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FROM VULNERABILITY TO VIABILITY: CLIMATE POLICY, DEVELOPMENT PLANNING, AND CLIMATE FINANCE CHALLENGES IN BANGLADESH

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From Vulnerability to Viability: Climate Policy, Development Planning, and Climate Finance Challenges in Bangladesh

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Executive Summary

Bangladesh stands at one of the most difficult intersections of climate injustice and development urgency. The country contributes less than 0.4% of cumulative global greenhouse gas emissions, yet it is among the world's most climate-vulnerable nations. Its geography makes the risk unusually severe. A dense population lives in a low-lying delta where the Ganges, Brahmaputra, and Meghna river systems meet the Bay of Bengal. This setting amplifies sea level rise, cyclones, storm surges, floods, saltwater intrusion, river erosion, heat stress, and freshwater insecurity. Extreme weather events led Bangladesh to the economic losses of USD 3.72 billion from 2000 to 2019, and climate-related damages in just one year, 2021, were around the magnitude of USD 11.3 billion, equivalent to approximately 2.5% of GDP. These are not distant risks. Even now, they are already influencing the macroeconomic prospects and development options of the country, as well as socio-political stability.

The paper argues that climate change directly threatens Bangladesh's hard-won development gains. Over the past two decades, the country has achieved strong GDP growth, significant poverty reduction, improvements in education and health, and progress toward graduation from Least Developed Country status. Yet climate change could reverse parts of this progress by damaging agricultural productivity, displacing millions, straining public health and water systems, and weakening the physical infrastructure on which future growth depends. Without strong adaptation, climate change could force nearly 20 million Bangladeshis into internal displacement by 2050 and erode a third of agricultural GDP. From this perspective, development and climate resilience are no longer separate agendas. For Bangladesh, they are increasingly on the same agenda.

The physical climate risks are wide-ranging and mutually reinforcing. Sea level rise along Bangladesh's coast is occurring faster than the global average, with serious implications for land loss, coastal displacement, salinity intrusion, and freshwater availability. Cyclones remain a defining hazard of the Bay of Bengal, and although Bangladesh has achieved remarkable progress in reducing cyclone mortality through early warning systems and shelters, the economic and infrastructural losses remain large. Flooding is increasingly erratic and destructive, with altered rainfall patterns, upstream flows, and flash flood risks disrupting agriculture & settlements, and infrastructure. Saltwater intrusion is a much quieter but more directly destructive crisis: slowly eroding coastal agricultural land, poisoning local drinking water with salinity, and exacerbating gendered vulnerable burdens as women and children have to walk much further from their homes just to bring back safe water.

The crisis is also sectoral. Agriculture, fisheries, water resources, public health, biodiversity, and urban systems all face growing climate stress. Agriculture is especially exposed, as rice, wheat, fisheries, and livestock are sensitive to floods, droughts, salinity, and heat. The burden falls hardest on smallholders and marginal farmers, who often lack access to insurance, adaptive technologies, savings, or diversified livelihoods. Public health risks are also rising through heatwaves, air pollution, waterborne diseases, vector-borne diseases, and climate-related malnutrition. Urban centres such as Dhaka and Chattogram face a different but connected pressure: climate-induced migration is

pushing more people into cities that are already struggling with waterlogging, heat stress, air pollution, informal settlements, and overstretched public services.

Climate vulnerability is not evenly distributed across Bangladesh. The heaviest blight of cyclones, salinity, coastal erosion, and sea level rise affected the southern coastal belt involving districts of Khulna, Satkhira, Barisal, Patuakhali, Bhola, Noakhali, and Cox's Bazar. Drought, heat stress, groundwater depletion, and erratic rainfall are the prevalent threats in the northwestern Barind region. These regional inequalities are important because climate vulnerability is associated with the incidence of poverty, low adaptive capacity, and limited local assets. In other words, the people least able to absorb climate shocks are often the ones most exposed to them.

Bangladesh has not been passive. The paper highlights the country's increasingly sophisticated climate policy architecture, including the Bangladesh Climate Change Strategy and Action Plan, the Bangladesh Delta Plan 2100, the Bangladesh Climate Prosperity Plan, the National Adaptation Plan 2023–2050, the Climate Fiscal Framework, and the Third Nationally Determined Contribution. Such frameworks reflect a serious ambition to plan. The Delta Plan 2100 is a long-term adaptive management plan on the challenges of water, land, and climate risks. The Climate Prosperity Plan reframes the narrative around climate from one of vulnerability to one of transformation, seeing climate action as a driver for green growth, jobs, renewables, and industrial upgrading. The National Adaptation Plan outlines cross-sectoral adaptation priorities and financing needs. NDC 3.0 includes economy-wide mitigation targets and embeds just transition considerations, gender, youth, and social inclusion dimensions.

However, the paper's central concern is the gap between policy architecture and policy delivery. Bangladesh has many plans, but climate resilience is still not consistently embedded in core development planning, public investment management, project appraisal, sectoral budgeting, and local implementation. Climate policy often remains compartmentalised rather than mainstreamed. A road, bridge, embankment, irrigation project, housing scheme, or urban drainage system can still move through approval processes without full climate risk screening across its expected lifetime. This creates the danger of locking in new climate-vulnerable assets, even while national plans call for resilience.

The paper also identifies weak national-local linkages as a major constraint. Local governments are on the front line of adaptation. They manage drainage, embankments, rural roads, shelters, local disaster response, water systems, and livelihood support. Yet they often lack the technical capacity, fiscal resources, and institutional authority needed to translate national climate plans into local action. This creates a serious implementation gap. Climate adaptation must ultimately happen in districts, upazilas, unions, farms, coastal villages, urban settlements, and riverbank communities. Without stronger local planning and local finance, national ambition will remain incomplete.

A major contribution of the paper is its focus on climate finance. The financing challenge is not simply large; it is structural. Bangladesh's NDC 3.0 has an estimated implementation cost of USD 116.8 billion through 2035, of which USD 90.23 billion, or 77%, depends on international support. The National Adaptation Plan alone requires USD 8.5 billion annually through 2050, including USD 6 billion expected from external sources.

Total annual climate finance needs, combining adaptation and mitigation, are estimated at USD 12.5 billion, about 3% of GDP. These figures show that Bangladesh cannot meet its climate-development needs through domestic public finance alone.

Domestic public finance is important but overstretched. Bangladesh has shown commitment through instruments such as the Bangladesh Climate Change Trust Fund and climate-related budget tracking. Yet public resources are constrained by low revenue mobilisation, competing development priorities, rising infrastructure needs, and debt sustainability concerns. The Climate Fiscal Framework helps track climate expenditure, but tracking is not the same as prioritising, screening, and financing the most urgent adaptation investments. The paper, therefore, argues that climate must be embedded more deeply into public financial management. Climate risk screening should become a mandatory part of project appraisal, annual development programming, procurement, budgeting, and monitoring.

International climate finance is still needed; access is limited. Multilateral institutions and climate funds have supported Bangladesh, but in amounts that are far below what is needed. Examples of significant initiatives include the Bangladesh Climate and Development Platform, the IMF's Resilience and Sustainability Facility, climate development policy credits by the World Bank climate, ADB climate commitments, and green finance partnerships with institutions such as JICA and IFC. Nonetheless, the paper emphasizes that Bangladesh must build its capacity to plan more bankable projects in terms of climate change mitigation, draw access to grant-based finance, and harmonize external resources around national priorities. At the same time, developed countries must deliver predictable, accessible, and adequate finance, particularly for adaptation and loss and damage.

The private sector is described as the missing multiplier. Bangladesh's climate transition cannot be financed by public and donor resources alone. Renewable energy, green manufacturing, rooftop solar, resilient infrastructure, sustainable transport, climate-smart agriculture, and green industrial zones all require private investment. Yet the private financial system is not yet fully prepared to assess climate risks, structure green investments, or mobilise capital at scale. The paper calls for stronger green finance instruments, regulatory incentives, project preparation facilities, blended finance, risk-sharing mechanisms, and clearer investment pipelines. Without these, private capital will remain underutilised.

Despite these challenges, the paper is not pessimistic. It identifies several policy opportunities. Bangladesh Climate Prosperity Plan is the foundation for connecting climate and development goals through green industrialisation, renewable energy, competition in global markets, and job generation. The garment sector, for example, can benefit from energy efficiency, rooftop solar, clean production, and green factory standards. As the world moves towards net zero, an increasing number of global buyers and regulators are demanding low-carbon supply chains — this would help protect market access. Urban transport, electric mobility, and green infrastructure also provide opportunities to curb air pollution, reduce fuel imports, enhance productivity, and develop new industries.

Nature-based solutions are another big opportunity. Mangrove restoration, coastal green belts near human settlements, wetland protection, ecosystem-based adaptation, river restoration, and improved land-water management can provide protection while enhancing biodiversity, livelihood, and incomes. The Sundarbans remain one of Bangladesh's greatest natural assets, not only as a global ecosystem but also as a protective barrier against cyclones and storm surges. Protecting and restoring such ecosystems should be treated as core climate infrastructure, not as a peripheral environmental concern.

The paper also places strong emphasis on climate diplomacy and global justice. Despite contributing little to climate change, Bangladesh is arguably the best example of a country with moral authority in international negotiations. With the Climate Vulnerable Forum, the LDC Group, UNFCCC negotiations, and bilateral partnerships, Bangladesh can maintain a track for reforms in global climate finance. This encompasses broader access to flows, a high proportion of grants over loans, robust adaptation support, and delivery on finance pledges by developed countries. It presents climate finance not as charity, but as a historical responsibility and a claim for climate justice, framed in the language of rights.

The central recommendation is to build a coherent climate finance ecosystem. This means moving beyond fragmented projects and isolated funding windows toward an integrated architecture that connects national plans, project pipelines, financing sources, implementing agencies, local governments, private investors, and accountability systems. Bangladesh has the plans. It is beginning to mobilise finance. What it now needs is stronger institutional coordination so that plans and finance meet efficiently, at scale, and with urgency. This requires a central coordinating body with authority, data, technical capacity, and political backing.

The paper concludes that Bangladesh is at a crossroads. It has shown global leadership in climate planning, disaster risk management, and adaptation thinking. Yet the next challenge is implementation. Climate resilience must become a central test of all development decisions. Public investment must be climate-proofed. Local governments must be empowered. Climate finance must be scaled up and made more accessible. Private capital must be mobilised. Nature-based solutions must be mainstreamed. International partners must treat Bangladesh's climate finance needs as a matter of justice, not discretionary assistance.

The overall message is clear: Bangladesh's future development will depend on whether it can move from vulnerability to viability. That transition is possible, but it will not happen through policy documents alone. It will require finance, institutions, coordination, implementation discipline, and global solidarity. Climate action in Bangladesh is not only about reducing emissions or managing disasters. It is about protecting development gains, sustaining growth, reducing poverty, safeguarding lives and livelihoods, and building a resilient economy in a world where climate shocks are becoming more frequent, more expensive, and more unequal.

1. Introduction

Bangladesh stands at one of the sharpest intersections of injustice and urgency in contemporary global affairs. A country responsible for less than 0.4% of cumulative global greenhouse gas emissions finds itself ranked among the ten most climate-vulnerable nations on Earth, facing a scale and intensity of climate impacts that its own development choices have done almost nothing to cause (World Bank, 2024a; Climate Reality Project, 2025). Its 170 million people - packed into a low-lying river delta at the northern tip of the Bay of Bengal, where three of Asia's great river systems converge before emptying into the sea - live with a geography that amplifies every dimension of climate risk: sea level rise that exceeds the global average, cyclones that funnel and intensify as they approach the coast, seasonal flooding that is becoming less predictable and more extreme, and saltwater intrusion that is quietly consuming the agricultural and freshwater systems upon which rural livelihoods depend. Between 2000 and 2019, Bangladesh suffered USD 3.72 billion in economic losses from extreme weather events, and in 2021 alone, climate-related damages amounted to approximately USD 11.3 billion - equivalent to 2.5% of GDP for that year (Climate Reality Project, 2025). These are not projections. They are the compounding costs of a crisis already in motion.

The cruelty of this situation is sharpened by the context in which it unfolds. Over the past two decades, Bangladesh has achieved significant rate of GDP growth, averaging above 6% for much of the 2000s and 2010s, important poverty reduction, gender parity in primary and secondary education, plummeting maternal and infant mortality, and the formal initiation of graduation from Least Developed Country status in 2026 - these are real, hard-won gains, achieved by a country whose development options have always been constrained by limited natural resources, high population density, and institutional capacity that has had to be built, often from scratch, in the decades since independence (Raihan, 2024). Climate change is not an abstract future threat to these gains. It is an active, accelerating force that threatens to reverse them - reducing agricultural GDP, displacing millions from their homes and livelihoods, straining health and water systems, and undermining the infrastructure investments through which Bangladesh has been building its development foundations. The World Bank's Country Climate and Development Report estimates that, without strong adaptive action, climate change could force nearly 20 million Bangladeshis into internal displacement by 2050 and erode a third of agricultural GDP by the same year (World Bank, 2022). Development and climate resilience are not competing priorities for Bangladesh. They are, increasingly, the same priority.

Bangladesh has not been passive in the face of this challenge. Over the past two decades, the country has built an increasingly sophisticated architecture of climate and development policy that compares favourably with any low-middle-income country in the world. The Bangladesh Delta Plan 2100 - a century-long adaptive planning framework developed with Dutch technical partnership and approved in 2018 - charts a course for managing the country's water, land, and climate risks over a timeframe that most governments struggle to contemplate (Bangladesh Planning Commission, 2018). The Bangladesh Climate Prosperity Plan (2022–2041) attempts something more ambitious still: repositioning climate action not as a defensive necessity but as a vehicle for economic transformation, green industrialisation, and sustained prosperity (Government of Bangladesh, 2021). The National Adaptation Plan 2023–2050 systematically identifies

adaptation needs and financing requirements across eleven sectors. The country's Third Nationally Determined Contribution (NDC 3.0), submitted to the UNFCCC in September 2025, commits to economy-wide emission reductions by 2035, integrates a just transition framework, and places children, youth, gender equity, and social inclusion at the centre of the national climate strategy (NDC Partnership, 2025; UNICEF, 2025). These are genuine achievements in planning ambition. The persistent challenge, and it is a deep one, is the gap between policy architecture and policy delivery: between what the plans say should happen and what actually happens on the ground, in the districts, at the community level, where climate risk is lived rather than managed.

At the heart of this implementation gap lies a financing challenge that is, in both scale and structural complexity, among the most demanding that any developing country faces. Bangladesh's NDC 3.0 carries an estimated price tag of USD 116.8 billion through 2035, of which USD 90.23 billion, fully 77%, is conditional on receiving adequate international support (UNDP Climate Promise, 2025). The National Adaptation Plan alone requires USD 8.5 billion annually through 2050, with USD 6 billion of that expected from external sources (GCA, 2025). Total annual climate finance needs - combining adaptation and mitigation - are estimated at USD 12.5 billion, approximately 3% of GDP (UNDP, 2025). These numbers represent a structural challenge that goes well beyond the question of whether Bangladesh can raise enough money. They raise fundamental questions about the design and accessibility of international climate finance architecture; about how private capital can be mobilised for adaptation investments that carry no obvious commercial return; about how public financial management systems must be reformed so that development spending decisions are systematically climate-proofed; and about the global justice dimension of a world in which the countries that contributed least to the climate crisis are left to finance the most consequential responses to it. Bangladesh's financing challenge is, in this sense, a microcosm of the world's climate finance challenge - and what Bangladesh manages to navigate will have lessons that reach far beyond its own borders.

This paper examines Bangladesh's climate policy landscape through the twin lenses of macroeconomic outlook and financing challenge, tracing the connections between physical climate risk, development policy, institutional capacity, and the financial architecture needed to sustain resilient growth. The paper proceeds as follows. Section 2 establishes the physical and sectoral context of Bangladesh's climate vulnerability - covering sea level rise, cyclones, flooding, saltwater intrusion, and the regional disparities that shape who bears the heaviest burden. Section 3 analyses the country's development policy landscape, examining how the Perspective Plan 2041, the 8th Five-Year Plan, the Delta Plan 2100, the BCPP, and the NAP address - and fall short of fully addressing - the imperative of climate-compatible development. Section 4 identifies the concrete policy opportunities and entry points through which Bangladesh can advance its climate-development agenda - from green industrialisation and nature-based solutions to international climate diplomacy and SDG alignment. Section 5 examines the architecture of climate finance in depth - domestic public finance, international climate funds, private sector mobilisation, public financial management reform, and regional cooperation - and the reforms needed to build a coherent national climate finance ecosystem. The paper concludes in Section 6 with a set of actionable policy recommendations directed at the Government of Bangladesh, development partners, and the international climate finance community, grounded in the analysis developed throughout.

2. Bangladesh's Position in the Global Climate Crisis

Bangladesh occupies a uniquely precarious position in the global climate landscape - a country that contributes negligibly to the problem yet bears some of its most severe consequences. Situated at the confluence of the Ganges, Brahmaputra, and Meghna river systems, and nestled at the northern tip of the Bay of Bengal, Bangladesh is widely recognized as one of the most climate-vulnerable nations on Earth (World Bank, 2024a). Its low-lying deltaic terrain, extreme population density - approximately 1,300 people per square kilometre - and heavy dependence on climate-sensitive sectors such as agriculture, fisheries, and forestry create a compound vulnerability that few countries share.

The injustice of Bangladesh's situation is underscored by its minimal contribution to the crisis. Despite producing only 0.3% of global greenhouse gas (GHG) emissions (2022 data), Bangladesh ranks ninth on the 2024 World Risk Index of countries most vulnerable to extreme weather and other climate impacts (Climate Reality Project, 2025). For context, the average Bangladeshi emits just 1.61 metric tonnes of CO2 equivalent per year, compared to 17.61 metric tonnes for the average American - nearly eleven times more. Bangladesh's share of global GHG output is so small that even a total cessation of its emissions would be climatically inconsequential at the global level, yet the country absorbs consequences on a scale that threatens its very territorial integrity. Table 1 summarizes the key climate vulnerability statistics of Bangladesh.

Table 1: Key climate vulnerability statistics

Indicator	Figure	Source/Year
GHG Emissions Share (Global)	0.3–0.4%	World Bank / Climate Reality Project, 2022–2024
2024 World Risk Index Ranking	9th most vulnerable	World Risk Index, 2024
Economic Losses (2000–2019)	USD 3.72 billion	Climate Reality Project, 2025
Climate Disaster Damages (2021)	USD 11.3 bn (2.5% GDP)	WMO, 2021
Annual Cyclone Cost (average)	~USD 1 billion/year	World Bank, 2022
Projected Internal Displacement by 2050	Up to 19.9 million people	World Bank projection
Coastal land below 3m elevation	62% of coastal lands	Bangladesh Delta Plan, 2018
Population living near the coast	~1/3 of total population	Climate Reality Project, 2025

2.1. Sea Level Rise: Accelerating Beyond Global Averages

One of the most acute physical threats facing Bangladesh is sea level rise (SLR), and critically, the country faces rates of SLR that significantly outpace the global average. While the global mean sea level has been rising at approximately 3.42 mm per year, research using satellite altimetry data has found that local rates along Bangladesh's coastline range from 3.6 mm to as high as 10.09 mm per year - between two and three times the global average (The Daily Star, 2024; Ali et al, 2025). This is partly driven by the compounding effects of land subsidence in the delta, reduced sediment supply from

upstream, and the general amplification of sea level change in the Bay of Bengal due to ocean warming dynamics.

The IPCC's Sixth Assessment Report (AR6) projects a global mean sea level rise of between 0.28 and 0.55 metres by 2100 under moderate emissions scenarios, and up to 2 metres under extreme scenarios. In Bangladesh's context, even the conservative projections carry catastrophic implications. A sea level rise of just 50 centimetres could inundate 11% of Bangladesh's total land area and displace approximately 15 million people (Ali et al, 2025). Under high-emission scenarios, between 12% and 18% of Bangladesh's coastal land could be permanently submerged by the end of the century, potentially displacing 50 million people - a displacement event that scientists have described as potentially the largest mass migration in human history (Climate Reality Project, 2025).

Regional projections are especially alarming. Sea levels in the Ganges tidal floodplain on the southwest coast are projected to rise by 0.25 metres by 2050, while the central Bangladeshi coast at Khepupara (Barisal Division) faces a rise of up to 0.44 metres by the same year - accelerated by the particular dynamics of the Meghna estuarine system (Ali et al, 2025). A full 62% of Bangladesh's coastal lands lie less than 3 metres above current sea level, meaning that even incremental rises compound tidal flooding, storm surge impacts, and freshwater lens degradation across wide swaths of the country (Bangladesh Planning Commission, 2018).

The geography of Bangladesh also means that sea level rise cannot be read in isolation. Two-thirds of the entire country lies less than 15 feet above sea level - a statistic that places Bangladesh in a category shared only by small island nations in terms of collective exposure. Approximately one-third of the population lives in coastal zones directly exposed to tidal effects and cyclonic surge (Climate Reality Project, 2025), meaning that the risk is not confined to a peripheral zone but is a central feature of national demographic and economic life.

2.2. Cyclones and Storm Surges: Increasing Frequency and Intensification

The Bay of Bengal is one of the world's most cyclone-prone bodies of water, and Bangladesh's position at its northern apex - where the funnel-shaped coastline concentrates and intensifies storm surges - makes cyclones a defining climate hazard. Climate change is amplifying both the intensity and the destructive potential of cyclones through warmer sea surface temperatures, which provide greater energy to developing storms and increase their capacity to generate rainfall and storm surge.

The Bangladesh government and the international disaster risk community have made significant strides in reducing cyclone-related mortality. Over the past fifty years, Bangladesh reduced cyclone-related deaths approximately one hundred-fold through investments in early warning systems, cyclone shelters, and coastal embankments - a globally celebrated achievement in disaster risk reduction (World Bank, 2022). However, the economic and infrastructural damage from cyclones remains enormous, with the average annual loss estimated at approximately USD 1 billion, or around 0.7% of GDP (World Bank, 2022).

Recent events illustrate the continued destructive force of cyclonic activity. In late May 2024, Cyclone Remal made landfall along Bangladesh's coastal regions with devastating effects - killing at least 20 people, forcing approximately 800,000 residents to evacuate their homes, destroying over 35,000 houses, and leaving more than 2.7 million people without electricity (Global Climate Risks, 2025). The storm underscored the persistent human and infrastructural toll that even a single cyclonic event can inflict. Between 2015 and 2021, cyclones collectively caused an estimated USD 255 million in agricultural sector losses alone (Community Engagement Hub, 2024). The Sundarbans mangrove forest in southwestern Bangladesh - simultaneously a biodiversity hotspot, a source of livelihood for millions, and a critical natural buffer against cyclonic storm surges - faces compounding degradation from both sea level rise and intensified cyclone impacts, threatening the very natural shield that has historically moderated the worst of these storms.

2.3. Flooding: Erratic, Intense, and Increasingly Destructive

Bangladesh has always lived with floods - the seasonal inundation of its river systems is integral to the deltaic ecology and agricultural cycle. However, climate change is fundamentally altering the nature, timing, and intensity of flooding events in ways that undermine rather than sustain livelihoods. Monsoon rainfall patterns are becoming more erratic, with longer dry spells punctuated by shorter but more intense precipitation events. Flash floods - historically confined to the northeastern hill regions - are now occurring with greater frequency across a wider geographic area.

The 2022 flash floods in Sylhet were among the most severe in decades, affecting millions of people and causing extensive damage to critical infrastructure and the agricultural sector (Save the Children, 2023). In October 2024, heavy rains and upstream torrents from India displaced over 100,000 individuals in northern Bangladesh and resulted in multiple fatalities (Global Climate Risks, 2025). These events reflect a broader trend in which the timing and magnitude of flood peaks are increasingly misaligned with both agricultural calendars and infrastructure capacity, resulting in crop losses, infrastructure damage, and displacement that compound pre-existing poverty.

The upstream dimension of Bangladesh's flood risk is often underappreciated in policy discussions. As a lower-riparian state, Bangladesh receives the discharge of the Ganges, Brahmaputra, and Meghna systems - rivers whose catchments span India, Nepal, Bhutan, China, and Bangladesh itself. Changes in Himalayan glaciation, altered precipitation patterns across these large catchments, and upstream water management decisions (including dam operations and irrigation withdrawals) all shape the volume, timing, and sediment load of flows reaching Bangladesh - largely beyond the country's direct control. This transboundary dimension adds a layer of structural vulnerability that national adaptation measures alone cannot fully address.

2.4. Saltwater Intrusion: A Slow-Moving but Pervasive Crisis

While cyclones and floods attract international attention through their immediate and visible impact, saltwater intrusion into Bangladesh's agricultural lands and freshwater systems represents a slower but equally devastating dimension of climate change impact. The intrusion of saline water - driven by sea level rise, reduced dry-season river flows

due to upstream diversion, and intensified tidal penetration - is transforming the agricultural and ecological character of the coastal zone in ways that are often irreversible on human timescales.

Saltwater intrusion already affects approximately 30% of Bangladesh's cultivable coastal land (Majumder et al, 2024), and its reach is expanding. During the dry season, salinity fronts have been documented advancing 100 kilometres or more inland along tidal rivers, contaminating irrigation sources and drinking water wells. The process is insidious precisely because it occurs gradually, making it harder to mobilise emergency responses or international attention relative to acute flood or cyclone events.

The agricultural consequences are severe. Rice is Bangladesh's staple crop and the backbone of rural livelihoods, but it is highly sensitive to soil salinity. As saline conditions expand, yields fall, cultivation windows narrow, and farmers are forced toward either costly salt-tolerant varieties (where available), less productive alternative crops, or abandonment of farming altogether. Between 2009 and 2014, estimated economic losses from climate-related impacts reached USD 833.73 million from crops, USD 133.92 million from fisheries, and USD 137.46 million from livestock (IWA Publishing, 2024), with the agricultural GDP declining by an estimated 3.1% annually from these compounded pressures.

The public health dimension of saltwater intrusion is equally serious but often understated. Elevated salinity in drinking water - particularly in areas like Khulna, Satkhira, and Barisal - is associated with increased risks of hypertension, pre-eclampsia in pregnant women, kidney disorders, and skin disease. Contamination of freshwater sources also drives women and children to travel longer distances to collect potable water, increasing both the time burden and exposure to waterborne pathogens. The intersection of saltwater intrusion with gender inequality creates a specific and underserved dimension of vulnerability (Majumder et al, 2024).

2.5. Sectoral Vulnerabilities: A Cross-Cutting Crisis

Agriculture and Food Security

Agriculture accounts for approximately 11.5% of Bangladesh's GDP and employs 40.62% of the total labour force (BBS, 2025), making the sector's climate vulnerability a direct threat to national economic stability and household food security. Climate variability is disrupting planting seasons and crop yields across the country. Erratic rainfall - both excess and deficit - combined with rising temperatures, flooding, and salinity intrusion, means that smallholder farmers face growing uncertainty about the viability of their primary livelihood.

Projections from the World Bank's 2022 Country Climate Report are stark: without adequate adaptation, rice production could decline by 8% and wheat production by 32% by 2050, significantly reducing agricultural GDP (World Bank, 2022). The FAO has warned that climate impacts could push an additional 15 million Bangladeshis toward

hunger by 2035.[3] By 2050, the World Bank estimates that a third of agricultural GDP could be lost due to climate change - a loss of extraordinary economic and social consequences (World Bank, 2022).

The burden falls disproportionately on marginal and smallholder farmers, who lack the capital to invest in adaptive technologies, access to crop insurance, or diversified income sources. Trapped in cycles of debt from weather-related crop failures, many are increasingly abandoning ancestral agricultural lands and migrating to urban centres - a pattern that is simultaneously a symptom of climate failure and a driver of unplanned urbanisation pressures in cities like Dhaka.

Public Health

The health sector faces a multidimensional burden from climate change that is already stressing Bangladesh's healthcare infrastructure. Rising temperatures increase the incidence and geographic range of vector-borne diseases such as dengue fever and malaria, while flooding and saltwater contamination expand the conditions for waterborne diseases, including cholera, typhoid, and acute diarrhoeal illness - all significant causes of morbidity and mortality in a country where healthcare system capacity is already constrained.

Heatwaves are emerging as a growing health emergency. In April and May 2024, Bangladesh experienced unprecedented nationwide heatwaves, with temperatures exceeding 40°C in drought-prone northern areas. These conditions forced school closures affecting approximately 33 million children for up to two weeks, and posed acute heat stress risks to outdoor workers, the elderly, and young children (Global Climate Risks, 2025). Malnutrition - which is exacerbated by agricultural losses and food price inflation from climate shocks - further compounds immune vulnerability and child development outcomes across affected regions.

The World Bank has estimated that air pollution, which intersects with climate policy through fossil fuel combustion, costs Bangladesh approximately 9% of GDP annually and could be reduced substantially - saving nearly 1 million lives by 2030 - through integrated climate and pollution policy (World Bank, 2022).

Water Resources

Bangladesh faces the paradox of simultaneous water excess and water scarcity, often in different parts of the country at the same time. Seasonal flooding inundates tens of thousands of square kilometres of agricultural and residential land, while droughts and declining groundwater levels - especially in the Barind Tract of the northwest - leave communities without reliable irrigation and drinking water supplies during dry periods. Both extremes are being intensified by climate change. Glacial melt in the Himalayas is projected to initially increase dry-season river flows, followed by long-term decline as glacier mass diminishes - a transition that will profoundly affect the water availability upon which Bangladesh's irrigation system depends.

[3] See https://www.thedailystar.net/environment/climate-change/news/climate-change-impact-148m-be-risk-hunger-2030-3097426

Groundwater depletion from intensive irrigation further reduces the resilience of the hydrological system, while saltwater intrusion progressively narrows the geographic zones where safe groundwater can be accessed. Urban water infrastructure is similarly strained: Dhaka, one of the world's most rapidly growing megacities, faces increasing episodes of waterlogging from intensified monsoon rainfall that exceeds the capacity of aging drainage systems, alongside acute freshwater supply challenges driven by both population growth and groundwater depletion.

Fisheries, Biodiversity, and the Sundarbans

Bangladesh's fisheries sector - both marine and inland - supports the livelihoods of millions of people and contributes significantly to national nutrition and export earnings. Climate change threatens this sector through rising sea and river temperatures, increased salinity, altered monsoon patterns, and habitat degradation. Between 2009 and 2014, climate-related losses in the fisheries sector alone were estimated at USD 133.92 million (IWA Publishing, 2024).

The Sundarbans - the world's largest contiguous mangrove forest, spanning the southwest delta of Bangladesh and India - stands at the intersection of multiple climate pressures. Rising sea levels, saltwater intrusion, cyclonic storms, and increasing sea surface temperatures are collectively degrading this UNESCO World Heritage Site, which serves simultaneously as a habitat for endangered species, including the Bengal tiger, as a critical carbon sink, and as a natural coastal defence system that has historically attenuated cyclone impacts on inland communities. The progressive loss of Sundarbans ecosystem services represents both an ecological tragedy and a practical climate adaptation deficit of enormous consequence for Bangladesh.

Urban Areas: Dhaka, Chattogram, and Growing Exposure

Bangladesh's rapid urbanisation - largely driven by climate-induced rural-to-urban migration - is concentrating populations in cities that are themselves increasingly exposed to climate hazards. Dhaka, with a metropolitan population exceeding 20 million people, is experiencing intensified heatwaves, urban flooding from waterlogging, and severe air pollution. Chattogram, the country's principal port and commercial hub, faces coastal flooding, cyclonic risk, and drainage failure. Both cities have grown far faster than urban planning and infrastructure development can accommodate, creating dense informal settlements - including flood-prone areas along river banks and canal margins - where climate vulnerability and poverty intersect at their most acute.

The World Bank projects that by 2050, up to 19.9 million Bangladeshis could be internally displaced by climate change, the overwhelming majority of whom will migrate toward cities (Global Climate Risks, 2025). This scale of climate migration - already underway - will place extraordinary pressure on urban labour markets, housing, water supply, sanitation, and social services in receiving cities. Managing this transition equitably and sustainably is one of the defining urban governance challenges of the coming decades.

2.6. Regional Disparities and Vulnerability Hotspots

Climate impacts in Bangladesh are not uniformly distributed - they are concentrated in specific geographic regions where ecological exposure, poverty, and limited adaptive capacity intersect most acutely. The southern coastal belt - encompassing the districts of Khulna, Satkhira, Barisal, Patuakhali, Bhola, Noakhali, and Cox's Bazar - bears the heaviest burden of sea level rise, cyclonic impacts, saltwater intrusion, and coastal erosion. Communities here have experienced repeated displacement, livelihood destruction, and forced migration over multiple generations, resulting in deepening poverty and eroded social capital.

The northwestern Barind Tract region (covering parts of Rajshahi, Chapai Nawabganj, and Naogaon districts) represents a contrasting but equally severe vulnerability hotspot - facing drought, groundwater depletion, heat stress, and erratic rainfall that undermine rice and wheat cultivation. Poverty rates in these northwestern districts are among the highest in the country, making residents least able to absorb or adapt to climate shocks. Climate-driven economic stress in both the south and northwest is accelerating out-migration to Dhaka and other cities, reshaping the demographic geography of Bangladesh while compounding urban service delivery challenges.

2.7. National Response, Adaptation, and the Global Climate Justice Imperative

Bangladesh has developed some of the world's most sophisticated national frameworks for climate adaptation and disaster risk management, operating under significant resource constraints. The Bangladesh Climate Change Strategy and Action Plan (BCCSAP), the Bangladesh Delta Plan 2100, and the National Adaptation Plan (NAP) process collectively represent a serious and systematic national commitment to building climate resilience. The Bangladesh Climate Change Trust Fund (BCCTF) - established with domestic public funds - is one of the very few such funds in a developing country financed primarily by the government itself rather than external donors. Bangladesh has also reduced cyclone mortality by approximately one hundred-fold over five decades through investments in early warning systems and cyclone shelters, a globally celebrated achievement in disaster risk reduction (World Bank, 2022).

However, the scale of Bangladesh's climate challenge vastly exceeds the country's domestic adaptive capacity and financial resources. Collectively, Bangladesh's climate vulnerabilities - spanning sea level rise, cyclones, flooding, saltwater intrusion, heat stress, agricultural disruption, public health threats, and ecosystem degradation - present interconnected threats to human welfare, national development trajectories, and territorial integrity. They underscore, with great urgency, the imperative of mainstreaming climate resilience across all policy and planning levels domestically, while demanding far greater ambition and financial commitment from the global community responsible for the emissions driving this crisis.

3. Development Policy Landscape in Bangladesh

The landscape of Bangladesh's development policies rests on a set of interlocking frameworks: the Perspective Plan 2041 (PP2041), which charts the long-term development trajectory; the 8th Five-Year Plan (2020–2025), which operationalises

medium-term priorities; the Bangladesh Delta Plan 2100 (BDP 2100), which addresses the country's structural water and climate risks over a century-long horizon; and the Bangladesh Climate Prosperity Plan (BCCP, 2022–2041), which attempts to reframe climate action as an economic opportunity rather than merely a defensive necessity. Together, these frameworks represent a genuine and evolving commitment to integrating sustainability and climate resilience into national development strategy - yet, as this analysis elaborates, the integration remains uneven, underfunded, and insufficiently operationalised at the sectoral and sub-national levels. Table 2 provides an overview of key development policy instruments.

Table 2: Overview of key development policy instruments

Policy Instrument	Time Horizon	Primary Focus	Climate Integration Level
Perspective Plan 2041 (PP2041)	2021–2041	Growth, poverty elimination, HIC status	Limited / Compartmentalised
8th Five-Year Plan (8FYP)	2020–2025	Medium-term development priorities	Partial / Aspirational
Bangladesh Delta Plan 2100 (BDP 2100)	2018–2100	Water, climate resilience, delta management	High / Structural
Bangladesh Climate Prosperity Plan (BCCP)	2022–2041	Green growth, renewable energy, resilience	High / Transformative
National Adaptation Plan (NAP)	2023–2050	Adaptation strategy and financing	Core mandate
Third Nationally Determined Contribution (NDC)	2025-2035	Mitigation and adaptation targets	Core mandate
Climate Fiscal Framework (CFF)	Updated 2020	Public financial management for climate	Enabling instrument

3.1. The Perspective Plan 2041: Growth Vision with Climate at the Margins

The Perspective Plan 2041 - formally titled 'Making Vision 2041 a Reality' - is the most architecturally ambitious of Bangladesh's planning documents, charting a twenty-year course from the country's current lower-middle-income status toward the achievement of High-Income Country (HIC) status by 2041, with a per capita income target exceeding USD 12,500 (Bangladesh Planning Commission, 2021). The Plan targets real GDP growth of 9.9% by fiscal year 2041, the elimination of extreme poverty by 2031, and near-zero poverty by 2041 - ambitions that reflect the extraordinary trajectory of Bangladesh's development record and the government's aspiration to consolidate and accelerate it.

The Plan's four institutional pillars - governance, democratisation, decentralisation, and capacity building - provide a broad enabling framework for its economic and social objectives. Critically, it explicitly identifies climate change and environmental sustainability as components of the development agenda, recognising the high vulnerability of Bangladesh's poorest districts to flooding, river erosion, and sea level

rise, and acknowledging the link between poverty concentration and climate vulnerability. The plan explicitly references the Bangladesh Delta Plan 2100 as a complementary instrument for managing water, land, ecology, and climate change, and recognises Bangladesh's self-financed Bangladesh Climate Change Trust Fund - a first among Least Developed Countries - as an expression of national commitment to climate adaptation.

However, beneath this rhetorical recognition, climate change occupies a secondary and compartmentalised position within the Plan's substantive architecture. The growth model remains centred on conventional drivers - export-oriented manufacturing (particularly ready-made garments), infrastructure investment, urban transition management, and agricultural modernisation - without systematically stress-testing these against climate scenarios or embedding climate risk in the investment priorities that drive them. Environmental concerns are addressed in dedicated chapters rather than being mainstreamed as cross-cutting criteria across the economic, industrial, infrastructure, and social chapters that constitute the Plan's operational core. The National Solar Energy Action Plan (2021–2041), which targets up to 40 gigawatts of renewable energy by 2041, represents a notable exception - an integrated sectoral target with clear climate co-benefits embedded within the broader Vision 2041 framework.

3.2. The 8th Five-Year Plan (2020–2025): Operational Progress with Structural Gaps

The 8th Five-Year Plan (8FYP), covering the period July 2020 to June 2025, represents Bangladesh's primary medium-term operational development framework and translates the long-term ambitions of the Perspective Plan 2041 into concrete sectoral targets, budget allocations, and institutional priorities. The 8FYP explicitly acknowledges climate change as a development constraint, devotes a standalone chapter to environmental sustainability and climate action, and identifies specific adaptation and mitigation measures across priority sectors including agriculture, water resources, disaster risk management, and energy (Ministry of Planning, 2020).

The Plan's integration with Bangladesh's climate architecture is more explicit than its predecessors. The 8FYP is formally recognised as a foundational document for the Bangladesh Climate Prosperity Plan (BCCP), which explicitly builds on the 8FYP's sectoral frameworks while introducing the climate prosperity narrative (Government of Bangladesh, 2021). The plan incorporates long-term strategies from the Bangladesh Delta Plan 2100 and aligns with the country's Nationally Determined Contributions (NDC) under the Paris Agreement and the Sustainable Development Goals (SDGs). A Climate Fiscal Framework - first adopted in 2014 and updated in 2020 - provides an overarching mechanism for tracking climate-related budget allocations across ministries, offering a degree of fiscal transparency around climate expenditure that many developing countries lack (Perveen et al., 2023).

Nonetheless, significant structural gaps persist in the 8FYP's treatment of climate change. The climate chapter, though substantive in its own terms, remains largely decoupled from the sectoral growth strategies that drive budget allocation decisions - in industry, manufacturing, urban development, and energy. Climate-resilience indicators are not systematically embedded in the project appraisal and public investment management

processes through which the vast majority of development spending is approved and evaluated. This means that major infrastructure projects - roads, bridges, embankments, urban developments - may proceed without adequate climate risk screening, resulting in investments that are physically or economically vulnerable to the climate conditions likely to prevail over their operational lifetimes.

The financing dimension represents a particularly acute gap. The National Adaptation Plan (NAP 2023–2050) estimates that Bangladesh requires USD 8.5 billion annually for climate adaptation, of which USD 6 billion is expected to come from external sources, including international climate funds and development partners (GCA, 2025). The gap between this financing need and current climate expenditure is substantial. The 8FYP's development budget, while significant in national terms, does not mobilise resources at the scale that climate mainstreaming demands. Bangladesh annually spends approximately USD 5 billion on climate adaptation from domestic resources - a remarkable commitment for a lower-middle-income country - but faces a financing gap of approximately USD 7 billion for the current investment period identified under the Delta Plan (Dhaka Tribune, 2022). The absence of robust mechanisms for screening and routing climate finance through the annual development programme remains a critical institutional deficiency.

3.2. Bangladesh Delta Plan 2100: The Most Ambitious Climate-Development Integration

Of all Bangladesh's national planning instruments, the Bangladesh Delta Plan 2100 (BDP 2100) - approved by the government on 4 September 2018 and developed over four years with the technical partnership of the Netherlands - represents the most ambitious, structurally integrated, and climate-explicit development planning exercise the country has undertaken (Financial Express, 2019). The BDP 2100 is explicitly conceived as a century-long adaptive strategy for ensuring water safety, food security, economic growth, and ecological sustainability in the face of accelerating climate change and delta-specific challenges, including flooding, coastal erosion, land subsidence, saltwater intrusion, and sedimentation dynamics.

The Plan operates on the principle of Adaptive Delta Management (ADM) - a Dutch-developed methodology that combines long-term strategic vision with flexible, iterative investment decisions based on evolving knowledge, monitoring data, and changing conditions. Rather than committing to a fixed infrastructure programme, the ADM approach allows investment plans to be reviewed and adjusted as climate projections, hydrological models, and socio-economic conditions evolve - a crucial feature given the multi-decadal uncertainty inherent in climate projections. The Plan targets total capital expenditure of USD 38 billion through 2030, comprising 65 infrastructure projects and 15 institutional and knowledge development projects (World Bank Blog, 2024). Climate finance in the order of USD 5 billion (approximately 12% of total capital expenditure) is targeted from international sources. The World Bank alone has committed USD 1.8 billion to support early implementation across water supply, sanitation, drainage, embankment systems, and inland waterways navigation (World Bank Blog, 2024).

Despite its conceptual strength, the BDP 2100 faces formidable implementation challenges that have constrained its translation from an ambitious policy document into

transformative on-the-ground outcomes. These challenges are structural, financial, and institutional in nature.

The most fundamental challenge is financing. The investment plan through 2030 alone requires USD 38 billion, with public expenditure constituting 99% of the investment plan and private finance expected to contribute only 1% - concentrated in seven pioneer public-private partnership (PPP) projects. This near-total dependence on public financing creates both a fiscal burden and a bottleneck, since Bangladesh's public investment capacity is constrained by revenue mobilisation limitations, competing development priorities, and debt sustainability considerations. The Delta Fund - envisioned as the dedicated fiscal instrument for BDP 2100 financing - remains in an early stage of establishment, and mechanisms for routing climate finance from international sources through the annual development programme are not yet fully functional.

Institutional coordination represents a second major constraint. The BDP 2100 spans the mandates of multiple ministries and agencies - water resources, agriculture, environment, local government, finance, planning, and others - whose policy frameworks, budget cycles, and institutional incentives are not yet systematically aligned with the Delta Plan's integrated vision. The coordination architecture (Delta Governance Council, inter-ministerial forum) exists in principle but requires sustained political commitment and technical capacity to function effectively. Capacity gaps - particularly in the adaptive delta management methodology, feasibility study design for delta investments, and climate risk screening in project appraisal - remain significant barriers to quality implementation at both central and local government levels (Financial Express, 2019).

3.3. The Bangladesh Climate Prosperity Plan: From Vulnerability to Transformation

The Bangladesh Climate Prosperity Plan (BCPP 2022–2041) - launched in 2021 and named in honour of Bangladesh's founding father - marks a qualitative shift in the framing of climate action within Bangladesh's development discourse. Where earlier planning instruments treated climate change primarily as a threat to be defended against, the BCPP repositions climate action as a driver of economic transformation, prosperity creation, and green growth. It is built on the conviction that Bangladesh can leverage its climate challenge as an opportunity to restructure its economy on more resilient, low-carbon, and inclusive foundations - charting a path from climate vulnerability to climate resilience and, ultimately, to climate prosperity (Government of Bangladesh, 2021).

The BCPP is structured around six key priority areas: accelerated adaptation; just transition of labour and future-proofing of industry through technology transfer; increasing public revenues to serve the most vulnerable; comprehensive climate and disaster risk financing and management; leveraging 21st-century technologies for well-being; and maximised renewable energy deployment (Perveen et al., 2023). In the energy sector, the plan establishes a target of 30% renewable energy in the national mix by 2030 and 40% by 2041, with ambitions of 100% renewable energy by 2050 - a trajectory aligned with Bangladesh's commitments at COP26 (Climate Laws, 2024). The plan also sets a target of 4.1 million new climate-resilience jobs by 2030 - a figure that represents both an employment ambition and an implicit acknowledgment of the economic

disruption that climate change will impose on existing livelihoods in agriculture, fisheries, and informal sectors (Climate Laws, 2024).

The BCPP's integration with Bangladesh's international commitments is more explicit than any preceding national planning document. It is formally aligned with the country's updated Nationally Determined Contributions (Ministry of Environment, Forest and Climate Change, 2021) under the Paris Agreement, the Sustainable Development Goals, the National Adaptation Plan, and the Dhaka-Glasgow Declaration - issued under Bangladesh's presidency of the Climate Vulnerable Forum - which calls on high-emitting nations to keep the 1.5°C survival limit within reach. This alignment positions the BCCP as both a domestic planning instrument and an expression of Bangladesh's climate diplomacy - the country's assertion that it deserves both recognition and financial support for leading on climate action despite its negligible contribution to global emissions.

However, translating the BCPP's transformative vision into operational policy remains the plan's central challenge. The six priority pillars span an enormous institutional terrain - energy, industry, health, finance, infrastructure, social protection, technology - and cascading the vision coherently into each sector's planning and budgeting processes requires sustained inter-ministerial coordination, strong enabling policy, and substantial technical capacity. These requirements remain only partially met. Renewable energy targets, while ambitious, face implementation barriers including limited land availability, grid infrastructure constraints, financing gaps, and technical capacity shortages. The just transition framework for labour - critical for managing the social consequences of economic restructuring - is acknowledged in the BCCP but underdeveloped in operational terms. Climate finance mobilisation mechanisms, including green bonds, payment for ecosystem services, and debt-for-climate swaps, are identified as priorities but require significant institutional development to deploy at scale.

3.4. The National Adaptation Plan 2023–2050: Filling the Adaptation Financing Gap

The National Adaptation Plan (NAP 2023–2050), finalised under the auspices of the Ministry of Environment, Forest and Climate Change with Green Climate Fund financing and UNDP technical support, represents the most comprehensive and operationally specific articulation of Bangladesh's adaptation needs and priorities. The NAP identifies a total of 113 priority interventions across 11 climate stress areas - water resources, agriculture and food security, fisheries and aquaculture, coastal zones, health, urban systems, ecosystem and biodiversity, infrastructure, disaster risk management, energy, and cross-cutting areas - with a total implementation cost of USD 230 billion over the 27-year period to 2050 (GCA, 2025; Ministry of Environment, Forest and Climate Change, 2023).

The scale of the NAP's financing requirement is extraordinary and illuminates the systemic underfunding of adaptation relative to Bangladesh's actual needs. The plan requires USD 8.5 billion annually, of which USD 6 billion must come from external sources. Yet access to international climate finance has been constrained by institutional capacity gaps - specifically the limited ability of Bangladesh's public agencies to design 'bankable' project proposals that meet the requirements of major climate funds such as the Green Climate Fund (GCF), the Adaptation Fund, the Least Developed Countries Fund

(LDCF), and bilateral instruments (Global Center on Adaptation, 2025). The absence of training courses on climate finance in Bangladesh's public administration and banking institutions - despite the establishment of the Climate Fiscal Framework in 2014 - has been identified as a structural barrier to accessing these funds (GCA, 2025).

Recent developments suggest growing momentum in climate finance mobilisation, though the gap between need and availability remains enormous. The Bangladesh Climate and Development Platform, launched in December 2023 in partnership with the IMF, World Bank, and ADB, represents the most significant coordinated multilateral effort to date to align international finance with Bangladesh's climate agenda. The IMF's USD 1.4 billion Resilience and Sustainability Facility (RSF, approved 2023), the World Bank's USD 1 billion programmatic series of Green and Climate Resilient Development Policy Credits, and the ADB's commitment to allocate more than half of its 2024–2026 USD 5.5 billion Bangladesh allocation to climate financing collectively signal a significant scaling up of multilateral climate finance (IMF, 2023). JICA signed a USD 90 million green finance loan with BRAC Bank in early 2023, and the IFC is working to mobilise private sector investment in climate-aligned projects. These flows, while significant, remain well below the NAP's financing requirements and will need to be substantially scaled to close the adaptation financing gap.

3.5. Third Nationally Determined Contribution (NDC): Raising the Stakes

Bangladesh's journey through its Nationally Determined Contributions tells a story of growing ambition, and of a country trying, with genuine seriousness, to translate its climate values into binding international commitments. Bangladesh submitted its first NDC in 2016, followed by an updated version in 2021, and most recently its Third Nationally Determined Contribution (NDC 3.0) in September 2025. Each iteration has expanded the scope and specificity of the country's climate commitments, reflecting both the maturation of Bangladesh's national planning frameworks and the escalating urgency of the crisis itself. The first NDC established basic architecture, sector-specific mitigation targets, and an acknowledgment of adaptation needs, but was largely aspirational in character, with limited costing, weak implementation linkages, and an adaptation component that was acknowledged more than operationalised. NDC 2.0, submitted in 2021, deepened the sectoral coverage and explicitly aligned Bangladesh's commitments with the Paris Agreement's 1.5°C ambition and its own updated Nationally Determined Contributions under the Mujib Climate Prosperity Plan, signalling a shift from planning defensively to planning for transformation. NDC 3.0 commits to an unconditional economy-wide GHG reduction target of 6.39% by 2035 compared to business-as-usual, and a conditional reduction target of 13.92% with international support, covering energy, transport, industry, agriculture, forestry, land use, waste, and, for the first time, the building and construction sector. Across three iterations spanning nearly a decade, Bangladesh has steadily widened what it is willing to commit to a genuine signal of institutional seriousness in a country that contributes almost nothing to the emissions it is being asked to reduce.

What makes NDC 3.0 distinctive is not just what it commits to cutting, but the values it commits to upholding in the process. Bangladesh has set a global precedent by embedding just transition principles at the core of NDC 3.0 - the first time the country has explicitly integrated a just transition framework to ensure that the shift to a low-carbon

economy is inclusive, gender-responsive, and job-rich, leaving no one behind. This framing matters because it acknowledges something that climate policy too often glosses over: that transitions have losers as well as winners, and that in a country where millions of people depend on agriculture, fisheries, and informal sector livelihoods that are both climate-exposed and carbon-intensive in their current forms, the manner of the transition is as important as the destination. NDC 3.0 targets 25% of total power from renewable energy sources by 2035 and a 19.2% improvement in energy efficiency, alongside commitments to climate-smart agriculture, low-carbon transport, and waste-to-energy initiatives. The building and construction sector, identified as one of Bangladesh's largest sources of greenhouse gas emissions, has been included for the first time, with commitments to energy-efficient building codes, sustainable construction materials, solarisation of public buildings, and retrofitting of existing infrastructure. The total cost of implementing NDC 3.0 in full is estimated at USD 116.8 billion, of which USD 25.95 billion is to be mobilised domestically and USD 90.23 billion depends on international support — a financing structure that reflects both the scale of the ambition and the limits of what Bangladesh can accomplish without a fundamentally different global climate finance architecture than currently exists (UNDP Climate Promise, 2025).

Yet NDC 3.0 has not been without its critics, and the honest account must include their concerns. The new NDC has attracted serious questions regarding its overall and sector-specific mitigation targets, particularly in the power sector, where NDC 3.0 has been criticised for coming up with a lower emission mitigation target than its predecessor - a regression at the very moment the UNFCCC's first Global Stocktake was calling on all parties to set more ambitious, not less ambitious, goals. NDC 3.0 submissions globally were meant to be informed by the Global Stocktake and needed to be progressive and more ambitious than current NDCs - described by the UNFCCC as potentially the last opportunity to put the world on track with a 1.5°C emission trajectory. For Bangladesh, which has built much of its international climate identity on being a moral leader from the frontlines of vulnerability, submitting an NDC that weakens sectoral ambition in its most emissions-intensive sector is a credibility risk that extends beyond its own borders. There is also the persistent implementation challenge: total GHG emissions in Bangladesh are rising due to industrialisation, energy consumption growth, and urban expansion - meaning that the distance between current trajectories and NDC targets is growing, not shrinking, even as the documents committing to those targets become more sophisticated. The conditionality structure, in which 77% of the total mitigation commitment depends on international finance that has historically fallen far short of what vulnerable countries need, means that NDC 3.0 is simultaneously an ambitious national climate plan and a conditional one, whose full delivery is contingent on a global system that has not yet demonstrated the will to deliver at the required scale. Bangladesh's NDC 3.0 is, in this sense, both a genuine statement of national intent and a demand letter to the world, and the response to that demand letter will determine whether the intent can be honoured.

3.6. Systemic Gaps and the Challenge of Policy Coherence

Mainstreaming vs. Compartmentalisation

The most persistent and consequential gap across Bangladesh's development policy landscape is the disjuncture between climate policy instruments and mainstream

development policy. Despite the progressive language of climate integration in all major planning documents, climate risk assessment and resilience criteria are not yet embedded as standard requirements in the project appraisal, feasibility study, and public investment management systems through which the Annual Development Programme (ADP) - Bangladesh's primary vehicle for capital investment - channels hundreds of billions of taka annually. A road, an embankment, an urban housing project, or an irrigation scheme may be approved and financed without systematic screening for climate risk over its operational lifetime, resulting in a stock of climate-exposed public assets whose vulnerability is not captured in planning frameworks.

The Climate Fiscal Framework (CFF) provides a mechanism for tracking climate-related budget allocations across ministries, and analysis of 25 ministries and divisions shows that climate-linked expenditure is occurring across a broad range of public agencies (Dhaka Tribune, 2022). However, tracking expenditure is not the same as ensuring that it is optimally targeted, effectively implemented, or sufficient to meet adaptation needs. The CFF is a transparency instrument rather than a resource allocation instrument - it tells policymakers what is being spent but does not direct resources toward the highest-priority adaptation interventions identified in the NAP or BDP 2100.

National-Local Linkages

A second critical gap is the weakness of linkages between national-level climate planning and local-level implementation. Bangladesh's subnational governments - districts, upazilas, and union parishads - are the frontline institutions through which climate adaptation must ultimately be delivered: building and maintaining embankments, managing drainage, supporting livelihoods transitions, providing early warning, and coordinating disaster response. Yet local governments lack the technical capacity, financial resources, and institutional authority to translate national climate plans into local action. Climate adaptation plans at the local level are, where they exist at all, largely disconnected from local government planning and budgeting cycles, and local administrators typically have limited awareness of or engagement with the NAP, BDP 2100, or BCCP frameworks.

This national-local disconnect is compounded by the decentralisation deficit in Bangladesh's governance structure. Real fiscal and administrative authority remains concentrated at the national level, and local governments have limited discretionary revenue and constrained capacity to plan and procure infrastructure investments. Strengthening local climate governance - including through participatory vulnerability assessments, locally led adaptation mechanisms, and dedicated local climate finance windows - is increasingly recognised as essential to effective climate mainstreaming, but remains underdeveloped in practice (Ministry of Environment, Forest and Climate Change, 2023).

Private Sector and Green Finance

The private sector's role in Bangladesh's climate policy landscape remains largely peripheral relative to its potential. The BCCP identifies private investment as essential to achieving its renewable energy, green industry, and climate-resilience job targets, and the Bangladesh Climate and Development Platform explicitly aims to crowd in private

finance. However, Bangladesh's financial sector - dominated by state-owned banks with limited climate risk assessment capability and a history of directed lending - is not yet structured to systematically route capital toward climate-aligned investments. The Bangladesh Bank's Sustainable Finance Policy provides a regulatory framework for green banking, and the IFC and JICA are working to support green finance expansion through institutions like BRAC Bank. But the volume of private climate finance being mobilised remains a fraction of what the BCCP and NAP envision as necessary.

Developing 'bankable' climate projects - proposals that meet the risk-return requirements of private investors and multilateral climate funds - requires a level of project preparation, financial structuring, and institutional capacity that Bangladesh is only beginning to build systematically. The Project Preparation Facility under the Bangladesh Climate and Development Platform, being developed jointly by the ADB and World Bank, is intended to address this gap (IMF, 2023). Building capacity in climate finance design across public administration institutions and development finance institutions is a prerequisite for unlocking the private capital flows that the BCCP envisions as transformative.

3.7. From Policy Architecture to Policy Coherence

Bangladesh has constructed, over two decades, an impressive and progressively sophisticated architecture of climate-aware development planning. The BDP 2100, the BCCP, and the NAP collectively represent a serious and substantive national commitment to addressing climate change not merely as a defensive necessity but as a transformative development agenda. The institutional infrastructure - the Bangladesh Climate Change Trust Fund, the Climate Fiscal Framework, the Delta Governance Council, the Support to Implementation of Bangladesh Delta Plan 2100 (SIBDP 2100) project, and the Bangladesh Climate and Development Platform - provides a foundation upon which more effective mainstreaming can be built.

However, achieving policy coherence - the condition in which climate risks and opportunities are consistently and operationally embedded across all sectors, levels, and instruments of development planning - remains a substantial and urgent task. Key priorities for strengthening this coherence include: embedding climate risk screening as a mandatory criterion in the Annual Development Programme project appraisal cycle; strengthening local government capacity and financing for locally led adaptation; developing domestic capacity to design and access international climate finance at the scale that the NAP requires; aligning the private financial sector's risk assessment and lending practices with climate resilience criteria; and ensuring that successive Five-Year Plans and the Perspective Plan's growth scenarios are stress-tested against credible climate projections rather than baseline assumptions that abstract away climate risk.

The urgency of this agenda is underscored by the trajectory of Bangladesh's climate exposure. The window during which development investments can lock in climate-resilient pathways at manageable cost is narrowing as physical climate risks intensify. Every year of delay in mainstreaming climate risk across development planning is a year in which new climate-vulnerable assets are created, new climate-exposed livelihoods are formed, and new populations are settled in areas whose habitability is threatened by a warming world. Closing the gap between Bangladesh's impressive policy architecture

and its operational reality is not merely a planning priority - it is a development imperative.

4. Policy Opportunities and Entry Points

4.1. Reasons for Hope: Reframing the Narrative

Much of the discussion about Bangladesh and climate change is, understandably, defined by urgency and alarm. The statistics are sobering, the risks are real, and the injustice of bearing consequences for emissions you barely contributed to is genuinely hard to overstate. But dwelling exclusively on what is going wrong risks obscuring something equally important: Bangladesh is not merely a passive victim of climate change. It is also a country with extraordinary adaptive energy, proven governance capacity in the face of disaster, and a policy landscape that - for all its gaps - contains genuine seeds of transformation.

This section is about those seeds. It maps the concrete opportunities and policy entry points through which Bangladesh can move from climate vulnerability toward what the Bangladesh Climate Prosperity Plan rightly calls 'climate prosperity' - a future in which the investments needed to manage climate risk also generate economic dynamism, employment, innovation, and inclusive growth. None of these opportunities is easy. Each requires political will, sustained financing, and institutional follow-through. But they are real, and they are available - and they are worth naming clearly.

Across five interlocking areas - the green prosperity agenda of the BCCP; sectoral mainstreaming of climate resilience; international commitments and diplomacy; nature-based solutions; and alignment with the Sustainable Development Goals - Bangladesh has the building blocks of a coherent, ambitious, and achievable climate-compatible development strategy (Table 3). What follows explores each of these in depth.

Table 3: Overview of key policy opportunity Areas

Opportunity Area	Core Mechanism	Potential Scale of Impact
BCCP Green Prosperity Agenda	Low-carbon industry, renewable energy, green jobs	Structural economic transformation
Sectoral Climate Mainstreaming	Climate-smart agriculture, resilient infrastructure, urban planning	Food security, infrastructure resilience, urban livability
International Commitments and Diplomacy	NDC alignment, CVF leadership, climate finance leverage	Increased international finance and technical support
Nature-Based Solutions (NbS) and EbA	Mangrove restoration, wetlands, coastal green belts	Coastal protection, biodiversity, community livelihoods
SDG-Climate Nexus	Renewable energy, gender equality, decent work co-benefits	Integrated, multiplier-effect policy outcomes

4.2. The Bangladesh Climate Prosperity Plan: From Defence to Ambition

For most of the past two decades, Bangladesh's relationship with climate change was largely defined by protection - building embankments, relocating vulnerable communities, improving cyclone shelters, issuing early warnings. All of that work has saved hundreds of thousands of lives and deserves its global reputation. But the BCPP, launched in 2021, signals something importantly different: a deliberate decision to stop treating climate action as purely defensive and to start treating it as a driver of economic ambition.

The BCPP's core proposition is both simple and radical: the investments Bangladesh needs to make to manage its climate risks - in renewable energy, in resilient infrastructure, in nature-based solutions, in green industry - can simultaneously generate the jobs, productivity improvements, and structural economic diversification that Bangladesh needs for its next phase of development. Climate action, in this framing, is not a cost to be minimised but a stimulus to be mobilised. The plan sets a target of 4.1 million new climate-resilience jobs by 2030, and it envisions Bangladesh's energy mix reaching 30% renewables by 2030 and 40% by 2041, with a full transition to 100% renewable energy by 2050 (Climate Laws, 2024).

There is evidence that this vision is beginning to connect with economic reality, not just policy aspiration. Bangladesh's solar sector has undergone a genuine turnaround in recent years, driven by falling panel costs and the economic pressure created by surging fossil fuel import bills. Centre for Policy Dialogue analysis estimates that renewable energy investment could add approximately 13,800 jobs by 2030 under moderate scenarios, and more than 37,000 jobs under a highly accelerated transition (CPD, 2024). In the near term, the momentum is already generating 3,000 to 4,000 new green jobs in the coming years as rooftop solar, utility-scale projects, and distributed energy solutions expand (Context TRF, 2024). Private sector actors are engaging in ways that would have been unthinkable a decade ago: apparel supplier Pran-RFL, supported by the IFC, is developing dedicated solar plants to supply green energy to H&M's supply chain under a Corporate Power Purchase Agreement; telecom operator Robi is planning a 100MW solar project to offset its carbon emissions (IEEFA, 2026).

The Garment Sector: A Green Transition Ready to Happen

Bangladesh's ready-made garment (RMG) sector - the engine of its export economy, employing more than four million workers, predominantly women - faces a stark crossroads. International buyers are under growing pressure from consumers, investors, and regulators to decarbonise their supply chains, and they are passing that pressure downstream. For Bangladesh's garment sector, this is simultaneously a threat (to market access and competitiveness if the transition is too slow) and an opportunity (to lock in premium export relationships with buyers who value verifiable green credentials).

Investing in energy efficiency, rooftop solar, and clean production processes in the garment sector generates multiple co-benefits: it reduces production costs in a sector that runs on tight margins; it protects Bangladesh's international market access; it reduces dependence on costly and unreliable fossil fuel imports; and it positions the sector's predominantly female workforce for better wages and working conditions in a greener

industry. Bangladesh already has the world's largest number of LEED-certified green garment factories, which demonstrates that the sector has both the capacity and the market incentive to lead on industrial decarbonisation when the enabling environment supports it. Extending energy efficiency incentives, streamlining grid connection for rooftop solar, and developing green industrial zones can accelerate this transition across the broader manufacturing base.

Electric Mobility and Green Infrastructure

Urban Bangladesh faces a transport and air quality crisis that is both a climate consequence and a climate opportunity. Dhaka and Chattogram's explosive growth has produced cities whose air quality is among the worst in the world - a significant drag on public health, worker productivity, and quality of life. Shifting urban mobility toward electric vehicles, mass transit, and non-motorised transport simultaneously addresses air pollution, reduces oil import dependence, and cuts transport-sector emissions. It also creates new domestic industries in vehicle assembly, battery maintenance, and charging infrastructure that can generate employment across skill levels.

The BCPP's advocacy for electric vehicle adoption and low-carbon urban transport aligns well with both the country's economic self-interest - reducing the foreign exchange drain from fuel imports is an increasingly pressing macroeconomic priority - and its international climate commitments. Making this happen requires clear incentive structures: reduced import duties on electric vehicles and components, charging infrastructure investment, urban planning standards that prioritise mass transit corridors, and procurement mandates for electric public buses. These are policy decisions within reach; what they require is political coordination across ministries, not technological breakthroughs.

4.3. Mainstreaming Climate Resilience into Development Sectors

Across Bangladesh's most important development sectors - agriculture, water management, urban planning, and infrastructure - there are concrete, evidence-backed opportunities to embed climate resilience in ways that strengthen rather than compromise development outcomes. In each sector, the question is not whether to choose between development and climate action, but how to design development investments that deliver both. The false trade-off between growth and sustainability is perhaps nowhere more clearly disproven than in Bangladesh, where ignoring climate risk in development investments is now demonstrably the more expensive option.

Agriculture: Climate-Smart Farming as a Livelihood Strategy

Agriculture is both Bangladesh's most climate-exposed major sector and one of its greatest opportunities for climate-compatible innovation. The suite of what researchers call 'climate-smart agriculture' (CSA) - encompassing saline-tolerant and drought-resistant crop varieties, precision irrigation, integrated pest management, diversified cropping systems, and improved post-harvest storage - offers near-term, practical solutions that are already being adopted by farmers in various parts of the country and can be scaled significantly with the right institutional and financial support.

Bangladesh Agricultural Research Institute (BARI) and Bangladesh Rice Research Institute (BRRI) have already developed dozens of stress-tolerant rice and crop varieties - including varieties tolerant of submergence, salinity, drought, and heat - that are available for deployment but constrained by extension service capacity, seed system weaknesses, and farmers' access to credit for adoption costs (Kabir et al., 2024). Scaling these innovations requires not just more research but stronger linkages between research institutions, agricultural extension workers, farmer cooperatives, and financial institutions. The government's existing network of union-level agricultural extension workers is a significant institutional asset that can be activated more effectively as a vehicle for CSA knowledge transfer if they receive adequate training, updated technical guidance, and performance incentives aligned with climate-resilience outcomes.

Beyond crop varieties, there are promising opportunities in aquaculture diversification - as saline intrusion renders traditional rice farming less viable in coastal areas, integrated shrimp-mangrove farming and saline-tolerant aquaculture offer livelihoods that work with rather than against changing environmental conditions. Diversifying farm income toward livestock, horticulture, and non-timber forest products also builds resilience by reducing dependency on a single vulnerable crop system. These shifts require accompanying investment in market linkages, cold-chain infrastructure, and access to affordable credit - systemic enablers that climate-responsive rural finance can help deliver.

Water Management: Working with Nature, Not Against It

Water is the medium through which climate change most directly expresses itself in Bangladesh - too much, too little, too salty, or arriving at the wrong time. A country that has always had to manage its relationship with water has now entered a period in which that management challenge is more complex, more dynamic, and more consequential than it has ever been. The good news is that Bangladesh has both a long institutional tradition of water management and growing recognition that the most durable and cost-effective solutions often work with natural systems rather than engineering around them.

Nature-based solutions for water management - wetland restoration to absorb and regulate flood flows, watershed management in the hill areas to reduce flash flooding and sediment loads, tidal river management that uses controlled sedimentation to raise land levels in subsiding coastal areas - offer cost-effective alternatives or complements to hard engineering infrastructure. The World Bank and Bangladesh's own planning bodies have recognised the importance of these approaches in the context of the Delta Plan 2100 (World Bank, 2023a). Tidal river management, in particular, has been pioneered by local communities in southwestern Bangladesh as a way to manage the combination of waterlogging and sedimentation that has devastated agriculture in the region - a local innovation that deserves greater institutional recognition and scaling support.

Improved watershed management in the Chittagong Hill Tracts and the Haor basin of greater Sylhet can reduce the intensity and frequency of flash floods that have caused enormous damage in recent years. Restoring natural vegetation cover in these upstream catchments also reduces sediment loads in rivers, extending the operational life of downstream infrastructure and reducing dredging costs. These investments generate co-benefits across biodiversity, carbon sequestration, and the livelihoods of indigenous and

forest-dependent communities - a true alignment of climate, environmental, and development goals.

Urban Resilience: Building Cities That Work for Everyone

Bangladesh is urbanising at extraordinary speed, and the character of its cities in 2041 will be shaped by decisions - or failures to decide - made in the coming decade. Urban climate resilience is therefore not just a technocratic infrastructure question; it is a fundamental question about what kind of cities Bangladesh wants to be home to, and who will be protected and who will be exposed.

The priorities are clear, even if their implementation is complex. Drainage system upgrades in Dhaka and other major cities are essential to reduce the waterlogging that accompanies every heavy monsoon - a problem that has worsened as urban surfaces have been sealed with concrete and natural drainage channels filled or built over. Green spaces and urban tree cover reduce urban heat island effects and improve air quality. Climate-resilient design standards for housing and public buildings - incorporating flood-proofing, heat-resilient materials, and cyclone-resistant construction in coastal cities - protect residents and public investments over lifetimes measured in decades.

The equity dimension of urban climate resilience demands explicit attention. Over 50% of urban residents in Bangladesh live in informal settlements - areas that are disproportionately flood-prone, heat-exposed, and poorly served by formal infrastructure (ReliefWeb, 2023). Any urban climate resilience strategy that focuses exclusively on formal city infrastructure while leaving informal settlements behind will fail the majority of urban residents who are most vulnerable. Integrating informal settlement upgrading - with community-led planning, tenure security, and climate-resilient public services - into urban development frameworks is both a climate resilience priority and a basic urban equity imperative.

4.4. Leveraging International Commitments and Bangladesh's Climate Diplomacy

Bangladesh is, in a very real sense, one of the world's most important climate advocates - not despite its vulnerability, but because of it. A country that has contributed almost nothing to the global stock of greenhouse gases yet faces some of its most severe consequences carries a moral authority in international climate diplomacy that no amount of political positioning can manufacture. Bangladesh has earned this standing through decades of frontline experience, sophisticated policy development, and a consistent willingness to demand that the global climate system take the needs of the most vulnerable seriously.

The country's Nationally Determined Contributions (NDCs) under the Paris Agreement set both conditional and unconditional targets across mitigation and adaptation - establishing a credible international accountability framework that can be used to attract climate finance, technical cooperation, and preferential concessional lending. Alignment between domestic development planning and NDC commitments is therefore not just a reporting obligation; it is a strategic tool for mobilising the international support Bangladesh needs to implement its development agenda at lower cost and higher quality.

Bangladesh's leadership of the Climate Vulnerable Forum (CVF) - a grouping of the 55 countries most exposed to climate impacts, spanning four continents - has provided a platform for climate diplomacy that punches well above Bangladesh's economic weight. The CVF's Dhaka-Glasgow Declaration, adopted at COP26 in 2021, called for high-emitting nations to commit to keeping global temperature rise to 1.5 degrees and to radically increase adaptation finance for frontline nations. Bangladesh's sustained engagement in these forums - alongside countries like Maldives, Vanuatu, and Mozambique - has helped keep the 1.5-degree target alive in international negotiations and build political pressure for the loss and damage finance mechanisms that vulnerable nations need. These diplomatic assets translate directly into economic opportunity: climate finance pledges, technology transfer agreements, and preferential trade arrangements are all more accessible to countries with visible, credible climate leadership.

The Bangladesh Climate and Development Platform, launched in December 2023 with the IMF, World Bank, ADB, and bilateral partner engagement, represents the most significant coordinated international financing mechanism Bangladesh has yet secured for its climate agenda. It combines concessional lending, technical assistance, and policy reform support in a package designed to help Bangladesh access the climate finance it needs at a scale closer to its actual requirements. Getting the most out of this platform requires Bangladesh to hold up its end of the bargain - designing bankable projects, maintaining fiscal discipline, implementing the policy reforms that unlock each tranche of financing, and building the domestic institutional capacity to absorb and deploy funds effectively.
Article 6 of the Paris Agreement opens an additional opportunity. By developing internationally recognised carbon credits from its mitigation activities - forest conservation, renewable energy, methane capture - Bangladesh can access carbon market revenues that supplement traditional climate finance. Building the regulatory framework, verification systems, and institutional capacity to participate credibly in international carbon markets is a medium-term institutional investment whose payoff could be substantial. Article 6 mechanisms could complement domestic climate finance by linking Bangladesh's mitigation activities with international buyers willing to pay for verified emissions reductions and removals.

4.5. Nature-Based Solutions: Bangladesh's Green Infrastructure Advantage

There is something quietly remarkable about the fact that some of the most powerful tools available to Bangladesh for managing its climate risks are not concrete, steel, or silicon - they are trees, wetlands, tidal channels, and mangrove forests. Nature-based solutions (NbS) and ecosystem-based adaptation (EbA) are not alternatives to engineered infrastructure; they are complements and, in some cases, superiors. They provide coastal protection, water regulation, carbon sequestration, biodiversity conservation, and livelihood support - often simultaneously and at a fraction of the cost of equivalent hard engineering.

Bangladesh actually has a longer history with coastal afforestation than many countries acknowledge. The government has been conducting coastal mangrove afforestation since 1965, and by 2018, a total of approximately 390,688 hectares of coastal afforestation had been conducted across 498,150 hectares of targeted coastal area - roughly 73% of the total eligible area - under the management of the Forest Department (Mahmood et al,

2023). The Sundarbans Eco Village initiative, winner of the 2024 Equator Prize, demonstrates what community-led NbS can achieve: restoration of 150 hectares of mangrove forests, renewable energy solutions for over 3,100 families, safe drinking water for 12,000 people, and community-based ecotourism and mangrove-product enterprises that generate sustainable local income (Equator Initiative, 2024). These are not marginal achievements - they are proof of concept at the community scale.

The Sundarbans: Asset, Not Just Ecosystem

The Sundarbans - the world's largest contiguous mangrove forest, spanning the southwestern delta of Bangladesh and India - occupies a unique position in Bangladesh's climate strategy. It is simultaneously a UNESCO World Heritage Site, a habitat for endangered species including the Bengal tiger and Irrawaddy dolphins, a carbon sink whose preservation generates verifiable climate mitigation value, a natural storm-surge buffer that has historically moderated cyclone impacts on millions of inland residents, and a direct source of livelihood for an estimated 3.5 million people in the surrounding region who depend on the forest for fishing, fuelwood, honey, and other forest products.

This multiplicity of values also means that the Sundarbans' deterioration imposes multiple simultaneous costs - on biodiversity, on climate resilience, on community livelihoods, and on Bangladesh's global ecological reputation. The forest is under pressure from sea level rise, increasing cyclone intensity, saltwater intrusion, upstream freshwater diversion, shrimp farming encroachment, and illegal extraction. Protecting, restoring, and sustainably managing the Sundarbans is not a luxury environmental programme - it is a core strategic investment in Bangladesh's climate resilience and economic future.

Developing a comprehensive Sundarbans Blue Carbon programme - formally measuring, verifying, and marketing the carbon sequestration value of mangrove preservation and restoration - offers a mechanism for converting the Sundarbans' climate value into revenue that can fund both conservation and the livelihoods of dependent communities. Research confirms that the Sundarbans sequester not only carbon dioxide but also methane and nitrous oxide, and that mangrove restoration using species-appropriate methods can be a highly cost-effective sequestration strategy (Hilmi, 2025). Building the institutional infrastructure to access voluntary and compliance carbon markets for Sundarbans blue carbon is an investment that could generate substantial, recurring finance for community development alongside conservation outcomes.

From Pilots to Policy: Mainstreaming NbS in Land Use and Infrastructure

The greatest constraint on scaling nature-based solutions in Bangladesh is not their effectiveness - the evidence base for that is increasingly solid - but their exclusion from mainstream land-use planning, infrastructure standards, and public investment frameworks. A road or embankment project rarely includes mangrove buffer zones in its design; a coastal protection investment rarely compares the cost-effectiveness of hard seawalls against mangrove restoration; an urban drainage project rarely incorporates natural retention areas as part of its solution set. Changing these defaults requires not just advocacy but institutional reform: updating infrastructure design standards to require consideration of NbS alternatives; establishing benefit-sharing mechanisms that

give coastal communities a stake in maintaining the natural buffers that protect them; integrating ecosystem service valuation into cost-benefit analysis frameworks for public investment appraisal.

4.6. Aligning Climate Action with the Sustainable Development Goals

One of the most underappreciated features of Bangladesh's policy landscape is the degree to which its climate objectives and its development objectives overlap - to the point where, in many areas, they are effectively the same objective stated from different perspectives. The SDGs provide a useful framework for making this alignment explicit, because they were deliberately designed to capture the interdependencies between social equity, economic development, and environmental sustainability that development silos tend to obscure.

The synergies between climate action and specific SDGs are numerous and powerful. Investing in renewable energy (SDG 7: Affordable and Clean Energy) simultaneously reduces emissions, expands energy access in rural and peri-urban areas that currently lack reliable power, reduces the household economic burden of energy expenditure on the poor, and creates local employment in installation, maintenance, and manufacturing - generating multiplier effects across SDG 1 (poverty), SDG 3 (health), SDG 4 (education), and SDG 8 (decent work). A single renewable energy investment thus ripples across the development agenda in ways that fossil fuel investment simply cannot replicate.

Building resilient cities and infrastructure (SDG 11: Sustainable Cities and Communities; SDG 9: Infrastructure) with climate risk embedded in design standards protects the development investments that Bangladesh has been making for decades - roads, hospitals, schools, water systems - from being eroded or destroyed by the climate events they increasingly face. Climate-proofing public infrastructure is not an additional cost on top of development investment; it is the difference between development investments that last and those that must be repeatedly rebuilt.

The linkage between gender equality (SDG 5) and climate resilience deserves particular emphasis. Women bear a disproportionate burden of climate impacts in Bangladesh - from heightened cyclone mortality due to gendered mobility constraints, to the physical labour of water collection as sources become more distant and contaminated, to reduced access to post-disaster resources and recovery. Conversely, women's participation in climate decision-making and adaptation planning consistently improves outcomes - adaptation interventions that engage women are better targeted, better implemented, and more sustainable than those that do not. Leading with gender-responsive climate adaptation is therefore not merely a justice commitment - it is a practical investment in the effectiveness of climate action itself.

Integrated Policy Design: Moving Beyond Siloes

The full potential of climate-SDG alignment can only be realised if planning and budgeting processes are designed to capture cross-goal synergies rather than treating each goal as the exclusive property of a single ministry or department. At present, Bangladesh's policy architecture tends toward silos - energy policy in the Ministry of Power, Energy and Mineral Resources; agriculture policy in the Ministry of Agriculture; climate policy in

MoEFCC; gender policy in the Ministry of Women and Children Affairs - with limited mechanisms for identifying and exploiting the co-benefits that flow across these boundaries.

Integrated policy frameworks - including joint programming between ministries, cross-sectoral budget lines for investments with multiple co-benefits, and explicit co-benefit tracking in results frameworks - can help capture these synergies. The Bangladesh Climate and Development Partnership established under the 2023 National Committee for Environment and Climate Change represents a structural step in this direction, bringing together government agencies, civil society, and development partners around shared coordination mechanisms (Development Asia, 2024). Building on this structure to develop genuinely integrated investment programmes - not just coordination mechanisms - is the next institutional frontier.

South-South Learning: Bangladesh as a Global Resource

One dimension of the opportunity landscape that is sometimes underplayed in domestic policy discussions is the extent to which Bangladesh's hard-won experience in climate adaptation and disaster risk management is a globally valuable resource - and one that Bangladesh can increasingly offer to other vulnerable countries in exchange for cooperation, finance, and political solidarity. In cyclone early warning and evacuation systems, in community-based disaster preparedness, in the design of locally led adaptation programmes, and in the integration of climate risk into national development planning, Bangladesh has lessons that are genuinely useful to other countries navigating similar challenges.

Formalising South-South knowledge exchange - through the Climate Vulnerable Forum, through bilateral agreements with other adaptation-leading LDCs and middle-income countries, and through technical cooperation partnerships brokered by UNDP, ADB, and other multilateral institutions - generates both diplomatic relationships and, potentially, financial transfers that support Bangladesh's own adaptation agenda. Being a knowledge leader in climate adaptation is not merely a reputational asset; it is a structural position that can be converted into concrete development support.

5. Financing the Climate-Development Nexus

5.1. The Finance Problem is the Core Problem

It is easy to read the story of Bangladesh's climate challenge purely in terms of physical risk - rising seas, intensifying cyclones, encroaching salinity, erratic monsoons. But beneath every failed embankment, every delayed adaptation plan, and every climate-vulnerable community still waiting for support, there is a financing story. Climate action, at the scale Bangladesh needs it, costs money - a great deal of it, and on a sustained basis. And the gap between what is needed and what is currently available is the single most binding constraint on Bangladesh's ability to translate its impressive policy ambitions into lives protected, livelihoods secured, and development sustained.

Bangladesh submitted its Third Nationally Determined Contribution (NDC 3.0) to the UNFCCC in September 2025, committing to reduce greenhouse gas emissions by 20.31%

from business-as-usual levels by 2035 - 6.39% unconditionally from domestic resources, and a further 13.92% conditional on receiving adequate international support (NDC Partnership, 2025). The estimated cost of implementing NDC 3.0 in full is USD 116.8 billion, broken down into USD 25.95 billion in domestic (unconditional) financing and USD 90.23 billion requiring international (conditional) support. These numbers are not abstract accounting - they represent embankments that get built or don't, solar panels that get installed or don't, farmers who receive drought-tolerant seeds or don't, and climate-displaced communities that receive resettlement support or don't.

Beyond the NDC, Bangladesh's National Adaptation Plan 2023–2050 identifies a financing need of USD 230 billion over 27 years - approximately USD 8.5 billion per year, of which USD 6 billion must come from external sources (GCA, 2025). And UNDP estimates that the total annual climate finance need, combining adaptation and mitigation, is USD 12.5 billion - roughly 3% of Bangladesh's GDP (UNDP, 2025). For context, that is more than double Bangladesh's entire annual health budget, and nearly three times its education budget. Finding this money, routing it effectively, and spending it well is not a technical footnote to the climate policy agenda. It is the agenda.

This section explores the full architecture of climate financing available to Bangladesh - domestic public finance, international climate funds, private sector investment, public financial management reform, and regional and South-South cooperation - examining both the current state and the concrete reforms and innovations through which the financing gap can be progressively narrowed. The honest conclusion is that no single source will be sufficient. What Bangladesh needs is a genuinely diversified, institutionally coordinated, and strategically sequenced climate finance ecosystem - one that is, encouragingly, beginning to take shape. Table 4 presents Bangladesh's climate finance landscape at a glance.

Table 4: Bangladesh's climate finance landscape at a glance

Finance Stream	Current Status	Key Gap / Reform Needed
NDC 3.0 Total Cost	USD 116.8bn (2025-2035)	USD 90.23bn dependent on international support
National Adaptation Plan	USD 8.5bn/year needed to 2050	USD 6bn/year must come from external sources
Total Annual Climate Need	USD 12.5bn/year (~3% of GDP)	Significant gap between need and current flows
Bangladesh Climate Change Trust Fund	Operational since 2009	Underfunded; governance reforms needed
Green Climate Fund Access	Growing but limited	Proposal capacity; accreditation bottleneck
Private Sector Climate Finance	Nascent; mostly project-level	Policy incentives; green taxonomy; blended finance
Sovereign Green Bonds	Not yet issued internationally	First issuance potential; strong investor interest
National Climate Finance Strategy	First strategy process launched Nov 2025	Consolidating fragmented finance streams

5.2. NDC 3.0: An Ambitious Commitment with a Significant Price Tag

Bangladesh's NDC 3.0, submitted in September 2025, is the country's most comprehensive and ambitious climate commitment to date. It covers the full economy - energy, transport, industry, agriculture, forestry, land use, waste, and the circular economy - and frames climate action explicitly within a just transition framework that places decent work, gender equity, child protection, and social inclusion at the centre of the mitigation and adaptation strategy (UNICEF, 2025; NDC Partnership, 2025). This is not merely a technical emissions-reduction plan; it is a social contract between the government and its citizens about how Bangladesh will navigate the climate transition in a way that protects its most vulnerable people.

The energy sector carries the largest share of the NDC's mitigation ambition. NDC 3.0 sets a target of 25% of total power mix from renewable sources by 2035 and commits to enhancing energy efficiency by 19.2% - targets that will require massive capital mobilisation in power generation, grid infrastructure, and demand-side management. CPD research estimates that achieving the renewable energy generation capacity required for NDC targets will cost approximately USD 18 billion through 2030 for near-term capacity additions alone, with a further USD 13 billion required through 2035 (CPD, 2025). Mobilising this capital - the majority of which must come from overseas investment, G-G, G-P, and P-P partnerships - is one of the most pressing institutional and financial challenges Bangladesh now faces.

NDC 3.0 also, for the first time, explicitly recognises the building and construction sector as one of Bangladesh's largest emission sources and a key focus area for mitigation - reflecting advocacy from UNEP, UNOPS, and the Ministry of Housing and Public Works. The NDC commits to promoting energy-efficient building codes, sustainable construction materials, solar power on public buildings, and retrofitting of existing infrastructure (GlobalABC, 2025). In a country that is urbanising rapidly and where every building constructed today will stand for decades, embedding energy efficiency and climate resilience in building standards at this formative moment is one of the highest-leverage interventions available. Getting it right now costs far less than retrofitting an entire building stock later.

5.3. Domestic Public Finance: A Committed but Overstretched Foundation

Bangladesh's domestic climate finance architecture is more developed than in most comparable developing countries, and it deserves recognition for that. The Bangladesh Climate Change Trust Fund (BCCTF), established in 2010 with domestic public funds, was the first nationally self-financed climate fund among Least Developed Countries - a gesture of genuine national commitment to climate action at a time when international finance was even scarcer than today. The Climate Fiscal Framework (CFF), first adopted in 2014 and updated in 2020, established a system of climate budget tagging across ministries that provides at least a degree of transparency about where climate-related expenditures are occurring in the national budget. These are real institutional achievements, and they matter.

The BCCTF has been chronically underfunded relative to the scale of climate adaptation needs, and its governance has faced scrutiny from civil society and oversight bodies

regarding project selection processes, implementation quality, and the proportion of resources actually reaching the most vulnerable communities (World Bank, 2023b). Climate budget tagging - the practice of flagging budget line items as climate-relevant - has not yet translated into conscious prioritisation of climate-resilient investment in budget decisions. As the original text acknowledges, tagging what is spent is not the same as deciding what should be spent and ensuring that spending choices are systematically aligned with adaptation priorities. A ministry can tag its existing road maintenance budget as climate-relevant without changing a single design standard or location decision to account for flood risk.

The structural constraint is Bangladesh's revenue base. At roughly 7% of GDP, Bangladesh's tax-to-GDP ratio is one of the lowest in Asia and well below the level needed to finance both its development priorities and its climate agenda from domestic resources alone. Raising this ratio - through improved tax administration, property taxation, broadening the tax net to capture the informal economy, and potentially environmental levies - is a long-term fiscal reform with climate finance co-benefits. Carbon taxation, identified by UNDP as a viable strategy for closing the climate finance gap, could generate domestic revenue while simultaneously creating price signals that incentivise the private sector to reduce emissions (UNDP, 2025). Bangladesh has yet to implement a carbon pricing mechanism, but the policy conversation is beginning - driven in part by the conditionalities attached to the IMF's Resilience and Sustainability Facility.

Debt-for-climate swaps offer another avenue for domestic fiscal space. Under these arrangements, a creditor nation agrees to cancel or reduce a portion of Bangladesh's bilateral debt in exchange for a commitment to redirect the freed-up funds to agreed climate investments. Several countries have successfully negotiated such arrangements - Ecuador for Galapagos conservation, Barbados for ocean protection - and Bangladesh has the vulnerability profile and international standing to pursue similar deals. LightCastle Partners identifies the Ministry of Finance and Economic Relations Division as the appropriate lead for developing sovereign green bond issuance, debt-for-climate swap negotiations, and blended finance platforms (LightCastle Partners, 2025). This is precisely the kind of high-level fiscal innovation that could materially shift the domestic resource equation.

5.4. International Climate Finance: Closing the Access Gap

The international climate finance landscape is large in absolute terms but profoundly inequitable in distribution. At COP29 in Baku in 2024, developed nations agreed to mobilise at least USD 1.3 trillion annually by 2035 for climate action in developing countries - a commitment that acknowledged, at least rhetorically, the scale of what the global South actually needs (WEF, 2025). But for Bangladesh, the journey from that headline pledge to climate finance actually arriving in a district bank account and being disbursed to a farmer or a union parishad for an adaptation project involves an institutional obstacle course that many promising project ideas never complete.

The core of the problem is a mismatch between the supply of international climate finance and Bangladesh's capacity to access it. The Green Climate Fund, the Adaptation Fund, and the Least Developed Countries Fund collectively hold significant resources - there are over 30 different global climate funds with a total available resource pool of

approximately USD 32 billion (CPD, 2025). But accessing these funds requires developing technically rigorous project proposals that meet international standards for climate science, environmental and social safeguards, fiduciary management, and monitoring frameworks. This is demanding work that requires specialised skills that many Bangladeshi government agencies and NGOs have not yet developed in sufficient depth. The result is that Bangladesh remains underrepresented in climate fund portfolios relative to its vulnerability and its legitimate need.

The Bangladesh Climate and Development Platform, launched in December 2023 with the IMF, World Bank, and ADB, has begun to shift this dynamic by bringing coordinated multilateral financing alongside technical assistance and institutional capacity building. But the gap between these flows and what NDC 3.0 and the NAP require is still very large. To close it meaningfully, Bangladesh needs to work on three fronts simultaneously: increasing the number of nationally accredited institutions capable of directly accessing climate funds; building a stronger pipeline of well-prepared, bankable project proposals; and strengthening inter-agency coordination so that projects can move from concept to implementation without being trapped in the bureaucratic delays that have historically caused disbursement shortfalls. The Global Center on Adaptation's work on building Bangladesh's proposal capacity - including the first-ever training modules on gender-responsive climate finance embedded in national public administration curricula - is a step in the right direction (GCA, 2025). It needs to be scaled significantly.

The voluntary carbon market globally is projected to reach USD 50 billion by 2030, and Bangladesh's mangroves, wetlands, seagrass meadows, and potential forest restoration sites give it significant blue and green carbon assets whose value has barely been tapped (LightCastle Partners, 2025). Developing a robust Article 6 readiness framework - with credible measurement, reporting, and verification (MRV) systems, clear legal and regulatory ownership of carbon credits, and institutional capacity to negotiate and execute carbon purchase agreements - is a medium-term investment whose return could be transformative, both financially and in terms of generating co-benefits for biodiversity, coastal protection, and community livelihoods. Bangladesh Bank and MoEFCC are identified as the natural institutional leads for this agenda, with Development Partners providing technical support for MRV system development and market engagement.

5.5. The Private Sector: The Missing Multiplier

The private sector's potential contribution to climate finance spans renewable energy generation, energy efficiency in industry and buildings, climate-resilient housing and urban infrastructure, sustainable agriculture financing, green supply chain investment, and climate risk insurance. In each of these areas, there is genuine market opportunity - but also genuine barriers that prevent private capital from flowing at scale. Policy uncertainty around energy sector reform discourages large long-term investments. Limited availability of green financial products in Bangladesh's banking system means that climate-aligned projects struggle to find competitively priced debt. High perceived risks - both commercial and country-level - keep international private investors cautious. And the absence of a clear green taxonomy means that there is no shared language between borrowers, lenders, and regulators about what actually counts as a green investment.

The Sovereign Green Bond Gap

One of the most striking gaps in Bangladesh's climate finance landscape is the absence of a sovereign green bond. Bangladesh has yet to issue a single international sovereign green bond, despite the fact that global demand for such instruments is growing rapidly, with investors actively seeking climate-aligned government paper from emerging markets (LightCastle Partners, 2025). A sovereign green bond would allow Bangladesh to access international capital markets, specifically to finance renewable energy, adaptation infrastructure, and nature-based solutions - at rates that could be significantly lower than conventional commercial debt if the bond attracts strong investor demand, as comparable issuances from other climate-vulnerable sovereigns have done.

The first steps toward this have now been taken: Sajida Foundation, an NGO, issued Bangladesh's first-ever green bond in April 2021, raising USD 9.3 million from the domestic capital market for microfinance programmes (LightCastle Partners, 2023). Bangladesh Bank has circulated guidelines on green bonds for banks and financial institutions. These are encouraging precedents, but the domestic bond market remains small and primarily composed of government bonds, and the international market, where larger volumes are available, has not yet been accessed. The Finance Division's National Climate Finance Strategy process, launched in November 2025, explicitly includes sovereign green bond issuance as a priority instrument, which is a meaningful signal that this gap is beginning to be addressed (UNDP, 2025).

Blended Finance: Making the Risky Investable

Blended finance - the strategic use of concessional public or philanthropic funds to de-risk investments and mobilise private capital for projects that would otherwise be too risky for purely commercial investors - is increasingly recognised as essential to closing the climate finance gap in countries like Bangladesh. The concept is straightforward: if a solar project in a remote coastal area carries risks that no private investor will accept at commercial rates, a partial credit guarantee from a public development finance institution can absorb the tail risk, making the remaining risk acceptable to private lenders and reducing the cost of capital for the project developer.

Bangladesh has attracted some project-level blended finance investments - JICA's USD 90 million green finance loan to BRAC Bank, IFC's support for renewable energy supply chains in the garment sector, and ADB's technical assistance for removing barriers to financial sector investment in renewable energy and energy efficiency (ADB, 2024). But what is missing is a dedicated national blended finance platform that can systematically aggregate, structure, and de-risk a pipeline of climate investments across sectors - creating the scale and consistency that institutional investors need before they commit resources. Developing this platform, with appropriate governance and transparency mechanisms, is an institutional priority for the Ministry of Finance and development partner agencies working under the Bangladesh Climate and Development Platform.

Climate Insurance: Protecting What Is Being Built

Climate insurance is often overlooked in finance discussions focused on investment, but it is a critical complement to physical resilience investment. Without affordable insurance

against climate risks - crop insurance for smallholder farmers, disaster risk insurance for local governments, parametric insurance for coastal infrastructure - the financial shocks of climate events are absorbed entirely by households and communities least able to bear them, eroding the gains from adaptation investments with each new cyclone, flood, or drought. Scaling affordable climate insurance for Bangladesh's most vulnerable populations requires both regulatory reform to create a viable insurance market and public subsidy mechanisms to make premiums affordable for the poorest.

Internationally, instruments like the InsuResilience Global Partnership and the ARC (African Risk Capacity) model demonstrate that parametric climate insurance - which pays out automatically when a triggering event such as a cyclone of specified intensity occurs, without requiring claims processing - can be deployed at scale in low-income countries. Bangladesh's government, with support from development partners, could develop a national parametric insurance scheme for climate-vulnerable communities that provides automatic financial relief in the immediate aftermath of climate events, protecting both livelihoods and public infrastructure investments from the disproportionate erosion that currently follows major climate shocks.

5.6. Embedding Climate in Public Financial Management

Even if Bangladesh succeeds in mobilising climate finance at scale, that finance will only generate resilient outcomes if it is allocated through public financial management systems that are themselves climate-aware. Right now, the Annual Development Programme - the main vehicle through which the government approves and finances public investment - does not systematically require project proposals to include climate risk assessments, life-cycle cost analyses under climate scenarios, or resilience criteria as conditions of approval. This means that investments in roads, bridges, embankments, hospitals, schools, and urban infrastructure may proceed without accounting for the climate conditions they will face over their operational lifetimes - producing assets that are valuable today but increasingly at risk tomorrow.

Fixing this requires embedding climate considerations into the standard operating procedures of public financial management at three levels. First, at the project appraisal stage, every project above a defined expenditure threshold should be required to include a climate risk screening, with projects in high-risk sectors or geographies required to demonstrate climate-resilient design before receiving approval. Second, at the medium-term expenditure framework level, sector spending plans should be assessed against climate scenarios to ensure that sectoral investment programmes are coherent with expected climate trajectories. Third, at the budget performance review level, climate resilience indicators should be included in the performance metrics against which ministry budget performance is evaluated, creating accountability for climate-conscious spending rather than just climate-tagged spending.

The Ministry of Planning has taken an encouraging first step by beginning to collect climate indicators at the district level granularity, with plans to extend to the sub-district level (Development Asia, 2024). But data collection is only useful if it feeds into decision-making. The next institutional task is to create the analytical and procedural bridges between climate data, project appraisal, and budget allocation that do not currently exist, so that what the Ministry of Planning learns about district-level climate risk is actually

reflected in the projects the Annual Development Programme approves for those districts.

Local governments - union parishads, upazilas, pourashavas, and city corporations - are the institutions through which climate adaptation is ultimately delivered to the people who need it most. Yet they are largely excluded from the architecture of climate finance: they do not have direct access to the BCCTF, they cannot apply to international climate funds, and their Annual Development Programme allocations give them minimal discretion to prioritise climate-resilient investment. The result is that national climate plans are developed in Dhaka by people with climate expertise, and implementation is expected from local officials who have neither the resources nor the technical support to deliver.

Changing this requires deliberate decentralisation of climate finance - not just of responsibilities, but of actual money and decision-making authority. The LoGIC (Local Government Initiative on Climate Change) programme demonstrated that when local governments are given dedicated climate adaptation grants, technical assistance, and decision-making authority over how those grants are spent, they can deliver meaningful adaptation outcomes at the community level - reaching 1.1 million people, 63% of them women, through locally determined adaptation schemes (UNDP LoGIC, 2023). This model needs to be institutionalised nationally - not as a donor-funded project that ends when the project cycle ends, but as a permanent feature of Bangladesh's intergovernmental fiscal architecture, with dedicated climate adaptation budget windows for every union parishad and upazila in climate-vulnerable areas.

5.7. Regional Cooperation and South-South Finance

Bangladesh's climate financing challenge does not exist in isolation. The entire South Asian region - from Pakistan's catastrophic 2022 floods to Sri Lanka's drought cycles to the Himalayan water stress threatening Nepal and northeastern India - faces climate financing challenges that share common structural features: high vulnerability, low domestic fiscal capacity, complex access to international finance, and limited private sector engagement in climate-aligned investment. There is a compelling case for regional approaches to climate finance that can generate economies of scale, share institutional capacity, and create political solidarity in advocacy for a fairer global finance architecture.

Transboundary river basin management - involving Bangladesh, India, Nepal, Bhutan, and China in the Ganges-Brahmaputra-Meghna system - is an area where regional climate cooperation could generate shared benefits at a scale no individual country can achieve alone. Coordinated upstream water storage during monsoons, integrated flood forecasting systems, and jointly managed sediment and water flow regimes could significantly reduce flood risk and improve dry-season water availability across the basin - but require diplomatic frameworks and shared investment that bilateral agreements have not yet produced. Climate finance pooled at the regional level, potentially through the South Asian Association for Regional Cooperation (SAARC) or purpose-designed regional climate risk funds, could help finance these shared goods.

South-South cooperation - the exchange of knowledge, technology, and financing between developing countries - offers another avenue. Bangladesh has become a global

leader in community-based disaster risk management, locally led adaptation, and the integration of climate risk into development planning. These are capacities that other climate-vulnerable countries are actively seeking to build. Formalising technology and knowledge transfer arrangements - backed by financial transfers or cost-sharing agreements - through the Climate Vulnerable Forum and bilateral partnerships with countries like Vietnam, Ethiopia, and Mozambique could both advance Bangladesh's climate diplomacy and generate concrete financial and technical returns for its domestic climate agenda.

At the global level, Bangladesh should continue advocating - through the CVF, the LDC Group in UNFCCC negotiations, and bilateral channels - for climate finance reforms that address the structural barriers limiting access for the most vulnerable countries. This includes simplifying GCF and Adaptation Fund access procedures, increasing the proportion of climate finance delivered as grants rather than loans (particularly for adaptation, which generates no commercial return), and holding developed nations accountable for the financing commitments made at successive COPs. Bangladesh's NDC 3.0 itself cites the ICJ Advisory Opinion on climate obligations, which affirmed that developed countries have a legal duty to provide adequate, predictable, and accessible climate finance to developing nations (NDC 3.0, 2025). This is not a request - it is a rights claim, and Bangladesh is entirely justified in making it.

5.8. Toward a Climate Finance Ecosystem

The financing architecture that Bangladesh needs is not a single fund or a single reform. It is an ecosystem - a set of interdependent institutions, instruments, and flows that collectively mobilise resources at the required scale, route them efficiently to where they are needed, and ensure they are spent in ways that generate lasting resilience rather than temporary relief. Building this ecosystem is the most urgent governance challenge Bangladesh faces in the climate space, and it is also, in a real sense, the most transformative opportunity.

The pieces are beginning to come together. The Bangladesh Climate and Development Platform provides a multilateral coordination mechanism that did not exist five years ago. The National Climate Finance Strategy process, launched in 2025, offers a vehicle for consolidating what has been a fragmented and reactive financing landscape into a more deliberate and strategic architecture. NDC 3.0 provides the clearest statement yet of what climate investment is needed and at what cost. The IMF's RSF provides discipline and incentive for domestic fiscal reform. And growing private sector engagement - however nascent - suggests that the ecosystem can expand beyond public finance if the enabling conditions are right.

What this ecosystem still lacks, and urgently needs, is institutional coherence at the centre: a coordinating body with the authority, the data, and the political backing to connect the dots between project pipelines, financing sources, implementing agencies, and accountability frameworks. Bangladesh has the plans. It is starting to get the finance. What it needs now is the institutional infrastructure to make the plans and the finance find each other efficiently, at scale, and with the speed that its climate exposure demands.

6. Conclusion and Policy Recommendations

Bangladesh stands at a crossroads where its vision for development must be carefully balanced against the requirement of climate resilience. As imaginative as Bangladesh has been in terms of policy, as well as globally leading with the BCCP and Delta Plan 2100, in embedding climate consideration within mainstream development policy, this process remains incomplete, fragmented, and unevenly achieved. Climate change is no longer a looming spectre, but an existing reality that can uproot all the achievements of decades of development in poverty reduction, infrastructure development, food security, and economic growth. Therefore, climate resilience must be woven into the fabric of Bangladesh's development policy, not as an additional appendage but as a fundamental cornerstone underpinning inclusive, equitable, and sustainable development. To move in this direction, a package of strategic policy reforms is urgently needed.

First, Strengthen Climate Governance: Bangladesh must institutionalize cross-sector climate governance by putting in place open mechanisms for inter-ministerial coordination, synchronizing national development plans with climate plans, and strengthening the Ministry of Environment, Forest, and Climate Change as a central planning and monitoring agency. Having a national platform for climate coordination that includes line ministries, local governments, civil society, and the private sector can assist in ensuring collective planning and accountability.

Second, Integrate Climate Risk into Planning: The government should mainstream climate risk into all development planning and investment decisions. This includes integrating climate vulnerability analysis into project appraisal, updating national planning guidelines, and modifying sectoral master plans to include long-term climate projections. Climate resilience indicators should be integrated into performance management systems for ministries and agencies to ensure accountability and outcome orientation.

Third, Scale Up Climate Finance: Climate finance needs to be scaled up and diversified. Bangladesh needs a well-defined national climate finance strategy that outlines financing needs, sources of finance, investment priorities, and coordination mechanisms. The strategy must accord high priority to adaptation as well as to mitigation and must ensure alignment of international climate finance platforms. For attracting private investment, regulatory frameworks need to be strengthened, and innovative financial products such as green bonds, concessional lending, and risk-sharing schemes actively promoted.

Fourth, Strengthen Local Capacity & Participation: Local capacity and participation must be strengthened. The success of climate-resilient development depends significantly on empowering local governments and communities, most particularly the most vulnerable ones, to lead the way. This requires decentralizing resources, undertaking technical training, and establishing participatory planning platforms. Locally led adaptation must be recognized as a central pillar of the national strategy, with targeted funding windows and flexible finance arrangements.

Finally, Leverage Global Leadership & Partnerships: Bangladesh must continue basking in its global leadership and partnerships. With its leading voice among the climate-vulnerable nations, Bangladesh must push for a more just global architecture of

climate finance and firmer commitments from big-emitting countries. Simultaneously, it can deepen regional cooperation in South Asia on transboundary climate matters, ranging from water management and readiness to disasters to clean power and migration. Collective knowledge and joint efforts can leverage impact and reduce expense.

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