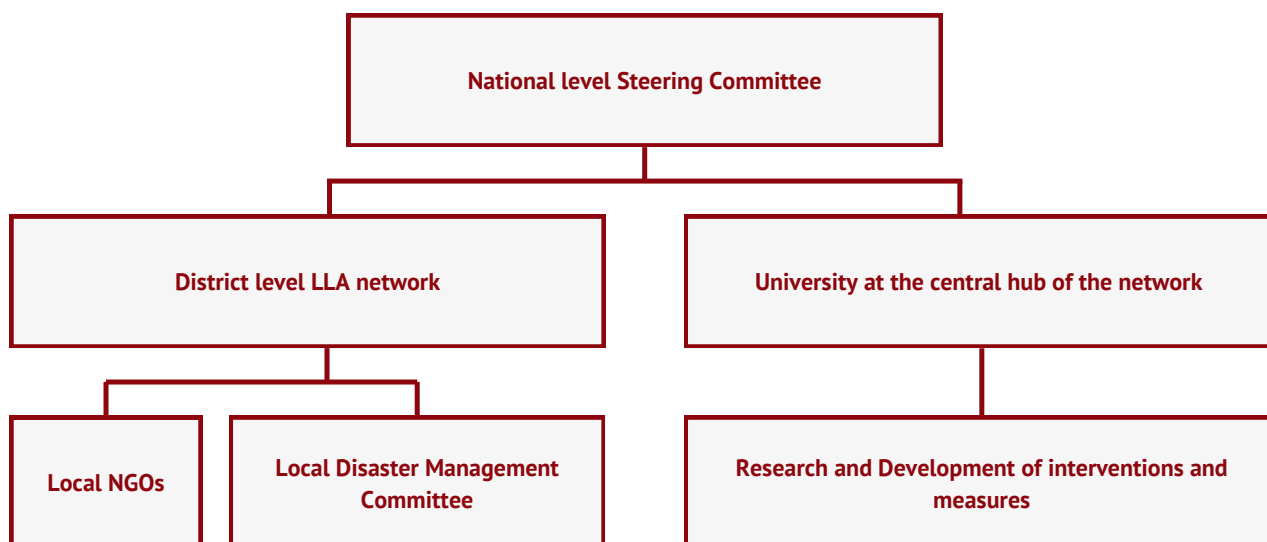


Figure 4: Organisational arrangement of the proposed network

The national level steering committee will be the link between the regional network and local networks. The inclusion of universities as a core component will enhance the capacity of the network to apply for funding for implementing projects at local level. In addition, the network has to be governed by the community representatives and a bottom-up approach of governance is recommended. Gender and social inclusion are to be embedded in the policy of the network while selecting members. These combined efforts of local NGOs, local level disaster management committees and academia will help in evidence-based decision-making and policy advocacy by amplifying and corroborating the perspective of at-risk communities with data driven evidence.

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Guiding Questions

Strengthening Inclusive Disaster Risk Governance for Climate resilience in Bangladesh

1) What are the existing and potential networks in Bangladesh? (Networks area “social arrangement comprising either organizations or individuals that is based on building relationships, sharing tasks, and working on mutual or joint activities”) question involves seeing first who is involved, which forums/networks/ platforms exist, membership, mode and sites of engagement, etc.

1.1) Which community-led or community-focused DRR networks are operating in Bangladesh that you know of? Where do they work, at what scale, reaching whom, doing what and working with whom? (names of networks/nodes and their details)

1.2) Why networks are important over a community/ NGO-State set-up?

2) How do/are networks (in Bangladesh) strengthen/ing and amplify/ing community voices and concerns in disaster risk reduction (DRR) efforts? The sub-questions below will help answer this overall question)

2.1) Which network is the interviewee connected with and in what way (mode of engagement/flow of information and other exchange)?

2.2) How does/do this/ these networks connect affected/ at-risk population with governance actors (in theory and in practice)?

2.3) What role are networks playing in enhancing community inclusion and accountability on DRR in Bangladesh? Can you give concrete examples?

2.4) Which deficiencies/challenges/gaps exist that limit community inclusion within networks?

2.5) What (potential/ possible) role can the network(s) play if deficiencies are filled?

2.6) How can networks be made:

- Functional
- Accountable, and Coordinated
- Representative of disaster affected communities.

2.7) Advantages/ Disadvantages of networks

Guiding Questions

3) How do [effective networks] translate into meaningful change on the ground in Bangladesh?

3.1) What have DRR networks in Bangladesh accomplished for communities in recent past? How did they do it? (see a. who else was involved and in what role – to bridge community-state gap, and b) track the process of and indicator of change).

3.2) Did these efforts directly benefit communities?

3.3) Were there any special circumstances/conditions/catalysts that made change possible? What were these circumstances/conditions/catalysts? (could range from having means, having the right people in the right places at the right time, having specific audiences), etc.

4) What is the added value of networks vis-à-vis other modalities, and how can they improve in better serving local communities?

4.1) What needs to change/improve/expand/scale back in the way large DRR networks are working in Bangladesh, to make them more inclusive?

5) What are good practices for:

- integrating gender and social inclusion and
- providing social protection

in DRR governance? (for women, transgender, elderly people, persons with disabilities, migrants, IDPs, indigenous peoples, youth, minority communities, etc.)

Extra:

6) CPP: Volunteers – working with them isn't always so easy – what makes them effective – analyze it a bit maybe?

7) How are formal or informal networks bridging the knowledge gaps? How is it equitably distributed in Bangladesh?

Setting the scene

Additionally, the Asia-Pacific region's increasing frequency of natural disasters exacerbates the situation, placing immense strain on the country's resilience efforts (Thomas et al., 2014).

The southern regions of Bangladesh, with their unique topography, are particularly vulnerable. Disasters such as Cyclone Sidr in 2007 and Cyclone Aila in 2009 have highlighted the profound physical and socioeconomic vulnerabilities of communities, often resulting in displacement and migration. In Bangladesh, researches show that the country's community based adaptation (CBA) initiatives focus on leveraging local knowledge and participatory methods to address specific climate challenges such as cyclones, floods, and salinity intrusion (Naz et al., 2018; Yunus, 2017). Various projects, including the construction of cyclone shelters, rainwater harvesting systems, and climate-resilient agricultural practices, highlight the effectiveness of CBA in reducing vulnerability and promoting sustainable development (Ayers & Forsyth, 2010; Ayers & Huq, 2009). However, challenges persist in scaling up these localized approaches to broader policy frameworks and ensuring genuine community participation (Piggott-McKellar et al., 2019). Since, women and girls have already been identified as such groups, it has become a dire necessity to evaluate their needs, lacking and the grounds of deprivation (UNICEF, 2022). At the same time, their role in disaster situations—such as discussing upcoming disasters with neighbors, going to shelters, protecting children and the elderly, assisting in rehabilitation, earning cash, and ensuring safe drinking water etc. should be recognized as it rather marks their huge potentiality in resilience (Nasreen, 2012). However, when it comes to resilience, there lack studies that focuses solely on building gender resilience considering the gender gaps.

Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) are critical domains for safeguarding communities against environmental threats. In the context of Bangladesh—a nation prone to cyclones, floods, and other natural calamities—these programs play an indispensable role in minimizing vulnerability and enhancing resilience. However, despite concerted efforts, certain gaps persist, particularly concerning inclusivity. While governmental initiatives have been launched to tackle these multi-hazard concerns and identify disaster-prone areas across Bangladesh, questions linger regarding the efficacy of these interventions in accurately assessing the needs of at-risk communities and facilitating tailored preparedness and response measures as outlined in the Standing Orders on Disaster SOD (2019) and National Plan for Disaster Management (2021 – 2025). The success of these interventions hinges on their ability to bridge existing gaps and implement best practices to strengthen the nation's disaster management system. It is imperative to swiftly address this pressing issue by providing need-based recommendations that align with international standards and prioritize community engagement. Enhancing early warning systems, ensuring gender & social inclusivity, bolstering infrastructure resilience, and fostering local capacity building are among the key strategies needed to mitigate the impact of disasters and build sustainable resilience.

These policies advocate for enhancing disaster risk governance, a principle supported by the creation of Disaster Management Committees (DMCs) across various government levels to foster a unified approach to disaster management. Backed by international partners and organizations like the International Federation of Red Cross and Red Crescent Societies, Bangladesh is fortifying the capacities of DMCs, enhancing their ability to manage emergencies independently (IFRC, 2020). Initiatives like the Cyclone Preparedness Program by the Bangladesh Red Crescent Society highlight the critical role of community engagement and early warning systems in reducing the impact of disasters, showcasing a model of resilience and prepared response (BDRCS, 2024).

Moreover, collaboration between government agencies, non-governmental organizations, and local communities is paramount in ensuring effective disaster risk reduction efforts (Ainuddin et al., 2013). By fostering a comprehensive and inclusive approach to disaster management, Bangladesh can navigate the complex challenges posed by natural hazards and emerge as a global leader in resilience-building initiatives. Time is of the essence, and concerted action is required to safeguard the lives and livelihoods of millions of Bangladeshis in the face of mounting disaster risks.

Country Specific Literature Review:

Deep dive into the Bangladesh Perspective:

Bangladesh's government has adopted a network structure for handling natural disaster governance, but it faces obstruction from inherent bureaucratic problem that hinder collaboration among stakeholders (Osman et al., 2015). The governmental mandate of disaster management is based on the regulatory framework with legal background of the Disaster Management Act formulated in 2012. The apex body of the governmental network of disaster management is the National Disaster Management Council (NDMC) headed by the prime minister. The country has a mandated ministry named Ministry of Disaster Management and Relief (MoDMR) which coordinates inter-ministerial disaster management coordination committee for a concerted, orchestrated disaster management effort with other ministries. The network flows down to the smallest administrative unit namely ward. This extensive network inhabits the potential of a comprehensive disaster management arrangement if executed with proper method. But the extensive network is still filled with numerous operational bureaucratic and political decorum hindering successful execution of disaster management.

Centralized decision-making in disaster risk management involves concentrating authority and responsibility at higher levels of government. This approach aims to ensure uniformity and consistency in disaster response and preparedness activities. In Bangladesh, the Standing Orders on Disaster (SOD)-2019 outline the disaster management framework, emphasizing a centralized decision-making process led by the national government. This centralized decision-making can streamline the coordination of disaster management activities by providing clear directives from a single authority. Consequently, this can lead to more efficient resource allocation and timely response actions.

Research has indicated that centralized systems can effectively mobilize resources and coordinate large-scale disaster responses (Ainuddin et al., 2013). In the context of Bangladesh, where multiple hazards such as cyclones, floods, and landslides are prevalent, a centralized approach could theoretically enhance the overall disaster response capacity (Shammin et al., 2022). However, the centralized decision-making process also has limitations. One significant challenge is the potential disconnect between national authorities and local communities. Local knowledge and context-specific needs may be overlooked, leading to ineffective disaster management strategies. Tang et al. (2018) argues that centralized systems often struggle to incorporate local perspectives, which are crucial for effective disaster risk reduction. Moreover, centralized decision-making can result in bureaucratic delays, hindering timely interventions during emergencies. Perry & Lindell (2003) highlight those centralized systems may suffer from slow decision-making processes due to hierarchical structures and administrative bottlenecks.

Nevertheless, in terms of volunteer network, Bangladesh has world's largest community volunteer networks in the name of "Cyclone Preparedness Programme", in short CPP, which is a successful network acclaimed globally. The total network is itself a concrete depiction of how community effectively plays the role of network and minimizes the cost of disasters. Abedin & Shaw (2015) believed networking is to be compulsory to build a sustainable society which is at the same time resilient to disaster. CPP is a global cornerstone for women's inclusion in DRR effort (United Nations, 2021). CPP has been able to gain the trust of the large communities living in the Bangladesh coast through early warning dissemination and emergency evacuation (Ahsan et al., 2016; Alam, 2024; Rahman et al., 2021). This is a collaborative instrument where governmental, nongovernmental and community force converges in unity. CPP has been credited for the reduced fatalities of cyclone (A. Haque et al., 2022).

Non-governmental organizations (NGOs) play a critical role in disaster risk management by leveraging their community networks and grassroots engagement to enhance resilience and reduce risk (Amin, 2024; Hossain, 2020). By working closely with vulnerable communities, NGOs are able to incorporate local knowledge and practices into broader disaster management strategies. This community-driven approach ensures that disaster risk reduction measures are tailored to the specific needs and vulnerabilities of the people most at risk. As Paul et al. (2022) highlight, NGOs' deep connections with communities give them unique insights that centralized authorities may overlook. Shaw et al. (2013) emphasize that integrating local knowledge through these community networks greatly improves the effectiveness of disaster risk reduction (DRR) efforts. Coordination between NGOs and government agencies is often a significant issue (Amin, 2024). The lack of a unified framework for NGO activities can lead to duplication of efforts and inefficient use of resources. Tang et al. (2018) noted that effective coordination mechanisms are essential to ensure that NGO activities complement rather than duplicate government efforts. Additionally, the sustainability of NGO-led initiatives can be a concern. Many NGO projects depend on external funding, which can be uncertain and limited in duration. Ensuring the long-term sustainability of disaster risk reduction initiatives requires strong networking between NGOs, government agencies, and local communities (Habiba et al., 2013).

Community network in Bangladesh plays very effective role immediately after a disaster. In the aftermath of Cyclone Sidr, more than half of the pelted households received direct help from their bonding networks and 60% household sustained through their bridging network with neighbours and friends (R. Islam & Walkerden, 2014). This bond is functional in case of flood as well. Rotberg (2010) argued these social bonds imbue young leaders with sense of responsibility as it is rooted deeply in the social tapestry of Bangladesh. However, these bonds function less with the passage of time after a disaster due to lack of resources in the community (R. Islam & Walkerden, 2014). Rotberg (2010) concluded that, strength of a network can be bolstered by the effectiveness of social network and its linkage to NGOs which produces scope for earning money. Effective communication is a cornerstone of successful disaster risk management, fundamentally concerning the early warning system prior to disasters (Ahsan et al., 2020). The SOD-2019 emphasizes the importance of communication in disaster management, outlining the roles and responsibilities of various stakeholders in information dissemination. The use of technology, such as mobile phones, social media, and early warning systems, has significantly enhanced communication capabilities in recent years. For instance, the Bangladesh Meteorological Department (BMD) utilizes SMS and mobile apps to disseminate weather forecasts and warnings to the public (Haque et al., 2020). Community radio stations are another vital communication platform in disaster-prone areas. They provide localized information in local languages, making it accessible to a broader audience. Community radio has been instrumental in raising awareness and educating communities about disaster risks and preparedness measures (M. A. K. Azad et al., 2019; R. Islam & Walkerden, 2015). Social media platforms also play a significant role in disaster communication, facilitating real-time information sharing and enabling authorities to engage with the public directly. Research has shown that social media can enhance situational awareness and improve the coordination of disaster response activities (Houston et al., 2015). During recent cyclones in Bangladesh, social media was extensively used to provide updates, share safety tips, and mobilize community support (Sultan & Maharjan, 2022).

Shaw et al. (2012) posited that university network is the single platform enabling exchange of erudition and experience by learning from practices. University networks encircle government, NGO, community and other universities all together, hence the imperative role of university network is assumed to be very powerful (Abedin & Shaw, 2015). The importance of university network is embedded in the fact that it is a proactive actor of disaster risk reduction. In this connection, the universities of Bangladesh have been a paladin of disaster risk reduction. Abedin & Shaw (2015) cited 4 university contraptions and interventions to reduce disaster risk in the coastal area of Bangladesh, which significantly affected the total resilience landscape of the country. In Bangladesh, a handsome number of universities offers higher studies in disaster management (Abedin & Shaw, 2015). These undergraduate and postgraduate programs are essential for capacity building as well as mainstreaming the needs of disaster management and climate change adaptation. The network of graduates from universities offering disaster management programs is essential for tackling the nation's disaster management and climate change issues. With their numerous areas of employment now, these graduates form a scattered yet connected network of specialists capable of applying their specific expertise to a range of circumstances.

University-cultivated expertise offers a solid foundation for study, policy development, and real-world interventions catered to Bangladesh's particular requirements. Universities are hubs for both theoretical and practical research on disaster management, and the convergence of this academic knowledge encourages collaboration between different fields and organizations. The nation's problems with disaster risk reduction require creative thinking, which can only be achieved in this collaborative atmosphere. Collaboration among Bangladeshi institutions, through the exchange of resources, research outcomes, and optimal methodologies, enhances the group's ability to tackle hazards and calamities associated with climate change. When given proper facilitation and assistance, universities in Bangladesh have the capacity to produce innovative solutions for disaster risk reduction (Abedin & Shaw, 2015). This emphasizes how crucial it is for colleges offering disaster management programs to build and maintain strong networks. These kinds of networks facilitate the exchange of ideas, the creation of stronger policy suggestions, and the development of solutions tailored to particular contexts. These universities can make a substantial contribution to the development of a resilient society that is better able to lessen and manage the effects of disasters by encouraging a collaborative academic environment.

Coordination is a critical component of effective disaster risk management, involving the harmonization of activities and resources among various stakeholders. One major coordination challenge is the fragmentation of roles and responsibilities among different agencies. The SOD-2019 outlines the roles of various governmental and non-governmental entities in disaster management. However, overlapping mandates and unclear delineation of responsibilities can lead to confusion and inefficiencies. For instance, during the 2017 Rohingya refugee crisis, coordination between government agencies, international organizations, and NGOs was often hampered by unclear roles and competition for resources (Amin, 2024). Addressing these issues requires clear definitions of roles and robust coordination mechanisms.

Despite having a very robust regulatory and institutional framework consisted by proper policy document, Bangladesh suffers due to significant lag in implementation of those instruments (Mohibbullah et al., 2021). In this gap where government networks fail to deliver effective disaster management, other networks have the potential to coordinate and leverage existing networks, particularly, NGO groups. NGO networks will particularly be valuable to strengthening local NGOs including both formal and informal NGO networks. This can strengthen the potential of NGOs by encouraging them to share knowledge and expertise. They can serve as spaces where NGOs discuss issues and collaborate to create new strategies and develop new policies. Networks also give NGOs a sense of unity and can unite together creating a stronger force in influencing governments and other bodies. By encouraging shared analysis of development problems and presenting NGO viewpoints, networks help make NGOs a stronger force in national, regional, and global development (Izumi & Shaw, 2012). Currently there are 2636 registered NGOs working in Bangladesh among them 2362 are native NGOs, these huge number of NGOs can be a major force to drive the country towards a better resilient future (NGOAB, 2024). There are many NGO networks active in the country, but there is no centrally registered network of them. NIRAPAD is a knowledge-based NGO network with 24 members (NIRAPAD, n.d.)

Inter-agency coordination is also affected by differences in organizational cultures and priorities. Government agencies, NGOs, and international organizations often have different operational approaches and objectives, which can create conflicts and hinder collaboration. According to Tang et al. (2018), developing a culture of cooperation and establishing common goals are essential for effective coordination. Moreover, resource constraints, such as limited financial, human, and technical resources, can impede the ability of agencies to collaborate effectively. Ensuring adequate resources for disaster management activities requires coordinated efforts to mobilize funding and optimize resource allocation (Barua et al., 2021). These constraints are particularly pronounced in contexts with high levels of poverty and additional burdens, such as hosting large refugee populations.

Effective coordination also depends on the integration of various disaster management frameworks and policies. Different organizations may follow disparate guidelines and procedures, which can lead to inconsistencies in disaster response efforts (Paul et al., 2022). Kamal et al. (2022) and Alam & Ray-Bennett (2021) emphasize the need for harmonizing policies and practices among different agencies to achieve coherent disaster management strategies. Integrating national frameworks with the operational practices of local and international actors is essential for ensuring a coordinated approach. Another significant challenge is the lack of a centralized information management system. Effective coordination requires a shared platform for information exchange among stakeholders. The absence of such a system can lead to information silos and hinder collaborative efforts (Tang et al., 2018). Developing a centralized information management system that facilitates real-time data sharing among government agencies, NGOs, and community groups is necessary for improving coordination and response effectiveness (Sarker et al., 2020). The involvement of diverse stakeholders in disaster management can also create coordination challenges. Each stakeholder may have different priorities, strategies, and operational methods, which can complicate efforts to achieve a unified disaster response (Ainuddin et al., 2013). Aligning the priorities of local communities, government agencies, and international organizations requires a collaborative approach that considers the interests and capacities of all stakeholders involved (Abdeen et al., 2021). Finally, the effectiveness of coordination mechanisms depends on the training and capacity building of disaster management personnel. Proper training ensures that stakeholders have the skills and knowledge required for effective coordination and response (Oktari et al., 2020). Research by McEntire (2023) shows the importance of training programs for improving the competencies of disaster management professionals. Investing in training programs for government officials, NGO staff, and community members is essential for enhancing coordination efforts and disaster management outcomes.

Theoretical Framework:

This study utilizes an inclusive, intersectional, and participatory approach as the theoretical framework to comprehensively address the complex and multifaceted challenges posed by climate change, ensuring equitable, effective, and reflective adaptation measures for all community members.

Inclusive Approach (UNRWA, 2013)

An inclusive approach to climate adaptation emphasizes the participation and consideration of all community members, regardless of gender, age, socioeconomic status, or other intersecting identities. This approach is crucial, as it ensures the equitable distribution of adaptation benefits and addresses the needs of the most vulnerable populations. Involving a diverse range of stakeholders in the decision-making process enhances the creation of more comprehensive and sustainable solutions. For instance, by leveraging local knowledge and experiences, inclusive adaptation strategies can acknowledge and address the unique challenges faced by different community members. This holistic involvement cultivates a sense of ownership and commitment among all participants, thereby fostering more resilient and adaptive communities.

Intersectional Approach (Crenshaw, 1994)

Multiple, overlapping social identities such as gender, age, ethnicity, disability, and socioeconomic status shape individuals' experiences and vulnerabilities to climate change, as recognized by the intersectional approach. This framework, introduced by Kimberlé Crenshaw, is crucial for understanding the complex and varied impacts of climate change on different groups. An intersectional approach tailors adaptation measures to the unique needs of various groups within a community, avoiding a one-size-fits-all approach (United Nations Network on Migration, 2024). By acknowledging and addressing these intersecting vulnerabilities, policies and practices can be more targeted and effective in meeting the diverse needs of the community. For instance, women in Bangladesh's coastal areas may encounter distinct climate challenges from men, with their economic status or health conditions further shaping these challenges. Recognizing these nuances is essential for developing robust and equitable climate adaptation strategies.

Participatory Approach (United Nations, 2003)

The participatory approach is a cornerstone of positive governance and sustainable development, facilitating public involvement in the decision-making process. This approach increases the likelihood that public agencies' actions or services reflect the actual needs and preferences of the people. Participatory methods ensure that all concerned parties, including affected individuals, actively participate in planning and executing adaptation measures. Directly engaging community members through participatory approaches can result in solutions that are more effective and widely accepted. For example, community-led initiatives such as the construction of raised houses or the development of early warning systems for cyclones in southern Bangladesh benefit from local knowledge and ensure that the solutions are practical and sustainable. This method empowers communities and enhances the resilience and adaptability of the entire population when facing climate-induced challenges.

Case Study: Community resistance to harness resilience: The movement against saline water

The coastal area is infringed by saline water through commercial saline shrimp cultivation. Four wards in the north-west part of Deluti Union is abundant in the saline water shrimp cultivation Gher. But despite being in the same union the other five wards of the union don't have a single saline water-gher. This resilience against saline water intrusion is wrought through blood spilling resistance by a group of community people. The time was November 7, 1988 when this atrocious murder took place when Koruna, member of an organization of the landless people, brought out a procession against the extension of saline water Gher in their community. Koruna was shot dead by Wazed, who shoot at the procession against saline water Gher in the area. After this shocking incident the ethos of the movement propagated expeditiously among the people of the area. Consequently, the sprawl of saline water dwindled. Till date, November 7 is observed as "Koruna Day" as a homage to the sacrifice made for restraining salinity.