RESEARCH THESIS 2024-2025

CLIMATE RESILIENCE IN BANGLADESH (Bānlādēśa, বাংলাদেশ)

NAVIGATING BETWEEN THEORY AND HARSH REALITIES IN AN UNSTABLE WORLD

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Women and villagers walk along a narrow, eroded embankment holding buckets and essential supplies, they navigate the muddy path to access clean water and safety, with submerged homes visible in the background.
Unknown, n.d. (Source: Dhaka Tribune)

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WARNING

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ABSTRACT

As one of the countries most affected by climate change in the world, Bangladesh stands at the frontline of escalating environmental challenges. Through national policies and local implementations, the country is striving to build resilience amid growing instability. This research paper analyzes bangladesh's resilience strategies at both local and national levels by exploring and questioning the concept of resilience, understood as the capacity to absorb and withstand shocks while maintaining core functions. By exploring how resilience is perceived and implemented, the study sheds light on the national and international dynamics influencing bangladesh's climate adaptation efforts. It also examines the broader implications of resilience on social equity and sustainable development, highlighting both achievements and persistent vulnerabilities.

Keywords: resilience, climate change, environment, Bangladesh, adaptation, social resilience, international relations.

RÉSUMÉ[1]

En tant que l'un des pays les plus touchés par le dérèglement climatique, le Bangladesh fait face à des défis environnementaux croissants. À travers des politiques nationales ambitieuses et leur mise en œuvre au niveau local, le pays s'efforce de renforcer sa résilience dans un contexte marqué par une instabilité croissante. Ce travail de recherche analyse les stratégies de résilience du Bangladesh aux échelons local et national, en explorant et en questionnant le concept de résilience, défini comme la capacité à absorber les chocs et à maintenir les fonctions essentielles d'un système. En étudiant les perceptions et les pratiques liées à la résilience, cette étude met en lumière les dynamiques nationales et internationales qui façonnent les efforts d'adaptation au changement climatique du pays. Elle examine également les implications plus larges de ces stratégies en matière d'équité sociale et de développement durable, en soulignant les avancées réalisées ainsi que les vulnérabilités persistantes.

Mots-clés : résilience, dérèglement climatique, environnement, Bangladesh, adaptation, résilience sociale, relations internationales.

[1] Voir **APPENDIX 1** pour un résumé en français plus complet de la recherche.

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SOMMAIRE

LIST OF ACRONYMS

ADB	Asian Development Bank
BCCRF	Bangladesh Climate Change and Resilience Fund
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BCCTF	Bangladesh Climate Change Trust Fund
BDT	Bangladesh Taka (৳)
CBDR-RC	"Common But Differentiated Responsibilities and Respective Capabilities"
COP	Conference Of the Parties
CPP	Cyclone Preparation Program
DRR	Disaster Risk Reduction
EU	European Union
FAO	Food and Agriculture Organization
FYP	Five-Year Plan
GCF	Green Climate Fund
GDP	Gross Domestic Product
ICCCAD	International Centre on Climate Change and Development
IMF	International Monetary Fund
IPCC	International Panel on Climate Change
LDCs	Low-Developed Countries
L&D	Loss and Damage
LoGIC	Local Government Initiative on Climate Change
MoEFCC	Ministry of Environment, Forest and Climate Change
NAP	National Adaptation Plan
NAPA	National Adaptation Program of Action
NbS	Nature-based Solutions
NDCs	Nationally Determined Contributions
NGO	Non-Governmental Organization
SIDS	Small Island Developing States
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNFCC	United Nations Framework on Climate Change

INTRODUCTION

"Climate change has caused widespread adverse impacts and related losses and damages to nature and people that are **unequally distributed across systems, regions and sectors**."

— IPCC, *Report for Decision Makers 2024*, A.2.6

What is at Stake?

In August 2024, Bangladesh experienced a devastating flood that claimed the lives of 70 people and caused extensive property damage. While not the deadliest in Bangladesh's history, this flood adds to the country's long history of natural disasters as one of the world's most climate-vulnerable nations. Moreover, it seems the country will face even more floods, likely more intense and damaging.

Today, climate change manifests in three interacting and overlapping ways: long-term trends in mean temperatures and climatic norms, significant changes in precipitation patterns, and secondary effects like sea-level rise, ocean acidification, shifts in biomes, or even the spread of diseases. These changes can be observed in different parts of the world, even if some of them, mainly in the global South, are more exposed than others today. South Asia, Sub-Saharan Africa, and Small Island Developing States (SIDS) are the regions bearing the brunt of these changes. Their climates have always represented a challenge for these regions and their development. They have indeed been subjected to harsher natural disasters than other regions. For them, the rise of climate change causes new disasters but also amplifies the intensity, frequency, and deadliness of existing ones, disproportionately affecting these lower-income countries.

Bangladesh exemplifies this reality as one of the countries most severely affected by climate change and the increasing pace of its manifestations. As a South Asian country in the Ganges delta, the largest in the world, it is marked by a tropical, humid, and monsoon-driven climate. Over time, the country has had to grow accustomed to these climate-specificities. In order to do so, it has developed unique ways to protect its population and the territory. To grow as a country and feed its population despite its climate, it has also developed distinctive ways to practice agriculture, one of its most prominent economic sectors, especially in fisheries and rice, to adapt to the climate hazards it faces every year.

These agricultural practices have helped preserve the country's rich agro-biodiversity, particularly in plants and animals. We estimate that 6,000 rice varieties are known to have existed in the country[2]. In addition, the country is home to a rich and vast biodiversity, including the third most enormous aquatic biodiversity in the world and the world's largest flooded wetland (called *beels*).

Figure 1:
Relief and river map of Bangladesh highlighting its major waterways and cities, including Dhaka, the capital.
(Source: Blue Green Atlas)

With more than 700 rivers flowing through its territory, Bangladesh, often called the 'land of rivers,' is among the most riverine countries in the world. Bordered almost entirely by India, Bangladesh shares several transboundary rivers with the country and also indirectly with Tibet, as many of these waterways originate in Himalayan glaciers. The richness of its lands comes from its geography, which is composed of vast plains and landscapes crisscrossed by a vast network of rivers. They shape the country's geography, culture, economy, and environment. Today, Bangladesh ranks as the 35th-largest economy in the world[3] in nominal terms and holds the position of second-largest in South Asia. The Prosperity Index, considering factors such as economic quality, education, health, or living

[2] Convention on Biological Diversity. *Bangladesh – Country profile*. Reviewed on April 4, 2025, from https://www.cbd.int/countries/profile?country=bd
[3] Consulate General of the People's Republic of Bangladesh, Dubai. *Bangladesh Economic Profile*. Reviewed on April 4, 2025, from https://bcgdubai.gov.bd/economic-profile/

conditions, ranks the country as the 124th country out of 193[4]. Furthermore, regarding the Human Development Index (HDI), it stands at the 129th, with an index of 0.67[5]. Although the country has made significant progress in recent decades, elevating its position by 14 places in the global economic rankings since 2000, it is still classified as a low-income country according to international institutional criteria. Moreover, with climate change, the country and the livelihoods it supports are under severe pressure.

The climate threats are driving biodiversity loss and livelihood disruption. From 2000 to 2019, the country experienced not less than 185 extreme weather events, making it the 9th most vulnerable country to climate change in the world[6]. This is not without saying that the Bay of Bengal, which forms Bangladesh's coastline, is one of the most prone to developing tropical low-pressure systems. Cyclones forming in this bay constitute around 5-6% of the global total but still remain deadly, accounting for about 50-60% of global losses when referred to lives and property[7]. Those cyclones are not the only threats looming over the country as the latter is also subjected to increasingly deadlier heat waves, flooding, droughts, sea-level rise, and water salination. These risks, combined with restricted resources, limited infrastructure capacity, and one of the highest population density rates in the world, make the country particularly vulnerable to climate hazards. However, Bangladesh has consistently taken action to improve its capacity to resist climate disasters. Its vulnerability does not deter the country from acting, but it seems, on the contrary, to boost its commitments, especially from a local perspective.

This is where the notion of resilience becomes particularly significant. Originally, resilience was defined as the capacity of an actor (in our case, Bangladesh) to confront and successfully resist external changes (climate disasters) without changing how the country functioned before the occurrence of the disasters. It emphasizes, in a way, the capability to resist without changing. Voluntarily, and because it is a much more nuanced and complex notion than that, I will not explain resilience thoroughly in this introduction, as the first

[4] The Legatum Prosperity Index. *Bangladesh*. Prosperity Institute. Retrieved on April 4, 2025, from https://index.prosperity.com/globe/bangladesh
[5] UNDP. *Bangladesh*. Retrieved on April 4, 2025, from https://data.undp.org/countries-and-territories/BGD
[6] Bündnis Entwicklung Hilft & Institut für Friedenssicherungsrecht und Humanitäres Völkerrecht. (2024). *WorldRiskReport 2024 – Focus: Multiple Crises*. Bündnis Entwicklung Hilft. Retrieved on April 4, 2025, from https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2024.pdf
[7] Manas, M., Anupam, B., Subrata, H., Somnath, M., Subhasis, B., Suman, P. (2022). Spatio-temporal behaviours of tropical cyclones over the bay of Bengal Basin in last five decades. Tropical Cyclone Research and Review. *Science Direct*, Volume 11, Issue 1, pp 1-15. Retrieved on October 10 2024, from https://www.sciencedirect.com/science/article/pii/S2225603221000382

chapter of this thesis will be dedicated to presenting the rise of this concept, as well as the place it now occupies in our international order. Global institutions have promoted resilience as a key climate adaptation and stability component. Consequently, it gives resilience a moral and strategic authority as a desirable feature a country can possess. A feature that countries are encouraged to develop. In Bangladesh's case, resilience is central to climate action. Today, we are witnessing a form of "Bangladeshi resilience," combining national strategies and locally-led responses.

However, the environmental, economic, and social disruptions that are threatening to happen with climate change raise the question of whether this form of resilience is enough. Suppose resilience is narrowly understood as the ability to 'bounce back' or maintain the status quo, meaning the systems and structures in place before the disruption. In that case, it appears insufficient, perhaps even harmful, in the face of increasingly rapid and frequent climate disruptions. Worse still, it may perpetuate, if not reinforce, existing inequalities, such as gender disparities or the exclusion of Indigenous communities in Bangladesh. Thus, resilience is at the center of criticisms and reflections on how to transform that notion or, at least, to move past it towards more adapted concepts and practices.

The resilience debate is not only a technical question; it is central to understanding how the global fight against climate change will be shaped and whether it will be equitable, effective, and just.

Research Question and Sub-questions

My thesis primarily focuses on the resilience approach in Bangladesh and its effectiveness in addressing ongoing climate change and its projected future impacts. It is guided by the central research question: *Does the resilience approach still offer an effective response to the threats posed by climate change?* By examining perceptions of resilience within Bangladesh, both as a nation and as a 'community of communities', and contrasting them with those of international actors, this research explores the intersection of social, economic, political, and economic dynamics intersect. While centered on Bangladesh, this study also engages broader international issues, particularly those of funding and cooperation, which have shaped climate responses for decades and continue to influence the implementation of resilience strategies.

By focusing on two central themes (resilience and climate change), this research seeks to unravel the often-overlooked links between national and international decision-making. It investigates how the notion of resilience is employed by global institutions and whether its meaning goes beyond a mere declaration of intent to become a genuine means of strengthening countries. The objective is to understand the mechanisms behind resilience before, during, and after a hazard, and how both national and global structures shape a country's capacity to respond, particularly in a context marked by persistent inequalities.

These elements led to the central problematic of this research: *To what extent does resilience, promoted in response to climate change, remain subject to long-standing social, economic, and international factors that are decisive for Bangladesh's future?* Understanding these underlying forces is crucial to evaluating whether resilience remains a desirable and viable strategy in the face of accelerating climate risks.

To achieve this, my research question will be further explored through sub-questions within the chapters that structure this paper.

The first chapter will explore resilience and its factual and normative implications in the international context. What is resilience, and how did it come to occupy such a prominent place in global climate discourse since the 1970s? Understanding both the concept itself and the context of its emergence is essential to analyzing the role it now plays in environmental and climate strategies worldwide. Resilience must be situated within a specific ideological and political framework—one that is actively shaped and promoted by international institutions. This will allow us to assess how resilience relates to climate change, and in what ways it is being mobilized as a response to current and anticipated climate events.

The theoretical foundation established in Chapter 1 will serve as a basis for examining how resilience is applied in Bangladesh's climate strategies and policies. What characterizes Bangladesh's model of resilience? Has it enhanced the country's capacity to recover from climate-related disasters and if so, to what extent? Is resilience a temporary response, or can it grow stronger when confronted with increasingly severe challenges? Does the country have the resources to sustain such resilience? These questions will guide a detailed exploration of what resilience means in the Bangladeshi context. By analyzing both the country's strategic approaches and the implementation of its climate actions, this chapter

will contribute to a broader assessment of the effectiveness of resilience as a response to climate change.

Finally, the last chapter will examine how resilience is shaped by both national and international socio-economic factors. How can resilience be understood at the scale of small villages and local communities? This question brings attention to the role of social structures and the inequalities that influence a community's capacity to respond to climate stress. Since a community can exist at multiple scales—from the village to the global—we will explore how international dynamics also affect Bangladesh's resilience. Do the specificities of international aid mechanisms inadvertently weaken national resilience? How do major international organizations influence global climate relations and shape national responsibilities? As I will argue, while these socio-economic dynamics currently present challenges, they also hold the potential to become the foundation for more effective resilience strategies and a better consideration of global climate risks.

Analytical Framework

This research paper aims to adopt a decolonial approach to climate change and resilience. Many documents from international organizations such as the UN, the UNFCCC, the World Bank, and the IMF support my thesis and its conclusions. These organizations present a specific and institutionally legitimized image of resilience and climate change. My objective is to use their definitions to compare Bangladesh's perspectives on them, nourished by the six interviews I had with Bangladeshi people and by my research on the subject. Nevertheless, I still find it essential to precise that these organizations' perspectives only reflect one side of the prism. In this sense, some terms that I will use, such as 'developed,' 'less developed,' and 'developing' countries, are also part of a legitimized and globally recognized vocabulary deeply embedded in the global capitalist framework of our societies. This terminology selectively emphasizes certain aspects of a country while overlooking others. Acknowledging that they are ideologically oriented is necessary to avoid perpetrating existing inequalities and staying ignorant of marginalized ideas. Consequently, it is vital to cultivate a critical regard for these issues while reading my thesis. One of my aims will be to treat these subjects from other perspectives and abandon the idea that the environment or the thoughts on climate change are uniform. The primary purpose of my thesis is to study

Bangladesh and its local communities to understand how the issues I will be discussing are perceived.

Before I discuss my subject in depth, I must define some key notions (climate change, hazard, climate disaster, community) that I will use throughout this paper.

Climate change. NASA defines it as a "long-term change in the average weather patterns that have come to define Earth's local, regional, and global climates." This definition highlights the importance of time, as the pattern changes will not reveal themselves in less than a few years in most cases. My choice of not mentioning "global warming" but rather climate change stands with the recent scientific consensus that climate change coops up more than surface temperature change. It is to show that the increased temperatures are not the only threats posed by climate change and that we need to see this phenomenon more broadly and for what it is: a slow disruption of our actual ways of living. Finally, it seems essential to emphasize that climate change is the primary cause of human activities, as stipulated many times by the IPCC in its reports since the late 1990s.

Hazard. A hazard can be defined as a phenomenon that has the potential to cause harm. My thesis will focus on climate hazards and the actions implemented in Bangladesh to prevent them from creating damage. It must be differentiated from a risk. A risk is "the likelihood of a hazard causing harm."[8]. It reflects the possibility, not the certainty, that a hazard will lead to negative consequences or damage. This distinction is necessary in climate and disaster studies because it separates the existence of a threat (hazard) from the actual vulnerability and exposure that make it dangerous (risk).

Climate disaster. A climate disaster can be defined as an event resulting from climate-related hazards that significant harm to a population and/or an environment. Unlike the term natural disaster, which emphasizes events arising from natural systems, climate disaster more accurately captures the interaction between human-influenced climate hazards and vulnerable social systems. In this sense, a climate disaster is not merely the hazard itself, but the breakdown that occurs when resilience is insufficient, meaning when a population is unable to absorb or recover from its existing vulnerabilities. The term highlights the

[8] European Food Safety Authority. (2016). *Hazard vs. Risk*. European Union. Retrieved on April 6, 2025, from https://www.efsa.europa.eu/en/discover/infographics/hazard-vs-risk

anthropogenic nature of climate change and the ways in which it exacerbates risk in already fragile contexts.

Community. This term matters because, within national or international frameworks, the definition of a community can influence whose voices are heard in decision-making and who gets access to resources, training, and adaptation tools. It influences how inclusive and context-specific resilience strategies are. In that sense, in countries such as Bangladesh, a community can be defined as a group living in a shared geographic area. In Bangladesh, the administrative geography is structured into divisions (eight in total), districts (*zilas*), sub-districts (*upazilas*), unions (*Union Parishad* – the smallest rural administrative units, consisting in multiple villages), and villages (or *mouzas*). They form communities through a multi-tiered framework that facilitates local governance and community development.

Community can also be defined as "a cohesive social entity" bound by a "unity of will," as defined by the German sociologist Ferdinand Tönnies[9]. Shared socio-cultural, economic, or institutional ties connect people. It creates social bounds and is intrinsically linked to community-driven actions and the start of locally-led resilience in climate change. It is at the core of social resilience, a term I will return to later in the text. In another perspective, Bangladesh, as a country with its specificities, can also be defined as a community. Unlike other countries, people within a same country are collectively exposed to specific environmental or climate-related risks, connecting people to a shared future. Therefore, a community can be understood on both a local and national scale.

Methodology

To conduct my research, I prioritized studying the national plans of the People's Republic of Bangladesh on their official website. My primary intention was to understand their national strategy in confronting climate change in the upcoming years and investigate their past strategies to note any change in priorities. The political instability shaking the country's ground today, mainly because of widespread protests against the government, makes the country's future objectives uncertain and most likely to change rapidly.

[9] New World Encyclopaedia. *Community*. Retrieved on April 10, 2025, from https://www.newworldencyclopedia.org/entry/Community.

Understanding the context and the possible changes it might bring to the country is essential to better grasping Bangladeshi resilience and its future.

After analyzing the Bangladesh's use of resilience and its importance within their strategies, I examined many institutional sources, as said earlier. Most of the sources I have read were written in English, primarily because I found a greater number and variety of sources in English than in French. Furthermore, since words carry specific meanings, reading in the original language allows for a better understanding of the nuances of the authors' intentions, particularly in institutional papers.

The UN frameworks and papers are critical as they dictate how resilience is perceived in most countries. Most climate frameworks, including resilience, emanate from the UN. Today, it is one of the main actors shaping this notion and influencing its trajectory within international and national frameworks. Understanding resilience from the UN's perspective, compared with the Bangladeshi people and its government, is key to understanding how it is concretely practiced and asserting whether resilience is more than a 'UN horizon.' The same analysis and comparison are made with other international organizations, such as the IMF and the World Bank (WB), that use the notion as a key asset in the fight against climate change. Studying their discourses is central in my research, especially when they can be confronted with the interviews I had the opportunity to conduct.

Conducting qualitative interviews was necessary to better understand the context of climate change in Bangladesh and commit to my objective of retransmitting the voices of Bangladeshi people and their thoughts on the ongoing situation. They represent the core of my research and are the primary sources that guided my analysis of the resilience discourses. The people I contacted were mainly reached through the official contact information of the local or international organization they work for – *See APPENDIX 2*. Before interviewing them as professionals, I also deemed it necessary to interview them as individuals witnessing climate change daily, collecting their thoughts and feelings about the situation. I reached out first to local humanitarian workers or activists. The objective was to have a regional point of view of the situation throughout the actions they were implementing. I also contacted people working in Bangladesh for international organizations. The purpose was to understand if the realities on the ground in Bangladesh were differently perceived by people working under different perceptions on the world of aid. Most of all, these interviews were meant to give

me a real insight into Bangladesh and to portray the most faithful thoughts, beliefs, and sentiments of the Bangladeshi people.

I had the opportunity to interview six people, all originally from Bangladesh. Exchanging with these local professionals, each with a different profile and diverse experiences, was of great help to me in orienting and writing my thesis. Throughout my thesis, I will delve deeper into these interviews and the people I spoke with, to fully engage with the knowledge they shared. Nonetheless, six people remain far from representing the entire population of Bangladesh, especially as five out of six are men. Having the opportunity to interview more women would have significantly improved the accuracy of my thesis, especially as I will dive into the gender issues in Bangladesh. Nevertheless, doing these interviews still got me closer to grasping what is happening in Bangladesh. It represented a more approachable and close perspective than the one in the papers. These interviews were also completed by specialized articles written by Bangladeshi institutions or scholars for more accuracy.

Finally, the conduct of this research met with expected but also unexpected difficulties. The main obstacle I encountered was contacting people to conduct interviews. I contacted many international organizations and local associations, and I never got a response from some of them despite several attempts to reach them. However, given the current situation with the withdrawal of the USAID funds, many organizations worldwide were compromised as they were benefitting from their finances. Hence, it was a delicate situation for them to find time for an interview, as one of the individuals I contacted confided in me.

On the other hand, I never got answers from many of the European Union organizations or branches I contacted. The only response I got was that they apparently could not emit political opinions on such matter. I think having the point of view of one of the significant loaners in Bangladesh would have been beneficial in my thesis. However, due to the lack of responses I got, I will only rely on the papers I have read.

CHAPTER 1 – UNDERSTANDING RESILIENCE IN THE INTERNATIONAL ORDER

> "Breaking down the resilience of the old and **building the resilience of the new**."
> – Carl Folke, *Resilience Thinking: Integrating Resilience, Adaptability, and Transformability*, 2006.

Before diving into the strategies implemented by Bangladesh and the challenges it faces in building resilience, it is crucial to understand what being resilient means and how it is achieved. This chapter seeks to dive into the theoretical and practical aspects of resilience. Resilience emerged as a response to growing environmental and socio-economic shocks, providing a framework for communities and nations to withstand, adapt, and recover from disruptions without destabilizing their core functions. Over time, this concept progressively evolved from a theoretical idea into a practical tool promoted by international organizations. The international order structures the development of countries and the objectives they ought to pursue to contribute to global stability. Hence, international organizations progressively incorporated the notion of resilience into their organizations to enhance stability and development in a rapidly changing climate (**I**).

With climate change, resilience was reappropriated and transformed to capture the essence of climate change and its effects on resilience. The notion has gained growing importance in a world slowly acknowledging the unavoidable impacts left by a global climate perturbation that threatens not only the most affected countries, but also the entire globe. With this knowledge came the need to operate global institutional frameworks to mitigate the impacts and aid the most vulnerable nations with new theories on resilience and how it can be a solution (**II**).

I. The Emergence of Resilience as a Global Concept

Resilience provides a strong base for research fields to study and analyze a country's capacity to resist external threats to its systems (**A**). First, a theoretical concept, it became a feature promoted by international organizations (**B**).

A. Resilience as a Theoretical Concept and Vision of Development

The notion of resilience first emerged in psychology with Emmy Werner in the 1970s and 1980s. Resilience describes a person who successfully adapts to challenging or traumatizing life experiences through mental, behavioral, and emotional flexibility. It was thought of as the ability to cope with a crisis and to have the capacity to go back to a pre-crisis state quickly and effectively. This aspect is essential because it is also at the core of what will later be called 'ecological resilience'. This term was adopted in the environmental field by C.S. Holling in 1973. First thought within an ecological system, it was defined as a "measure of the ability of systems to absorb changes of state variables, driving variables, and parameters, and persist." In short, it emphasizes the capacity of a system to confront and successfully resist changes in variables without having to change its primary functions. The development of this concept was used to understand why some ecological systems survive while others do not when faced with disturbance. It is a property that not every ecosystem possesses. The intent to understand the factors explaining why some ecosystems can re-establish stability after being perturbed gave rise to how resilience is thought of and used today in the "disaster world"[10].

Resilience in the "World of Disasters"

Building on its ecological roots, the concept of resilience was progressively integrated into disaster management to measure and enhance the capacity of communities and nations to withstand and recover from natural hazards. This transition marked a shift from purely reactive measures to proactive resilience-building, emphasizing preparedness (meaning to be prepared if a disaster happens) and long-term sustainability. Resilience was used to describe a country's ability to resist climate disasters. It became a characteristic of the system operating within a country, meaning how the country mobilizes its resources, copes with a climate catastrophe, and bounces back to a normal state afterward. Local communities have always been at the frontline of disaster response, mobilizing resources and deploying adaptive strategies long before external aid arrives. The communities have had to adapt to climate disasters and build long-lasting, resilient livelihoods and strategies to avoid damage

[10] Revet, S. (2020). *Disasterland. An Ethnography of the International Disaster Community*. Paris: The Sciences Po Series in International Relations and Political Economy, p.24.

and pursue their livelihoods despite the risks. Their immediate actions reflect practical resilience, laying the foundation for how resilience would be conceptualized and institutionalized globally.

Nazmul Ahsan, a leader of the youth program in the local association ActionAid Bangladesh based in Dhaka, works with vulnerable communities, particularly women – *See **APPENDIX 3** for the full interview transcript*. During the interview, he described resilience as how the communities "are handling the situation so far, and how they can return to their normal life again. (…) work with their regular social, economic, political activities, and other things."

For example, many communities have practiced innovative agroecological cultivation methods despite unstable weather patterns. Countries also began constructing anti-cyclone shelters to withstand extreme winds, storm surges, heavy rainfall, and flooding for the population.

Figure 2:
A three-storied cyclone shelter with a hollow ground floor, built upon a platform 60 centimeters above the site level, located in. Cox's Bazar District[11], Southeastern Bangladesh, Bashirul Haq & Associates (n.d.)
(Source: Architexturez South Asia)

[11] See ***APPENDIX 4*** for a detailed map of Bangladesh's divisions and capitals with major cities.

These installations were meant to improve resilience by enabling the population to seek refuge and bounce back more quickly after a cyclone passes. They would allow people to be more alert and protect themselves more efficiently to withstand the shocks more readily. Resilience concerns many aspects of one's life, including one's livelihood and professional activities, as well as social, economic, and political assets, including social bonds within a community, incomes, and inclusion within decision-making. All these factors are decisive in ensuring effective climate resilience within an interconnected system.

Dr. Bapon Fakhruddin is a trained hydrologist and a system developer for the Coastal Inundation Forecasting Demonstration Project (CIFDP) at the World Meteorological Organization (WMO). He also provides leadership and oversight of the portfolio of investments in water resources for addressing climate change at the Green Climate Fund portfolio. During the interview, he discussed resilience and what it meant for a community to be resilient. Resilience "can also mean bouncing back. That means if your state is actually changed due to a disaster, how can you return to a normal state? It gives a comfort zone." The comfort zone idea is relevant to how resilience can be perceived. Because resilience aims at protecting ways of living, it is supposed to avoid radical transformation, usually associated with plausible instability. Resilience gives comfort because it allows societies to preserve themselves from change; it is often feared because of the uncertainty behind it, or rejected to protect one's own interests. According to Dr. Bapon Fakhruddin, resilience should be interpreted as a positive aspect that gives a sense of reassurance. Indeed, resilience is most of the time interpreted as a desirable characteristic to have. People should know how and when to react appropriately, assess their vulnerabilities correctly, and act in consequence. However, as will be analyzed throughout this research, this idea is far from readily achievable. Resilience is intrinsically linked with other concepts, such as preparedness that comes before a disaster happens, reparation and reconstruction after it strikes, and adaptation that usually comes as a response to the need to change to confront future disasters.

Resilience, Adaptation and Vulnerability

Resilience should be distinguished from these notions, especially adaptation. Resilience is not an action but rather a state of being. According to the United Nations International Strategy for Disaster Reduction (UNISDR), resilience is defined as "the capacity of a system,

community, or society to resist, absorb, accommodate to, and recover from the effects of a hazard in a timely and efficient manner.". It identifies three key actors of resilience:

1. Systems – These include infrastructural networks, ecosystems, and technological systems that must remain functional or recover quickly during disruptions (e.g., water supply systems, communication networks, energy grids).
2. Communities or Societies – This refers to populations and social structures, encompassing individuals, households, and community networks that must withstand and adapt to shocks (e.g., neighborhoods affected by flooding or drought).
3. Countries (Nation-States) – At the national level, resilience involves governance, economic stability, and institutional capacity to manage large-scale risks, coordinate disaster response, and implement recovery strategies.

This distinction highlights that resilience is inherently multi-scale. For true resilience to be achieved, it must be strengthened across all three levels—local systems, communities, and national governance. Each scale is interconnected, and weaknesses in one can undermine the effectiveness of resilience as a whole. The UNIDSR's definition also emphasizes the post-disaster phase, accentuating the importance of returning to a normal state after a disaster and adapting to reduce future risks. Adaptation is a key component in strengthening resilience. A part of being resilient is the capacity to adjust to current and future risks. While resilience is a global state, adaptation is only one of the elements that make up resilience. Around the 2000s, the priority in resilience was the efforts oriented towards improving disaster preparedness and response. The perspectives at that time thought of disasters as sudden and endogenous, meaning that, as unpredictable as climate can be, especially in tropical regions, societies could try to anticipate risks, be prepared, and respond to them after they strike. Disasters were perceived from a cyclical perspective, including a recovery, reconstruction, and preparation phase for the following disaster[12]. The endogeneity in this regard refers to the vulnerability that may affect a country's capacity.

Vulnerability is, similarly to resilience, a state of being. The UNDRR defined it as "the conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards" (2004). This

[12] Sandrine Revet. *Disasterland. An Ethnography of the International Disaster Community*, p.187.

definition emphasizes the multidimensional nature of vulnerability. When related to climate change, this multifaceted vulnerability affects the "likelihood that a hazard will harm individuals, communities or societies"[13] It is estimated that a country has a vulnerability when its resources (human, logistical, physical, and technical resources) can not effectively respond to a hazard to minimize its impact. It can be due to a lack of resources, ineffective use of these resources, and marginality behind them. It can also be caused by a limited ability for self-protection, among others. It explains why disasters occur when socio-ecological systems' coping capacities are overwhelmed, preventing resources from being mobilized effectively. Hence, the lack of resources and ability to act makes the poorest communities the weakest in hazard mitigation[14]. While hazardous events cannot be threatening in and of themselves, they can become dangerous when they are associated with exposed and vulnerable communities[15]. A risk exists when there is an evident vulnerability. This socio-ecological reality, which will represent an important part of this research, is essential to understanding the existential issues behind vulnerability and, overall, the effects of climate change.

The place of resilience in that perspective was seen as critical, as it has long been opposed to vulnerability. A resilient country could not be, in itself, vulnerable. However, the link between the two notions is more profound than that and is, in reality, two sides of the same coin. Vulnerability is dynamic, meaning that it is not static but changes over time due to evolving contextual and physical conditions. Consequently, it shifts under the adaptation and development of nations and brings about a changing resilience. They often work on a 'feedback loop.' The more vulnerable a community is, the more vulnerable it will be to disasters; conversely, the more resilient it is, the less vulnerable it becomes in the face of future risks. Knowing how to balance resilience, adaptation, and preparedness is essential for a society to bounce back effectively and counter its vulnerability.

In short, the following defines the relationship between resilience, adaptation, and vulnerability:

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[13] CARE Climate Change. (2009). Humanitarian *Implications of Climate Change. Mapping emerging trends and risk hotspots*. CARE.
[14] Cutter, S., Boruff, B., & Shirley, W. L. (2003). Social vulnerability to environmental hazards. *Social Science Quarterly*, 84, 242–261.
[15] Blaikie, P., Cannon, T., Davis, I., & Wisner, B. (2004). *At Risk: Natural Hazards, People's Vulnerability and Disasters* (2nd ed.). Routledge. doi: https://doi.org/10.4324/9780203714775

- Resilience is the outcome of effective adaptation and reduced vulnerability.
- Adaptation is a process to improve resilience by anticipating risks.
- Vulnerability highlights exposure and sensitivity to risks, which resilience strategies aim to minimize.

The Resilient Thinking and its Meanings

On that matter, what is commonly called "resilient thinking" can be seen as an alternative perspective on the world and an innovative method for resource management. [16]. These resources should be found within the community; that is how you resist vulnerability. In a way, resilience has opened a way for actors to think about resisting changes and, inversely, influencing vulnerability dynamics. The first step of that thinking is to adopt a comprehensive view of humans as an integral part of a complex system within nature, the social-ecological system mentioned above. All aspects of our environment, human and non-human, are interconnected and experience stress when a disaster hits. Human and natural systems are interwoven entities that have continually adapted through time and the changes it has brought. Therefore, resilience must be considered as the resilience of all these systems to absorb the shocks and disturbances more effectively [17]. It means integrating human variables (institutions and governance, decision-making processes, culture and beliefs, economic processes, social order) and environmental variables (biodiversity and ecosystem services, climate and/or ecological risks, soil and water availability) in the resilience process.

Aditya V. Bahadur et al., in 2010[18], integrated these aggregates into ten characteristics that would make a system resilient:

(1) Diversity – a variety of resources, functions, and voices strengthen resilience
(2) Effective governance – Institutions should be centralized, flexible, and adaptive
(3) Embracing uncertainty – Systems should manage change rather than resist it
(4) Community Engagement – Local knowledge and participation are essential

[16] Walker, B.H. and D. Salt. (2006). *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. Island Press, Washington, D.C., USA, 174p.
[17] Walker, B.H. and D. Salt, 2006, *ibid*.
[18] Bahadur, Aditya V., et al. (2010). *The Resilience Renaissance? Unpacking of Resilience for Tackling Climate Change and Disasters*. Strengthening Climate Resilience Discussion Paper 1. Institute of Development Studies, 45p.

(5) Preparedness and Redundancy – Systems should be designed to withstand partial failure

(6) Equity and Justice – Fair distribution of risks enhances resilience

(7) Social Capital – Strong community ties improve cooperation and resource access

(8) Non-Equilibrium Thinking – Systems do not return to a single stable state

(9) Continuous Learning – Policies and institutions must adapt and evolve

(10) Multi-Scale Approach – Local-to-global interactions shape resilience

These characteristics emphasize the necessity to think about a system's political, economic, cultural, and social aspects while integrating other dynamics in the long term and considering the possibility of encountering possible disturbances. A community needs to effectively evaluate these aggregates and the relations they sustain with each other to prepare against potential external threats. When taking action against a potential climate hazard, a country needs to mobilize its own political, economic, financial, and social resources in accordance with environmental aggregates, as they could hinder the country's efforts if not taken into account effectively. This calculation also needs to be considered in the long term to prepare effectively without disrupting society so much that it would need to change its foundations. A resilient system should be able to change as the world changes while maintaining its functionality. Resilience involves a system's conditions before a hazard strikes and its ability to respond and recover in the aftermath. In that, resilience should also be distinguished from mere recovery. While recovery follows a period of dysfunction before gradually returning to pre-event functioning, resilience is about a trajectory that may involve transient perturbations but normally also a stable trajectory of healthy functioning[19].

Overall, resilience thinking has become a primary focus of several institutional actors and actors directly involved in natural disasters when considering societies' future. Institutional actors have used this word as a new strategy that countries should strive to follow. With adaptation should come resilience. However, the notion of resilience in itself does not produce a consensus within the theoretical sphere, and many critics have emerged about it.

[19] Bonanno, G. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events?. *American Psychologist*, 59, 20–28.

Critiques of Resilience

One of the main factors that nourished the new theories on resilience was the ongoing criticism surrounding its implications in theory and practice. Resilience represents a 'top-down' register where international organizations, donors, and especially Western governments dictate how resilience should be built rather than allowing local governments or communities to define their resilience. It differs significantly from the liberal internationalist framework of the 1990s, where international state-building interventions were promoted. This criticism was also followed by a denunciation of neocolonialism, where Western institutional actors would tell countries from the South how to be resilient, despite their lack of knowledge of the country and its specificities. It was seen as an instrument of control, but also of 'educating' developing countries that resembled strategies during the colonial period, raising questions on their legitimacy on that particular issue.

On the other hand, while the resilience strategy was implemented from the top, many criticized the fact that, on the ground, the concrete actions taken to become resilient were to be initiated by the communities themselves. Resilience was, and still is, criticized for being a tool of governmentality, meaning it shifts the responsibility for managing risks from states and international institutions to individuals and communities rather than addressing the structural causes of vulnerability. It lets communities with poor resources manage their resilience without the right incentives or practical tools. These criticisms are particularly evident in Bangladesh, where community-led adaptation strategies often emerge not out of choice but out of necessity, given the limited state-led interventions. While local resilience is crucial, lacking structural support risks entrenching inequalities, leaving vulnerable communities to manage risks with inadequate resources. It makes the government less accountable for possible adverse outcomes from mismanagement[20]. This vision of resilience is aligned with neoliberal governance, where the State withdraws from social protection and places the burden on citizens to be "self-reliant" in the face of climate change. This conception annihilates the state's role in ensuring its population's protection. Instead of investing in large-scale flood defenses in Bangladesh, resilience strategies might encourage communities to adopt "traditional knowledge" or micro-finance solutions. While such ambitions could work at a particular scale and for a limited time, they are rarely a solution

[20] Evans, B. et Reid, J. (2014). *Resilient Life. The Art of Living Dangerously*. London: Polity Press.

in the long run within the course of the development of a country. It also depoliticizes risks where policies frame disasters and crises as natural or inevitable rather than as consequences of political and economic structures. This view on resilience was heavily criticized, affirming that resilience was more about prevention, responsible agency, and empowerment[21]. This affirmation is also significant, as state and institutional actors often promote a homeostatic vision of resilience. By promoting the "bouncing back" to the status quo rather than enabling real social or economic change, resilience was seen as reinforcing the ongoing societal inequalities and financial issues. It keeps marginalized populations in constant crisis management rather than allowing them to challenge and confront existing power structures. This status quo is also seen as a way to maintain current lifestyles and avoid a significant societal transformation.

These critics played a fundamental role in rethinking resilience. The notion highlights our societies' dynamics, keen on resisting climate hazards and continuing their current development. For affected populations and communities, resilience is vital to preserving their traditions, cultures, and livelihoods in the face of uncertain risks.

From this perspective, the concept has become a growing focus of major international institutions, which have appropriated it mainly since the 1970s. They permitted the marking of concrete goals regarding environmental and climate issues.

B. Institutionalization of Resilience in Global Governance

The rise of resilience within international frameworks emerged after the 1970s, when a body of research focused on analyzing the increasing number of recorded climate disasters worldwide. The 1970s and 1980s were indeed characterized by several deadly disasters, producing a concern over understanding these disasters as well as relieving the population after they had struck and created severe human and material damages. To better understand these catastrophes, studies focused on their plausible historical, economic, and political causes.

[21] Chandler, David. (2012) Resilience and Human Security: The Post-Interventionist Paradigm. *Security Dialogue* 43 (3): 213-229.

The Increasing International Focus on Climate Disasters

Understanding environmental catastrophes from their origins to their consequences monopolized much of the academic and scientific research at that time. It preceded the sixties, during which many publications alerted societies about the impact of human activities on the environment. In the 1960s, around thirty-nine natural disasters were recorded annually; in the 1970s, this number rose to approximately sixty-five per year[22]. However, this phenomenon and the increasing awareness concerning natural phenomena also came as a consequence of advancements in science and media coverage, with relative improvements in meteorology, climate science, and satellite technology in the 1960s and 1970s. They helped track extreme weather events more effectively. They also allowed for a broader coverage of these issues in countries that could afford to diffuse them, especially with the growth of global news networks such as the BBC in Great Britain and later CNN in the United States. As a result of the growing concerns, many actors, countries in particular, began intervening in post-disaster scenes to relieve people from suffering, notably with the influence of public opinion. Nonetheless, the apparent absence of coordination between the said actors, and consequently the lack of adequate and valuable actions of those actors, were seen as consequences of little knowledge about the territories on which they were intervening and the deficiency of effective communication between them. It led to the creation of the UNDRO (United Nations Disaster Organization) in 1971, to act as a coordinator. The UNDRO, which still exists today, was mandated to coordinate with the UN agencies involved in disaster relief.

Figure 3:
Following the passage of Cyclone Bhola, countless families were torn apart, and entire towns were left in ruins, Bangladesh, 1970.
(Source: AFP).

[22] Centre for Research on the Epidemiology of Disasters (CRED). (2024). *Number of recorded natural disaster events*. Our World in Data. EM-DAT. Retrieved on November 10, 2024, from, https://ourworldindata.org/grapher/number-of-natural-disaster-events

According to the people who participated in creating the UNDRO, its establishment was pushed by the Cyclone Bhola, a significant storm surge cumulated with tidal flats that hit East Pakistan (now Bangladesh) in November 1970. It is estimated that approximately 300,000 to 500,000 people died, making it the world's deadliest tropical cyclone[23] or, at least, one of the deadliest documented in Human History. It devastated countless offshore islands, wiped out entire villages, and destroyed crops and livestock for an already economically struggling population, East Pakistan, which figured out as one of the poorest regions in the world. Though meteorologists knew of the approaching storm, the lack of adequate technology in the country made it difficult to communicate with most of the population residing in the coastal plain and the islands of the Ganges delta before the storm hit in the evening. Most people were asleep by then. The cyclone and its consequences were closely followed by media worldwide, with the developing information technology of that time in Western countries stirring worldwide emotions and driving international actions to reduce the risk of reproducing. The issues of environmental disasters, their anticipation, and reduction were becoming global issues.

The Stockholm Conference of 1972, the first international conference on the environment, was the first to institutionalize environmental protection as a worldwide issue. This conference marked the beginning of decades of growing acknowledgment regarding the effects of environmental impacts on human well-being and ecosystems. However, it was not until the late 1980s that the issue of disaster prevention was taken up within the UN. The idea of 'fatality'[24] that surrounded disasters at that time was contested. International actors ought to prevent these disasters. The focus in the global sphere shifted from reparation to prevention, admitting the necessity of acting before a disaster happens. However, many local communities, particularly Indigenous and rural populations, have long engaged in these preventive practices, drawing on traditional knowledge and collective adaptation strategies to cope with environmental hazards, even if they did not explicitly label it as 'resilience.' It demonstrates that community-driven resilience has been a cornerstone of survival and adaptation long before it became a global policy agenda.

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[23] World Meteorological Organization. (WMO). (2020). *World's deadliest tropical cyclone was 50 years ago*. Retrieved on November 10, 2024, from, https://wmo.int/media/news/worlds-deadliest-tropical-cyclone-was-50-years-ago#:~:text=Cyclone%20Bhola%2C%20which%20grew%20from,of%20the%20Bay%20of%20Bengal.

[24] Sandrine Revet, 2021, p.44.

As climate-induced disasters became more frequent and severe, international organizations began institutionalizing resilience within global policy frameworks. This recognition emerged from the realization that community-driven adaptation strategies, built on local knowledge and collective action, were often more effective and sustainable than top-down emergency responses. Consequently, resilience was embedded into global governance through structured frameworks to standardize and scale these practices.

Early Frameworks on Disaster Risk Reduction

It led to the notion of DRR (Disaster Risk Reduction). DRR focuses on preventing new risks, minimizing existing ones, and managing residual risks; all of which help strengthen resilience and support sustainable development. It is a strategic approach to disasters, aiming at enabling people to be resilient in the face of existing risks. Later on, the notion was made concrete through three phases of multilateral negotiations on DRR: the Yokohama Strategy (1994), the Hyogo Framework for Action (2005-2015), and the Sendai Framework (2015-2030). These frameworks formalized resilience as a strategic objective, emphasizing recovery, proactive risk reduction, and community preparedness. In 1994, a particular emphasis was put on risk assessment and early warning, recognizing that sustainable development and disaster vulnerability are deeply interconnected. Effective disaster preparedness was identified as essential for safeguarding lives and protecting economic growth and infrastructure. Disaster preparedness emphasizes the importance of lessening a country's vulnerability by ensuring that more resources are mobilized and used effectively. Thus, the more developed a country is, the more it will have the resources and capacity to confront a disaster and repair the possible damages.

The following two frameworks followed the same perspective, but with slight changes in disaster management and risks. In the 2005 framework, a global initiative for DRR, the strategy was primarily focused on risk management and preparedness without challenging more profound structural vulnerabilities. It promoted a form of resilience aimed at protecting existing systems rather than transforming them to reduce long-term risk. This reflects the 'status quo' of resilience as it aimed to limit disruptions to current economic and social practices rather than pursue transformative changes that might challenge established power dynamics. In the following Sendai Framework of 2015-2030, the initiatives were intended to shift the paradigm from managing disasters to managing disaster risk, including

investing in resilience. The priority was proactively managing the risk before it happened rather than repairing the damage already done. The framework, still operating until 2030, is structured around four priorities: understanding disaster risk, strengthening disaster risk governance, investing in disaster risk reduction for resilience, and enhancing disaster preparedness and 'building back better' recovery. In that sense, resilience became increasingly essential and revisited to resist possible changes caused by disasters both before and after they happened. However, the perspectives on said disasters and resilience were not all uniform. These frameworks were not aligned with multiple other views, such as the ones from the practices observable on local sites and designated by brokers, but also from local populations. Frameworks are indeed the consecration of particular perspectives. For DRR, they depict how disasters are increasingly perceived as existential threats to one's way of living. This "disaster world" emerged from discourses and practices that may not always be realistically accurate based on what is at stake for the people concerned. Nonetheless, they still brought changes in the theoretical aspects of resilience.

Once a concept, resilience has become a fundamental and strategic element for international organizations to promote. Importantly, resilience is often measured alongside concepts like vulnerability, adaptation, and risk reduction. In theory, it serves as a promising approach for an integrative framework that ties these concepts together. Thus, resilience reflects a holistic approach to building stronger and more sustainable communities. This approach allows comprehensive risk management by simultaneously addressing prevention, adaptation, and recovery. The evolution of resilience from local practice to global policy reflects both the concept's strength and limitations, with ongoing critiques.

Over the years, the notion's importance increased alongside critics portraying a need to change the ongoing perspectives on resilience, especially in the context of growing international instability provoked by climate change.

II. Understanding the Evolution of Resilience in the Face of Climate Change

Climate change is affecting human societies and the natural environment at an unprecedented scale, threatening current resilience (**A**). To cope with the changes, the concept of resilience was adapted to the climate situation (**B**).

A. Global Impacts of Climate Change on Resilience

The rise of growing studies and analyses on climate change has radically modified the perspectives on climate hazards and resilience. The capacity of ecosystems to sustain our planet's well-being is dangerously stressed today by human activities and the ongoing climate change they are responsible for. According to the IPCC's 2023 report[25], human influence has warmed the atmosphere, ocean, and land. We can also observe rapid changes in the cryosphere (a term designating "the components of the Earth at and below the land and ocean surface that are frozen"[26]) and biosphere (the living organisms and their environment), essential components to environmental stability and resilience. These perturbations have led to widespread impacts, losses, and damages to nature and people. The increasing climate impacts are affecting more people and disrupting the global climate. In the upcoming decades, these impacts threaten to worsen and affect a rising number of countries worldwide.

The Climate-Resilience Relationship

While climate change is a global phenomenon, its consequences are felt most acutely in vulnerable regions like Bangladesh, on the front lines of rising sea levels, cyclones, and extreme weather events. For them, resilience is not just theoretical, but a daily necessity. Nazmul Ahsan has witnessed how vulnerable the country is to several climate disasters:

> "Some places are suffering from cyclones mostly and saline water uprising, you know. Some places are suffering from droughts. Some places suffer from irregular or heavy rainfalls. Some places suffer from flash floods - that means, you know, all of a sudden, the floods come within one or two days wash everything away. Some are suffering from the landslides. (…) And some are also suffering from the title upsurge, riverbank erosion."

[25] Intergovernmental Panel on Climate Change. (2023). *Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland.
[26] World Meteorological Organization. *Cryosphere*. Retrieved on December 5, 2024, from, https://wmo.int/topics/cryosphere

As climate change accelerates and its impacts become more widespread, resilience is not just about recovery but about adapting to a shifting climate reality. Increased climate hazards imply that countries must deploy more efforts to improve present and future resilience towards unprecedented shocks. It means better anticipating the risks and better managing possible outcomes. Resilience "is not a sustained thing. It has (…) limitations," explained Nazmul Ahsan. Being resilient during a period does not mean that resilience will protect and safeguard livelihoods permanently, especially not with climate change. Consequently, countries must deploy even more economic and technical resources to meet future challenges and remain resilient. The mobilization and participation of people are also vital to ensure the effective use of these resources. Overall, the more climate change unfolds, the more efforts are required to maintain a resilient state. Changes will have to happen to adapt to climate change. Societies have continuously evolved with their climate, as it is one of the most influential variables influencing how a society works. It explains why agricultural methods vary based on the location of the plantations and the climate conditions they are subjected to. It also explains why countries under moderate weather were the ones that could develop faster, thanks to adequate climate conditions. Hence, resilience evolves within our societies under our climate's influence; a climate whose evolution has never been more uncertain today.

International Commitments to Climate Change Mitigation

In that regard, climate change has become a significant concern in international cooperation. As a global phenomenon, climate change has no frontiers. When a country emits greenhouse gases (GHG), which are responsible for warming our climate with the albedo effect, which describes the reflection of solar radiation by the Earth's surface, critical in regulating global temperatures, it affects the atmosphere. Such changes affect all countries, as the atmosphere is the same for the entire planet. In that context, climate change threatens to modify how societies function radically. The massive use of fossil fuels, the leading cause of climate change because of the emissions linked to their extraction and use, is an integral part of our system, as we rely heavily on these elements to sustain growth and development. Reducing their consumption and finding "greener" alternatives, meaning less emitting ways of producing, is essential to mitigating the effects of climate change. As a global phenomenon, climate change has to be dealt with internationally. The disparities between countries are also a significant incentive to cooperate internationally while considering these

inequalities. In 1979, the First World Climate Conference was launched, and nine years later, in 1988, the IPCC was established to assess climate change science and inform policymakers worldwide to take the right actions. Since then, they have emitted reports about the ongoing changes in our Earth's elements each year, focusing on their impacts on human life and activities. Over the years, many treaties and accords were signed with the UNFCCC (1992), the Kyoto Protocol (1997), the Copenhagen Accord (2009), and the Paris Agreement at the COP21 (2015) – *See APPENDIX 5.* Since the latter, climate change has remained at the core of international cooperation, with an increasing focus on climate finance, adaptation, resilience, and justice.

However, many of the intended objectives did not meet the intentions. For the last Paris Agreement, limiting global warming to 1.5ºC will likely not be possible, and the following 2ºC set off as the limit not to be surpassed will also likely not be reached. Despite establishing international treaties to mitigate environmental harm and curb global warming, human activities contributing to these challenges have continued to increase. This trend is evident in the rising GHG emissions and ongoing deforestation, which are harmful to the environment and the atmosphere, as observed over the past decades. Preliminary estimates for 2023 indicate a 1.2% rise in GHG emissions over the previous year, reaching 51.8 gigatons of CO2 equivalent[27], illustrating a widening gap between climate pledges and the realities of resilience-building. Concerning deforestation, between 2015 and 2020, the annual rate of deforestation was approximately 10 million hectares, down from 12 million hectares in the preceding five-year period. While this indicates a decline, the loss remains substantial and ongoing. Deforestation is also an accelerating factor in climate change, as trees represent essential carbon sinks that release all the carbon they absorb when cut down or burned. All these additional factors are worsening the situation and disturbing major ecosystems on which we rely to survive in the long run. Hence, climate change lowers the natural system's resilience for human well-being and livelihoods[28]. Unlike for the last 10,000 years, we live in an unstable climate that threatens to worsen in the coming years. Therefore, profound changes are required to find relative stability and consider our societies' long-term adaptation and survival.

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[27] Rivera, A., Movalia, S., Rutkowski, E.. (2024). *Global Greenhouse Gas Emissions: 1990-2022 and Preliminary 2023 Estimates*. Rhodium Group. Retrieved on May 15, 2025, from, https://rhg.com/wp-content/uploads/2024/11/Global-Greenhouse-Gas-Emissions-1990-2022-and-2023-Estimates.pdf

[28] Karim, M.F. and Mimura, N. (2008). Impacts of Climate Change and Sea-Level Rise on Cyclonic Storm Surge Floods in Bangladesh. *Global Environmental Change*, 18, 490-500.

The Narrowing 'Window of Opportunity'

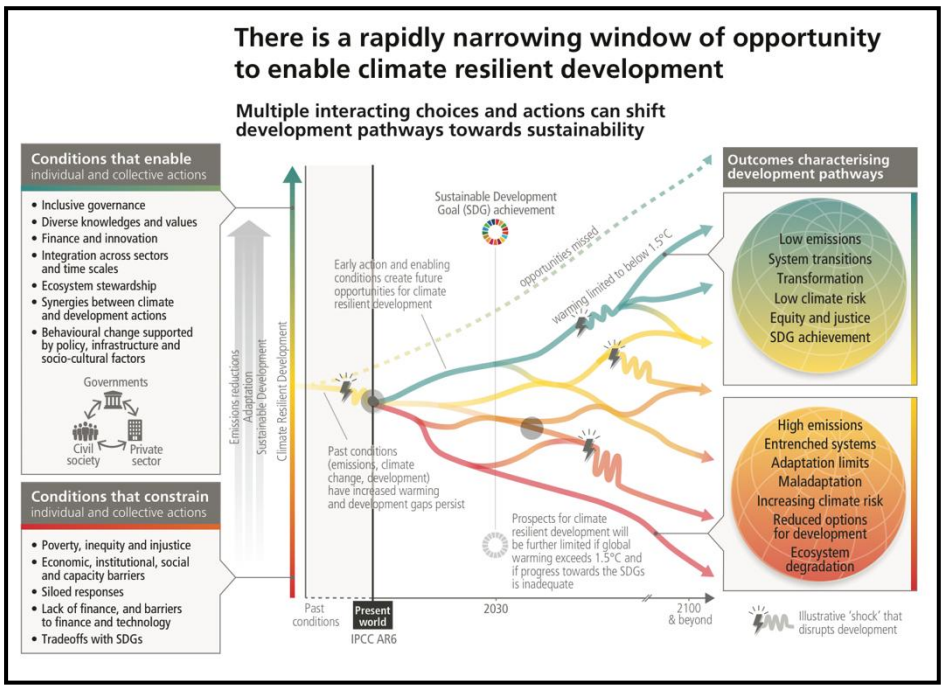

Figure 4:
SMP.6 illustrating the narrowing window of opportunity for climate resilient development, from the IPCC, *Report for Decision Makers 2024*, 2024.

As shown in the figure above, the capacity for climate-resilient development is highly stressed. The "window of opportunity" to act, meaning a rare opportunity to act within a limited time, narrows the longer actors wait to take concrete and adapted measures. Without immediate action, pathways toward sustainable and resilient futures will be cut off, leaving vulnerable nations like Bangladesh even more exposed to climate risks.

The figure shows that multiple paths are laid out in front of societies and that, depending on the actions taken, the pathway could be positive (blue trajectory), negative (red trajectory), or in-between (yellow trajectory) and lead to different outcomes in the long term, by 2030 and 2100. Clear conditions of sustainable and unsustainable development are developed in the graph. A sustainable and desirable pathway includes a global warming limit below 1.5ºC. It consists of early actions that laid the path for future opportunities for better climate-resilient development. Part of achieving this is a renewed emphasis on socio-ecological aspects, central to sustainable and climate-resilient development. Actions from

the government, civil society, and the private sector are needed to follow a desirable pathway. On the contrary, social inequalities, siloed responses, and lack of finance, among others, constrain a sustainable development pathway. Hence, in the graph, the higher the path is, the more likely it is to respond to ongoing environmental and human challenges and reach the Sustainable Development Goals (SDGs). The SDGs are a global framework adopted by the UN in 2015 to address poverty, inequality, environmental protection, and sustainable economic growth, aiming to achieve a more equitable and resilient world by 2030. Their function is to guide countries in adopting them as their objectives to increase the world's overall equity and resilience. They are achievable in a high pathway, but incompatible with a warming exceeding 1.5ºC, which limits prospects for climate-resilient development.
The figure also highlights that despite possible future 'shocks' that can alter development, such as the Covid-19 pandemic or climate catastrophes, mobilizing the right resources effectively and on time can allow development to continue once the shock has passed. Uncertainty and risks do not impede development, but perpetuating, voluntarily or not, bad conditions and not taking the right actions early do.

Climate change is a long-term problem, even if the possible consequences are hard to grasp for many societies worldwide. This is the idea of the discount rate, popularized by the economic William Nordhaus in his Dynamic Integrated Climate-Economy (DICE) model in the early 1990s, used to discount future costs and benefits related to climate change. Since climate change involves long-term impacts, often decades or centuries ahead, the discount rate plays a critical role in shaping the results of policy recommendations, concerning resilience in our case. The scale and time of actions will vary depending on the discount rate. A high discount rate makes future damages appear less significant today, which can justify weaker climate action. The contrary happens with a low discount rate. This tool is key in understanding the importance we give to climate actions and the complexity of thinking about the long term, particularly when climate change is not impacting everyone equally and at the same time. However, "resilience also means making up with long-term sustainability, not just the short term," explained Dr. Bapon Fakhruddin. For societies to become resilient and aim for sustainability, they need to envision their actions in the long term. Before gaining efficiency, some enterprises need to be taken early, as their implementations will require time. Additionally, they will need even more time to prove efficient. Thus, resilience must be envisioned within a climate change frame that will last in time.

This new and ongoing situation, never seen at the scale of human societies, saw the need for new paradigms and resilience theories to consider the uncertainties surrounding climate change and its threats to societies.

B. Emerging Forms of Resilience in Response to Climate Shifts

A greater emphasis was placed on resilience as an evolutive process and not solely as an outcome or a means for stability. The often-thought homeostatic vision of resilience with a "return to normal" perspective after a perturbation was seen as unfit for the current, ever-changing world, especially in a context of climate change, where the future remains uncertain. Because of the unpredictable dangers confronting contemporary planners, the resilience strategies should be broader to consider every trajectory possible[29].

Adaptability and Transformability

As Nazmul Ahsan explained:

> "Resilience is not static. It also needs to be adjusted and readjusted based on the new situations developed in the vulnerable communities."

This would result in better resilient strategies where alternatives are considered and plausible perturbations factored into the overall plan. It is even more critical when resilience strategies mainly rely on past experiences, traditions, and collective memory. However, the current climate phenomenon has no precedent at the scale of our societies, complicating heavily the task of being resilient[30]. Past strategies may not be adapted to the climate context and may become inefficient despite having worked for decades or centuries. The new challenges posed by climate change in everyday life, in terms of speed and scale, call for more and better adaptation. Resilience should go beyond "mere recovery". In this evolving climate landscape, resilience requires both adaptability and transformability[31].

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[29] Allenby, B., Fink, J. (2005). Toward Inherently Secure and Resilient Societies. Science, 309,1034-1036.
[30] Bourbeau, P. (2015). Resilience and international politics : Premises, debates, agenda. *International Studies Review*, 17(3), 374-395.
[31] Elmqvist, T., Andersson, E., Frantzeskaki, N., McPhearson, T., Olsson, P., Gaffney, O., … Folke, C. (2019). Sustainability and resilience for transformation in the urban century. *Nature Sustainability*, 2(4), 267–273.

Adaptability and transformability have become key components in resilience thinking. Adaptability is defined by the ability of actors to adjust strategies, reallocate resources, and implement changes in response to evolving risks and challenges. On the other hand, transformability is the ability to create new ecological, economic, or social structures when the existing system can no longer cope with changes[32]. Together, adaptability and transformability strengthen resilience by helping systems adjust to new conditions while still maintaining their core functions.

A Multi-faced Resilience

With them, a growing significance was given to the social and economic aspects of resilience thinking. Resilience was not only thought of in terms of ecological resilience, as the system within which resilience is experimented is also structured around other structural aspects. Resilience also encompasses economic stability, political governance, and institutional flexibility to respond to shocks. At the national level, resilience involves governance structures capable of efficient coordination, monetary policies that withstand global disruptions, and adaptive regulations that protect vulnerable communities. Studies have shown that social aspects, such as strong trust and respect within the community, can foster cooperation and coordination by building mutual understanding and willingness to work together toward common goals. It leads to more effective local implementation of projects and policies. With these new paradigms came new concepts of resilience, such as livelihood resilience, defined as "the capacity of all people across generations to sustain and improve their livelihood opportunities and well-being despite environmental, economic, social, and political disturbances"[33]. This vision of livelihood resilience was also developed with the means to achieve it: human agency, empowerment, individual and collective action, and human rights. Institutional actors, such as the UNDP, have recently greatly emphasized integrating variables such as these to become resilient. This enlarged analysis permits us to counter the Highly Optimized Tolerance theory. The HOT theory in resilient thinking stipulates how a system can become robust to frequent kinds of disturbance but fragile to

[32] Walker, B.H. and D. Salt. (2006). Resilience Thinking: Sustaining Ecosystems and People in a Changing World.
[33] Tanner, T., D. Lewis, D. Wrathall, R. Bronen, N. Cradock-Henry, S. Huq, C. Lawless, R. Nawrotzki, V. Prasad, Md. A. Rahman, R. Alaniz, K. King, K. McNamara, M. Nadiruzzaman, S. Henly-Shepard and F. Thomalla (2015). Livelihood resilience in the face of climate change. *Nature Climate Change*, 5, 23–26.

infrequent types[34]. This theory underlines two crucial points. The first one is that systems such as human societies often adapt to their environment by optimizing structures to handle everyday stresses. Second, overspecializing in resilience-building to regular hazards can create hidden risks and reduce flexibility and adaptability when facing rare, high-impact events.

A "Catch-all" Term

During the exchange with Dr. Bapon Fakhruddin, he mentioned about the criteria needed for an optimal assessment of risks. He explained that evaluating and knowing the extent of strengths and weaknesses is essential for a country to be effectively resilient against any hazard. Accordingly, a trade-off between robustness and fragility implies that societies must address existing and potential risks across all dimensions to avoid being overwhelmed by unforeseen threats. Strengthening resilience in all aspects enhances a society's ability to withstand disasters while reducing its vulnerability to specific risks. Specifying the notion could avoid using the notion as a "catch-all" term[35] in addressing climate change.

On the other hand, it also contributes to its ongoing complexity, making it hard to put a single and tangible meaning behind resilience.

> "Resilience is a high level of wording. It can cover everything. It can cover disaster risk reduction, climate resilience, climate risk reduction, and sustainability. It is really broad."
> – Dr. Bapon Fakhruddin.

In most interviews, defining resilience is often met with hesitation. The hesitations are mainly the result of the broad sense put behind resilience rather than ignorance about its definition, as resilience now figures as a primary objective in many associations. It reveals a subsequent difficulty in resuming resilience in a few words or sentences. This complexity and the vagueness surrounding resilience reflect the complexities behind resilience as a practical and accurate approach. They also make it harder to evaluate resilience concretely. This complexity and the different interpretations of the concept have existed since its

[34] Carson, J., and J. Doyle. (2000). Highly optimized tolerance: robustness and design in complex systems. *Physical Review Letters* 84(11):2529-2532.
[35] Bahadur, Aditya V., et al. (2010). *The Resilience Renaissance? Unpacking of Resilience for Tackling Climate Change and Disasters. Strengthening Climate Resilience Discussion Paper 1*. Institute of Development Studies, 45p.

promotion within the UN, largely due to its vague definition, which has also led to questions about its true meaning. Various institutional actors and experts promote different definitions of resilience, enlarging its scope – *See **APPENDIX 6***.

These definitions illustrate that institutional actors, depending on their functions and objectives, usually favor a certain aspect of resilience to promote, may that be about economic, people and community, or the environment. While 'resilience' is a common goal among international actors, its interpretation and application can differ significantly based on institutional priorities and operational contexts. Regardless, the resilience framework developed within intellectual spheres still helped transform the notion beyond its primary meaning of 'recovering from an original state' in some ways. Incorporating ideas of a dynamic interplay between persistence, adaptability, and transformability has allowed resilience to emphasize before-marginalized actors and factors contributing to this marginalization. It promoted using the climate crisis as a "window of opportunity"[36] to enable societal changes.

Resilience has become essential for countries to meet their objectives in acting against the effects of climate change. After years of gradual appropriation of the notion by the institutional frameworks of the UN, it has become a central objective of international organizations pushing for more sustainable development and cooperation on environmental and climate issues worldwide. Overall, resilience is seen as positive and desirable. And, in the growing context of climate change, its theoretical base seems to have shifted to integrate the variables of gravity and uncertainty surrounding climate hazards. Therefore, the notion remains a ground for many theoretical visions that can contradict or complement each other. They participate in the complexity of this concept, which can carry many dimensions, from social to environmental and economic, depending on the meanings and contextual elements behind them.

Resilience serves as a valuable theoretical approach to conceptualizing and operationalizing the strength and adaptive capacity of countries and communities in the face of shocks and long-term stressors. As resilience becomes an increasingly critical concept for

[36] Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T., & Rockström, J. (2010). Resilience Thinking: Integrating Resilience, Adaptability and Transformability. *Ecology and Society,* 15(4).

global climate strategy, it is vital to understand how it materializes on the ground to determine if it allows for an effective addressing of climate change. Bangladesh serves as a powerful example; a nation that, despite its vulnerabilities, is striving to build adaptive and transformative resilience in the face of escalating climate threats. The following chapter will explore how Bangladesh's strategies embody this evolving understanding of resilience. It will give more sustained and practical tools to define whether the resilience approach is sustainable and advisable in the long run.

CHAPTER 2 - BANGLADESHI A MODEL OF RESILIENCE OR A TICKING TIME BOMB?

"I don't know how successful we would be in the future because of the **rapid changes of the whole scenario**."

– Nazmul Ahsan, one of the interviewees.

In 1971, Bangladesh achieved independence from West Pakistan, emerging as a sovereign nation after previously being known as East Pakistan. At the time, Bangladesh was among the world's poorest nations, requiring its government to rebuild from the ground up. Today, the country is considered one of the leaders in resilience actions for its numerous initiatives and national plans. In order to understand this change, this chapter will dive into understanding how the country has been addressing climate change and resilience since the 1970s and how it has shifted its view on resilience since then. After diving into the transformation of Bangladesh through the years regarding its climate resilience strategies, this chapter will analyze what the country is implementing today and what it wishes to implement in the long term. We will examine how Bangladesh is still innovating its national strategies while facing ongoing challenges in maintaining its resilience, especially looking into international associations and organizations working in the territory (**I**).

As the climate change threats that come with these challenges are looming over the future of Bangladesh, the next part will analyze how future climate change predictions are said to affect the country, its population, its ecosystem, and its ongoing issues in mobilizing resources. Comprehending what Bangladesh is preparing itself for is essential to apprehending what is at stake for the country and how its ongoing resilience will be challenged. Besides climate change, an investigation will be conducted on the criticisms existing against some governmental policies, as well as on how the State is struggling to mobilize some of its resources, and on how it represents a problem in the near future in the countries' fight against climate change (**II**).

I. Bangladesh as a Prime Stage for Resilient Efforts

Bangladesh slowly rose to become a developing country that can implement concrete and effective resilience strategies (**A**). The country is now following a clear path towards

more effective actions regarding future and ongoing challenges born from active and multiple interventions, despite challenges (**B**).

A. Building Resilience in Bangladesh

In the 1970s, priorities were made to restructure the country and improve the quality of living. Four years after the surge of the Bhola storm, the urgency of reconstruction was also put on the country to stand up against the yearly hazards it faces, especially with the monsoons in summer that amplify the likelihood of floods and cyclones to form in the Bay. The territory has constantly been subjected to natural disasters due to the monsoon and the regional tropical climate. However, with the unprecedented damages it caused and the turmoil it represented for the population, Cyclone Bhola raised awareness of the critical importance of preparedness before a disaster hits.

Early Disaster Preparedness and Early Warning Systems

The cyclone began a fight to reduce the exceptionally high death tolls of natural disasters in the Bay of Bengal. In 1972, the Cyclone Preparedness Program (CPP) was launched conjointly with the Ministry of Disaster Management and Relief (MDMR) of the Bangladesh Government, created that same year, and the Bangladesh Red Crescent Society (BRCS), an organization in Bangladesh since 1971. The main objectives of this program were to save the lives and properties of the population living in coastal areas. It involved simulation drills and wireless communication systems to alert and prepare the population for future case scenarios. Aside from training the residents to react appropriately in case of a coming disaster, public cyclone and flood shelters, rescue boats, ambulances, relief warehouses, and digital information centers were put in place. The program emphasized the need for training and preparation, and adapted rescue zones if urgent fleeing was needed. It is one of the first programs of that sort to be implemented in a country. In 1973, the government of Bangladesh officially took full responsibility for the program, qualifying it as a “unique institutional arrangement” created to mitigate the challenges of catastrophic cyclones. By the mid-1990s, 3,976 cyclone shelters were built in coastal areas in 15

districts[37]. These shelters, largely built to take in people, were also used to take in animals used as livestock. It ensured the safekeeping of people's economic activity, as approximately 20% of the population is directly involved with livestock and poultry farming, while a further 50% is partially dependent on this sector[38].

Still used today, public shelters are usually multi-story buildings raised above ground level to resist storm surges. They can usually accommodate between 500 and 2,500 people. Usually public infrastructures in unperturbed times, such as schools, they become shelters once a natural disaster is forecast. In resilience thinking, shelters are classified as 'hard infrastructures' as opposed to 'soft' or institutional capacities like training or community engagement. They are a tool for enhancing a system's coping, adaptive, and absorptive capacity. At that time, Bangladesh focused on such infrastructures as they were key to reducing exposure to hazards and protecting human lives and assets. The Flood Action Plan (FAP) of the early 1990s, a significant initiative launched after the devastating floods of 1987 and 1988, followed that line of focus. Supported by the World Bank and other donors, the FAP aimed at improving long-term flood control, water management, and disaster mitigation infrastructure. It included embankments and drainage systems against floods, forecasting, and resettlement planning for flood-prone areas. The initiative overall marked a significant state-led effort to address climate vulnerability structurally. It was designed to support both urban and rural livelihoods against seasonal floods. These enterprises are essential to resilience as tangible and engineered structures. Nonetheless, controversies arose from these structures, especially towards the FAP. They contribute to the criticisms that arose towards resilience and its strong focus on 'maintaining' rather than 'evolving'. Indeed, hard infrastructure measures may reduce short-term exposure to natural hazards but are often critiqued as providing a false sense of security that may encourage settlements in the area they are in when there is a potentiality of these infrastructures failing in the face of unstable climate conditions. They are also seen as inefficient towards long-term ecological dynamics, based on controlling nature, not adapting to it. They may disrupt natural floodplains, sediment flows, and wetlands or cause biodiversity loss. They reflect the ongoing criticisms

[37] Bimlal K., P., Sohini, D. (2010). Hazard warnings and responses to evacuation orders: the case of Bangladesh's cyclone Sidr. *Geography Review*.100(3):336-55. doi: 10.1111/j.1931-0846.2010.00040.x.
[38] Rana, Md. M., Murshed, H. M., Roy, D., & Huda, Md. N. (2022). Scaling up of livestock production for sustainable livelihood: An empirical study from Sirajganj district of Bangladesh. *SAARC Journal of Agriculture*, 20(1), 209–225. doi: https://doi.org/10.3329/sja.v20i1.60540

of resilience and the promotion of static, top-down responses, often overlooking the territory they are situated in.

Nevertheless, these implementations, especially the preparedness aspect of some, helped reduce the number of deaths from cyclone by six digits in the last few decades. The overall deaths from climate hazards has also decreased since the 1990s despite increasing climate hazards[39].

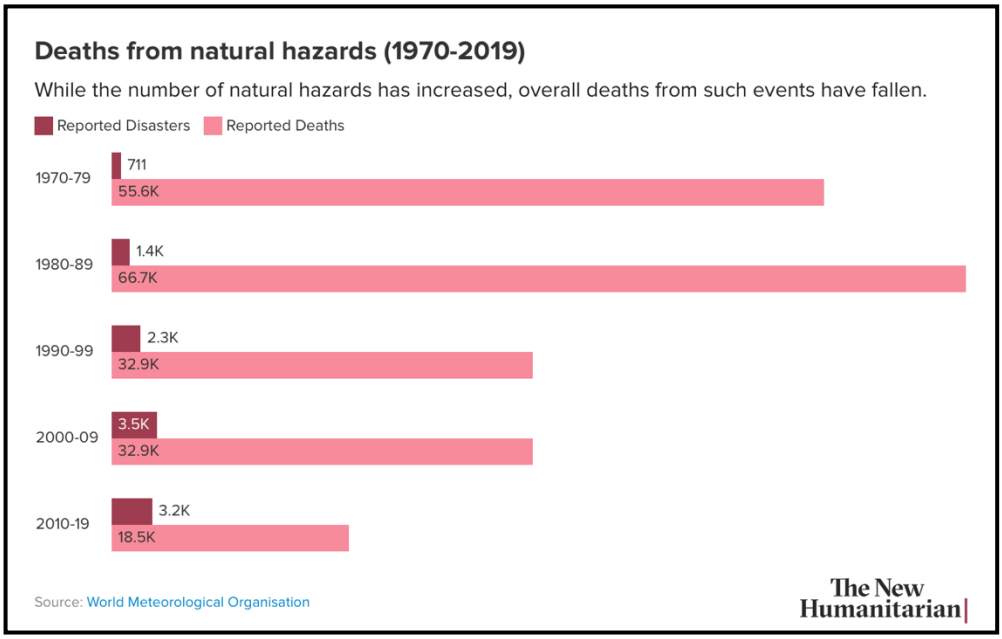

Figure 5:
Global trends in reported natural disasters and deaths from 1970 to 2019, based on the datas from the World Meteorological Organization.
(Source: The New Humanitarian)

Such success from Bangladesh's actions resulted in giving the country an international image of success regarding resilience. It complements the country's image as one of the first to be affected by climate change, making it a "laboratory for testing adaptation measures.[40]" In that sense, Bangladesh has been the center of interest of many international organizations and institutions. The World Bank even qualifies the country as a "forerunner'[41] in climate change adaptation and disaster risk preparedness. However, that image was mainly shaped by the country's policy framework on climate change, especially after the 2000s.

[39] Salzenstein, L., Islam M., R. (2021). "How Bangladesh is beating the odds on climate disasters deaths". *The New Humanitarian.*
[40] Met Office. (2010). *Climate modelling in Bangladesh. A model for capacity building in developing countries*.
[41] World Bank. (2016). *The World Bank in Bangladesh*.

Scalable National Frameworks

Bangladesh has developed various climate change adaptation policies and strategies to improve the nation's adaptive capacity and mitigate impacts. One of its most notable frameworks on climate change was launched in 1995 with the Environment Conservation Act. This act aims to support environmental protection, improve environmental standards, and control and reduce environmental pollution. Referred to as the first major step toward indirectly addressing climate change, it laid the foundational legal framework for environmental protection, which later supported climate adaptation and resilience policies. Thereafter, the first notable legal framework directly addressing climate change was the National Adaptation Program of Action (NAPA) in 2005. Bangladesh, along with Mauritania, was the first to submit its NAPA to the UNFCCC in 2005[42]. Part of Article 4.9 of the COP, added in 2001, the NAPA is a national plan submitted by least-developed countries to describe the countries' perception of their most "urgent and immediate needs to adapt to climate change[43]" for the countries member of the COP to support their needs. This international solidarity is grounded in the principle of "common but differentiated responsibilities and respective capabilities" (CBDR-RC) under the UNFCCC, obligating the most developed countries to support the least developed countries in addressing urgent adaptation needs.

The 2005 NAPA of Bangladesh focused on infrastructure and climate change risk management. The final report, which is 62 pages long, mentioned resilience 7 times; one to express the will to increase the resilience of individuals and communities, and the other times to discuss the project "Enhancing resilience of urban infrastructure and industries to impacts of climate change."[44] Despite the few mentions of resilience, the focus on strengthening adaptive capacity, promoting locally-led adaptation, developing multi-sectoral solutions, and investing in infrastructure and social systems to absorb climate shocks in the report are all part of the resilience approach. They combine physical measures and institutional strategies to enhance resilience, especially in coastal areas, as the principal beneficiaries of the projects.

[42] Islam, S. (2022). *Bangladesh in Global Climate Forums*. CBGA Policy Brief 72.
[43] United Nations Framework on Climate Change. (n.d). *National Adaptation Programmes of Action.*
[44] Ministry of Environment and Forest, Government of the People's Republic of Bangladesh. (2005). *National Adaptation Programme of Action (NAPA)*. UNFCCC.

The 2005 NAPA acknowledged the vulnerability of urban infrastructures and industries but treated them as emerging concerns within a broader focus on rural livelihoods and coastal resilience. In contrast, more recent national plans reflect a shift toward urban-centered adaptation, driven by rapid urbanization since the 2000s, economic dependency on the industrial sector, such as the textile industry, and the increasing climate exposure of urban poor communities. The important population density of the country, the highest in the world, with 171 million people in 2022[45], pushed the country to envision the resilience of cities facing overpopulation. Accordingly, the country's subsequent plans followed a continuous path towards more rural and urban resilience. In 2009, the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) was launched and published, outlining a national vision for climate resilience and low-carbon development.

Figure 6: The six thematic areas of the BCCSAP, 2009.
(Source : Centre for Police Dialogue, Dhaka, Bangladesh).

With six thematic areas, the plan looked beyond short-term vulnerability to encompass long-term and systemic issues such as urbanization, energy, institutional strengthening, and climate finance. At a time when international donors shaped many climate strategies in the Global South, the BCCSAP was designed and led by Bangladeshi institutions. It reflected national priorities and promoted national knowledge, including the

[45] World Bank. Bangladesh Population. Retrieved on April 25, 2025, from https://donnees.banquemondiale.org/indicateur/SP.POP.TOTL?locations=BD

country's experience with frequent disasters. The BCCSAP was widely recognized as an innovative and forward-looking document because it was one of the first comprehensive climate strategies that went beyond donor-driven priorities to assert national ownership over adaptation and mitigation planning. Bangladesh's proactive stance on climate issues also pushed the country to elaborate two climate finance mechanisms: the Bangladesh Climate Change Trust Fund (BCCTF) in 2009 and the Bangladesh Climate Change Resilience Fund (BCCRF) a year later in 2010. With the BCCTF, Bangladesh figures as one of the first low-developing countries (LDCs) to create its own national climate fund, aiming to reduce dependency on donor-driven projects. The government allocated approximately $400 million to the fund between 2009 and 2016[46], demonstrating a specific commitment to climate action.

On the other hand, the BCCRF was managed by the World Bank in collaboration with the Government of Bangladesh. It serves as a donor-supported fund that has accumulated around $189 million[47] over the years, facilitating various adaptation and resilience projects. Countries like the United Kingdom, Denmark, and Sweden, as well as organizations like the European Union (EU), externally funded these projects. The aforementioned projects included the construction of multipurpose cyclone shelters, the Community Climate Change Project (CCCP), which enhances adaptive capacity through clean water access and sustainable practices, and also emergency implementations with the Emergency Cyclone Recovery and Restoration Project (ECRRP), focused on rebuilding infrastructure after Cyclone Sidr in 2007. Beyond the name, the BCCRF had a real strategic purpose for Bangladesh, reflecting a strategic shift in climate governance. It was intended to finance projects that directly enhanced climate resilience. It had the opportunity to operationalize the concept of resilience into targeted, fundable, and measurable actions. Resilience became a policy goal to move beyond reactive emergency relief and think of it as a means to prevent disasters proactively.

Along with the two funds it established, the BCCSAP led to the implementation of more than fifty projects. At least thirty projects focused on enhancing physical resilience received $4.5 million, which was $1.5 million for fourteen projects aiming to safeguard

[46] Dhaka Tribune. (2023). "Climate change trust fund deposit stands at 1,435C".
[47] Arfanuzzaman, Md. (2024). *Bangladesh's pathways to climate-resilient development: A methodical review. World Development Sustainability*. Volume 4. doi: https://doi.org/10.1016/j.wds.2024.100144

livelihoods and health against climate impacts or $800,000 for eight research and knowledge management projects[48]. They focused on all aspects of disaster preparedness and resilience, from the research and knowledge capacity to the infrastructure and activities to safeguard local livelihoods. In that regard, the BCCSAP emphasized community involvement with community-based adaptation initiatives. These initiatives allowed for 3,800 cyclone shelters to be built and around 7,000 km of embankments to be constructed[49]. Overall, the BCCSAP has achieved several things, intending to increase the country's and its people's resilience. One notable aspect of this plan was acknowledging the importance of nature-based solutions in mainstream disaster management.

Nature-Based Solutions for Climate Adaptation

Nature-based solutions (NbS) are natural approaches to address current environmental, climate, and societal challenges. These solutions, ingrained in the local knowledge of Bangladeshi communities, are rooted in ecosystem protection, regeneration, and sustainable management. They offer a variety of advantages in restoring and protecting the environment, avoiding, when possible, a spoiled climate to conserve its natural virtues. The word 'Nature-Based Solutions' is not explicitly mentioned in many official documents of Bangladesh. While the country has long implemented NbS for resilience and sustainability, the term itself is a relatively new and internationally driven Western-origin term. It explains its limited presence in national policy documents despite its substantive alignment with them. The term was popularized by institutions like the International Union for Conservation of Nature (IUCN) and later adopted by the European Commission and UN agencies. In Bangladesh, the many institutions operating within the country, such as the World Bank (WB), the United Nations Development Program (UNDP), and the International Federation of Red Cross and Red Crescent Societies (IFRC), use that term to qualify and identify their practices as focused on the environment. However, it highlights different perceptions from countries like Bangladesh, which have always functioned in relative harmony with nature, compared to Western and international organizations with different views and utility of that exact nature. The perceptions of resilient actions then differ depending on the culture and historicity of that practice.

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[48] Towqiful, A. (2013). *Bangladesh's climate change. Response and Adaptation Efforts*. United Nations Framework Convention on Climate Change.
[49] Towqiful, A., 2013, *ibid.*

In Bangladesh, there has always been a constant need for resilience, even before the observed climate change. Hence, NbS have been practiced for decades in Bangladesh through different methods to reduce the impacts of current climate risks and to enable people to maintain their ways of living and cultivating. The means to enhance the resistance capacity of cities towards climate risks can be found in coastal afforestation or wetland restoration. The first, helps stabilize soil and prevent it from being washed away by rain or river currents. It also absorbs and slows down rainwater, reducing peak runoff and delaying peak downstream. They also combat deforestation and sequester carbon on dry land, reducing carbon dioxide leaks into the atmosphere while naturally cleansing the surrounding air. The latter, wetland restoration, is even more effective against flood buffering in low-lying regions like much of Bangladesh. They naturally store excess rainwater, reduce flood intensity, and recharge groundwater. They are also valuable in reviving aquatic ecosystems to regulate floods, filter water, and support marine biodiversity

Figure 7:
***Baikka Beel* Permanent Wetland Sanctuary, a product of restoration of wetland biodiversity and wild fish production, since 2003.**
Northeast, Bangladesh.
(Source: CNRS)

These two natural elements illustrate how resilience, first thought within ecological systems, can bring out the importance of nature and its inherent capacities to face natural and climate disasters. They are used to directly reduce a catastrophe's possible impacts and consequences by protecting nearby cities and communities. They also highlight the ‘One Health’ approach, emphasizing the need to consider human, environmental, and animal health as intrinsically linked and interdependent. For instance, ensuring the environment's health contributes to optimizing the health of the other two elements. Bangladesh has widely

used this approach. NbS, by searching to improve an ecosystem's resistance capacities by taking care of it in some ways, also contributes to improving the overall health of the ecosystem in which the population lives.

From another angle, NbS can be exploited to modify certain practices without neglecting or abandoning them. The prime sector in which NbS are used in Bangladesh is the agricultural sector, one of its most prominent industries. Agriculture employs around 43.6% of Bangladesh's workforce and contributes around 11% to the GDP (Gross Domestic Product), with rice as the dominant crop, followed by jute, wheat, vegetables, and pulses, making it central to rural livelihoods and national food security[50]. Over the decades, the local population has grown accustomed to yearly floods, cyclones, and heatwaves. However, the intensification of these disasters, in numbers and intensity, threatens that way of living for most rural communities. To maintain their primary source of income, they developed resilient agricultural methods to pursue and protect their cultivation from possible climate risks. NbS serve the role of transforming agricultural methods harmoniously with the environment. This knowledge contributes remarkably to adaptation interventions, traditionally held by older people, who are known to possess a position of traditional authority within their communities due to their age and status. In the northwestern Barind region of Bangladesh, Indigenous methods were developed to protect fruit trees, crops, and vegetable fields from drought. One of these methods is called *Da Jhoro*. It is an indigenous irrigation technique in which water is poured into bottles or earthenware containers with a hole at the bottom, which is placed directly at the roots of plants to allow the water to drip slowly onto the base of the plants[51].

These solutions carry a profound understanding of sustainable management and coping strategies learned over generations of adaptation. They integrate ecosystem management for food production, improve ecosystem services, and enhance climate resilience for local communities. They led to a diversification of NbS practices over centuries. This is the case for "floating agriculture" (*dhap* or *baira* in Bengali) employed to face recurrent floods. As a traditional adaptive technique, floating agriculture is used in low-lying,

[50] Government of the People's Republic of Bangladesh. (2017). *Strategic framework for the application of a One Health approach in Bangladesh (2017–2021)*. Institute of Epidemiology, Disease Control and Research (IEDCR).
[51] Chaity, D., Md. Jubaer, R. (2024). *Resilience in action: Implementing locally led adaptation in Bangladesh*. Climate and Development Knowledge Network (CDKN).

waterlogged areas or during seasonal floods, mainly in central and northern Bangladesh. It is the cultivation of crops on floating beds made from aquatic plants, such as water hyacinths or bamboo. They allow the growth of vegetables, spices, or seedlings above floodwaters, even during floods that usually destroy crops. These innovative, centuries-old Indigenous techniques allow more resilient agricultural practices to support climate resilience and food security.

Figure 8:
Floating farms in Pirojpur where they now cover a total of 157 hectares Southwestern Bangladesh, Mohammad Ponir Hossain, n.d. (Source: Reuters)

Recently, international organizations have promoted the use of floating agriculture. In its disaster preparedness strategy, the community-based disaster management (CBDM) of the Bangladesh BDCSC has developed even more techniques to grow sugarcane and jute during floods to keep up with the floodwater levels. It allows year-round agriculture rather than single-season cultivation. These organizations provide technical support and incentives to encourage the adoption of floating agriculture as a resilience strategy in Bangladesh. However, they do not transmit the knowledge behind these practices, which have long been rooted in local and indigenous traditions. These traditions are numerous, and their ability to evolve over the years and face different dangers is a fundamental tool for the Bangladeshi to exploit. *Gher farming*, a farming system that combines aquaculture (like fish farming) and agriculture (such as rice cultivation), is also a traditional way of cultivating while providing climate resilience by allowing communities to diversify their food sources despite changing weather patterns. However, these practices are known to be locally-led adaptations, and gaps remain in integrating NbS into broader, actionable frameworks. Hence, in recent years, Bangladesh has promoted more innovative ways to build the country's resilience.

B. Continuous Resilience Building and Emerging Adaptation Challenges

In Bangladesh, several plans and strategies are being followed by the country and its population, learning from past strategies and mistakes. It has led the government to adopt more multi-prolonged approaches to encompass mitigation and adaptation to combat the challenges posed by climate change.

Governmental Shifts and Long-Term Planning

Since the 2010s, the government seems to have shifted the path of its institutions in order to create specialized ministries to deal with ongoing problems. In 2012, the Ministry of Disaster Management and Relief was formed. Previously, this ministry was called the Ministry of Food and Disaster Management. For decades, the government of Bangladesh associated the two issues of disaster relief management and food security in one political entity, affirming the need for effective disaster prevention and responsiveness to ensure food security. However, these two issues are now being treated separately, even if they remain irrevocably interdependent today. Similarly, the old Ministry of Environment and Forest became the Ministry of Environment, Forest and Climate Change in 2018. Its leading role is to ensure a sustainable environment and optimum forest coverage. Once again, a clear link is drawn, but in this case, between the health of a national environment and the influence of climate change on it. These changes may seem small, but still reflect a shift in apprehending environmental and climate issues. New roles and institutions are being formed to deal more efficiently with such issues. They are in continuity with the new and proactive strategies the country has implemented in recent years.

One of the country's most significant plans and strategies is the (Five-Year Plan) FYP, a standard in Asian countries. The FYP is a strategic national development framework that outlines a country’s priorities, goals, and resource allocations across sectors over five years to guide economic growth and social progress. For these reasons, it is an indispensable strategy for Bangladesh to allocate the right resources toward core issues that it wishes to eradicate as a priority. In 2020, Bangladesh launched its 8th FYP, which is supposed to achieve its objectives before June 2025. The official document, which is 849 pages long,

attests to the in-depth analysis and measures the country intends to take within five years. Established during the pandemic, the 8th FYP accords an important portion of its objectives towards a rapid COVID-19 recovery, along with five other themes. One of them is achieving a "sustainable development pathway resilient to disaster and climate change."[52]

The country wishes to make sustainable use of natural resources and manage the ongoing urbanization transition that is rapidly growing. A focus is made on the necessity of resilient agriculture along with climate-resilient agricultural production to increase commercialization and livelihood improvement. This plan is putting forward various ways to achieve this resilience. A strong emphasis is placed on the BDP 2100, an ambitious long-term strategy that integrates water governance, climate resilience, and economic growth, launched in 2018. Qualified by the Hon'ble Prime Minister as a "100-year visionary plan[53]", the BDP 100 was structured by the Netherlands and their own delta plan, as well as the WB, reflecting cooperation with actors external to Bangladesh. It positions the country as one of the first countries in the world to organize adaptive planning for the deltaic government. While the BCCSAP was a groundbreaking step for Bangladesh in building climate resilience through adaptation projects and funding mechanisms, the BDP 2100 reflects a deeper, more integrated shift toward adaptive planning that anticipates future risks and links climate resilience directly to sustainable economic development.

The proactive stance of the BDP 2100 aims at achieving a safe, climate-resilient, and prosperous delta by the year 2100. Considering the characteristics of the soils in the country, which are mainly sandy and constantly shifting, the use of engineering adaptation, as is done in the Netherlands, is complex. Thus, the plan combines water management, climate adaptation, economic development, and disaster risk reduction into a single national vision. The plan emphasizes resilience-building not only for today's challenges but also for future uncertain climate conditions.

One of the people interviewed, Azad Rahman, a former member of the government and currently the lead of one of the flagship projects of UNDP Bangladesh, "Local Government Initiative on Climate Change" (LoGIC), emphasized the importance of long-

[52] Planning Commission, Government of the People's Republic of Bangladesh. (2020). *Eighth Five Year Plan: July 2020 – June 2025: Promoting Prosperity and Fostering Inclusiveness*. Dhaka: Planning Commission.
[53] Bangladesh Delta Plan 2100. (n.d). *Background of BDP 2100*. Knowledge Portal.

term actions: “The policymakers actually understood that this [climate change resilience] is nothing you can solve by five or ten years. You need a long-term vision. You need long-term policies and plans.” According to him, the country's plans show that it is taking the issues surrounding climate change and resilience seriously. He affirmed that this understanding of long-term thinking was linked to the fact that they “have to deal with it almost every day.” Bangladesh need to envision the situation on a large scale if they hope to better adapt to climate change. In that sense, the long-term vision of the BDP 2100 is meant to give the country a clear path toward implementing the right actions and anticipating a more unstable future regarding climate risks. Its importance in the 8th FYP is considerable. Similarly, the last Bangladesh National Adaptation Plan (NAP) of 2022, a long-term multi-decade planning integrating adaptation into national development strategies, integrates the goals of the BDP 2100 and includes climate-resilient agriculture, ecosystem-based adaptation, and climate finance.

While each plan targets different dimensions and timeframes of climate risk, together, they create a layered and complementary framework, combining short-term action, long-term strategy, and territorial resilience to address Bangladesh's climate change complexity. They allow for cross-sectoral approaches to take place as effectively as possible.

International Interventions and Their Implications

The role of international institutions and associations in Bangladesh is important in continuing this idea of enabling actions at different timeframes, sectors, and governance levels. Local Bangladeshi associations are, without a doubt, playing a major part in ensuring effective resilience within communities thanks to their specific knowledge. Nevertheless, to understand the growing challenges the communities face today, we need to dive into the context of international entities operating within the country. Indeed, Bangladesh is the soil of many ‘humanitarian’ actions (labeled as such) and climate actions. Since the 1970s, many associations such as ActionAid, Oxfam, Red Crescent Society (RCS), Médecins Sans Frontières, and CARE have been actively working in the territory. Their presence in the country, since the 1970s, for most, was justified by the precarious economic, social, and climate conditions known to the population. Their domains of intervention vary from disaster relief and resilience, climate change adaptation, poverty alleviation, healthcare, development, and ‘humanitarian assistance’ for the Rohingya refugee crisis in Bangladesh - *See*

APPENDIX 7. Regarding resilience, some of their activities aim at reducing "the sufferings and loss of lives of people living in disaster-prone areas[54]" (Oxfam), at increasing "the knowledge and empowerment (…) of local government, stakeholders, and target urban communities," (BRCS) but also at participating "in the food autonomy of communities and to better adapt to disaster risks.[55]"

Through their own methods and resources, they usually intervene in local communities in partnership with the government. Many promote climate-smart agriculture by developing high-yielding rice varieties tolerant to saline water, inundation, heat, and cold. Solidarités International has, for example, been developing salt-resistant varieties of paddy (being a rice field)[56]. The association CARE, committed to climate change as its second priority based on the amount of published materials, is also developing improved agroecological seeds to resist climate perturbations. It has been diffusing vegetable cultivation on elevated platforms. These practical implementations are vital in improving crop yields, ensuring food security, and increasing incomes for farmers despite climate risks. The population already implements such practices, but these organizations contribute to the diffusion, scaling-up, or strengthening of these locally developed and historically rooted methods rather than inventing or developing them. They are one type of implementation done by international associations. They complement the training some of them are hosting for local communities. The "Training Module on Resilient Livelihood for Urban Ultra Poor Community," developed by Islamic Relief Bangladesh in 2020[57], includes, for instance, training sessions to develop skills related to risk management. It also includes technical and financial support with assistance to start income-generating activities. Those activities are supportive and capacity-building interventions, different from physical and practical ones. They contribute to building resilience in Bangladesh thanks to the resources they employ and give to the local communities.

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[54] Oxfam. (n.d). *Oxfam in Bangladesh*. Retrieved from May 5, 2025, from https://asia.oxfam.org/countries/oxfam-bangladesh

[55] Bangladesh Red Crescent Society (BRCS). (n.d). *Coastal City Resilience and Extreme Heat Action Project (CoCHAP)*. Retrieved on May 5, 2025, from https://bdrcs.org/coastal-city-resilience-and-extreme-heat-action-project-cochap/

[56] Solidarités international. (2021). *Bangladesh : Réduction des risques de catastrophe.* Retrieved on May 5, 2025, from https://www.solidarites.org/fr/en-direct-du-terrain/bangladesh-reduction-des-risques-de-catastrophe/

[57] Islamic Relief Bangladesh. (2020). *Training Module on Resilient Livelihood for Urban Ultra Poor Community*. Retrieved on May 5, 2025, from https://islamicrelief.org.bd/documents/humanitarianresilience/TrainingModuleonResilientLivelihoodforUrbanUltraPoorCommunity_English.pdf

However, their interventions, along with the government, have led to some maladaptation. Maladaptation is used to qualify an implementation that, rather than increasing the adaptive capacities of the people or the environment, deteriorates them due to its inadequacy to local environmental specificities. It is more harmful than helpful for the communities. In some of the interviews, this term came back relatively often to describe past activities that proved detrimental to Bangladesh's adaptation and coping strategies. Azad Rahman explained that this maladaptation often came from prescriptions made by international organizations engaged in the country. He mentioned the World Bank, for instance.

Today, international organizations such as the WB, European Civil Protection and Humanitarian Aid Operations (ECHO), UKaid, and USAID are financing various projects in the country and collaborating with national institutions in Bangladesh. The WB, a partner in many national strategies, has committed around $40 billion to support Bangladesh's development and resilience with coastal infrastructure, and multi-purpose cyclone shelters, among others, and developed a national agrotechnology program with initiatives such as floating agriculture[58]. The USAID, before its shut down by the President Donald Trump, also financed many programs in the country. For instance, at the beginning of the BCCRF, they contributed $13 million to the fund[59]. On the other hand, ECHO is more focused on aiding the Rohingya crisis, releasing over $54 million in humanitarian aid, including disaster preparedness[60]. Even if the country has been developing since the 1970s, external contributions today are still essential for the country, which lacks financial and technical means. However, in the late 20th Century, Bangladesh was even more needy of these funds and implementation programs. Some organizations that came to the country at that time also brought along prescriptions on what to implement and how to implement their programs. In order to access that help, Bangladesh had to accept their prescriptions, which was often the case as the country was somehow dependent on this aid.

Azad Rahman said, "We had no choice. We had to." He gave the example of embankment strategies in coastal areas and how they were helpful in the short term but

[58] World Bank Group (n.d.). *The World Bank in Bangladesh*. Retrieved on May 5, 2025, from https://www.worldbank.org/en/country/bangladesh
[59] World Bank. (2012). *Bangladesh Climate Change Resilience Fund*. News Feature.
[60] European Civil Protection and Humanitarian Aid Operations. (n.d). Bangladesh. ECHO. Retrieved on May 5, 2025, from https://civil-protection-humanitarian-aid.ec.europa.eu/where/asia-and-pacific/bangladesh_en

proved harmful in the long term, forty to fifty years later. Embankment strategies involve constructing and maintaining raised barriers, such as levees or dikes. They prevent flooding and support agriculture, but over time, they disrupted natural siltation, causing long-term waterlogging and making settlements more vulnerable to high tides and storm surges. This was the case for the Coastal Embankment Improvement Project (CEIP) of the WB, started in the 1990s, whose implementations were said to exacerbate existing risks, rather than decrease them[61]. The maladaptation at that time was often the result of a lack of focus on long-term performance or a lack of knowledge of the specificities of Bangladesh's environment. The actions implemented were only helpful in the short term but worsened the situation afterward. These criticisms were common and are still addressed today to decry the work of some international organizations that seem disconnected from the realities on the ground.

According to Mahbub Sumon, a Bangladeshi researcher, activist, and the founder of a local association named Shalbrikko, "some organizations are doing wonderful works, but (…) most of them are actually greenwashing." During the interview, Mahbub Sumon adopted a critical view of some international organizations and the government's actions today. Mahbub Sumon negatively perceives much activism as it revolves more around visiting countries for conferences, showing banners, and talking rather than "working practically", as he repeated during the interview. Therefore, he is highly critical of the many organizations acting within the country without improving the situation, using greenwash. For him, they are misleading by claiming that they are financing and implementing environmental projects that appear sustainable while delivering limited real impact, in reality. His statement was also supported by Nazmul Ahsan, who talked about actions "under the name of 'greening of the environment'" despite not mentioning any organization's name. These statements, not unique to the country, are often common in countries where international organizations or associations intervene. Maladaptation is also a consequence when many actions are being implemented on the same territory without much coordination or complementary measures, creating a risk of overstepping each other's actions. Maladaptation and overstepping impede resilience as they fragilize an already weakened environment rather than fortifying it and contributing to its preservation. In the case of

[61] Dewan, C. (2020). *'Climate Change as a Spice': Brokering Environmental Knowledge in Bangladesh's Development Industry*. Ethnos, 87(3), 538–559. doi: https://doi.org/10.1080/00141844.2020.1788109

embankments for maladaptation, they made local communities more vulnerable in the long run.

Nevertheless, according to the people interviewed, even if overstepping happens, it is not prominent today as local associations usually coordinate with other actors in the territory (such as other associations or local governments). It demonstrates the complexity of managing action implementation in a territory where many actors intervene. This overall complexity and how the country and its population manage to undermine it are some elements that elevate Bangladesh as a model of resilience in the fight against climate change today.

Bangladesh as a Global Model in Resilience

To the question of Bangladesh as a model for climate change adaptation, five out of the six people interviewed agreed with that statement:

> "Bangladesh is a story of success, as it is portrayed in the global community as a success of adaptation." – Nazmul Ahsan

> "You know, there are many bad things happening in Bangladesh, but regarding climate change, we are obviously one of the leaders." – Luftor Rahman

> "I think a couple of those policies and plans that Bangladesh developed are definitely replicable, as well as good practices for other countries." – Dr. Bapon Fakhruddin

> "Bangladesh has shown its leadership in terms of setting up a dedicated fund for the climate. So, they testify to its inspiration for being a leader in climate adaptation." – Azad Rahman

Indeed, the country gained a "first-mover advantage" internationally by being one of the first developing countries to implement national strategies and plans directly tackling climate change impacts. Since its independence, the country has sought to become a "developmental laboratory" and has used its vulnerability as a political and diplomatic lever[62]. The country became a territory of adaptation experimentation to showcase as an

[62] Baillat, A. (2018) . De la vulnérabilité au weak power : le Bangladesh face au changement climatique. *Revue internationale et stratégique*, N° 109(1), 171-180.

example of success by both national and international actors. Some of its national plans were even used as models for other countries. It was the case for the BBCTF, which inspired the Maldives and Indonesia. The IPCC, to which Bangladesh contributes the most as a developing country, mentioned the NAPA and BCCSAP multiple times as best practices for climate resilience in developing nations. Additionally, the country has hosted numerous international conferences, workshops, and dialogues to discuss IPCC findings and their implications for vulnerable countries. It gave Bangladesh a paradoxical image of a vulnerable country, yet one of the most resilient and implicated in international spheres and discussions. Despite still facing extreme climate events, sometimes at significant costs, the nation still manages to launch new strategies and multiply its implementations for more resilience. In its ambitious pursuit of development, Bangladesh aims to become a 'developing country' by 2041, a goal that might foster more actions from the State toward developing its structures, and its resilience as the latter could ensure the continuity of economic and social activities.

Therefore, Bangladesh is globally recognized as a proactive country and one of the first developing countries to elaborate such resilience and adaptation strategies. The country has led several national strategies and plans to provide an answer to current and long-term issues; the majority targeting the fostering of national resilience. Once an abstract concept ingrained in Bangladesh's local activities, resilience has evolved into a concrete goal and vision for the country's development. It reflects how resilience has become more than a concept, but a real approach to address climate change. It shows that the country is heavily invested in building its resilience to climate change to safeguard the country. At the same time, other actors are implementing locally-led actions and financing governmental plans for some. All these different initiatives help diversify the ways to build coping capacity and resilience for the country. However, these enterprises also come with challenges, such as maladaptation or greenwashing, as well as impediments to practical and applicable measures. It is also an issue when Bangladesh's climate situation has worsened over the years due to the increasing unpredictability of the future.

II. The Strain of Climate Change on Bangladesh's Population and Resilience Efforts

Bangladesh is already witnessing the rise of more intense and frequent climate phenomena, which affect the country's coping mechanisms and are also a source of social and geographical instability (**A**). These circumstances, cumulated with the government's ongoing financial and technical struggles to optimize resources, might lead to an uncertain or perilous future (**B**).

A. Increasing Climate Threats and Social Vulnerability in the Face of Growing Climate *Challenges*

> "Normally, we experience one massive cyclone in ten years and a small cyclone in two to three years. I never heard about four cyclones in one single year. Nevertheless, last year, we had that." – said Azad Rahman, talking about how climate change has affected its work since the beginning.
>
> Nazmul Ashan emphasized, "Another thing I want to mention is the magnitude of the impact. It is not the same as we have seen in 10 years, 15 years, or 20 years back. It has been changing rapidly. We see that the magnitude has been changing rapidly, too. That means the suffering is also growing day by day."

Figure 9:
Residents amid the debris of their collapsed huts after Tropical Storm Sitrang hit, Chittagong, Bangladesh, Rabin Chowdhury, 2022, AFP. (Source: Le Monde)

Bangladesh is seeing climate events that have never happened in specific sectors or have never been as violent as today. What he qualifies as ‘normal’ is, in reality, much more than what the average of countries around the world experience in climate disasters. Bangladesh is the ninth country most vulnerable to climate change in the world. Since the beginning of the 2000s, Bangladesh has gone up two places, earlier on occupying the seventh rank in climate vulnerability. This decrease in vulnerability is significant, but with the predicted future climate consequences, the country and its population will have to make even more efforts to be more prepared to confront climate disasters.

Projected Climate Risks and Their Impacts

In its 2024 report, the IPCC affirmed that climate change hinders the UN's efforts to meet the SDGs. These goals, aiming to ensure “peace and prosperity” for people and the planet[63], must be followed by all UN members to achieve those goals globally. However, for countries like Bangladesh, these goals are not merely intentions but real challenges that will ensure stable and equitable development. For countries like Bangladesh, which rely on international funds, adopting these goals is also necessary if they want to be granted funds by international mechanisms, such as the Green Climate Fund (GCF), which require countries to state which SDG they are trying to implement and how. Therefore, climate change impedes achieving these goals concretely.

According to the IPCC[64], the risks will become increasingly complex and challenging to manage. Some practices rooted in Bangladesh’s adaptation solutions, such as the NbS, will soon reach their limits. The Sundarbans, the largest mangrove forest in the world and a World Heritage Site in the delta of the Ganges River, are already affected. Also home to the Bengal tiger, its role as a natural defense in protecting coastal areas from Estorm surges caused by cyclones is being heavily pressured[65]. Consequently, these natural habitats, which are seen as NbS, will not suffice to protect the country from disasters, as they are beginning to be lacking.

[63] United Nations Development Program. (n.d). The SDGs in Action. Retrieved on March 15, 2025, from https://www.undp.org/sustainable-development-goals
[64] Intergovernmental Panel on Climate Change, 2023, (B.2.3), p.15
[65] Glennon R. (2017). The unfolding tragedy of climate change in Bangladesh. *Scientific American*.

Figure 10:
The Sundarbans, a UNESCO World Heritage Site, Southeastern Bangladesh, Nicky de Battista, 2006. (Source: WHC)

Today, Bangladesh receives over 2,200 millimeters of rainfall annually[66], with more than two meters of water falling across the country yearly, nearly the height of an average adult standing in water. It is more than double the average in most Western European countries, where annual rainfall typically ranges from 500 to 1,000 mm[67]. This number is deemed to increase with the intensification of the monsoon seasonal cycle because of climate change perturbing rainfall patterns. The rise in temperature in the shallow Bay of Bengal has, scientists believe, also caused the population to suffer some of the fastest recorded sea level rises in the world[68]. The period from 2011 to 2020 was 1.09ºC higher than the period from 1850 to 1900[69], and because this data is increasing over the years, Bangladesh is expected to face more Category 4 and 5 cyclones in the coming years. These climate events affect coastal communities first, as they are at the forefront of vulnerable territories. The increase in soil salinity, caused by rising sea levels, degrades their farmlands by turning them less fertile and eventually barren. With the country "still suffering," according to Mahbub Simon, these predictions will only worsen the situation if measures are not sufficient or lacking. Mahbub Simon highlighted many of the difficulties coastal communities face in everyday life. The lack of fresh water in some regions, partly due to sea level rise that salinizes the fresh water, was a primary concern for him, as it usually results in impoverished families and sometimes

[66] Hossain C., Z. (2024). *"How rainwater harvesting has become a lifesaver in Bangladesh". The New Humanitarian*.
[67] World Bank Group. (n.d). *Average precipitation in depth (mm per year) – European Union*. Retrieved on April 20, 2025, from https://data.worldbank.org/indicator/AG.LND.PRCP.MM?locations=EU
[68] Glennon R., 2017.
[69] Intergovernmental Panel on Climate Change, 2023, (A.1.1), p.4.

suicides out of desperation. The increasing instability of the weather[70], the climate, and extreme events threaten to expose millions of people to acute food and water insecurity. Moreover, the most significant adverse impacts will be found in Asia.

Migration Trends Linked to Climate Instability

To cope with environmental problems arising from climate change, Reuveny[71] has identified three different mechanisms within the population: staying in place, doing nothing, and accepting the costs, staying in place and mitigating changes, or leaving affected areas. The two main trends in Bangladesh are staying and acting, or increasingly leaving affected areas. There are both voluntary and involuntary migrations in the country. By 2050, sea level rise is projected to forcefully displace 900,000 people, increasing the urban exodus in already overburdened cities[72]. In Dhaka, the capital, an influx of 2,000 persons per day is entering the city[73]. In 1975, 2.2 million people were living in the city. They were 12.3 million in 2000 and are more than 13 million today[74]. Those migrations impact the rural communities' resilience by leaving the places deserted, and urban communities by intensifying intrastate competition for food, water, resources, and livelihood opportunities. The issue was often broached during the interviews, but was perceived differently and perhaps motivated by different interests.

Luftor Rahman is a research officer at the ICCCAD (International Center on Climate Change and Development), nationally and internationally recognized as a leading research and capacity-building organization that has also partnered with the IPCC to write one of its reports. Luftor Rahman is a research officer at the center specializing in displaced people and their surrounding problems. During the interview, he mainly pointed out the positive aspects of the government's actions, including the existence of "migrant-friendly towns" as

[70] Weather refers to short-term atmospheric conditions, while climate describes the average weather over a long period.
[71] Alam, S., Alam, A., Rahman, M., Rahman, S. and Rahman, N. (2016). *Building Climate Resilience to Noapara Town: A Coastal Urban Centre of Bangladesh*.
[72] Alam, S., et al., 2016.
[73] Sun, Y. (2022). "Climate Migration Pushes Bangladesh's Megacity to the Brink*"*. Bloomberg. Retrieved on February 12, 2025, from https://www.bloomberg.com/news/features/2022-06-28/bangladesh-flooding-fuels-climate-migration-to-dhaka
[74] Alam, S., et al., 2016.

a hope for people. However, growing evidences show that most climate refugees end up in decrepit slums[75], particularly in Dhaka and Chittagong, two major urban centers.

Figure 11:
Houses in the *Boubazar* slum, near Kamrangirchar, Dhaka, Julie Remy, n.d.
(Source: Médecins Sans Frontières)

Nazmul Ahsan emphasized the vulnerabilities these forcefully displaced people were confronted with when "people are very much [living] in unregulated and unsettled habitations," where "they are probably being regulated by informal groups," and where "there are a lot of power relationship aspects there." In most cases, Nazmul affirmed that public service institutions provided little, if not zero, support to the urban slum areas. In his work, the principles of life, dignity, and rights often emerged as issues within the slums and the overall context of climate change. This situation weakens the resilience of urban areas, which are overcrowded by people struggling to find adequate homes and living conditions to participate in the country's development, and rural areas, which are increasingly deserted. These intrastate migrations are already a primary challenge for the country. In reality, those displaced have limited options, even for interstate migration. Less common, they are also increasing even if many migrants face many obstacles in India and Myanmar, neighboring countries, which are not welcoming to Bangladeshi people because of their religion, as Muslims[76]. It creates a growing risk of a 'spillover' effect across national borders with heightened geopolitical tension and other global security concerns. It is particularly relevant and essential to mention it in the case of India, as Chapter 3 will demonstrate. Further west, in Europe, a growing number of Bangladeshis are crossing the frontiers. This journey of

[75] Glennon R., 2017.
[76] Glennon R., 2017, *ibid*.

Bangladeshi migrants is eventually also met with legal obstacles, as there is no official recognition of the climate refugee status. This lack of recognition is important to mention as it reveals the ongoing dynamics of the international order, which will be further explored in Chapter 3.

Overall, these interstate and intrastate movements of the Bangladeshi population reflect a growing concern over the country's future as a habitable or desirable place to live in when traditional ways of living, earning incomes, and living in dignity are being seriously compromised by an increasingly degraded environment. The actual predictions put doubts on Bangladesh's long-term viability as a model.

> "I don't know how successful we could be in the future because of the rapid changes of the whole scenario," adding, "Even if we have done well, there are millions of people who are living a miserable life because of climate change." – Nazmul Ahsan

These growing challenges face the country, pushing the government to take on the task of improving the population's lives despite growing criticism, limited national resources, and implementation effectiveness.

B. Challenges and Critiques Weakening the Government's Position as a Resilience Model

Despite the government's efforts to improve the situation, and even if solutions are found, many critics remain, and challenges remain to be overcome.

> "You'll see a lot of articles stating that Bangladesh is a model, but I don't believe this. If I would have believed it, I wouldn't have built my company." – affirmed Mahbub Simon when asked about the claim that the country was doing impressively good in terms of the fight against climate change.

Contested Government Actions

Mahbub Simon was the only Bangladeshi interviewed who bluntly denied the vision of his country as a "model." His testimony represented a sign of fatigue, probably shared by

other Bangladeshis, on a national situation that does not seem to improve much, with an everlasting wait for firmer commitments from the national and international levels. Mahbub's despair concerns the priorities made by the government that do not involve a proper focus on resilience and climate change mitigation. He repeated many times that the government was doing "nothing" or prioritizing the wrong objectives, neglecting the current state of the population. Still according to him, other countries such as Sri Lanka, Pakistan, and Nepal are better at mitigating the effects of climate change.

Since launching its strategies on climate change and resilience, the Bangladeshi government has been at the center of criticisms pointing out policies that have failed to include the local level with accuracy, especially concerning the impacts of climate change on coastal livelihoods and how it has affected them differently and unpredictably. The CEIP (Coastal Embankment Improvement Project) has faced such criticism, particularly in relation to its inadequate consultation with local communities and its failure to address the complex challenges posed by climate change entirely[77]. Similarly, local government bodies like Union Parishads (UPs) and Upazila Parishads (UZPs) are legally empowered to manage local development but face challenges due to limited resources, weak planning capacity, and heavy dependence on centrally controlled funds. This top-down structure restricts their ability to address local needs effectively and limits public participation in decision-making processes. As a result, environmental projects are often managed without sufficient community consultation, hindering effective local adaptation[78]. Hence, recent plans and strategies have gradually considered these specificities to shift away from an entirely state-based and centralized approach to implementation.

However, some challenges persist in addressing localized impacts and non-economic losses. There still persists social and economic isolation of Indigenous communities, often undermining their knowledge and possible contribution to national policies and local resilience. The Garo Indigenous community, a Tibeto-Burman ethnic group living mainly in the Northeast of India but also in Bangladesh for a minority, has witnessed its vulnerability to climate change increase partly from government-led deforestation in its territory and by

[77] Dewan, C., 2020.
[78] Panday, P. K. (2019). Public participation in local governments in Bangladesh: experience, challenges and the future. *Asia Pacific Journal of Public Administration*, 41(2), 85–96.

relinquishing authority over local resources[79]. The deforestation of Sundarbans mangroves has led people to live in closer proximity to the coasts, endangering them further with less forest cover as protection.

Furthermore, the loss of lands and forests for the population is meant for "agriculture, for land-grabbing, for industries," Mahbub Simon asserted. In vulnerable areas, economic coercion and predatory business practices are happening regularly, leaving people indebted and even more desperate. These actions have irremediably altered the resilience capacity of some communities without inclusive strategies to tackle such problems.

Moreover, the resilience of Bangladesh is also determined by its commitment to mitigating climate change, as the increase in carbon emissions is the primary driver of temperature rise. Despite its historical responsibility for climate change, every country has to play its part in mitigating this phenomenon since the rise of the CBDR-RC principle. This principle, as mentioned earlier, affirms that every country has to elaborate strategies to mitigate climate change to attain international set objectives (such as limiting the temperature rise to 1.5ºC) and to reduce the possible after effects. Every member of the UN was called in 2021 to plan out their NDCs to pledge their role in climate change mitigation based on their resources and national priorities. As its unconditional target, Bangladesh pledged to reduce GHG emissions by 6.73% by 2030 compared to business-as-usual (BAU) levels[80]; a scenario where no significant changes are made to current policies or behaviors, leading to continued GHG at current rates. However, the country's last 2016 Power System Master Plan (PSMP), which projects energy development up to 2041, set out an energy mix of 35% coal, 35% imported natural gas, 10% nuclear energy, 10% renewable energy, and 10% oil and others[81]. According to Mahbub, the government has been more "prone to build an industrial backbone to accelerate the exports of finished goods" than to invest in more renewable energies. Since 2005, the country's coal consumption has increased, whilst renewable energies have decreased in the overall energy mix. It contradicts the country's commitment to reduce CO2 emissions by increasing renewable energy generation by 2041.

[79] Arifatul, K., Ranjan, D. (2024). Indigenous women-led climate crisis solutions: A decolonial perspective from the Garo Indigenous community in Bangladesh. *Political Geography*.
[80] Huq, S., Khan, M., Islam, A.S, Mirza, A. B. (2024). *Climate change impacts in Bangladesh. What climate change means for a country and its people*. International Centre on Climate Change Adaptation and Development.
[81] Japan International Cooperation Agency (JICA) & Power Division, Ministry of Power, Energy and Mineral Resources. (2016). *Power System Master Plan 2016*. Government of the People's Republic of Bangladesh.

According to the analysis, the current budgetary allocation towards renewable energies is inadequate to meet the target.

Currently, the country is also building its first nuclear power plant in Rooppur (northwest of Dhaka), in addition to two nuclear power reactors, and a coal power plant in Rampal (southeast of Bangladesh)[82], which was denounced by Mahbub, who regrets that the country is not investing in its solar potential. He also denounced the country as becoming an "SAE [Society of Automotive Engineers] battery dump station," worsening the country's current challenges. The installation of both power plants might be harmful not only to the country's shorelines, but also to the availability of water for the surrounding districts in an already tight context of freshwater scarcity. Nonetheless, Bangladesh still has to meet the energy demand of more than 171 million inhabitants. Phasing out from fossil fuels might be complicated for a country that heavily relies on them for its electricity production, with 1% of electricity coming from wind and solar energy in 2022. Luftor Rahman argued that Bangladesh needed that energy and, according to the ICCCAD, phasing out from fossil fuels would make the dependent sectors even more struggling in an overall complex national situation. These elements are essential for resilience.

When we mention resilience, we also need to consider the other domains indirectly affecting the effectiveness and the reason why resilience is needed. Bangladesh's investment in fossil fuels contributes to GHG emissions, which are the drivers of climate change. In the context of climate change, pursuing clear and sustainable goals to reduce dependence on fossil fuels and reduce GHG emissions is crucial. Bangladesh's energy mix and continued investment in fossil fuel-based power infrastructure not only contribute to the climate risks it seeks to adapt to, but also underscore how resilience is shaped and sometimes constrained by development strategies and global energy politics. Resilience is not an isolated element. Economic and geopolitical decisions also shape it. The case of Bangladesh also highlights the contradiction between development needs and climate action in a Global South context. Contrary to many developed countries, developing countries usually have fewer choices in terms of development because of resource limitations. As we will see in the last chapter of this paper, international funding and cooperation are key to ensuring developing countries such as Bangladesh can change their direction and fully implement the strategies they set

[82] International Atomic Energy Agency (IAEA). *Bangladesh*. Country Nuclear Power Profiles (CNPP).

out. Indeed, Bangladesh's national finances are a prominent obstacle to reaching good results and implementing resilience strategies as planned.

Limited Financial Resources

The country will need a large amount of financing for climate action in the short, medium, and long term. For the period 2023-2024, 9% of the total budget of twenty-five ministries was spent on climate issues. In global, the government spends around 6-7% of its annual budget on climate adaptation, 75% of which comes from domestic sources[83]. These percentages demonstrate several elements concerning the government's commitment to climate change adaptation. First, it shows that Bangladesh prioritizes adaptation in its public spending, broadly integrating climate concerns across various sectors. Secondly, it also ascertains the strong national ownership of the budget. This level of domestic financing is notable for a lower-income country. Nonetheless, while 6-7% is a high share, the absolute amount remains modest due to the country's limited overall budget. It can raise concerns about whether the funds are enough to meet the escalating scale of climate risks. To achieve the adaptation measures outlined by the current NAP (2023-2050), Bangladesh will need $230 billion during those forty-seven years, underscoring the significant commitment required to address the growing climate challenges. According to the MoEFCC, developing climate resilience will require seven times the current spending at a rate of $8.5 billion per year, with $6.0 billion per year from external sources or international climate funds and development partners[84]. This shows the country's massive lack of domestic financing and the domestic finance it will eventually need. These limitations inevitably affect local associations benefiting from the national funds' money.

Without the technical and financial support provided by the government and its fund mechanisms, many associations' actions will not be able to implement more actions and find new ways to innovate their structures to improve the country's overall resilience. This limitation in financial resources is also predicted to increase in the coming years because of climate change. Indeed, in the future, meeting the population's needs with an increasingly unstable climate might prove difficult financially. A 2014 report from the Asian

[83] Huq, S., et al., 2024.
[84] Khatun, F., Kabir, F. A. (2023). *Review of Climate Budget and Recommendations for Climate Public Finance Management in Bangladesh*. CPD Working Paper 151. Dhaka: Centre for Policy Dialogue (CPD).

Development Bank (ADB)[85] predicts that by 2050, the collective economy of Bangladesh and five other South Asian countries (Bhutan, India, the Maldives, Nepal, Sri Lanka) will lose, on average, 1.8% of its GDP due to climate change impacts. A loss predicted to rise to 8.8% by 2100.

Challenges in Mobilizing National Resources Effectively

The government is also met with several limitations regarding its use of foreign aid, where it could be more efficient in disbursement and utilization to ensure a better absorption capacity[86]. The Bangladeshi government has some difficulties in effectively mobilizing the resources at its disposal and adapting them to the needs. Such a dynamic can be observed in the budget allocation of the different ministries. The budget allocation for the MoEFCC has remained behind the target stated in the 8th FYP. However, it is crucial as this ministry's role involves protecting the country's natural resources, mitigating the impact of climate change, and promoting sustainable development. Even if the allocation for the MoEFCC increased to 0,033 per cent of the GDP in FY23, it remains behind the target stated in the 8th FYP of 0.10 per cent of GDP by 2025. In the Fiscal Year 2024 (FY2024), BDT (Bangladesh Taka) 8.1 billion was allocated to the Ministry against the target of BDT 15.50 billion[87]. Despite being the focal ministry for environmental and climate issues, its share in the overall climate-tagged budget is about 3%, a relatively small percentage. Additionally, its budget is highly project-oriented, with most funds allocated to development projects rather than operational or institutional strengthening. It could weaken long-term climate resilience and planning. Moreover, the MoEFCC is mandated to formulate policies and implement acts, screen proposals, approve projects, and coordinate among institutions to administer the BCCTF and BCCRF.

However, several problems have been highlighted in recent years, such as a governance deficit, a lack of transparency and accountability, and the unavailability of project implementation. In 2012, allegations of corruption in project selection and approval

[85] Shammin, M.R.; Haque, A.E.; Faisal, I.M. (2022). "A framework for climate resilient community-based adaptation". *in Climate Change and Community Resilience*; Haque, E., Ed. Springer: Singapore, 11–30.
[86] Khatun, F., Saadat, S. Y., Kamruzzaman, Md. (2019). *Role of Foreign Aid in Funding the SDGs in Bangladesh: A Governance Perspective*. Dhaka: Centre for Policy Dialogue (CPD).
[87] Khatun, F., Kabir, F. A. (2023). *Review of Climate Budget and Recommendations for Climate Public Finance Management in Bangladesh*. CPD Working Paper 151. Dhaka: Centre for Policy Dialogue (CPD).

led to the halt of disbursement of funds for fifty-three NGOs' projects that were initially selected for the BCCTF[88]. The project selection in some institutions, such as the BCCRF, is also influenced by external actors, such as the WB intervening in the selection and strategic planning. According to a review of the climate budget, the WB selects project proposals despite the role of the Governing Council, which is mandated for the final selection of projects. This can be explained by the significant role of the World Bank's funding in Bangladesh, which grants it substantial influence over national decisions, even if the government does not fully endorse all its conditions or recommendations. The effectiveness of the decisions taken by the government is often undermined by a lack of accountability within the Bangladeshi government. Nazmul Ahsan, while talking about the differences in needs of urban and rural areas, declared that he does "not see the people getting services because of the lack of resources, lack of effectiveness, and lack of accountability measures." There are many allegations of political consideration and interference in project selection, with some projects approved by the BCCTF for funding without prior justification and applicability to climate change. The lack of clarity and transparency in the project tagging within national funds hinders the accountability of national institutions. The statement of Nazmul Ahsan also reveals a differentiated treatment of urban and rural areas. Despite existing programs and policies, rural populations sometimes do not receive adequate services due to a combination of limited resources, ineffective implementation, and weak accountability mechanisms of the State or concerned officials. How the government manages and allocates its resources is fundamental in ensuring they are employed to serve the country's interests and national objectives. Having an all-inclusive strategy aligned with national priorities is essential in enabling the country to be more effective and resilient in the long term, despite financial scarcities, to address the pressing challenges of climate change.

However difficult it is to evaluate resilience because of how unpredictable it can be, being effective during a period and less in other times, the need to address the pressing challenges of climate change must be prioritized. Nevertheless, in Bangladesh, an undeniable adaptation gap exists, defined by the UNEP as "the difference between the actual level of adaptation and the level required to achieve a societal goal, reflecting resource limitations and conflicting priorities." Such a gap is reached "when adaptation efforts are unable to provide an acceptable level of security from risks to the existing objectives and

[88] Haque, Md., Khan, M., Rouf, M. (2013). *Climate Finance in Bangladesh: Governance Challenges and Way Out*. Transparency International Bangladesh.

values."[89] Indeed, the country, despite its efforts, is met with financial, institutional, and practical limitations that hinder its efforts in being resilient.

Since its independence, Bangladesh has been highly invested in promoting the country as resilient and fully engaged in the fight against climate change through adaptation and mitigation strategies. A precursor in that field for developing countries, Bangladesh is regarded as a model for its achievements and its early plans and strategies, placing the country ahead of the others. Today, the country is pursuing its path toward more resilience. To cope with ongoing and future climate challenges, the country has shifted from an old reactive position to a proactive one, shifting how resilience is applied and thought of within the country. Bangladesh exemplifies how the climate and overall political context transform resilience actions. At the same time, the country is confronted with other challenges that have been going on for decades. Bangladesh's situation remains dire as climate impacts become harsher and less predictable, fostering current issues such as forced migrations and neglect of some local territories. The current state of Bangladesh as a "model" can be reflected upon when seeing how Bangladesh will react in the near future. The current financial, institutional, and technical issues undermine Bangladesh's efforts to comply with its objectives. It shows that resilience is shaped not just by intent but by fiscal capacity and governance structure.

However, the effectiveness of the country's implementations is not only linked to national decisions and policies focusing on climate change and the environment. The characteristics of the social order, local communities, and the international order also determine Bangladesh's future as a resilient country.

[89] Shammin, M.R.; Haque, A.E.; Faisal, I.M. (2022). "A framework for climate resilient community-based adaptation". *in Climate Change and Community Resilience*; Haque, E., Ed.; Springer: Singapore, 11–30.

CHAPTER 3 - THE ESSENTIAL REFRAMING OF RESILIENCE ACROSS LOCAL AND GLOBAL CONTEXTS

"We need **to mobilise our intellectual, financial and youth power** to lay the foundation for a new civilisation – a self-preserving and self-reinforcing civilisation."

– Bangladesh interim leader Muhammad, *COP29 High-level Segment – National Statement - Bangladesh*, COP29, 2024.

This chapter continues reflecting on resilience as an adaptable tool in the fight against climate change, seeking to understand the national and international dynamics that undermine it. As more than a theoretical concept, resilience embodies a particular worldview and cannot be achieved solely through national decisions.

As an approach encompassing the population's capacity to resist external events, resilience must be interpreted more broadly to integrate the factors influencing the population's global capacity to be resilient. It is also intrinsically linked to the social order and the existing inequalities that weaken and breach social relations within a community. At a local level, social exclusion and discrimination towards certain social groups can hinder resilience, affecting social cohesion, solidarity, and the will to act together. It also contributes to the lack of knowledge and responses from specific social groups that are left aside from collective decision-making. Therefore, for a resilience approach to be practical, it needs to target existing inequalities, social hierarchy, and exclusion (**I**).

However, resilience also depends on broader international dynamics that give a country the means and possibility to be resilient despite its original disadvantage. In a system that has promoted liberalization with open borders and free trade between countries, the action of one country can affect other countries. The issue is even more relevant when discussing climate change, as nationally led actions can have a worldwide impact by directly affecting the global climate. In that sense, resilience sometimes falls out of the control of countries like Bangladesh because the fight against climate change is also fundamentally dependent on the international order and its mechanisms. Addressing climate change involves reflecting on the causes of the phenomenon and the historical responsibilities of the countries that contributed to its causes. It reflects how developed countries have benefited from rapid development thanks to the use and combustion of highly polluting methods, which have altered the global climate in the long term to the detriment of less developed

countries. Hence, the climate crisis response is also a question of justice and equity. The current international mechanisms on climate change, such as global funds, have a pivotal role in ensuring realizable, concrete, just, and equitable climate actions for the common good. In that way, it can help foster resilience in vulnerable countries (**II**).

I. The Role of Local Social Dynamics in Shaping Resilience

In Bangladesh's national context, social issues and inequalities persist, often hindering resilience efforts and minimizing valuable knowledge for better resilience (**A**). Accordingly, locally led adaptation efforts and social inclusiveness are determinants of the country's resilience (**B**).

A. Rethinking Social Inequalities and Marginalization with Resilience

The socio-ecological reality surrounding Bangladesh is essential in tackling the factors affecting resilience. The socio-ecological reality refers to the interconnected conditions, relationships, and dynamics between human societies and their surrounding ecosystems, shaped by social structures (such as culture, governance, and inequality) and ecological processes (like climate, biodiversity, and land use). They are interlinked as both affect each other differently. Human societies interact with the ecosystems and exploit their resources to live, even though the conceptualization and the value given to nature vary according to cultures. Some communities, such as Indigenous communities, nourish a more profound and symbiotic relationship with nature because of their traditions and ways of thinking. In return, the environment and its conditions affect human societies' development, well-being, and health. They are both interdependent. Hence, for communities to prosper and be resilient, they must fully comprehend nature and its characteristics. However, that question brings about the capacity of communities to be aware of their environment and the risks posed by climate change, as well as thoroughly assess their vulnerabilities.

In Bangladesh, these implications are often not homogenous in the entire population as gaps remain in knowledge and inclusion regarding decision-making and implementation locations. It reinforces social vulnerability that can be defined as "the state of individuals, of groups, of communities represented in terms of their ability to cope with and adapt to any

external stress placed on their livelihoods and well-being". [90] The vulnerability in Bangladesh is, above all, due to its lack of resources and financial means to implement all the actions required to address climate change. Nonetheless, actual social tendencies are reinforcing already existing vulnerabilities. These social tendencies range from gender inequalities to historical stereotypes and social exclusiveness and discrimination. Community vulnerability increases when social conditions weaken social bonds and exclude specific people from accessing necessary knowledge and acquiring essential practical skills, putting people at more risk.

"When a disaster hits, it's beyond the capacity of an individual," explained Nazmul Ahsan. Collective actions help an entire community to withstand the shocks. Accordingly, the exposure to hazards and the degree to which one can respond is not a choice but the product of historical processes[91]. Some adverse impacts, being the detrimental effects caused by climate change, are also mainly the manifestations of entrenched power structures, lack of access to institutionalized protective measures, and the marginalization of vulnerable communities, among others [92] . The climate gap is, therefore, a product of the underrepresentation of vulnerable, disadvantaged, or racialized groups. In Bangladesh, the most vulnerable groups are women, children, and Indigenous people.

Women's Precarious but Evolving Role in Resilience Efforts

Bangladeshi society is predominantly patriarchal, where traditional[93] gender roles often position women in subordinate roles within the household and community. These norms are reinforced by cultural, religious, and socio-economic structures, though they vary across regions, classes, and communities. While change is ongoing, many women still face structural barriers to equality, mobility, and decision-making. There exists a male dominance in Bangladesh that undermines the role of women in decision-making and governance, but also in resilience. Women are expected to care for the family rather than engage in other

[90] Adger, W.N.; Kelly, P.M. "Social Vulnerability to Climate Change and the Architecture of Entitlements. Mitig". *Adapt. Strateg. Glob. Chang*. 1999, 4, 253–266.
[91] Tubridy, F., Lennon, M., Scott, M. (2022). *Managed retreat and coastal climate change adaptation: The Environmental Justice Implications and value of a coproduction approach*. Land Use Policy, 114, 105960.
[92] Islam, Md., Sallu, S., Hubacek, K., Paavola, J. (2014). Migrating to tackle climate variability and change? Insights from coastal fishing communities in Bangladesh. *Climatic Change*, Springer, vol. 124(4), 733-746. doi: 10.1007/s10584-014-1135-y
[93] In this context, "traditional" refers to practices deeply rooted in local customs and community knowledge.

activities. It makes them financially dependent on their husbands, and when they do have jobs, they tend to earn less money for the same responsibilities[94]. During droughts, which can happen relatively often, women often sacrifice food rations for themselves to feed their family members, especially male members.[95] Those silent 'sacrifices' result from traditional social expectations and roles that women were educated to act upon. In their households, they are also expected to fulfill the task of collecting water. In rural areas, that homework is met with multiple obstacles, especially climate change. Easmin Amena, a District Climate Change Coordinator (DCCC) worker at the UNDP under the LoGIC project, stated:

> "[women] have to collect water far away because all the creeks are dry now, and there is no bamboo as well. That's why they cannot collect water near their house, and it's a big issue."

Figure 12:
Women holding pots and waiting their turn to collect water from a river, Abir Abdullah / Climate Visuals, Bangladesh.
(Source: IHE Delft)

This task is affecting their health, especially in territories affected by water scarcity. Saline water and water scarcity, two major issues in coastal areas, are affecting their "health condition, reproductive health, and rights conditions," affirmed Nazmul Ahsan. They make water collection physically demanding for women, especially during menstruation, when the need for privacy and hygiene increases their vulnerability and discomfort. In general,

[94] World Bank Blogs. (2022)."What do gender data reveal about economic struggles for women in Bangladesh?". *World Bank*. Retrieved on May 15, 2025, from https://blogs.worldbank.org/en/opendata/what-do-gender-data-reveal-about-economic-struggles-women-bangladesh
[95] Hossen, M.A., Benson, D., Hossain, S.Z., Sultana, Z., Rahman, M.M. (2021). Gendered perspectives on climate change adaptation: A quest for social sustainability in Badlagaree village, Bangladesh. *Water*, 13, 1992.

women's voices are silent in many places because of a fear of speaking up and the consequences that could follow. This silence can contribute to the persistence of harmful practices, such as young marriages, which, as Nazmul Ahsan points out, “have been increased in many areas.” This increase relates to how climate change impacts stereotypes and controversial social practices towards women. A precarious situation with resource scarcity affects the entire population, leaving people frustrated and dissatisfied, sometimes manifesting in a backlash against women and in the reinforcement of traditional gender roles. Climate change is, in that regard, emphasizing the discrimination and expectations towards women. In the event of a disaster, women in Bangladesh often take on essential caregiving and community support roles, extending their responsibilities to assist those affected and sustain household resilience. With children, elderly, and other family members dependent on them, they are the most affected by ongoing climate change.

> “We see sometimes that violence and peace have been eroded because of climate change events.We see women being less allowed to engage in economic activities because of the high competition for limited resources due to climate change.” - Nazmul Ahsan

The change of weather patterns induced by climate change irremediably impacts the resources available to the population. Women are the most vulnerable because of such factors, compounded by poor housing and limited participation in adaptation governance and resilience strategies[96]. Similarly to most people interviewed, Azad Rahman is working with women to enable them to overcome the social and economic obstacles that prevent them from engaging fully in communal activities, including practical resilience actions. He says, “The common problem you must face is the male.” He argues that they sometimes see the participation of women negatively, as they might feel left out of the programs. He and Easmin Amina also mentioned the role played by religion in their behaviors, citing the majority of Muslim people. However, the major problem arising from what they call women's empowerment is the change in social order, with women progressively building their capacity and challenging local decisions.

Despite remaining obstacles towards women, local associations have progressively targeted women as one of their priorities in building community resilience. Azad Rahman and Easmin Amena from the UNDP and Nazmul Ahsan from ActionAid Bangladesh engage

[96] Hossen, M.A. et al., 2021, *ibid*.

with women as an essential part of their work. They emphasize the importance of 'empowering women', a term Nazmul Ahsan defines as "building their capacity, knowledge, and concentration, and supporting them to be connected with the institutions and engaged in the various policy and decision-making." Through a "human-risk approach," as he qualifies it, Nazmul Ahsan helps women build their networks and leadership practices through training. The UNDP LoGIC program, on which Azad Rahman and Easmin Amena work, aims to support vulnerable households and plan climate change adaptation solutions[97]. Through that program, women are trained in new forms of sustainable businesses, agriculture, and alternative livelihoods to cope with changing climate conditions. They received a small amount of money to develop new cultivation or activities learned from the training. According to Azad Rahman and Easmin Amena, the money is then reinvested for their families. Through the knowledge acquired, women are expected to help their families and educate their husbands and family members on what is sustainable and what is not. Their role is "key to building resilience," affirmed Azad Rahman. Indeed, women play a vital role in building effective resilience through their capacities, but also through their central role in household management and knowledge of their children to promote sustainable practices, reinforcing resilience in the long term. Their role is slowly becoming more recognized. International organizations also promote gender inclusiveness in decision-making processes as vital to community resilience. The UNFCCC recognizes women as one of the "groups most vulnerable to the adverse effects of climate change,"[98] but also asserts their substantial role in climate change resilience.

The place of women and their role in climate resilience is progressively recognized worldwide and within Bangladeshi society. With the training they receive and the implementation they take part in, the ratio of cyclone deaths between males and females decreased from 5:1 in 1991 to 1:1 in 2020, according to the MoDMR[99]. In the CPP program, half of the 76,000 volunteers are women[100]. "They are receptive [to the trainings], and they're able to take the lead of the change efforts," affirms Nazmul Ahsan. The women,

[97] United Nations Development Program. (n.d). "Local Government Initiative on Climate Change (LoGIC)".
[98] United Nations Framework on Climate Change (UNFCC), Conference of the Parties (COP). (2023). *Report of the Conference of the Parties on its twenty-eighth session, held in the United Arab Emirates from 30 November to 13 December 2023*. *Part one: Proceedings*. UN Climate Change Conference, United Arab Emirates.
[99] Salzenstein, L., Islam M., R. (2021). "How Bangladesh is beating the odds on climate disasters deaths". *The New Humanitarian*.
[100] Salzenstein, L., Islam M., R., 2021., *ibid*.

including young women, are now advocating with policymakers at the local and national levels and participating in the events organized by the association, such as ActionAid's COP delegation process, where ActionAid prepares its teams for the upcoming COPs.

"Most of the females are now more into having a job or being an entrepreneur," claims Easmin Amena, demonstrating that women and society are evolving towards giving women more resources. She also witnessed that few women were employed ten years ago in the "non-governmental sector, private sector, or corporate sector." Now, most enterprises seem to look for gender parity within their corporation. In that sense, the government has also been developing specific programs for female agriculturists and entrepreneurs, exemplified by the *Joyeeta Foundation*, a state-backed program promoting women's economic empowerment through support for enterprise development, capacity building, and market access. All these initiatives demonstrate a growing will to give women the capacity to act in resilience building and strengthening. In some communities, women are taking the lead and have developed unique ways to make a living through sustainable and traditional practices, such as climate-resilient weaving.

Figure 13:
An indigenous weaver from Sapchari Union, Rangamati, works on a waist-loom, crafting traditional garments, Southeastern Bangladesh, n.d. (Source: UNDP Bangladesh)

In Sapchari Union in Rangamati (southeast), women have been practicing the art of waist-loom weaving for decades. However, for a long time, this practice did not yield significant economic benefits for these women, many of whom were sharecroppers. Moreover, climate change has disrupted traditional farming practices, further threatening their financial stability. With the Climate Adaptive Livelihood Options (CALO) initiative of

LoGIC [101], women were able to gain income from weaving, a sustainable alternative unaffected by weather, thanks to financial support obtained through the organization's Climate Resilient Fund (CRF). This initiative enabled women to reinvest in their future.

Over the years, their societal role has evolved, allowing for more social resilience, which is key in enhancing social cohesion and bolstering community progress. Nevertheless, obstacles persist for women, transgender women included, another issue less documented but still the source of inequalities, discrimination, and lack of rights. Despite engaging in more activities, as of 2023, Bangladesh's female labor force participation rate was approximately 48.7%[102], meaning less than half of working-age women are involved in the labor market. It perpetuates their lack of economic dependency and the traditional gender roles and societal expectations in a highly patriarchal society. It undermines the ongoing efforts led by local associations that have proved the regional and national interests in giving women the capacity to contribute to building resilience. Therefore, progress is still ongoing for women's participation in society, which is mainly pushed by local and international associations today.

Figure 14:
Fifty-five women in Bagerhat and Patuakhali districts followed a two-day training focused on women's disaster preparedness and mitigation knowledge and skills, Southern Bangladesh, 2023. (Source: A-PAD Bangladesh)

[101] United Nations Development Program Bangladesh. (2025). *Indigenous Women in Rangamati Weave Tradition into Prosperity*. UNDP.
[102] International Labour Organization. (2024). *The impact of care responsibilities on women's labour force participation*. Statistical Brief. Retrieved on May 5, 2025, from https://www.ilo.org/sites/default/files/2024-10/GEDI-STAT%20brief_formatted_28.10.24_final.pdf

Indigenous Community Inclusion

Another group that plays a key role in resilience is the Indigenous communities, whose contribution is often diminished. Indigenous people are deeply interconnected to their lands through their land-based cultural customs and specific spirituality. Their livelihoods revolve around nature not solely as a resource but as a living and spiritual entity that forms the core of their way of living, which is being heavily perturbed by environmental change and irregular weather patterns.[103]

In Bangladesh, there are over fifty-four Indigenous groups speaking at least thirty-five different languages[104]. These communities, rich in cultural heritage, are facing disproportionate challenges. Climate change reinforces already existing cultural disparities, unequal access to resources, and marginalization associated with racial injustices. In Bangladesh, indigenous communities face significant human rights challenges and discrimination, driven by historical marginalization, land disputes, and inadequate legal protections. Some communities are even disregarded and disavowed, as is the case for the *Munda* communities, particularly in Khulna and Sabhira (southwest).[105]

Figure 15:
Activists of Chittagong Hill at a protest rally demanding the implementation of the Chittagong Hill Tracts (CHT)[106] Peace Accord,
Mamunur Rashid, Dhaka, Bangladesh, 2020, AP Photos.
(Source: Human Rights Watch)

[103] Datta, R., Kairy, B. (2024). Decolonizing Climate Change Adaptations from Indigenous Perspectives: Learning Reflections from Munda Indigenous Communities, Coastal Areas in Bangladesh. *Sustainability*, 16(2), 769.
[104] International Work Group for Indigenous Affairs. (2025). "The Indigenous World 2025: Bangladesh". Retrieved on May 12, 2025, from https://iwgia.org/en/bangladesh.html#:~:text=Bangladesh%20is%20a%20country%20of,1%25%20of%20the%20total%20population
[105] Datta, R., Kairy, B., 2024, *ibid*.
[106] The CHT Peace Accord, signed on December 2, 1997, between the Government of Bangladesh and the political organizations PCJSS (*Parbatya Chattagram Jana Sanghati Samiti*), aimed to resolve long-standing conflicts in the Chittagong Hill Tracts through political and land rights agreements.

Most Indigenous communities also struggle with forced displacement from ancestral lands due to commercial projects and government policies that prioritize development over their rights. Despite constitutional recognition, the lack of effective enforcement leaves these communities vulnerable to exploitation and social exclusion.

Their social and geographical marginalization, because they live in remote areas, is the cause of a lack of education, health facilities, and increased exposure to climate disasters. The increased salinity of water constrains them from making houses in mud and exposes them to erosion in summer. The shelters are supposed to protect the population from climate disasters, but they are often far from where they live, forcing them to stay in their houses when a disaster hits[107]. These constraints frequently lead to a high rate of unemployment, for men and boys especially, and can lead to drug addiction and domestic violence, in areas already impacted by such conditions

Indigenous people are also categorized as one of the most climate change-vulnerable groups. The IPCC Implementing social protection measures and ensuring universal access to early warning systems can significantly reduce the vulnerability and exposure of human populations to climate risks. Reducing vulnerability means finding solutions to be more resilient. However, Indigenous communities have been resilient for decades, and their knowledge of the environment and traditional practices can play a vital role in resilience. Azad Rahman asserts that “the wisdom and traditional knowledge” of Indigenous communities are key for resilience. By quoting the canals dug to collect water, he expressed his wish to “encourage” those practices as they are relevant to community resilience. Indigenous communities have had to face climate disasters for decades despite not living the same way as the rest of society. Their traditional knowledge provides unique insights into climate resilience, rooted in a deep understanding of the natural environment.

Some examples of these traditional methods include using ash mixed with kerosene to avoid reliance on chemical inputs. Another notable practice is the use of bamboo drip irrigation systems that channel water from hilltop springs to terraced fields, a method traditionally carried out by women of the Chakma and Marma communities in the Chittagong Hill Tracts (southeast). This kind of system exemplifies ecologically sustainable management rooted in Indigenous knowledge. The active involvement of women in some

[107] Datta, R., Kairy, B. 2024.

communities, including the Garo community, is linked to its matrilineal nature. Social structure highlights the role of Indigenous women in sustaining agroecological resilience. Such dynamics underline the importance of participation by each member of the society. It also reflects one of the main attributes of Indigenous past and social resilience, with a common share of marginalized values within the country. Through adaptive livelihood strategies, cultural continuity, and collective governance mechanisms, they demonstrate social resilience even if acts of violence still exist within the communities.

If acts of coordination and common goals drive a community's interest and actions, it does not mean there are no issues within the community. While acts of coordination and shared goals drive collective action within Indigenous communities, it is fundamental not to essentialize these communities as uniformly harmonious or free of institutional, social, mental, or physical violence. Although these forms of violence exist, the collective experience of marginalization that comes with shared struggles and common external threats often reinforces solidarity and coordination within Indigenous communities, which is crucial for the effective implementation of community-driven initiatives. Some Indigenous communities have tried to preserve their environment, prevent deforestation and the loss of their resources, and promote sustainable production and consumption practices with such initiatives. Coupled with technological advances, these practices could enhance climate resilience through sustainable and NbS. Achieving true transformability in resilience requires not just adapting old practices, but their evolution into practical and socially innovative strategies that are more responsive to emerging climate challenges.

The 2024 IPCC report asserts that prioritizing "equity, social justice, climate justice, right-based approaches, and inclusivity" in adaptation allows for "more sustainable outcomes" and "advanced climate resilient development".[108] Accordingly, the perspectives on women need to be multidimensional to grasp the reality in which they live, and allow them to improve their situations and participate in decision-making. 'Empowering' the women and the Indigenous communities would allow broader participation and a better share of knowledge that tends to be undervalued in current national policies and local actions. Resilience at the local level is also determined by the social attributes of a population and is weakened by ongoing trends such as social and economic inequalities and social marginalization.

[108] Intergovernmental Panel on Climate Change, 2023, (C.5.2), p.31.

Community-driven implementations are key in allowing local specificities and traditional Indigenous knowledge to be put forward. In that sense, locally-led adaptation could foster Bangladesh's overall national resilience if it considers social resilience and other characteristics of Bangladeshi communities. When a disaster hits and a crisis follows, researchers have entertained the idea of a 'window of opportunity'[109] to impel changes to socio-ecological systems, otherwise path- dependent and rigid from the past and engrained traditions. In that sense, social resilience could be reinforced by the actual situation and foster better local-level implementations.

B. The Promise of Inclusive and Effective Locally Led Initiatives

Locally led adaptations are key to strengthening a community's resilience, mainly because they engage the affected population and allow for traditional and Indigenous knowledge to be put forward.

When asked about Bangladesh's resilience, many interviewees mentioned local communities as essential to a country's resilience. Azad Rahman explained:

"Let me start with the community first because it is the community that can assess its risk, who knows what the key vulnerable areas are that it needs to rethink. They have the ability to plan accordingly, and they have the resources to implement those alternative ideas."

According to him, the community is the most legitimate in assessing its risks and vulnerabilities. Compared to the decisions taken at the national level, even if their implementations include the local level, the communities can act directly and effectively in their environment, rather than national policies that sometimes fail to understand the local specificities of certain places. Communities often appreciate their environment and the interdependency necessary for a healthy socio-ecological system. Through their knowledge systems embedded in traditions, they have generated coping strategies over time[110]. Dr. Bapon Fakhruddin affirms that "grassroots" practices, or community-driven practices, are

[109] Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T., & Rockström, J. (2010). "Resilience Thinking: Integrating Resilience, Adaptability and Transformability". Ecology and Society, 15(4).
[110] Berkes, F., & Ross, H. (2013). "Community Resilience: Toward an Integrated Approach". Society & Natural Resources, 26(1), 5–20. doi: https://doi.org/10.1080/08941920.2012.736605

"quite good practices and could be easily transformed and shared with other countries," when discussing Bangladesh as a climate resilience model. Concerning the international level, he also mentioned that "the activities and the workshops are good" during the COPs, which allow selected members of the civil society to attend the conferences. Still, they are "not the best instrument that could actually create resilience in any community."

The Importance of Grassroots Adaptation

To better tackle climate change impacts, actions taken within the community and at the local scale can promise to be more adapted to the environment's geographical and biological context because the population knows its habitat. Knowledge and contexts differ significantly in Bangladesh. The geographical landscape varies greatly, encompassing coastal areas prone to cyclones and rising sea levels, fertile river deltas vulnerable to flooding, hilly regions in the northeast, and dry plains in the northwest, each influencing local livelihoods, settlement patterns, and vulnerability to environmental changes. In Bangladesh, there is a dearth of local level adaptation and intense research on community resilience and adaptation strategies, especially when looking at other neighboring countries[111]. Therefore, national policies can fail to encompass such specificities and can rely on regional and local governments to implement them. However, in the decision-making process, including representatives of the local population can help build better capacity and resilience. In that sense, social cohesiveness and representation must be put forward for better governance and decision-making. The bottom-up approach in such a grounded and local phenomenon should be prioritized to enable the vulnerable population to participate directly and benefit from the policies, according to the ICCCAD[112].

As seen in the previous part, enabling social resilience is crucial to overall good resilience. Therefore, giving the population cultivable lands, developing hospitals and health facilities, and encouraging inclusive and discrimination-free mechanisms can enhance community-driven responses to climate disasters. It reinforces a community's solidarity and weight in decision-making, which are essential influencing factors. Several studies have

[111] Berkes, F., & Ross, H. (2013). ibid.
[112] Raya, T.Z., Naushin, N., Prithul, S.A., Iqbal, S.M.S. (2024). Addressing climate induced loss and damage in south coastal Bangladesh: Bridging local insights and national policy interventions. Dhaka, Bangladesh: International Centre for Climate Change and Development (ICCCAD). CGIAR Initiative on Asian Mega Delta. 20p.

demonstrated the interest of shifting towards a people-centered framework where human rights, local participation, input, and decision-making are central. An effective disaster preparedness, supported by an effective resilience, could be achieved with community-based initiatives that are seen as promising to mitigate the effects of climate change while strengthening community resilience and empowering local populations [113] . While empowerment is influenced by multiple dimensions of an individual's life [114], contributing to boosting the strength of its community can come with a feeling of usefulness, bolstering more participation and action.

In Bangladesh, besides traditional agriculture and the use of natural resources, resilience is also enhanced by local Disaster Management Centers (DMCs). These community-based group centers, supported by NGOs and government agencies, were established to manage disaster preparedness, response, and recovery locally. Residents actively participate in the formation and operation of DMCs, ensuring that disaster management strategies are culturally appropriate and context-specific. They are integrated with local governance structures as the work in tandem with Union Disaster Management Committees (UDMCs), which are mandated by the Standing Orders on Disaster (SOD) to act as rural disaster management entities. Community-led initiatives have also led to the construction of elevated plinths and community centers that serve as emergency shelters during floods.

Projects like the Community-centric Resilience Approach for DRR (CRAD) by the NGO Good Neighbors Bangladesh have implemented early warning systems and forecast-based financing mechanisms[115]. These initiatives enable communities to receive anticipatory financial support and take proactive measures before disaster strikes. These centers have strengthened community resilience by fostering local ownership, enhancing preparedness, and integrating traditional knowledge with modern practices.

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[113] Kirkby, P., Williams, C., & Huq, S. (2017). Community-based adaptation (CBA): Adding conceptual clarity to the approach, and establishing its principles and challenges. Climate and Development, 10(7).

[114] It is important to recognize that empowerment within the context of resilience and climate adaptation is not universally experienced or uniformly achievable. Social, economic, and cultural factors, as well as individual circumstances, significantly influence one's capacity for empowerment. This perspective avoids essentializing empowerment as a singular outcome of resilience-building efforts.

[115] Good Neihbors Bangladesh. (n.d.). *Community-Centric Resilience Approach for DRR (CRAD) Project*. Retrieved on May 5, 2025, from https://gnbangla.org/crad-project

Figure 16:

Community members and stakeholders participate in a Project Orientation session under the Community-centric Resilience Approach for DRR (CRAD), organized by Good Neighbors Bangladesh at Mogolbasa High School, Kurigram CDP, 2024. (Source: Good Neighbors Bangladesh)

The Benefits of Co-Producing Knowledge

These centers also highlight the necessity of collaborating between governance actors and civil society. The co-production of knowledge and actions permits targeting the issues more accurately, using different knowledge and methods that can complement one another. Having diverse stakeholders to shape agendas challenges the normative assumption that only technological advances and formal government institutions can effectively respond to disaster. Community-based interventions can be just as effective in disaster response challenges[116]. However, the coproduction must be done to understand all publics as potential contributors, not prevailing scientific knowledge above community participation [117]. "Effectiveness is enhanced by political commitment and partnerships between different groups in society," states the IPCC[118], before specifying that Indigenous, local, and scientific knowledge were all equally valuable.

In Bangladesh, such a share of knowledge has been found in the Loss and Damage Policy Labs (LDPLs), a series of local and multi-level national policy dialogues. They serve as platforms where local insights and scientific research converge to inform climate policy. A notable concretization of this convergence is the initiative led by the local association

[116] Amin, S., Goldstein, M. (2008). *Data Against Natural Disasters : Establishing Effective Systems for Relief, Recovery, and Reconstruction*. World Bank Publications, The World Bank Group, 6511.
[117] Corburn J. (2003). Bringing local knowledge into environmental decision making: Improving urban planning for communities at risk. *Journal of Planning Education and Research*, 22(4): 420-433.
[118] Intergovernmental Panel on Climate Change, 2023, (C.6.2), p.32.

Dakshin Bedkashi Sardar Para Mahila Samiti[119]. Under the "Cyclone-Based Early Actions to Reduce Disaster Loss and Damage" project, supported by Christian Aid and the *Nowabenki Gonomukhi Foundation*, this women-led community group association developed a proposal for small-scale projects to mitigate cyclone risks. They secured funding to construct connecting roads and a wooden bridge, enhancing access to educational institutions that serve as cyclone shelters. This initiative was implemented in consultation with stakeholders, including community members and local government organizations. In 2024, the findings from LDPLs allowed the publication of a policy brief from the ICCCAD containing key recommendations for addressing climate-induced loss and damage in South coastal Bangladesh in areas such as local resilience and community engagement, governance and coordination, or inclusive and equitable interventions[120]. For local resilience and community engagement, it pointed out the necessity of training programs in capacity-building initiatives, which are critical to foster climate resilience at the local level.

Those types of interventions have existed since the beginning of the 2000s, with the initiative of the FAO in 2005 to improve the adaptive capacities of rural populations and their resilience to climate change impacts[121]. In collaboration with the Bangladesh Rice Research Institute (BRRI) and the Bangladesh Agricultural Research Institute (BARI), this program launched local interactions where science-based prediction information was tailored to farmers' perceptions and understanding. It established a link between the scientific community and farmers.

Other initiatives, such as the Vulnerability to Resilience (V2R) programme, which, introduced in 2015, were to make a global analysis of community resilience with cost-benefit analysis for the intervention and the impact on the communities in terms of DRR and Sustainable Livelihoods[122]. The Sustainable Livelihood approach is a development framework aiming to improve people's livelihoods by sustainably enhancing their

[119] Chowdhury, N. (2024). "Bangladesh: loss and damage finance for frontline people". ActAlliance. Retrieved on February 5, 2025, from https://actalliance.org/act-news/bangladesh-loss-and-damage-finance-for-frontline-people/
[120] Kamal, A.B.; Raya, T.Z.; Naushin, N.; Rahman, H.; Saddaf, N. 2023. *Strengthening loss and damage narrative: Building cohesive voices with policymakers and civil society in Bangladesh* . ICCCAD Policy Brief. 6p.
[121] Baas, S., Ramasamy, S.. (2008).*Community Based Adaptation in Action. A Case study From Bangladesh*. Project Summary Report (Phase I). Food and Agriculture Organization.
[122] Bangladesh Red Crescent Society. (n.d). *Vulnerable to Resilience (V2R) Project*. Retrieved on May 6, 2025, from https://bdrcs.org/vulnerable-to-resilience-v2r-project/

capabilities, assets, and activities. It emphasizes reducing vulnerability, building resilience, and promoting long-term livelihood stability. It is used in disaster-prone areas like Bangladesh to build resilience by empowering communities to manage risks better and improve their economic opportunities. Thus, Sustainable Livelihood helps lessen disaster vulnerability while increasing resilience. It allows people to implement DRR for themselves, thereby averting disasters so that people can build sustainable livelihood in return. The V2R Programme was implemented in southern Bangladesh's Patuakhali and Barguna coastal regions. Funded by the British Red Cross, the initiative focused on building human capital through disaster preparedness training via the CDMCs and preserving natural capital through community-led mangrove reforestation and embankment repair.

Furthermore, investments in physical capital, such as disaster-resilient tube wells, elevated latrines, and cyclone shelters, contributed to infrastructural stability. The program also promoted financial capital through cash-for-work programs and micro-finance initiatives that supported diversified income-generating activities like poultry farming, aquaculture, and small-scale retail. Crucially, the V2R program underscores the importance of community-driven resilience, where decision-making and implementation are grounded in local knowledge and social networks. It highlights how locally-led initiatives can address immediate disaster risk and long-term climate change challenges. It demonstrates how a bottom-up approach increases local ownership and strengthens the community's ability to recover and adapt autonomously, reducing dependency on external aid.

The Necessity of Governmental Support

However, not every community in the country has the knowledge or resources needed for effective adaptation and long-term resilience to all disturbances. It is why bringing together multiple sources of knowledge at various levels of governance is necessary to ensure everyone has the same chances of survival, despite disparities. Local ground realities have indeed shown that community-driven efforts are promising but require more significant financial and institutional support. The IPCC states that "support from higher scales in the governance structure" is needed for general resilience. Government structures are essential to give the means for local communities to be more resilient. It is also necessary to avoid putting the burden of resilience on communities and allow every social groups in society to participate in fostering community resilience, consequently stimulating national resilience.

Despite limitations in effectiveness, the Bangladeshi government has tried to engage in dialogues at the local level through different mechanisms. It instituted the National Mechanism on Loss and Damage (NMLD) as a policy framework designed to address losses and damages associated with climate change impacts beyond the limits of adaptation[123]. It improves communication and coordination between local communities, stakeholders, and national authorities. It also entertains the idea that, beyond resilience and adaptation, a genuine issue of loss and damage exists. Nazmul Ahsan also agreed with that thinking:

> "Adaptation is not able to capture, address all these things now that's happening. Many things are being turned beyond adaptation."

This is the case for people who are forced to leave their homes due to harsh climate conditions worsening, lack of support and resources, or lack of solutions to reinforce resilience and pursue a living in such places. The issue of loss and damage is becoming progressively relevant in today's fight against climate change when the climate disasters it brings are erasing years worth of resilience and adaptation and when a sense of injustice rises concerning the main responsible for the situation and the one suffering from their actions; as will be studied in the next part.

Regarding the argument that resilience and adaptation sometimes do not suffice to give people purpose and will to resist and engage in activism, it translates into an inevitable fatigue when people are not given enough resources and means to live and adapt. Easmin Amena explained that, according to her, ten percent of the population was not trying to build resilience and adapt. When asked about the reasons, she mentioned: "Maybe it's because they are not motivated enough. Or maybe they want to earn more money." She affirmed earlier: "It doesn't matter how much I teach you or motivate you. You have to be responsible. You have to feel it." Even if a large majority of people are motivated to build their resilience, it is still met with resistance that can be born from desperation and inadequate assistance, bringing a sense of injustice. This is why the UNDP, when giving funds to families, ensures the money is used appropriately, following the objectives of the organization's projects. It highlights the need to understand how people might feel and how, despite the risks, support and assistance are needed for the population to feel less helpless in their daily efforts.

[123] Farbin, T., Saleemul, H. (2021). Designing a Comprehensive Institutional Structure to Address Loss and Damage from Climate Change in Bangladesh.Policy Brief. ICCCAD.

The knowledge gap on how long ongoing practices would be able to counteract the impacts of climate change and on how to best design adaptation processes with the climate uncertainty is progressively widening. Therefore, co-production of knowledge, institutional assistance, but also education are crucial to fill this knowledge gap.

Essential Education on Risks and Awareness

> "If we fail to build a generation with the knowledge of adaptation, mitigation, and a resilient society. We'll fail." - Mahbub Simon.

At the local level, education is fundamental to perpetuate disaster risk management and adaptation among the young generations. In the school curriculum, students are learning about disaster preparedness early on. The role of teachers and students is equally important and indicates a generational shift where knowledge is shared from a young age. Since 2004, the concepts of DRR have been included across various subjects in both primary and secondary education. It aims to build a culture of safety and resilience among students. A 2021 study analyzing the secondary school curriculum (grades VI to X) identified 15 titles related to the environment and disasters, with more prevalent disaster-related content[124], emphasizing the significant place disasters occupy in Bangladeshis' daily life.

Figure 17:
Shaheen Alam, a youth climate activist, educates children about climate change in climate-risk areas, Southwest Bangladesh. (Source: UNDP)

[124] Islam, M.R. (2021). Environment and disaster education in the secondary school curriculum in Bangladesh. *SN Social Science*, 1, 23. doi: https://doi.org/10.1007/s43545-020-00025-1

Furthermore, practical initiatives were introduced, such as simulation drills, stock emergency supplies, and teacher training in disaster preparedness. The limiting effects of such practices, due to resource limitations, especially in rural areas, still allow for an awareness of the risks.

Most interviewees affirmed that most people were aware of the climate risks and the ongoing changes in their patterns. However, some people still do not know about climate change[125], or know less than others. In any case, the lack of knowledge on climate change can only put people in danger and fragilize the overall system adaptation. Additionally, understanding climate change does not mean understanding the scientific reasons and logic behind it. Mahbub Simon, referring to the country's future, said:

> "I know we're destroying ourselves, but not many people are afraid since they don't know [about the scale of current changes]."

Accessing and understanding current data on climate change is detrimental to the population and undermines, in some way, the resilient efforts when people might not know the best actions to implement. Even if a certain risk culture is present within the population, according to the interviewees, meaning that the people understand to some extent the risks they are in and how to act in an emergency, in the poorest community, "there is still not that much risk-based decision-making culture," according to Dr. Bapon Fakhruddin. Disparities still exist in the territories depending on the localization, as assessing risks requires time and understanding the risks, which may not be a priority for people trying to make a living in an already worsening situation. It explains why education is crucial in informing people to act correctly.

In Bangladesh, the younger generations, who are more aware of the risks, seem to be able to create new hope for the country. The youth is seen as working "really enthusiastically," and being "eager to learn," affirms Mahbub Simon, despite his opinion that the youth is less interested in practical work and more interested in sitting and debating at conferences. The young activists are also seen as "dynamic" and doing "many nice things," according to Luftor Rahman and other people interviewed.

[125] DW. (2024). *COP29: Inside Bangladesh's climate battle* [Video].

At the local level, associations are training the young people to develop their capacity, to demonstrate their leadership in social and climate justice, and to advocate with policymakers. The 'youth power' is essential as it will determine the future engagements of the country[126]. They have both a role at the local level, to acquire the skills necessary to act in the case of an emergency and to diffuse their knowledge, and at the national and international level, to advocate for their rights and those of their country. In recent years, the leading global organizations have put forward the role of young people, emphasizing their growing leadership role and the defense of human rights. It represents a shift toward old campaigns, where children and the youth were expressed mainly in their vulnerability to climate change. Today, children in Bangladesh are considered the most exposed in the world to climate and environmental hazards. With climate change, they are growing up in an "increasingly unhealthy environment."[127] Their vulnerability is undeniable, but is also counterbalanced by their capacity to act for themselves in some aspects.

In Bangladesh, local adaptation and interventions are necessary for the country to claim itself as resilient. Because of their specific knowledge and years of experience in adaptation measures, the local people are more prone to implement adapted actions to build their resilience. In that sense, resilience is an approach that inherently includes civil society's vital role and efforts. National policies can not entirely grasp the specificities of each region and community; their efficiency heavily relies on local associations and their actions. In some countries, the term 'resilience' has become unpopular as it implies that crisis-affected people have somehow failed to be resilient or that the solution to crises is simply for communities to become stronger. However, resilience is also an approach that can highlight how people have maintained their livelihoods for several generations, despite their lack of resources. With climate change, the resilience is not solely dependent on local actions but on the collaboration of a society's entire population, level of governance, and knowledge. In that way, resilience can be relatively maintained and reinforced.

Furthermore, going beyond adaptation is becoming more present within local associations' objectives. It highlights a tension surrounding the causes of climate change

[126] Bangladesh. (2024). *COP 29 High-level Segment – National Statement – Bangladesh.* United Nations Climate Change Conference, Baku.
[127] Faruk J. F., Porag A., Flowers R. (2024). "COP29 outcomes bear consequences for Bangladeshi children". *The Daily Star*.

and its consequences, which are inequitably dispersed in the world and often striking the poorest countries and the least responsible.

In Bangladesh, climate change has paradoxically amplified the roles of women and Indigenous communities in adaptation efforts, necessitating their increased involvement to confront escalating risks, while simultaneously exacerbating existing social and economic inequalities. According to Luftor Rahman, the "civil society organizations have more voice." However, in the face of the global order, civil society is often marginalized in front of more considerable international dynamics that structure the international order. The issues of international cooperation and funds are essential not only to build Bangladeshi resilience but also to build a global resilience where every national action could either foster or hinder it, provoking worldwide consequences.

II. The Role of the International Order and Its Impact on Resilience

Various semantic and cooperation-related challenges currently hinder the international structure for addressing global issues, as highlighted by countries like Bangladesh (**A**). On the other hand, international funds, crucial for low-income countries, are the object of many shortcomings detrimental to Bangladesh's resilience (**B**).

A. Global Cooperation in Strengthening and Hindering Resilience

"Government actions at sub-national, national and international levels, with civil society and the private sector, play a crucial role in enabling and accelerating shifts in development pathways towards sustainability and climate resilient development,"[128] states the IPCC in his latest report, highlighting the importance of international levels.

With the 1992 Rio Earth Summit (UNCED), countries have elevated climate change concerns to global issues requiring coordinated international action. Indeed, the impacts of climate change know no borders, affecting every nation across the globe, even if the adverse

[128] Intergovernmental Panel on Climate Change, 2023, (C.1.2), p.24.

impacts are "unequally distributed across systems, regions and sectors,"[129] affirms the IPCC. It is the first time countries have been brought together to find solutions to a climate problem intrinsically linked to our societies, which is deemed to worsen in the future, impacting them even more.

Figure 18:
Opening of the UN Conference on Environment and Development, Rio, Eduardo DiBaia, 1992. (Source: AP Photo / Keystone)

The Perceptions on Climate in the International Order

Since the 1970s, the environment and the climate, a few decades later, have been progressively at the centre of attention, as seen earlier. Major international organizations like the United Nations Environment Programme (UNEP), the Intergovernmental Panel on Climate Change (IPCC), and the United Nations Framework Convention on Climate Change (UNFCCC) have been established to coordinate global environmental policies, assess climate change impacts, and facilitate international cooperation for sustainable development. These institutions established international frameworks for countries to harmonize their national policies with international objectives meant for the 'common good'. This consecration of international cooperation, actively sought by many countries following the world wars of the 20th century, consecrated the environment and the climate as a common heritage that benefits the entire world population. In an economic language, they are defined as 'global public goods,' meant to be understood by everyone as a resource or service that

[129] Intergovernmental Panel on Climate Change, 2023, (A.2.6), p.12.

provides benefits universally, across all countries and populations, and is both non-excludable (no one can be prevented from accessing it) and non-rivalrous (one's person's use of it does not reduce its availability to others). Examples of global public goods include clean air, climate stability, and biodiversity. Additionally, the PNUE recognizes the environment as a common heritage necessitating global governance and preservation, because of its benefits and vital role for the planet and societies. This recognition was a meaningful way forward to consecrate protecting and conserving the environment and the climate.

Such framing and naming of the environment and the climate are ways to produce common vocabulary and institutionally accepted notions. However, these definitions are widely accepted as they mirror the current international order, predominantly shaped by Western countries and their culturally and ideologically rooted perspectives. Consequently, promoting resilience within international institutions is fundamentally grounded in a specific world vision. Beyond preserving cultures and traditions, resilience is also instrumentalized within an international order that struggles to embrace transformative change, despite the increasing instability caused by climate change. For example, the refusal to recognize a legal status for 'climate refugees' reveals the underlying tensions in climate negotiations, where varying levels of climate impact lead countries to perceive the problem with different degrees of urgency, often resisting change or acknowledging the unfolding reality. The institutional barriers within international organizations are, in fact, manifestations of political blockages, where national interests conflict with the pursuit of collective global solutions.

Since the 1970s, growing criticism has emerged against global institutions, highlighting their tendency to represent only a narrow spectrum of the diverse visions that make up the international order. As climate change progressively manifested, a growing emphasis was put on how developing countries were the most affected by this global phenomenon's direct and adverse impacts. Hence, the voices of those affected within these countries rapidly became an object of advocacy and mobilization. The culmination of these efforts, which led to their voices being heard on international platforms, began in the 1990s and 2000s, when normative global governance changes were observed, with shifts that integrated human rights norms and sustainable development principles, reshaping international agendas toward greater inclusivity.

For Bangladesh, it allowed its people and their experiences to be heard on the global stage, sharing a reality that starkly contrasts with many other countries, whether they are affected by climate change in different ways or relatively untouched by its impacts. Because of its historical and affirmed position as one of the most vulnerable countries in the world, Bangladesh has played an essential role in advocating for 'low-developing' and 'developing' countries. It used his vulnerability as a diplomatic and political lever to testify to the ongoing changes and offered its expertise to combat its effects. Indeed, an undeniable gulf exists between expertise from the 'Global North' and the 'Global South', where the latter has a different understanding and perception of the climate issue and how to resist against it. The expertise of the 'South' relies on experimental knowledge, not diplomas, argued Saleemul Hug, a renowned Bangladeshi scientist who worked on adaptation. He affirmed that Bangladesh had a comparative advantage over the United States, the country being at the forefront of the issue, therefore having more knowledge on it[130]. This knowledge and particular experience, shared by many other countries worldwide, has led Bangladesh to be called a 'model' in climate resilience. However, it does not suffice to prevent the country's dependence on international cooperation and national decisions, especially at the regional level.

The Bangladesh-India Water Conflict

Bangladesh's share of water with India is a growing source of conflicts and issues at the regional level. Bangladesh depends on India's use of water to access this resource and be more resilient.

Most of Bangladesh's rivers originate from the Himalayan glaciers. Positioned downstream, these rivers flow from Tibet, pass through Indian territories, and finally enter Bangladesh before draining into the Bay of Bengal. In total, the two countries share fifty-four transboundary rivers. Major rivers like the Teesta, Ganges, Brahmaputra, and Mahananda are critical for Bangladesh's agriculture, fisheries, and water security. The Teesta River, in particular, is a lifeline for the northern districts of Rangpur, Kurigram, and Lalmonirhat, providing water for millions of farmers. However, due to its downstream position, Bangladesh faces a political and security disadvantage compared to India. If India,

[130] Baillat, A., 2018.

being upstream, decides to block the water flow, Bangladesh would be unable to access water. Therefore, the share of water between the two countries is vital for Bangladesh.

The Joint Rivers Commission, established in 1972, aimed to foster cooperation between India and Bangladesh over their shared water resources. Despite this framework, the Teesta water-sharing issue, one of the most contentious, remained unresolved. In 1996, the two countries signed the Ganga Water Treaty, a legally binding agreement intended to share the surface waters at the Farakka Barrage near their mutual border. Although it symbolized a form of cooperation, the treaty primarily focused on dividing water flow rather than addressing the river's broader value and diverse uses. Instead of promoting genuine collaboration, it solidified the status quo, favoring the Indian hydro-hegemonic state and leaving Bangladesh with persistent concerns and unresolved issues[131]. While the treaty was framed as a response to historical and geographical realities, it did not anticipate current and future uses further upstream. Its emphasis was placed on water needs rather than recognizing water rights, thereby limiting its effectiveness. Consequently, the agreement did little to improve water management or resolve growing disputes. India's political inaction, driven by its national interests, has been a significant obstacle, significantly hindering Bangladesh's access to water and contributing to worsening droughts.

Mahbub Simon took a lot of time explaining the situation and the difficulties faced by the northern population. He described India as “blocking water” for the Bangladeshi population. One of the reasons that could be advanced for that is the important need for water in India. Indeed, the country requires water for crop irrigation, industrial use, and hydroelectric projects, all of which are necessary to meet the country’s growing energy demands. The Teesta Barrage in West Bengal, used to irrigate farmlands, is at the centre of tensions between the two countries as it directly reduces water flow into northern Bangladesh. The use of transboundary rivers serves the interests of the Indian population, which is one of the largest agricultural producers in the world, but it also serves geopolitical reasons. Water management has geopolitical implications in the region. By controlling the flow of transboundary rivers, India gains strategic leverage over Bangladesh in bilateral negotiations. It is a way for India to maintain influence in water-sharing discussions. However, such water use from India has grave implications for Bangladesh.

[131] Hanasz., P. (2014). *Sharing waters vs. sharing rivers: The 196 Ganges Treaty.* Global Water Forum.

The water in Bangladesh is scarce because of excessive water extraction needed for cultivation, climate change, demand exceeding the available amount, and insufficient aquifer recharge. Over 40% of unions in the High Barind region (northwest) are experiencing severe groundwater depletion[132] in an area where the Green Revolution of the 1960s made Bangladesh increasingly dependent on groundwater due to the introduction of water-intensive crops and widespread use of tube wells for year-round irrigation[133]. For a resource already scarce in Bangladesh, the blockading of water flow in the territory pushes farmers to pool groundwater, lessening the ground reserves because they are not getting the chance to recharge. With less rainfall and increased evaporation caused by climate change, groundwater recharge has even lessened over the years. This overall cumulation of factors, amplified by India's decisions, makes farmers' lives more uncertain and difficult. Mahbub Simon mentioned that many farmers are committing suicide due to their helpless situation. The causes advanced are the incapacity to feed their families, the denial of a just price of their produce, social deprivation, climate change, and a rising burden of debt work, according to media reports[134]. Mahbub Simon mentioned that farmers are regularly pressured by "businessmen who own their sites," or those who sell their fertilizers. In vulnerable areas, economic coercion and predatory business practices are happening regularly, leaving people indebted and even more desperate. The issue of water management brings forward pre-existing class relations and structural inequalities. Mahbub Simon argued that they are taking advantage of small farmers trying to earn incomes for their families, repeating, "They [the government] don't care. They don't care."

This situation is more than preoccupying for Bangladesh, its farmers, and their livelihoods. With climate change, the groundwater will not be getting any fuller. In that case, India's actions are worsening an already dire context. Bangladesh, despite several attempts to negotiate with its Indian neighbor, does not have complete control of its resilience. The 2023 floods in Bangladesh, which some speculated were exacerbated by India's water

[132] Anwar, A. (2023). "Barind farmers: At mercy of 'water lords''. *The Daily Star.*
[133] The Green Revolution was a widespread agricultural movement across South Asia, including Bangladesh, India, and Pakistan, initiated in the 1960s to address severe food shortages. While it significantly increased agricultural output and helped avert famines, it also led to environmental concerns and socio-economic disparities.
[134] Pavel, P. (2023). "Water injustice and Santal farmer's suicide". *NewAge*.

releases from the Dumbur Dam, underscore the dependency of Bangladeshi flood resilience on upstream water management practices[135].

Figure 19:
The massive flood of 2023 cause five deaths and impact 1.8 million people, AP.
(Source: India Today)

Although Indian authorities denied direct responsibility, the incident reflects the broader reality that Bangladesh's flood risks are heavily influenced by transboundary river policies and water infrastructure decisions made upstream. More than endangering the livelihoods of the rural population, such a situation creates a strong anti-India sentiment that gives rise to transnational tensions in the region. Overall, this dependency highlights a structural vulnerability where transboundary river management remains largely beyond Bangladesh's control despite local efforts to build community-based resilience through flood preparedness and sustainable agricultural practices. Thus, genuine resilience in floodprone regions of Bangladesh is not solely a matter of local capacity-building, but also of regional cooperation and coordinated water governance. This underscores the critical interdependence between nations and the environmental decisions made at the national level.

The principles around climate change cooperation

The same constant of interdependence is seen in the current international landscape, with the undeniable influence of global cooperation on national resilience. This statement

[135] Anshul, G. K. (2024). “Bangladeshis blame India for massive flooding, government states the fact”. *India Today*.

was affirmed by the Principle 7 of the Rio Declaration; the CBDR-RC[136] which marked a progress in terms of international justice and equity.

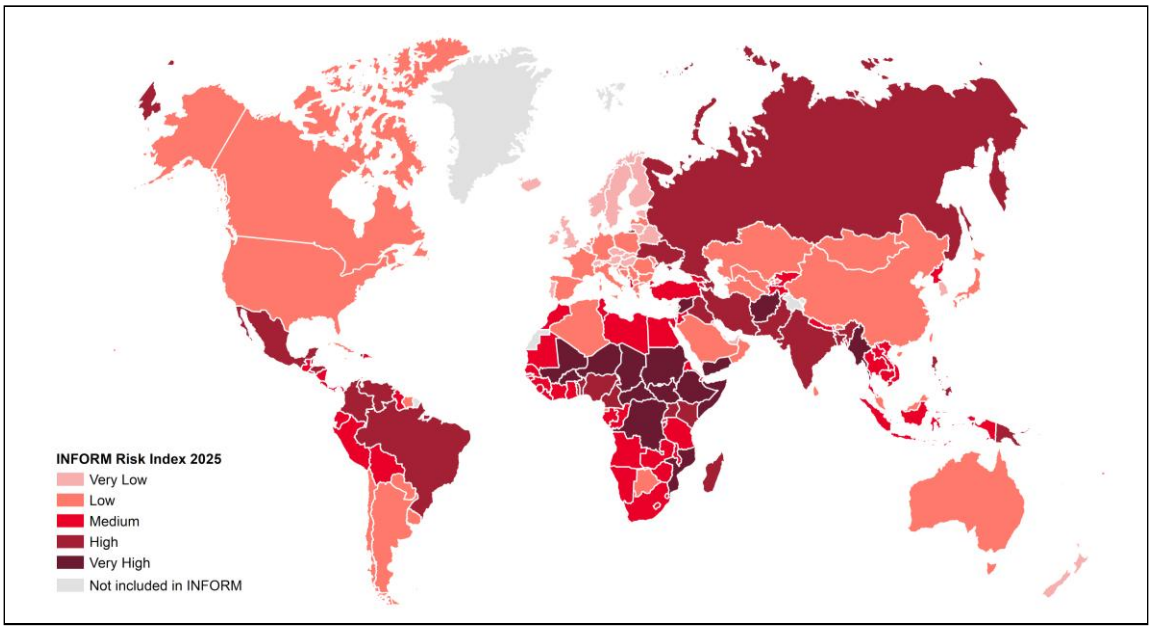

Figure 20:
A worldmap of the INFORM risk index identifying countries at risk from humanitarian crises and disasters that could overwhelm national response capacity.
Three dimensions are taken into account: hazards and exposure, vulnerability and lack of coping capacity. Bangladesh is in the "high" category, 2025.
(Source: European Commission)

Perceptions of the injustice created by climate change consequences were motivated by climate justice movements. Such movements put forward the disproportionate impacts of climate change affecting marginalized communities, Indigenous peoples, and low-income nations. As a matter of fact, the responsibility of Bangladesh to single-handedly resolve its vulnerability is disproportionate, considering the country contributes to only 0.3% of global GHG emissions, even as it suffers the most devastating consequences of climate change[137].

Hence, movements of climate justice seek to address environmental issues and rectify social, economic, and political inequalities linked to climate vulnerability and environmental degradation. Regularly, and it is still observed at some point today, a responsibility was put

[136] United Nations. (1992). *Rio Declaration on Environment and Development (A/CONF.151/26/Vol.I)*. Retrieved on May 10, 2025, from https://www.un.org/esa/documents/ga/conf151/aconf15126-1.htm
[137] Glennon R., (2012).

on non-Western societies to solve their own threats and insecurities[138]. For instance, despite affirming the idea of 'historical responsibilities', there is an expansion of a discourse towards future responsibility, often framed as a call for global solidarity, that subtly downplays the historical accountability of developed nations[139].

Over time, this evolving discourse paralleled the establishment of the CBDR-RC principle as a cornerstone of international environmental law and climate negotiations. Building on this foundation, it paved the way for new frameworks that further embraced this notion of equity between countries. The 2015 Sendai Framework, while not explicitly naming CBDR-RC, reflects the spirit of differentiated responsibilities by emphasizing that developed countries should provide technical and financial assistance to developing nations to enhance disaster preparedness and resilience. These two depend on the international order because the degree to which countries are willing to help developing countries depends, to some degree, on the effectiveness of global cooperation and willingness to align their national interests with international objectives. The COPs, annual decision-making meetings of the UNFCC, where global leaders, policymakers, and stakeholders negotiate and assess progress on international climate agreements, are a scene where such collaboration is required. These conferences are the occasion for civil society to advocate and allow some voices to be heard in the international sphere, with the intervention of civil society representatives during meetings. Their primary goal is to coordinate global action to reduce GHG emissions, adapt to climate impacts, and mobilize climate finance. Other concepts, such as the NDCs that allowed countries to set their own climate action goals according to their capacities, were launched following these meetings. The NDCs, part of the 2021 Paris Agreement, opened a bottom-up approach to 'self-respect' (to set their own targets) and 'self-report' (to report their progress voluntarily) and gave space for other types of cooperation (such as South-South or triangular climate cooperation)[140].

The approach marked a significant shift concerning governance structures that have been dominant for decades with its 'bottom-up' approach. The Paris Agreement of the COP21 was innovative and emphasized fostering resilience as a key goal for addressing adaptation, loss, and damage.

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[138] Khatun, F., Saadat, S.Y., Kamruzzaman, Md. (2019). *Role of Foreign Aid in Funding the SDGs in Bangladesh: A Governance Perspective*. Centre for Policy Dialogue.
[139] Zhang, Y., Zhang, C. (2022). "Thirty years with common but differentiated responsibility, why do we need it ever more today?". IDOS.
[140] Zhang, Y., Zhang, C., 2022, *ibid*.

The Loss and Damage Mechanism

Through the Article 8 of the Paris Agreement[141], the Loss and Damage (L&D) mechanism has become a thematic pillar under the UNFCCC. It has gained the capacity to influence the process, despite constant difficulties carrying weight in final decisions. The prevalence of this concept recognizes that climate change causes irreversible losses and damages beyond what the community can adapt to. It is based on the understanding that specific climate impacts, like rising sea levels, loss of biodiversity, and destruction of cultural heritage, are unavoidable, even with substantial mitigation and adaptation measures. It also displays that resilience can not be assured effectively and for an extended period of time when such degradation happens, especially with existing limitations of adaptation and DRR strategies[142]. It questions how affected countries can remain resilient if these losses and damages are not accounted for. Indeed, the knowledge and experiences of those most impacted by climate change have often been distorted, marginalized, and overlooked, largely due to their limited influence in international negotiations. However, ensuring inclusive access to negotiation and equal participation is central to tackling climate change. The principal development limits for the 'Global South' are their lack of analytical capacities, researchers, and research funding, among others[143]. Regardless, their knowledge is incomparable to countries that do not experience such issues. This is why UN windows are a vital platform for developing countries to promote their expertise and allow their people to speak up to address climate change better[144].

Bangladeshi Civil Society in the International Arena

> "The world has 8 billion people, and I am one of them. But my voice… There is no platform for me. I can't really share anything if I'm not attending these ones [international conferences]. But when I attend them, I can talk bilaterally with the funders, the governments…" - Luftor Rahman

[141] United Nations Framework Convention on Climate Change. (2015). *Paris Agreement*. Retrieved on May 10, 2025, from https://unfccc.int/sites/default/files/english_paris_agreement.pdf
[142] Raya, T.Z.; Naushin, N.; Rimi, R.A.; Iqbal, S.M.S. (2023). *Including loss and damage in the New Collective Quantified Goal of climate finance: A call for equity, accountability, and innovation at COP 29 in Baku*. Policy Brief. CGIAR Asian Mega Deltas Initiative.
[143] Entretien avec Huq, S., Propos recueillis par Baillat, A. (2018). La montée en puissance de l'expertise climatique du Sud. *Revue internationale et stratégique*, N° 109(1), 165-170.
[144] DW, 2024 [Video].

Considered as one of the top five influential dealmakers in global climate change talks[145], Bangladesh maintains its position as an influential developing country in the international sphere. International conferences, such as the COPs, make space for Bangladeshi citizens to come forward and advocate for their rights, despite having NGOs, more than "farmers" or "real activists from the field" in these international conferences, deplores Mahbub Simon. Nevertheless, local NGOs are still allowed to discuss with policymakers and dealmakers and try to make their demands a priority. Each year, developing countries can advocate for new principles or mechanisms to be established in international frameworks to contribute to their development, adaptation, and resilience. The COPs are usually events during which breakthroughs have happened regarding international cooperation and innovative climate frameworks.

Luftor Rahman explained that in COP27, the government and the Bangladeshi society advocated for the Loss and Damage Fund with the government and the low-developed countries. In COP28, they pushed for "a fossil fuel phase out." These growing demands demonstrate a constant activism from low-developed countries that view these annual COPs as opportunities, once in a year, to claim their rights under then UN's principles. Nevertheless, despite some innovations, the COPs, remain stuck in old dynamics where low-developing countries struggle to have their demands acknowledged and accepted by the majority.

Regarding resilience, the COPs help with sharing knowledge and bearing witness to what is happening in some countries and how they fight climate change. However, Bapon Fakhruddin admitted that he does not think "it is creating that level of impacts, other than networking and understanding the lessons learned." For him, the COPs are more of a platform to talk about resilience, but what is most needed is local adaptation and actual, concrete actions. The COPs raise awareness of resilient actions and successes in the international arena, but do not always translate into tangible support for countries on the ground, particularly when the implementation of most adopted frameworks relies on voluntary contributions from member states. "In the COPs, there are commitments, but they don't really realize them.", confides Luftor Rahman after attending several of them.

[145] Islam, S. (2022). *Bangladesh in Global Climate Forums*. CBGA Policy Brief 72.

Each year, the LDCs push for more actions and devotions from developed countries whose aid has stagnated. In that regard, the international financial assistance, a crucial element of a country's ability to forge its climate change resilience, is at the centre of growing critiques and fatigue from LDCs.

B. The Crisis of International Aid for Building Resilience

The current climate finance landscape lacks a clear and official definition of 'climate finance'. Unofficially, climate finance covers all the funds addressing climate change. Low-developing and developing countries, like Bangladesh, use climate finance to secure funding for combating climate impacts and developing sustainable growth pathways. Climate finance is a critical tool for the wealthier nations, the greatest historical emitters, to assist those in need. However, concerns over accountability, transparency, and the quality of financial instruments persist.

Lack of accountability and transparency

Given the country's limited national resources, foreign aid is crucial for Bangladesh's development. It is the third largest Asian recipient of US assistance[146], and the first country to receive the most funding from the WB. A financing of approximately $36 billion in grants and zero-interest or low-interest loans supports 271 projects in the country[147]. The domain of climate governance and the environment is the third main focus through which the WB finances the country. The WB, and other lenders such as the multilateral development banks, are responsible for a large portion of all climate finance provided to low and middle-income countries globally. The WB is one of the leading international lenders, influencing other countries' adherence to global norms and standards. Other institutions see it as a "leader in policies and practices."[148] Its role is inevitably vital in providing funds for countries in need and inspiring other actors to follow in the same path. In Bangladesh, as mentioned earlier,

[146] Dietrich, S., Mahmud, M., Winters, M. S. (2018). Foreign Aid, Foreign Policy, and Domestic Government Legitimacy: Experimental Evidence from Bangladesh. *The Journal of Politics*, 80(1), 133–148.
[147] World Bank. (2021). *Country on a mission: The remarkable story of Bangladesh's development journey*. Retrieved on April 14, 2025, from https://www.banquemondiale.org/fr/news/immersive-story/2021/09/16/country-on-a-mission-the-remarkable-story-of-bangladeshs-development-journey
[148] Farr, J., Morrissey, J., Donaldson, C. (2022). *Unaccountable accounting: The World Bank's unreliable climate finance reporting*. Briefing paper. Oxfam. 37p.

the WB has a significant influence on the country's implementation projects because of the country's dependence on the organization. This dependence is a weakness for Bangladesh, but the State has no other choice when it needs the funds.

However, the funds remain to be secured and fully operational. Claims have emerged surrounding the lack of transparent and accessible information about the funding. A recent Oxfam study on the WB released in 2020 showed that the institution provided "little evidence" to support its claims about the amount of climate finance it provides[149]. Based on publicly available information, some of the audits found that the Bank's claims could be off by as much as $7 billion. If such accusation prove accurate, it could further undermine the current state of financial aid worldwide.

Moreover, the WB is not the only institution whose actions have been examined. A recent study from Reuters on the UNFCCC could not determine if the $100 billion aid given by the organization was counted[150]. One of the reasons pointed out was that the UNFCCC records lack details, as it does not require countries to report key details to their financing. Lack of transparency and accessibility of information from these organizations significantly weakens the overall international aid and leads to a lack of accountability. Transparent mechanisms, processes, and reports help against 'greenwashing' and false statements that could undermine financial assistance. Without these mechanisms, the issue of loans becomes even more problematic, as countries may be forced into deeper debt without clear accountability for how those funds are allocated or spent.

Loans and Conditional Access to Funds

From 2015 to 2020, two-thirds of climate finance provided to middle-income countries came in the form of loans[151]. These loans are also a major concern when countries needing funding usually turn to various funders, hoping to collect different funds, and end up more indebted. Indeed, loans require recipient countries to repay the money they were lent. Depending on the institutions or the type of loans (bilateral, multilateral, or commercial loans), the length of loans can vary from less than ten years to over fifteen or thirty years.

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[149] Farr, J., Morrissey, J., Donaldson, C., 2022.
[150] Sanchez, I.C.; Botts, J. (2024). "A program meant to help developing nations fight climate change is funnelling billions of dollars back to rich countries". Reuters. Retrieved on May 11, 2025, from https://www.reuters.com/investigates/special-report/climate-change-loans/
[151] Raya, T.Z.; Naushin, N.; Rimi, R.A.; Iqbal, S.M.S., 2023.

According to Reuters, wealthy countries, such as Japan, France, Germany, and the United States, have sent climate funding to the developing world with interest rates or strings attached that benefited the lending nations. Those countries were also "reaping billions of dollars"[152] in rewards from a global program meant to help the developing countries with climate change. Such actions contradict the concept of compensation for their long-term pollution and the idea of 'polluter payer'. The conditions attached to the loans are usually criticized as they create more debts for the countries receiving them, when they typically have no choice but to resort to financial aid. Lenders also allocate aid based on the ability of recipient countries to request it under terms set by the donors[153]. This forces low-income countries to align their actions and objectives with those of developed nations, despite their vulnerable situation. Even if this dynamic has somewhat lessened in recent years due to growing criticism and the increasing influence of developing countries such as Bangladesh, it still persists.

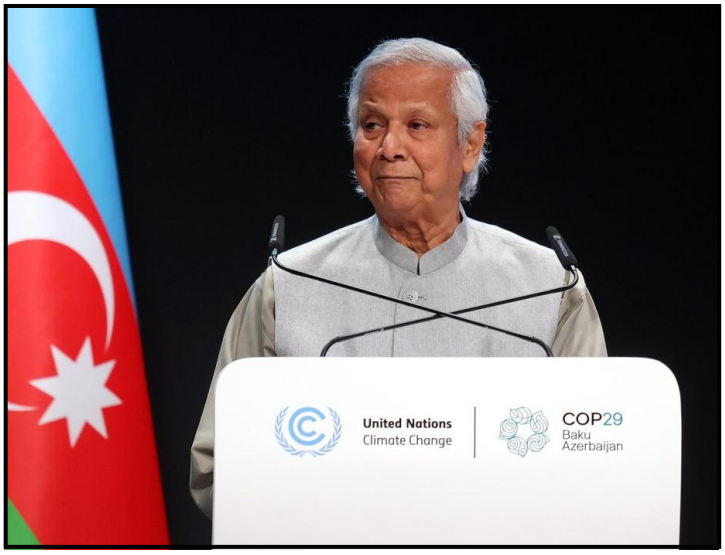

Figure 21:
Muhammad Yunus, Nobel Peace Prize laureate and Bangladesh interim leader, during his speech at the COP29, Baku,
Sean Gallup, Getty Images.
(Source: Radio-Canada Info)

At the COP29 summit, in Baku, Bangladesh interim leader Muhammad Yunus criticized the necessity for poorer nations "to beg" for climate reparations from wealthier countries. He mentioned how humiliating it was to ask for money from countries that caused the problem[154]. Hence, he called for a transformation of international financial institutions to

[152] Sanchez, I.C.; Botts, J., 2024.
[153] Fahmida Khatun, Syed Yusuf Saadat & Md Kamruzzaman, 2019.
[154] Radio France Internationale (RFI). (2024). *COP29 fight for climate money 'humiliating': Bangladesh's Yunus* [Podcast].

better support vulnerable nations, emphasizing the injustice faced by countries like Bangladesh due to the climate crisis.

However, wealthy countries justify their decisions by claiming that loans are provided based on a country's existing debt burden, while grants are reserved for the poorest nations. According to them, “loans are appropriate for large revenue-producing projects in nations with strong economies.” [155] The International Monetary Fund (IMF), which also provides international financial support, conditions its loans on a country's ability to maintain "sustainable debt" and demonstrate an "adequate capacity to repay."[156] Conditions as these are meant to reserve grants to poorest nations, and the loans to ensure financial discipline, encourage repayment, and maintain revolving funds for future lending. However, while approximately 83% of climate funding for the lowest-income countries is provided as grants, these nations receive, on average, less than half the climate funding allocated to higher-income countries, which predominantly receive loans.[157] This demonstrates that loans remain more prevalent than grants. For countries like Bangladesh, which is experiencing a relatively stable development, loans continue to represent a significant financial burden, as they must allocate funds both for climate change adaptation and debt repayment simultaneously.

These structural conditions are also complementary to substantive ones. The GCF, in which Bapon Fakhruddin works, sets conditions to access the fund, including how sustainable, innovative, and locally-led the projects are, as well as what their climate impact potential[158] is. These criteria are put in place to ensure that the funds are used for sustainable and concrete objectives. They compel developing countries to align with the framework established by the fund, but also complicate access to the funds due to the complex administrative process involved.

In 2023, the GCF released its “Readiness Strategy 2024-2027” to update its approach and enhance capacity-building and climate finance access, which can be difficult for

[155] Sanchez, I.C.; Botts, J., 2024.
[156] IMF. (2023). “Bangladesh and its Partners are Launching the Bangladesh Climate and Development Platform to Leverage Adaptation and Mitigation Investments”, Press release nº23/420.
[157] Sanchez, I.C.; Botts, J., 2024.
[158] The "climate potential" of a project generally refers to its ability to positively impact climate change mitigation, adaptation, or resilience efforts.

developing countries[159]. They emphasized the need to better coordinate with national systems, knowledge-sharing and learning about best practices and regional cooperation, and the importance of increased support for vulnerable countries with at least 50% of funding reserved for the LDCs, SIDS, and African nations. Those changes would allow for a better implementation of NDCs and NAPs for climate resilience. The need for this reform highlights the lack of effective international funding. However, issues such as loans and the lack of transparency and accountability persist and must be addressed through more transparent, accessible, inclusive, and equitable mechanisms. While improving the overall quality of financing mechanisms could be beneficial, it does not address the fundamental issue of insufficient international funding.

Insufficient International Funding

In recent years, Bangladesh has reduced its dependency on foreign aid through improved macroeconomic performance driven by increased international trade and higher remittances. However, the disruptions caused by the COVID-19 pandemic also pushed the country to seek more concessional loans to stabilize its economy. In its FY2024–25, Bangladesh announced a national budget of BDT 7.97 trillion, with an Annual Development Programme (ADP) of BDT 2.65 trillion. To support its fiscal plan, the government secured substantial external financing, including $1.3 billion from the IMF as part of a $4.7 billion loan program, alongside an expected $2 billion from development partners such as the World Bank, ADB, Japan, and the OPEC Fund[160]. Additionally, the World Bank pledged over $2 billion for key reforms and infrastructure, supplemented by $1 billion repurposed from existing programs, amounting to approximately $3 billion in total support[161]. The increase in foreign aid commitments is driven by Bangladesh's need to finance its budget deficit, stabilize its economy, and fund major infrastructure projects, despite the vulnerabilities associated with growing debt.

[159] The Green Climate Fund. (2023). *Readiness Strategy 2024-2027*. Retrieved on May 3, 2025, from https://www.greenclimate.fund/document/readiness-strategy-2024-2027
[160] Reuters. (2025). "Bangladesh to receive $1.3 billion from IMF as reform deal reached". Reuters. Retrieved from May 9, 2025, from https://www.reuters.com/world/asia-pacific/bangladesh-receive-13-billion-imf-reform-deal-reached-2025-05-14/
[161] Ruma, P. (2024). "Bangladesh says World Bank pledges $2 bln for reforms". Reuters. Retrieved on May 9, 2025, from https://www.reuters.com/world/asia-pacific/bangladesh-says-world-bank-pledges-over-2-bln-reforms-2024-09-17/

In addition, developing countries' adaptation finance needs are 10-18% higher than current international finance flows[162]. Bangladesh alone requires $12.5 billion annually[163], far from the annual $300 billion agreed on at COP29 to support all developing nations in addressing climate change impacts. This commitment, known as the New Collective Quantified Goal (NCQG), represents a tripling of the previous $100 billion annual target set in 2009. The target is to be met by 2035 and is part of a broader objective to scale up total climate finance, enhancing resilience to climate impacts being one of them. Nevertheless, several limitations to the fund are undermining its commitment. The fund is considered insufficient in terms of the actual needs of developing countries. His reliance on voluntary contributions from developed countries raises concerns about the predictability and reliability of the funding, also undermined by a lack of binding mechanisms to ensure that countries meet their financial commitments. This mechanism is not the only one to mark a milestone, but, at the same time, to present several limits which lessen its actual innovation, with developed countries succeeding in imposing their conditions to reduce the obligations.

At the previous COP27, in 2022, the Loss and Damage Fund was established to provide financial assistance to nations most vulnerable and impacted by the effects of climate change. Its purpose also goes beyond adaptation to address the adverse impacts of climate change. It seeks to go beyond the ‘status quo’ that provides resilience, which can reinforce existing practices, instead pushing for more sustainable and transformative mechanisms. Despite promising objectives, this WB-managed fund has fallen short in terms of low-developing and developing countries’ demands and needs. Voluntary contributions and a lack of clarity on eligibility and access, with the questions of the scope and scale remaining unresolved, contribute to the limited support of the fund to developing countries. Other political challenges, such as the United States' withdrawal from the Paris Agreement under President Donald Trump, have further impacted global governance and potential funding. As one of the largest financial contributors worldwide, the United States' withdrawal and the shutdown of USAID triggered a global upheaval, destabilizing many countries, including Bangladesh, as well as local and international organizations that relied on USAID support.

[162] Huq, S., Khan, M., Islam, A.S, Mirza, A. B., 2024.
[163] UNDP. (2025). *Bangladesh Enhances Capacity to Access Global Climate Finance for Urgent Climate Action*. Retrieved from May 9, 2025, from https://www.undp.org/bangladesh/press-releases/bangladesh-enhances-capacity-access-global-climate-finance-urgent-climate-action

Such a sudden and unpredictable decision can hinder countries' actions and fight against climate change, further lessening their hope for more resilience.

What to expect in the future

"I don't think we are anywhere near the need," acknowledges Bapon Fakhruddin. He claims that "We will be nowhere near to support the demand and need that most vulnerable countries have," and invites countries to think about innovative ways to access funds, such as "private capital." If current international fund mechanisms cannot provide enough assistance to nations in need, they will have to turn to different mechanisms. However, it does not solve the issues of equity, loss and damage, where developed countries have to provide for developing countries. According to Fakhruddin, the actual evolution of climate finance "doesn't give a very positive look." For him, more than relying on climate funds, countries should "ramp up to contribute and support their own problems," and individuals need "to be more aware" of climate change as the risks strike them first. However, when countries such as Bangladesh do not have enough financial resources to become more resilient in the future, relying on their own resources is not a viable option, as it could condemn present and future efforts of the country, which will be insufficient.

The recent COP29 had some positive outcomes but "failed to answer some key concerns," without agreement on key issues such as voluntary guidelines on integrating loss and damage in NDCs[164]. Despite it all, countries like Bangladesh can not afford to lose hope and must fight to access funds and defend their interests. According to Easmin Amena, the government "needs more aid," and her hope for the future lies in that aid contributing to the country's resilience. Nazmul Ahsan, on the other hand, questioned "How can we also hold the powerful accountable?" in expressing his hope for the future, as holding them accountable could lead to greater support and efforts to compensate for their historical emissions. The last IPCC report mentioned, "Accelerated financial support for developing countries from developed countries and other sources is a critical enabler to enhance adaptation and mitigation actions and address inequities to finance."[165] As challenges

[164] Raya, T.Z., Naushin, N., Prithul, S.A., Iqbal, S.M.S. (2024). *Addressing climate induced loss and damage in south coastal Bangladesh: Bridging local insights and national policy interventions*. Dhaka, Bangladesh: International Centre for Climate Change and Development. CGIAR Initiative on Asian Mega Delta. 20p.
[165] Intergovernmental Panel on Climate Change, 2023, (C.7.4), p.33.

continue to grow, developing countries will require increased financial assistance. Inaction will only amplify this need, as it will fail to address unresolved past and emerging future vulnerabilities.

Countries like Bangladesh cannot afford to be hopeless. Over the years, climate risks have increasingly threatened their way of life, traditions, and cultures, with slight improvement in the country's resources or international aid. The latter plays a crucial role in bridging developing countries' financial and climate gaps. They play their part in ensuring that developing countries get the technical and economic means to build their resilience and strengthen it in the face of unstable climate hazards. These mechanisms should align with and reinforce the vision of an international order based on cooperation, peace, and equity among nations, where, in theory, there should be no hierarchy. Their effectiveness could strengthen the credibility of this international order, but current challenges highlight its lack of preparedness and sustainable commitments to address the increasingly unstable climate context.

Conflicts with water management, such as the one between India and Bangladesh, also show us that one country's actions can influence resilience in another country. This demonstrates that resilience is not only up to a country, but also to international and regional dynamics that shape international cooperation, aid, and national decisions.

CONCLUSION

"The spirit of Bangladesh, the pulse of this nation, is **its story of resilience**"

— Swarna Kazi, Senior Disaster Risk Management Specialist

As this paper demonstrated, climate resilience in Bangladesh is a complex and multifaceted issue.

Throughout **Chapter 1**, I delved into understanding the notion's origins and development to comprehend the meanings and stakes behind resilience and its rise within international organizations later on.

Resilience can be understood as the combination of DRR, adaptation, and mitigation to climate change, aiming to resist and absorb external shocks and preserve existing livelihoods. Understanding the relationship between resilience, vulnerability, and adaptation was crucial to analyze why resilience matters (because it safeguards livelihoods) and how it is linked to both vulnerability (to which it is generally opposed) and adaptation (which contributes to resilience). This is particularly relevant in the context of climate change and the heightened vulnerabilities faced when adaptation reaches its limits. Resilience offers a unique frame to address climate change. Seen as homeostatic, resilience is promoted as a continuity of the actual system's function. With that perspective, the idea was diffused with international organizations through the global fight against climate change. From a theoretical concept, it evolved into a concrete and desirable characteristic for international institutions to encourage in low-developing and developing countries facing climate disasters. Nevertheless, critiques of resilience reflect a deeper understanding of its implications: it can be instrumentalized, reinforcing social disparities, discrimination, and inequalities through its static nature. Understanding these criticisms is crucial to grasping the limitations of resilience and its current questioning in the face of climate change.

With the rise of climate phenomena and studies on their impacts, the notion of resilience has been rethought and transformed to enable actors to face this unprecedented and unpredictable climate reality. Its conceptual basis had to evolve to address ongoing climate instability, or it risked becoming more detrimental than helpful. Moving beyond its homeostatic vision, resilience began to be interpreted through adaptability and

transformability. This theoretical change sought to influence concrete impacts on the ground, enabling countries to face climate change more effectively.

Chapter 2 allowed me to dive deeper into analyzing the achievements of Bangladesh in terms of national policies and strategies.

It served as a practical extension of the theoretical foundation established in Chapter 1, aimed at determining whether resilience is achievable, desirable, and capable of forming an objective in itself. As one of the countries most affected by climate change and one of the most vulnerable, Bangladesh represents a particular case. The country's numerous and diverse national plans have positioned it as a 'model' in the fight against climate change, with resilience often highlighted as a specific goal. Since its independence in 1971, Bangladesh has remarkably built its resilience from practical solutions, including hard infrastructures and Nature-based Solutions, as well as soft strategies like training programs. These efforts have succeeded in reducing mortality rates despite increasing natural hazards. International organizations have also been heavily involved, revealing specific dynamics linked to international interventions and the benefits and downsides of such initiatives. Public commitments by the government to national and international mechanisms, such as the NDCs, along with its proactive stance, have contributed to elevating Bangladesh as a 'model', a benchmark for other countries to follow.

However, the notion of a 'model' has its challenges. Despite its efforts, Bangladesh continues to face severe environmental, social, economic, and political pressures due to intensifying climate events. National intentions alone have not been sufficient; vulnerabilities persist, partly due to governmental actions hampered by practical, technical, and political challenges that limit the overall effectiveness of resilience-building measures.

The last chapter, **Chapter 3**, allowed me to explore the local and international situation, highlighting often-overlooked trends that weaken countries like Bangladesh.

The social order, which structures local communities, is fundamental to ensuring cooperation, cohesion, and solidarity. In unpredictable times, these elements are crucial for populations to resist and cope with climate change; this is social resilience. However, in Bangladesh, some communities are more vulnerable than others, with pre-existing vulnerabilities worsened by climate change. I explored this vulnerability through the lenses of women, Indigenous communities, and the rural population in general. Persistent social tendencies towards discrimination, marginalization, and social expectations exacerbate the

hardships faced by these groups and weaken social bonds. Paradoxically, the demands of the climate change context, which require more adaptation efforts from local populations, have also amplified the roles of these marginalized groups. Through the work of local and international organizations, these communities are gradually finding their place in resilience-building, a role increasingly encouraged by institutional actors. Nevertheless, barriers remain, deeply rooted in tradition and social norms, threatening Bangladesh's resilience in the future.

On the international level, similar obstacles emerge. Since the beginning of global climate cooperation, innovative mechanisms have been introduced to address the crisis, emphasizing equity and justice within international relations. Despite these efforts, regional tensions with India and struggles to apply global frameworks have hindered Bangladesh's capacity to mobilize technical and financial resources. Climate finance, essential for Bangladesh, has shown limitations in recent years, primarily due to effectiveness and real equity issues. This situation has drawn growing criticism and advocacy from Bangladesh and other vulnerable nations, leading to principles like Loss and Damage, which extend beyond adaptation to recognize the irreversible impacts of climate change. These regional and international dynamics, often beyond Bangladesh's control, shape its resilience by undermining national efforts and complicating an already challenging situation.

Therefore, the answer to my research question, "*Does the resilience approach still offer an effective response to the threats posed by climate change?*" must be nuanced.

In theory, resilience is a concept aimed at preserving traditions, cultures, and lifestyles constituting a country's identity. Historically, it has been used to maintain stability and prevent radical transformations, sometimes at the expense of necessary change. With the intensification of climate change, perspectives on resilience have evolved, not only in how it is achieved but also in how it is conceptualized. The notion has been adapted to face the growing unpredictability of climate-related disruptions. In this sense, resilience remains a valuable theoretical framework for preserving livelihoods while incorporating the adjustments needed to confront climate change.

In practice, the resilient approach is met with considerable limitations. Despite being labeled a 'model' in climate adaptation, Bangladesh continues to face substantial governance, social, and economic challenges that threaten its long-term resilience. This

highlights a certain fragility in achieving consistent and sustainable resilience. For resilience to be effective, every structure within society (social, political, and economic) must function efficiently and cohesively. Yet, increasing climate instability makes this alignment more arduous to achieve. While resilience is theoretically a good approach, its practical fulfillment remains challenging, particularly under the pressures of a changing climate and an unpredictable future.

Furthermore, resilience is not solely within a nation's control. In an increasingly interconnected world, regional and international dynamics also significantly influence a country's capacity to adapt and withstand climate shocks. Global advocacy has demonstrated that resilience often reflects a specific vision of the world that may not always align with ground realities. Ongoing losses and irreversible damages underscore that resilience sometimes reaches its limits, where adaptation is no longer sufficient to safeguard existing ways of life. Ensuring practical international cooperation and financing could be crucial for countries like Bangladesh, which has been advocating for it for decades.

In conclusion, resilience remains a crucial approach for addressing climate change, emphasizing preserving livelihoods and traditions. However, while it highlights the importance of adaptation and resistance, resilience alone cannot fully address the scope of climate impacts. For it to be truly effective, it must be coupled with social, political, and economic transformations. Through this broader vision, resilience can move beyond mere survival to become a foundation for sustainable and equitable development. Such vision could be crucial to ensure the resilience of countries like Bangladesh now and in the future.

To enhance its effectiveness, the resilience approach should be viewed in conjunction with strategies that extend beyond mere adaptation and resistance. It must account for the realities shaped by an increasingly volatile world, where theoretical models alone may fall short in capturing the complexity of an increasingly unstable world.

Like many works of its kind, my research is not without its limitations. Given the constraints of time and the broad scope of my study, which included exploring social resilience, international dynamics, and both national and community levels in Bangladesh, certain elements fundamental to understanding the country's path may lack depth and precision. For instance, a deeper exploration of the historical role of women in Bangladesh

and a more thorough examination of the connection between Indigenous communities, their environment, and their role in the country's historical development would have provided greater insight into their significance within Bangladeshi resilience.

Moreover, my research may have occasionally leaned towards highlighting Bangladesh's limitations and challenges, as well as the shortcomings of international cooperation and climate finance, rather than focusing equally on its successes. This emphasis emerged as an indirect choice to underscore the urgency of Bangladesh's situation amidst escalating climate threats. Nevertheless, a more balanced perspective might have offered a more nuanced understanding of the climate resilience journey.

Finally, this work could have been enriched by incorporating more interviews and perspectives from the Bangladeshi population. While this thesis does not claim to represent every Bangladeshi voice, I have endeavored to portray the diversity of experiences and perspectives as faithfully as possible. However, more interviews would undoubtedly have added depth and authenticity, allowing for a richer representation of local voices.
Also, reading articles and academic papers cannot fully substitute for daily on-the-ground experience; echoing the sentiment of Saleemul Huq, who famously stated that nothing compares to the understanding gained from direct, on-the-ground experiences versus that acquired through "a diploma."

Despite these limitations, the topic of resilience remains vast and profound, lending itself to further exploration. My research, while comprehensive, could be expanded to investigate what lies beyond resilience for countries like Bangladesh. In a world increasingly questioning the sustainability of infinite economic growth, exploring alternative models—such as those focused on transformative change rather than mere adaptation—could be illuminating. Could such radical transformations truly disrupt livelihoods in vulnerable nations like Bangladesh? Further examination of what could come after resilience, with particular attention to Loss and Damage, may offer critical insights into the global fight against climate change and the future pathways for highly impacted societies like Bangladesh.

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Interviews

Mahbub Simon. A researcher, activist, and the founder of the organization Shalbrikko. Coming from the word Shal (meaning "foundation tree" in Bengali).

Md. Lutfor Rahman. A research officer at the ICCCAD. Working in the research and development sectors, he especially studies the issue of displaced people and its surrounding problematics.

Dr. Bapon Fakhruddin. A hydrologist by training, and a system developer for Coastal Inundation Forecasting Demonstration Project (CIFDP) at the World Meteorological Organization (WMO), he also provides leadership and oversight of the portfolio of investments in water resources for addressing climate change at the Green Climate Fund portfolio.

Azad Rahman. The lead of one of the flagship projects of UNDP Bangladesh "Local Government Initiative on Climate Change" (LoGIC), he also served in the government for four years, including as a National Deputy Project Director.

Nazmul Ahsan. Working for the organization ActionAid Bangladesh, Ahsan manage the youth programming portfolio and work at building the capacity development of communities, especially young people.

Easmin Amena. A District Climate Change Coordinator (DCCC) under the UNDP's LoGIC initiative. She works in Rangamati where she manages a team that provides support to over 3,500 people in need.

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APPENDIX 1 – Résumé en français du mémoire

Le Bangladesh, neuvième pays le plus vulnérable au monde aux effets du dérèglement climatique, se trouve confronté à des défis environnementaux croissants. Face à cette réalité, le concept de résilience est devenu central pour comprendre les stratégies d'adaptation mises en place à l'échelle nationale et locale. Cette notion se définit comme la capacité d'un acteur (ici, le Bangladesh) à résister à des chocs externes (les phénomènes climatiques) tout en maintenant ses organisations politiques, sociales et économiques. Ce mémoire explore ainsi la notion de résilience appliquée au contexte bangladais, en examinant ses implications sur le développement durable, l'équité sociale, et la stabilité politique.

Chapitre 1 : La notion de résilience et ses implications dans l'ordre international

Le premier chapitre retrace l'émergence historique de la résilience, depuis ses origines dans le domaine de la psychologie jusqu'à son intégration dans les stratégies écologiques et les politiques internationales. À l'origine, la résilience désigne la capacité à absorber un choc tout en conservant ses fonctions essentielles. Dans des pays comme le Bangladesh, la résilience se traduit par la construction d'infrastructures telles que des refuges anti-cyclones pour la population ou des digues contre les inondations. Ces mesures visent à protéger les populations et à réduire leur vulnérabilité face aux risques climatiques. En cela, la résilience est souvent opposée à la vulnérabilité. Plus un acteur est résilient, moins il est vulnérable aux risques climatiques, car il aura développé des moyens de résister à ces derniers pour minimiser les dommages. C'est l'objectif même de la résilience.

Toutefois, la réalité est plus complexe que cela. La résilience et la vulnérabilité sont des dynamiques changeantes et rarement constantes sur le long terme. Pour accroître sa résilience, les mesures d'adaptation sont généralement privilégiées. Elles permettent à la population d'adapter ses pratiques et ses modes de vie aux aléas climatiques qui touchent le pays, sans pour autant transformer fondamentalement son mode de vie.

Dans les années 1970, la résilience, d'abord un concept théorique, devient progressivement un objectif promu par les grandes institutions internationales. Cette période, marquée par une augmentation des phénomènes climatiques meurtriers, voit émerger les

enjeux de réduction des risques de catastrophe, de préparation et de prévention en amont de ces événements. La résilience devient alors une approche clé pour appréhender le dérèglement climatique et ses conséquences.

Cependant, ce concept n'est pas sans critiques : son application est parfois perçue comme une forme de néocolonialisme, imposant des stratégies de résilience « top-down » sans tenir compte des spécificités locales. La continuité apparente qu'elle offre est également remise en cause lorsque les sociétés humaines font face à un risque climatique inédit, capable de bouleverser les modes de vie actuels.

Chapitre 2 : Le Bangladesh comme terrain privilégié de la résilience climatique ou comme bombe à retardement ?

Dans ce chapitre, le Bangladesh est présenté comme un exemple concret de l'application de la résilience face aux catastrophes climatiques. En raison de sa géographie deltaïque et de sa forte densité de population, le pays subit régulièrement des inondations, des cyclones, des sécheresses, ainsi qu'une salinisation et une érosion accrue des sols. Le risque d'élévation du niveau de la mer accentue encore cette vulnérabilité.

Le gouvernement bangladais, en partenariat avec des organisations internationales, a mis en place des plans de résilience locaux et nationaux. À l'échelle régionale et internationale, le pays est reconnu pour être un précurseur dans la prise en compte du changement climatique et l'atténuation de ses effets, à travers des stratégies nationales innovantes. Le Bangladesh est perçu comme un modèle dans les sphères internationale, scientifique et nationale.

Cependant, l'efficacité de ces stratégies reste entravée par la multiplication des phénomènes climatiques extrêmes. Les projections futures pour le pays prévoient un accroissement de la fréquence et de l'intensité de ces événements alors même que le pays peine déjà à faire face aux conséquences actuelles. L'augmentation des migrations climatiques internes, la précarisation des zones rurales et côtières, ainsi que l'accès limité aux ressources compliquent la mise en œuvre de stratégies de résilience durables. La dépendance marquée à l'aide internationale aggrave également cette vulnérabilité structurelle.

Chapitre 3 : La nécessité de recontextualiser la résilience dans un cadre national et international

Le dernier chapitre s'intéresse à la recontextualisation de la résilience dans un cadre à la fois national et international, en explorant des dynamiques souvent occultées qui jouent un rôle crucial dans la construction d'une résilience durable.

L'ordre social au Bangladesh est marqué par une persistance d'inégalités, de discriminations et d'exclusion envers certaines parties de la population, notamment les femmes et les communautés indigènes, parmi les plus vulnérables au dérèglement climatique. L'instabilité provoquée par les phénomènes climatiques aggrave les conditions déjà précaires de ces groupes. Cependant, le dérèglement climatique contribue également à mettre en lumière leur rôle essentiel dans les efforts d'adaptation et de résilience. Deux phénomènes parallèles se dessinent : d'une part, la valorisation progressive de leur contribution à la résilience du pays, et d'autre part, le renforcement des discriminations à leur égard.

En parallèle, les dynamiques internationales de coopération sur les questions environnementales sont cruciales pour soutenir les efforts de résilience au Bangladesh. Les conférences internationales, les mécanismes de financement, et les discussions autour de la justice climatique jouent un rôle majeur dans les questions de « pertes et dommages ». Cependant, les tensions et les lenteurs bureaucratiques fragilisent l'efficacité de cette aide, ce qui réduit les capacités du Bangladesh à asseoir durablement sa résilience.

Conclusion du mémoire

Le mémoire conclut que si la résilience est un outil essentiel pour affronter les défis climatiques au Bangladesh, sa mise en œuvre reste aujourd'hui insuffisante face aux transformations rapides du climat. Si l'approche par la résilience permet d'envisager une préservation des cultures et modes de vie actuels, elle peine à répondre aux enjeux croissants posés par le dérèglement climatique. En cela, l'approche par la résilience devrait être consacrée en parallèle de réelles transformations économiques, politiques et sociales, à la fois nationale et internationale.

APPENDIX 2 – Interviewee Profiles and Contributions

Attribute	Mahbub Simon	Md. Lutfor Rahman	Dr Bapon Fakhruddin	Azad Rahman	Md. Nazmul Ahsan	Easmin Amena
Professional Activity	Funder of Shalbrikko; Researcher in Energy	Research Officer	Hydrologist and system developer for the CIFDP	Programme and Project Manager	Manager of the youth programming portfolio	District Climate Change Coordinator
Company	Shalbrikko (local association)	ICCCAD / Research Centre	World Meteorological Organisation and GCF	UNDP Bangladesh	ActionAid Bangladesh (local association)	UNDP Bangladesh
Nationality	Bangladeshi	Bangladeshi	Bangladeshi	Bangladeshi	Bangladeshi	Bangladeshi
Workplace Location	Bangladesh	Bangladesh	South Korea	Bangladesh	Bangladesh	Bangladesh
Scope of Actions	Local, National	Primarily national, with international influence	Local, National, International	Local, National	Local	Local
Contribution to Research	Researcher / Field Practitioner	Researcher	Expert / Decision Maker	Field Practitioner	Field Practitioner	Field Practitioner
Date of Interview	30/01/2025	05/02/2025	27/02/2025	08/03/2025	17/03/2025	29/03/2025
Interview Modality	Virtual	Virtual	Virtual	Virtual	Virtual	Virtual
Interview Language	English	English	English	English	English	English
Interview Duration	1h 20min	1h 15min	45min	50min	57min	57min

APPENDIX 3 – Transcript of Selected Interview

Interview transcript of my (L) exchange with Nazmul Ahsan (N.A), a leader of the youth program in the local association ActionAid Bangladesh, Dhaka

L: My first question would be about your work and what you do in Bangladesh Action Aids.

N.A: So yes, thank you very much. In Bangladesh currently we are working with the young people, young women and also women. So, mostly with the young people, we want to develop their leadership practices in the civic space. At the same time we want them to demonstrate their leadership in the areas of social justice and climate justice. Our role is, of course, go develop their capacity, to engage them in the various campaigns, advocacy interventions, to support them into taking various pilot initiatives and also showcasing those pilot initiatives to the policy makers or advocacy with the policy makers. This is that we are doing in the community of people and in the areas of climate justice area. So, we expect that young people take various climate actions, in terms of adaptation, mitigation. At the same time, you know, they do a lot of campaigns online and offline. Their campaigns focus on the issues of justice area, climate justice area. In adaptation, they contribute in the areas of agriculture.

They also engage in the community, on how to manage the water in the areas of water governance and they also engage in the areas of preparedness and recovery. In a broad area, these are the engagements in the community and our role I would say is capacity development, supporting them, mentoring them, engaging with them and with the various stakeholders, connecting them with the various organizations. This is our role so far. We are doing more or less the same with the women in the community, developing the resilience, engaging in the agroecology, building their empowerment, empowering them somehow to handle the climate change effect in local contexts. Also, advocating with the policy makers, local government, national governments, conducting various kinds of research, young people also conducting various kinds of research, action research, and using those research findings for change, these kind of things.

L: Do you operate in all the country?

N.A: No, we don't work in all the countries. Currently, our working direct footprint is the twelve
districts in the Bangladesh, out of sixty-four districts. But we are working in the critical areas, the critical areas that's in the most vulnerable areas in south regions and the central regions in the capital. And also the Cox's Bazar where the Rohingya influx has taken place. So, however, we are working with the youth organization. Our youth organization also working in this wide range of the countries. So, even though we don't have the direct footprint in all the countries, but through our youth organization, we have footprints at various districts. We support youth organization. So, when we talk about the working with the young people, our

model, is working with individual young people and, at the same time, we work with the youth organizations. We support youth platforms to transform them into youth organizations, so that they are also able to contribute and engage in the society as independent entities. However, we provide them the technical supports, programmatically, and sometimes, of course, financial support, so that they may run their programs and campaigns.

L: Regarding this point, what are you trying to achieve? What do you want to achieve in the long term, concretely, for the youth and the women?

N.A: We use three terms, they call it social justice, gender justice, and climate justice. If you ask me, this is the three big terms we use, all of us. So, that means, in the social justice area, we want to see the most marginalized communities being treated with respect and dignity, the poverty is being addressed, and they are able to contribute in the society as any other. In the climate justice, we want to see the whole climate change discourse being dealt with the agenda of justice. And also, we want to the transitions from fossil fuel economy to renewable, from static to green. So, these are climate justice interventions. And of course, we also talk about the green, the transition has to be a just transition. It has to be just, so that it might not be painful for the living people living in poverty and exclusion.

In gender justice, we want to see the patriarchy, the social stereotypes norms being addressed. We directly work with gender violence. We work with the child marriage. We want to recognition of unpaid care work of women. Then, we also want to add these things to policies and regulations. This is the broader aspect of goal, as you see.

L: If we focus more on the issue of climate change, I think ActionAid has been operating in Bangladesh for 40 years, approximately.

N.A: 40 years, yes.

L: How does climate change have impacted your work? Do you see it really affecting your actions in the country?

N.A: Of course, the impact is actually directly in the community. So, there are vulnerable communities because of climate change. One of the vulnerable communities are in the south, in the coastal belt, and another in the north and the northeast. So, there is a plan developed by the government, it's called National Adaptation Plan. It mentions eleven climate stressed areas. So, there are different kind of climate stress areas. Some places are suffering from cyclones mostly and saline water uprising, you know. Some places are suffering from droughts. Some places suffer from irregular rainfalls or heavy rainfalls. Some places suffer from flash floods – that means, you know, all of a sudden the floods come within one or two days and wash everything away. Some are suffering from the landslides. So, it's diverse. And some are also suffering from the title upsurge, riverbank erosion. So, there are different kind of scenario on how climate change is affecting Bangladesh.

As you know, Bangladesh is a delta. So, it has the impact of it in every aspects. And, another thing I want to mention is the magnitude of the impact. It's not the same as we have seen in 10 years, 15 years, or 20 years back. It has been changing rapidly. We see that the magnitude has been changing rapidly, too. That means the suffering is also growing day by day. Since, you know, since it has been changing so rapidly. So, one strategy you have taken five years back, it doesn't work after the five years because of the situation, because of the saline water that has been grown up and now it is also coming into the localities. It is impacting the agriculture, it is impacting fresh water sources, it is impacting displacements. It is impacting the public service issues, and many other issues. Every social issue has been impacted. So, you know, earlier we were focusing on the adaptation, how to adapt, how to address disasters, human rights, you know all these disasters, kind of preparedness, kind of early warning interventions. And also immediate response after any disaster took place. However, now we are talking about more and more about loss and damage, along with adaptation. So, how to actually address the issues of loss and damage because adaptation is not able to capture, address all these things now that's happening. Many things are being turned into beyond adaptation. And people are being forced to displace from their places and come to other places. Many people are coming into the urban slums. So, how they are also being treated with their life and dignity, with their life and rights. We address those from the human right-based approach perspective, and all these things. So, it has been changing, and these are a lot of challenges because the situation changes so rapidly. So, yes.

L: Do you believe you will need to engage even more resources in the future to implement your
actions?

N.A: Even now, we need a lot of resources. The available resources are, let's say like a peanut according to the requirement

If you come to Bangladesh, you will see the earlier people had their own ponds or water supply system. Now, we'll see that the ponds are being contaminated by the saline waters. They've managed to grow their rice ready for their own food. They couldn't do it because of the salinity increases. The whole land is being infected at many areas. So, the fund is very limited now. There are some government funds that the government is also trying to provide through ministerial effort, through its programmatic intervention, but this is not enough at all. I don't know the research at this moment, but it is very limited.

So, that's why we are asking for. For global support through funding. We talk all the time about the responsibility of the rich countries because we know how the climate change happened because of the irrational uses of the resources and consumption. That's why we demand for the funds to flow from the global communities, particularly from the global north. However, there is a demand up to this, you know there was a commitment that could deliver $100 billion fund each year to the global most climate vulnerable countries. The COP29 has decided $300 billion, but we see it actually commitment doesn't materialize as promised. So, and it has comes with a lot of kind of conditions, many incomes as a loan. So, we demand

for unconditional grant for the marginalized communities and it has to go into the areas of adaptation and loss and damage. So, these are the issues actually. So, if the fund is coming in and it only comes in mitigation, energy transition that will not help the most marginalized communities to address their vulnerability, to address their loss and damage. So, now the need is the very *Daya*. *Daya* means "with their very existence", basic things actually. So, then you may think of the other things
also, no? So, the fund is required for the very basic things. For their life, their agriculture, their
water supply, their shelter, their embankment reconstruction Taking them the adaptive practices, taking them technologies, you know, adapting with the new technologies. These are
the things we actually need. And, for the fund, of course we need very much, which is very, very limited.

L: You talked about promises for the $300 billion. What were those promises?

N.A: The promises come from the last COP. So, that the global community, global north, rich countries are supposed to mobilize $300 billion by 2035 for the most climate vulnerable countries. But it still is not being very clear. For this $300 billion, how much of them are meant for adaptation, and how much of them are meant for grant. This has not been clear yet. So, this is actually the area we need to look into. The global south countries need resources which is for adaptation first. Of course, we need the support for mitigation and transition. But, you know, we need the money for primarily adaptation and loss and damage. And most of this should come as a grant, unconditional grant, not loan.

L: And, apart from that fund, did you have access to any other international funds as ActionAid?

N.A: No. ActionAid is a kind of, you know since we are an NGO, we got some funds from the donors. Let's say we are working with Danita, but we are working with other donors, you know, UN agencies. So, we don't have enough funding. We need to work in various places. And we need to engage with them with this kind of the nexus program. You know, humanitarian
nexus program, no? So, we don't, we see the funds are very limited. And because of the recent US interventions, even though we don't receive the US funds, it has impacted other donors' engagements. So, probably those who have received the money from US, have been impacted and that had an indirect impact with our working areas, because we are working in the community. This is how we see that our fund is also very limited, according to the needs and requirements of the Bangladesh community.

L: Would you say that the issue of climate change is really known by the whole population? What are the people's feelings about this? Do they really know what's to come?

A.N: For the climate change?

L: Yes.

A.N: Nowadays, they actually know the behavior of climatic events in the community. It is not
working like in 15, 20, 30 years back. They can connect with this. They can compare with these
scenarios. And they say it has been getting more unpredictable. The rains, the cyclones, the drought, the temperature, even the temperature is growing in our context, you know. Now, during the summer, we often see the temperature go up to the 42, 43, 44, even 45.
So, they know the scenarios, and they know the saline water is getting more and more into the
community. They are contaminating even more the cultivating lands. They know, all of them… most of them, they know. But yeah, probably they cannot analyze the thing that this represents
because of the climate change. They are probably not that much aware of the reasons behind climate change, but particularly young people nowadays are aware of this climate change and how it is impacting everyday life through climatic events and changes in the environment.

L: Based on this, would you say that it exists a risk culture within the population?

N.A: What kind of risk, you mean?

L: I mean, do they know how to prepare and react in the face of climate hazards? Are they really prepared?

N.A: They do. Some of them do. We also support the community on how can they prepare. This is the part of adaptation. Adapting with this changed climatic behavior. However, as I mentioned, many of them are aware, but most of all, there are other people who don't know. So, this is the kind of mixed experience you will see. However, and many of them are also suffering. But, I would say that the situation is changing rapidly, so, that is also very difficult to keep pace with this adaptation, adapting to new things. It's very difficult.

L: One of the main issues about climate change, and what you were talking about, is that the development of climate hazards and the future evolution of climate change is uncertain. How do you work with that uncertainty? How do you train people for uncertain events that could happen?

N.A: We cannot predict the future. I mean, we can predict somehow the future, that is how the temperature is gradually growing, and how the global community is failing to their commitment to keep the temperature rise much below two degrees. Keeping it a limit under 1.5 degrees Celsius, no? But the thing is that how it would be manifested, it is not very clear to us. We do develop resilience of the community people, try to develop the resilience, but

we don't know if it is coming with a massive heat, a massive force... So, how do you actually face those kind of climatic hazards. This is very unpredictable and very concerning for us as well. So, the resilience development is one of our programmatic components, but we are not sure to what level it will be able to minimize the vulnerability of the most vulnerable communities.

L: And globally, would you say that Bangladesh, as a country and as many communities, would you say that there was real progress in adaptation in the recent years?

N.A: Bangladesh is a story of success, as it is being portrayed in the global community as a success of adaptation. Now, the casualties is becoming very much, it's falling down because of the ecosystem developed here, particularly while early warning mechanism and also mobilizing other stakeholders with this government, civil society, NGOs, volunteers. So, that is being proved that we are good on that.
But the thing is that, adaptation, even though we are a success story, at the same time, I don't know how successful we could be in future because of the rapid changes of the whole scenario. Challenges are coming almost every day, because of the new climatic behavior, new hazards coming in. So, even with the success story, there are many millions of people that need to migrate. They're forcefully displaced because of the climatic events. So, that's the challenge, you know. Even if we have done well, there are millions of people who are living a miserable life because of the climate change. They are struggling with the livelihood. They are struggling with human rights realizations. So, with their education and health, it has multifaceted dimensions. It has the gender dimensions. How young women and the women are suffering because of the climate change. How saline water is affecting their health condition, reproductive health and rights conditions. And then the other social issues, and it is also contributing in the stereotypes which are harmful to the women and young women. They have been manifested in many ways because of the climate impacts, you know.

L: Do you have an example of an issue related to climate change that impacts the stereotypes against women?

N.A: The stereotypes issues here are the power issue. Child marriage is a big issue. And gender-based violence is a big issue. And the women are not being engaged in the economic activities. So, there are social taboos on that. So, when the people are buying for the limited resources since the women are falling in the lower hand of the power relationship. So, the whole patriarchal structure, it actually makes them more vulnerable. We see that child marriage has been increased in many areas. We see sometimes that violence and peace have been eroded because of climate change events. We see women being less allowed to engage in economic activities because of the high competition for limited resources due to climate change. So, there are a lot of titles in that dimensions and climate changes.

L: Would you say that this is one of the main obstacles towards having a full adaptation? Do you think that this social hierarchy between men and women is an impediment to this adaptation?

N.A: This is one of the issues. However, the thing is that the resources are the biggest challenge, I would say. This is the adaptation. Resources, technology of transfers, and support.

These are the biggest challenges. Of course, there are other challenges. Once you have the resources and technologies, then you have to look into the diverse gender-responsive programming. So, what to do for women, young women, persons with disabilities, and other marginalized groups, untouchable groups, and then the rest of the groups. Then, the issue is how we can make the program responsive to the diverse groups, addressing the diverse vulnerabilities. So, we need to look at that angle.

L: I would like to talk more about resilience, since I saw that you also you are also working to help make the country more resilient. How would you define a resilient country or a resilient community?

N.A: Resilience to me is how they're handling the situation so far, and how they can return to their normal life again. So, they don't break down. How they can come back again to their life and work with their regular social, economic, political activities, and other things. This is how I understand the whole resilience. Again, I would say it is very much connected with the adaptation. If adaptation fails, then resilience also fails. You know, it has the limitations. So, there are many dimensions. Of course, it has the gender dimensions and other dimensions. However, I would say that if we are able to invest with them, even their ability to develop their resilience gradually in the areas of agriculture, in the areas of livelihood, in the areas of water management, in the areas of disaster management this should be the part of the whole resilience interventions.

So, I would say, yes. We are doing good, but it is not the sustained thing. It has, as I said, limitations. It has weak points, again, because of this changing situation. Resilience is not static. It also needs to be adjusted and readjusted based on the new situations developed in the vulnerable communities.

L: All right. I have seen on your website that you have been working on making institutions responsive and accountable in rural and urban spaces. How do you achieve that? What do you mean by being responsive and accountable?

N.A: We work for the gender responsive public service, GRPS concept. So, we support the community to analyze their vulnerabilities and to understand the situation and identify the needs and requirements from the resilience development and also from the adaptation perspectives and beyond. Also, mitigation. There are issues of mitigation. So, they identify those issues and then advocate this with local governments, national governments. So, local communities are working with the local governments and local administration to hold them accountable in terms of providing the services. New services that are being expected and that are being committed by them. They do advocacy campaigns, movements. So, yes. This

is how we hold the local government and governments accountable. At the same time, at the national level, we engage with the policy makers for adapting and taking the required policies to deal with these situations and also issues of location.

L: Do you find it easier to work in urban or rural area? Is there a difference between the two?

N.A: The context is different. The urban context is one context because of the socio-economical practices and the rural context is another one. The urban people have vulnerabilities. The rural people also have their own vulnerabilities.

L: What about local institutions? Are they different in…?

N.A: Yes. The institutions are different. The institutions are different, the location is different and scope and opportunities are different because of the centralized structure of the governance mechanism. However, the vulnerabilities are different because those who are in the urban level, mostly they are living in the they are the displaced people, and they are living in the slums. People are very much in unregulated and unsettled habitations. And they are probably being regulated probably by informal groups and there are a lot of power relationship aspects there. In most cases, we don't see the public service institutions providing support to the urban slum areas. Even though in the rural area, we don't see the people getting services because of the lack of resources, lack of effectiveness and lack of accountability measures.

L: And do you know if the government is working to improve the institutions in rural areas?

N.A: They're working but, even though there are initiatives, we don't see a lot of progress every time. It is also very much an issue of debate. Usually, the community see that there should have there is a space for a lot of improvements for providing services. At least, there is the need to realize that, right? So, the supply and the gap between the supply and need is huge.

L: If we stay on that topic of resilience, you are also working toward a more resilient agriculture. You also mentioned it earlier. And, on your website, there is a mention of “low-input agro ecological farming techniques”. What are these techniques?

N.A: We call it climate resilient sustainable agriculture. You will find even online what is climate resilience sustainable agriculture. Mostly, we want to focus on agro-ecology and how to use the organic inputs for agriculture and how to improve them. We talk about the sublimity of technologies as well, when we talk about the climate resilience sustainable agriculture. So, it has the few principles and elements are supposed to be the practices for the community. Mostly, we are focusing on the agro-ecological elements under this climate resilience sustainable agriculture. We also talk about the women engagements, ownership, and this kind of things.

L: Do you believe it will suffice in the long term?

N.A: We believe in the need for a transition in agriculture. The commercial agriculture is very much destructive, polluting. And this is also not ensuring the ownership on the food. So, we believe that this is the way to address the climate change issue. At the same time, the rights of the community, the right to access food for the most marginalized community.

L: Now, if we go back on your actions for women, because you mentioned it quite a lot, and it's one of your main objectives as an NGO.

N.A: Yes.

L: How do you help them concretely and how do you try to improve things within legal frameworks? But also morally? How do you support them?

N.A: Our supporting system is the we call it empowering them. We want to empower them. Empowering means building their capacity, knowledge, and concentration, and supporting them to be connected with the institutions and engaged in the various policy and decision-making. Our tool mechanism, we call it human-at-risk approach. We empower them, we support them to build up their networks, we build up their leadership practices, we support them to engage with the institutions, engage in the various decision-making structures and bodies. This is how we engaged with them.

L: Are they receptive to what you do?Or do they show sign of reluctance, for example?

N.A: No. I think they're receptive. You know, whatever the change, as you mentioned, there are challenges of course. There are challenges. Socio-economical challenges. But, usually, we see that they’re receptive and they're able to take the lead of the change effort.

L: What are the main challenges you face when dealing with this issue?

N.A: When you work with the women in particular, the challenges are socio-economic, mainly. The social structures and social power structures. They are one challenge which comes from the patriarchy. Second, is the economic structure which is also a challenge when we don't see women being able to come in the economic activities that much. And also, we see limited women coming in the political sphere as well. So, we see challenges mainly in those areas.

L: And if you could give me an example of any significant progress or achievements you made
in that regard?

N.A: In terms of progress, we see that young women are now actually advocating with the policymakers at national and global level. Last year, we supported the women to be part of

the ActionAid's COP delegation process, joining the Baku COP. They actually elaborated the challenges they faced, the challenges their community faced, and they also demanded for the needs and requirements. We see how they're also demonstrating their leadership, not in the local context, but also how they're demonstrating their leadership in the international spaces.

L: And so, you implement a lot of actions towards women empowerment for them to know more about adaptation. And, how can I say that… Do you include men in your programs as well? Don't they also need training?

N.A: No, no, I understand your question. You are talking about the men engagement probably with these women interventions.

So, men are also a part of the interventions. As women are doing the campaigns, they also engage with the men, not only the women. We work with the women directly as a part of that group. We want to build their capacity. We want to empower them, but that doesn't mean that they don't have to work with men. They work with men. They work with the social institutions where men are also leading in the various social institutions. They develop their allied forces with men,. We call it solidarity development according to our humanitarian programs. They also do a lot of that. And building the solidarity with the men and other groups. And young people. Men and young people.
L: Okay. Now, about the Rohingya issue, you are working in cooperation with the government, and you want to enable this community to participate in the humanitarian aid process and hold also humanitarian agencies accountable for what they do. How do you achieve that? How do you work with that in this vulnerable community?

N.A: The thing is that with Rohingyas, there are quite a few mechanisms. They're living in camp areas and they're being treated as displaced people. They're not being treated as refugees. We engage with them for kind of providing the supported support services. We also give them the skills, green skills, so that they are able to use their limited lands for the agricultural cultivations and other skills. We wanted to engage the craftsmanship, so that they can produce their crafts and sell inside the camp areas. We engage with the local community volunteers. So, they become the volunteers. We support them, we empower them, build their knowledge and skills. And these volunteers are being engaged with these various formal and informal leadership structure inside the camp and also with the others, you know, international agencies. This is the accountability mechanism inside the camp areas and also in the Rohingya advocacy through Rohingya advocacy interventions. We also organize various kind of consultations as part of demanding the rights of the Rohingya people in the centre camp for a safe and dignified repatriation in their home country. These are the things we are also working in the Rohingya issues.

L: Are they also trained to climate change adaptation or to know how to respond to such risks?

N.A: They've been trained with quite a few issues. Let's say, what are the challenges over there? There, fire is a big challenge. So, you train the Rohingya volunteers on how to deal with this. Let's say, also in a cyclone time, when it comes in. And so, how to deal with this during that time. These are the basic things the volunteers are being trained on. And they're working with these communities too. And also, the government is aligned with this kind of capacity development intervention. So, every activity has to be harmonized according to the camp management plan. Every camp has a government body, which is called camp management authority. We need to collaborate and cooperate with them or harmonize the interventions with them.

L: Now, there is also another interesting point that really grasped my attention when I read the
country strategy paper number six on your website. I saw that the LGBTQI+ community in Bangladesh is also mentioned as a focus of your work. But, I didn't come across much information about them in the documents I read. Could you tell me more about their situation and conditions in Bangladesh?

N.A: The situation, as you know, is not very good in terms of the socio-economic status. They are being recognized only as one group that is called, as per the government law, they're called transgender. They are not being recognized as a LGBTQI+. So, you understand the whole scenario, no? From this overall scenario, we would try to work with them. Particularly, we work with the transgender, we call it the transgender group. In Cox's Bazar, we work in a transgender group. We also work in a transgender group in Dhaka. This is the youth-led transgender groups. To support them to understand their rights and to develop their leadership practices. So, that is what we are trying to do and engage with them in the various livelihood interventions when we have the capacity. This is how we are working with them. We are also working with the sexual assault community. So, with the education rights and safe spaces for the children and for the services. We are working with them and there's a network. Actually, Bangladesh is working with their sex workers network. Because they are also suffering diverse kind of oppressive situations. So, we would try to raise our voice in favor of their rights, for them to not be evicted or when they face any kind of violence, we raise our voice in favor of them. These are the kind of things we are doing.

L: Are they more prone to be victim of violence and harassment in the country?

N.A: The thing is that usually we don't see them being able to identify themselves in the open spaces or in the social spaces as being LGBTQI+++. They don't openly affirm their identity. Only the transgender people. They open their identity as a transgender, but not even as part of the LGBTQI+++. This is the one thing because of this whole social power structure, social and political power structure over here.

L: All right. So, for the last section of my interviews, I have some questions left.
You told me that you were financed by donors, right?

N.A: Yes, we are being financed by some donors.

L: Are they only private persons or are they also?

N.A: No. The institutional donors are the main sources of funding. But we're also doing with the private sector encampments in some cases. There are a few private donors also, but their fund volume is not like the others.

L: When you are funded by them, do you have a choice in the implementation you do or are there some conditions to the funds you receive?

N.A: It depends. Every donor has their own guidelines on how to apply for the fund and what is the eligible criteria. If it matches with us, then we apply for that. And then, after our proposal is filled, if they feel that our proposal is good, then they award us the money.

L: What type of condition can there be?

N.A: It's a programmatic intervention. Let's say how we spend the money for achieving which kind of objective of the programs, how we spend the money, and how we ensure the accountability and transparency, the reporting mechanisms These are the kind of conditions that usually comes with the fund.

L: There are a lot of local associations, NGOs, also international organizations working in Bangladesh. How do you manage to implement your actions without overstepping in other organizations' own actions?

N.A: The thing is that actually, in our context, it is a bare minimum things because the need of the community is huge. And if you just make make come and talk together, that is doesn’t minimize the need of the requirements. Even it is the soft skill things. Because if you want to work on the subject of skills things is also required engagement, huge engagement with the community. So, this is one thing.

The second thing is that we are also working in various platforms, various networks. So, we understand then who is doing what, and where, and how can we also collaborate our steps at various levels, you know. So, that is also doing various levels. So, again, I would say there are various mechanisms. However, the need is not enough. The need is huge. The supply is not enough. So, the overstepping, yes, probably there are some overstepping, but I would say that is not that much level.

L: And have you ever witnessed maladaptation from some organizations?

N.A: As I said, the onset adaptation after a few years has become a maladaptation because of the changing of the situations. And sometimes we are talking about false solutions. Some

solutions are being provided to us, we call it false, you know. So, yes. I would say accordingly.

L: My question came from the many papers I've read that states that sometimes international organizations don't always know the specificities of the country they work in and therefore implement some maladaptation. That's why I wanted to know if you had witnessed some.

N.A: Probably, probably. I don't know everything, but probably there have been maladaptation where they probably tried some of the technologies which we couldn't develop, you know. It probably turned out well because of the local context. So, they come up with the technologies which actually doesn't go with the local situations. So, that happens. Even they come up with the agriculture methods, probably that doesn't very much goes with the local environment. So, there are many things, you know, but don't know which organization has done that maladaptation. But the thing is that, yes. We have identified a few of the interventions that have been taken under the name of greening of the environment. This is how they are cultivating some of the trees, which is not environmentally friendly. So, it's a bit of fun. For the purpose of adaptation, they actually come up with some of their business plan, which is kind of extracting the money from the local community. So, there have been things that are happening. Again, it depends on the context.

L: Right. And for my last question, it's more about your own point of view. Do you feel hopeful about the future when it comes to climate change and the actions you're implementing? I know it might be a difficult question…

N.A: No, no. The only hope is to keep doing our own things, you know, become more active. This is the hope. Because with the world scenario, we don't see that much hope. It's a bleak environment because of how hard we have been polluting the whole environment, emitting carbon across the globe. It is keeping us very limited spaces to become very much hopeful for keeping our goals intact. However, the hope is that how can actually, given the scenario, real scenario, how can we minimize those impacts of climate change? How can we also make the transition happen? How can we also hold the powerful accountable? So, the hope is there.

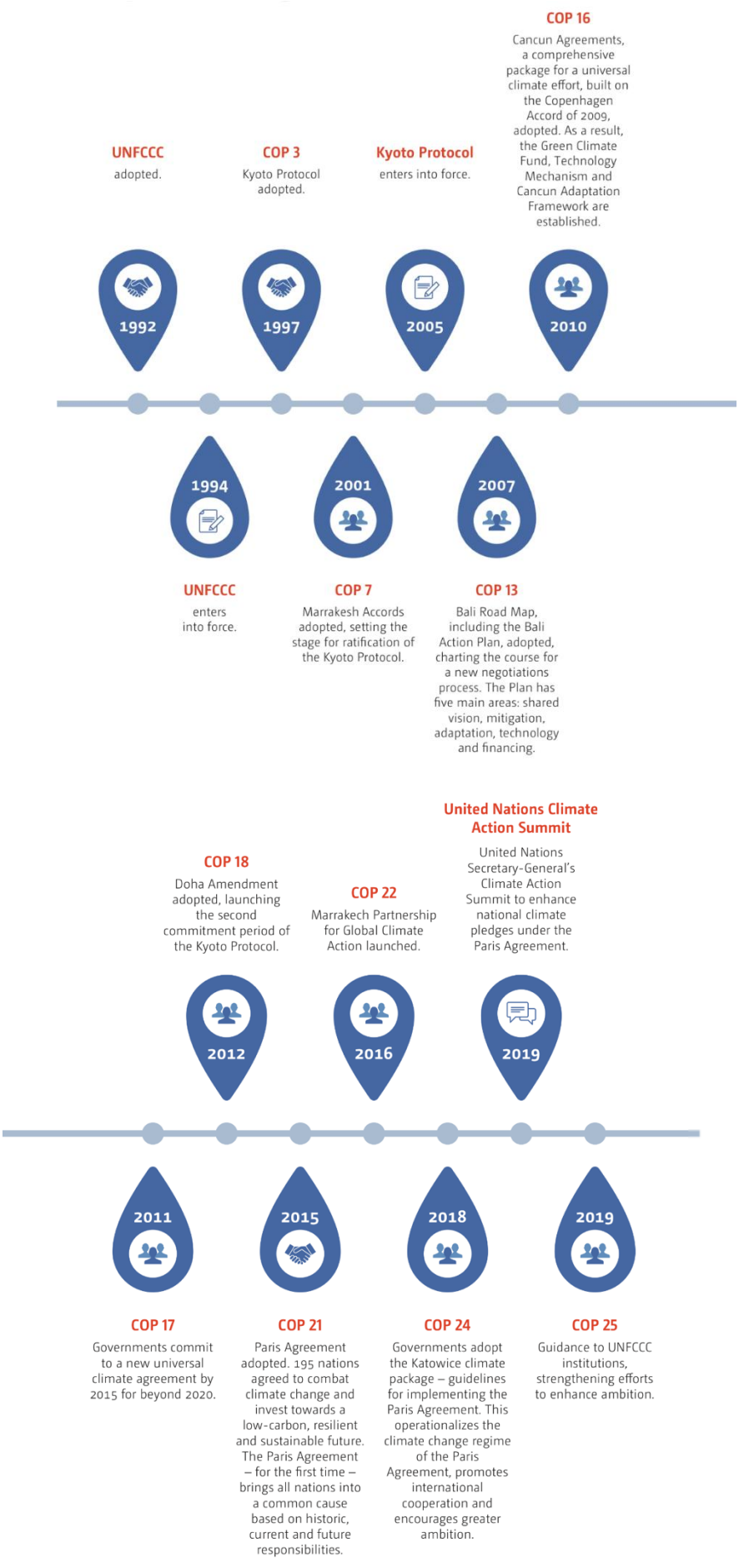
The hope is with my action, not for the overall scenario. This is the hope.

The end (57 min).

APPENDIX 4 – Bangladesh Map

Map of Bangladesh showing divisions, division capitals, and major cities. (Source: Maps of India)

APPENDIX 5 – International climate frameworks since 1992



APPENDIX 6 – Institutional Definitions and Focus Areas of Resilience in Climate and Development Policy

Entity	Definition of Resilience	Focus Areas
Bangladesh	The ability to withstand, adapt to, and recover from disasters and climate change impacts, emphasizing community engagement and sustainable development.	Disaster risk reduction (DRR); Climate adaptation; Sustainable development, Gender inclusion; Community-based approaches.
United Nations Framework on Climate Changes (UNFCCC)	[Resilient people and communities] "Capacity of vulnerable people and communities is built to manage risk and adapt to the impacts from climate change" [167]	Climate adaptation; Loss and damage; Capacity building; Climate finance; Technology transfer; Sustainable development.
World Bank (WB)	"The capacity to prepare for disruptions, recover from shocks, and grow from a disruptive experience." [168]	Strengthening of government's capacity and systems; Project-level resilience; Climate and disaster risk management; Community development.
International Monetary Fund (IMF)	Strengthening economic resilience and sustainability by supporting policy reforms to reduce macro-critical risks.	Macroeconomic stability; Structural reforms; Climate change and pandemic preparedness
European Union (EU)	"The ability not only to withstand and cope with challenges but also to undergo transitions, in a sustainable, fair, and democratic manner" [169]	Sustainable growth; Societal development; Adaptation and transformation; Governance and institutional trust.

This table summarizes how different international and national entities define "resilience" and outlines their primary thematic focus areas, particularly in relation to clima te change, sustainable development, and disaster risk management.

[167] United Nations Framework on Climate Change (UNFCCC). (2019). Climate Action Pathway. Resilience and Adaptation. Retrieved on February 10, 2025, from https://unfccc.int/sites/default/files/resource/CAP_Resilience_and_Adaptation_AT.pdf

[168] Open Knowledge Repository. (2021). "Resilience Rating System: A Methodology for Building and Tracking Resilience to Climate Change". World Bank Group. Retrieved on February 10, 2025, from https://openknowledge.worldbank.org/entities/publication/9920d826-21e5-5def-898d-8ccb1daaf4a0

[169] The Joint Research Centre: EU Science Hub. (n.d.). Resilience. European Union. Retrieved on February 10, 2025, from https://joint-research-centre.ec.europa.eu/projects-and-activities/resilience_en

APPENDIX 7 – The Rohingyas Refugee Crisis

"Who are the Rohingya?

The Rohingya are a Muslim ethnic minority group who have lived for centuries in predominantly Buddhist Myanmar - formerly known as Burma. Despite living in Myanmar for many generations, the Rohingya are not recognized as an official ethnic group and have been denied citizenship since 1982, making them the world's largest stateless population. As a stateless population, Rohingya families are denied basic rights and protection and are extremely vulnerable to exploitation, sexual and gender-based violence (SGBV) and abuse.

In August 2017, armed attacks, massive scale violence, and serious human rights violations forced thousands of Rohingya to flee their homes in Myanmar's Rakhine State. Many walked for days through jungles and undertook dangerous sea journeys across the Bay of Bengal to reach safety in Bangladesh. Now, nearly 1 million people have found safety in Bangladesh with a majority living in the Cox Bazar's region - home to the world's largest refugee camp. The United Nations has described the Rohingya as "the most persecuted minority in the world."

The United Nations Refugee Agency. (2024). *Rohingya Refugee Crisis Explained*. USA for UNHCR. https://www.unrefugees.org/news/rohingya-refugee-crisis-explained/

The refugee camp in Cox's Bazar (source: Reuters) and a Rohingya mother and her son, Louise Donovan (source: UNHCR).