MAINSTREAMING CLIMATE CHANGE AT BRAC

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FOREWARD

There is no doubt that anthropogenic climate change will considerably hinder the development of any country. Bangladesh being one the most vulnerable countries to climate change impact, the scenario is no different here. In fact, it is worse. It is evident that development planning without mainstreaming climate change is not likely to succeed. With rising uncertainty and intensity, Bangladesh will face extreme consequences of climate change in future due to its geographic exposure compounded by poverty and lack of infrastructure. It is high time, climate change is mainstreamed into the development endeavours of Bangladesh at policy, implementation and institutional level. To prepare itself for future climate change impacts, BRAC aims to be a climate smart organisation contributing to climate resilient development at both national and global levels. Thus, BRAC targets to mainstream climate change at the institutional level across all of its major programmatic interventions. This report provides a six-step Climate Change Mainstreaming Framework of linear sequence of actions that provides a model pathway for BRAC to achieve its goal of mainstreaming climate change at the institutional level. The report is based on literature review, research and consultation with experts working on climate change and development sectors. The framework promotes mainstreaming climate change by integrating all programmes and interventions of BRAC and making them work collaboratively towards building climate resilient communities using a holistic approach. BRAC has already started its journey of mainstreaming climate change and hopes to formalise the integration of 'climate resilient' concept in all its development endeavours. Finally, as this approach is replicable and modifiable, we hope that this report sets an example for other organisations working in the same sector to integrate and mainstream climate change into development initiatives.

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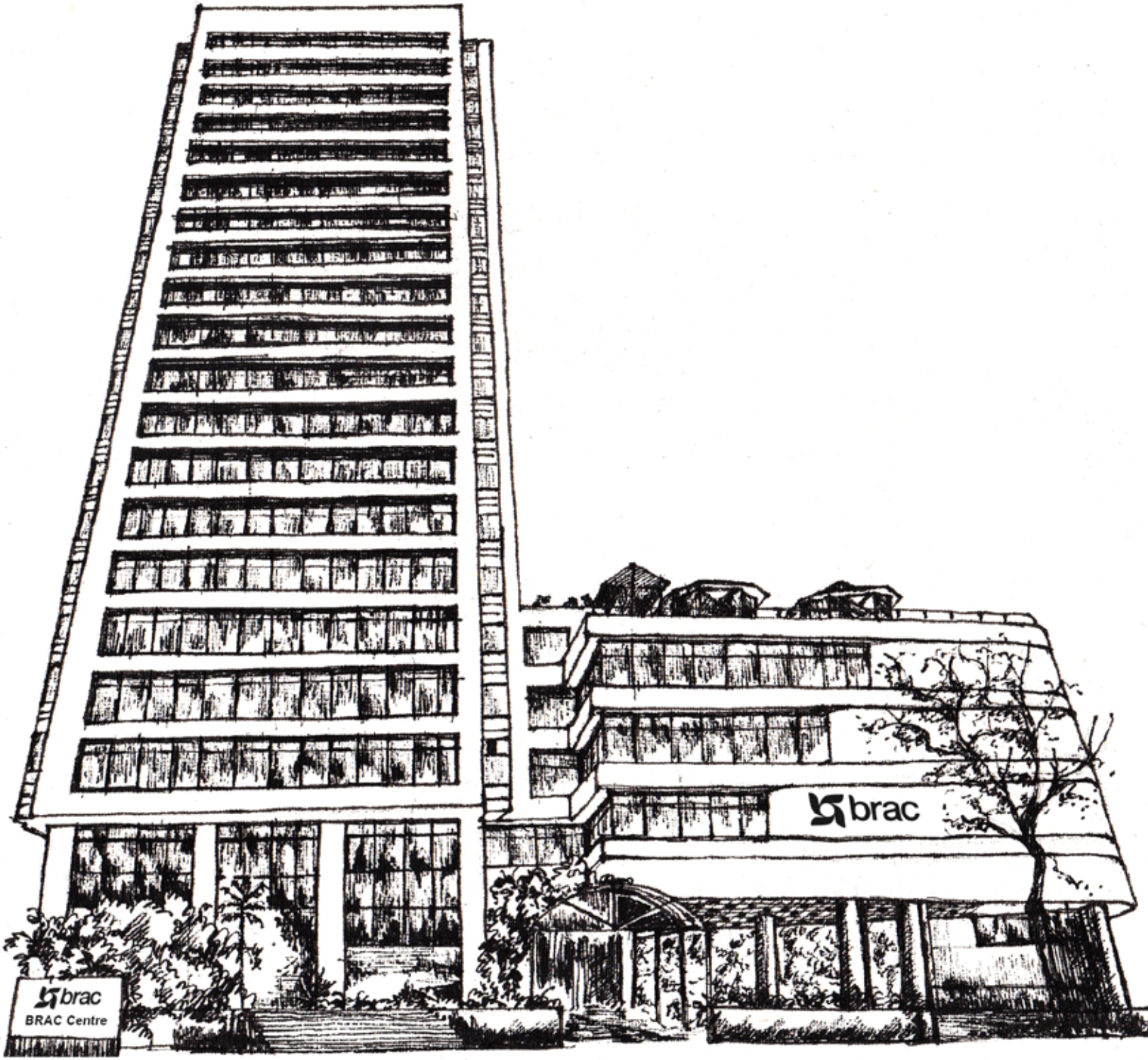
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EXECUTIVE SUMMARY

Mainstreaming climate change into development plans is likely to be more successful than addressing climate change in isolation due to its cross-cutting nature. It is an iterative process of integrating considerations of climate change into decision-making, budgeting, implementation and monitoring processes at sectoral levels. Climate risk and development planning has a two-way relationship: on one hand, goal of a development plan may be affected by climate change and on the other hand, the development goal may in turn increase climate vulnerability. To avoid the latter, both mainstreaming and dedicated approaches (adaptation and mitigation) are needed for building resilience whereas capacity building is essential for adaptation.

Temperature extremes, erratic rainfall, change in seasonal patterns and increased number of intense floods and flash floods, drought-like situation, cyclone and salinity intrusion due to sea level rise are some of the visible impacts of climate change in Bangladesh due to its geographic exposure and unplanned development. The high density of population and poverty along with infrastructural inadequacy and lack of adaptive capacity particularly intensifies the country's vulnerability to climate change severalfold. This shows that mainstreaming climate change into development is a prime need in Bangladesh especially at policy, planning and institutional levels.

With an aim to achieve sustainable and climate resilient development, BRAC plans to mainstream climate change at the institutional level across all its programmatic interventions. Mainstreaming, at the institutional level, can be achieved by identifying the opportunities or 'entry points' to where climate change adaptation and mitigation may be integrated, enabling a system that integrates climate change into budgeting, financing and implementation and establishing robust monitoring framework. Considering the extent of complex climate change vulnerability, integration of relevant programme interventions is necessary where BRAC programmes synergistically work towards overcoming the dynamics of climate change impacts that best serve the community, partners and other stakeholders through a holistic approach. Therefore, BRAC has developed a framework with a linear sequence of actions that creates a model pathway for BRAC to mainstream climate change. The steps are: 1) In-depth understanding and assessment of programmatic interventions of BRAC in climate vulnerable areas, 2) Institutional policies and strategies to set guidelines for climate resilient development, 3) Organisational readiness analysis and review of action plans, 4) Capacity building, 5) Pilot initiatives on adaptation and mitigation, 6) Integration and mainstreaming of 'climate resilience' in operation plans, budget and all development endeavours.

Assessing BRAC programmatic interventions to find an entry point for climate change integration requires reviewing the programmes and their interventions through climate change lens. That means analysing possible climatic risk of a particular intervention and points of entry to integrate adaptive or/and mitigating options. With rigorous research and field study, BRAC has already identified climate risk factors of 41 most climate vulnerable areas; analysed sectoral vulnerability including livelihoods and pointed out some possible opportunities or points of entry where actions can be taken. In order to mainstream climate change at the policy level, BRAC has developed Climate Change Strategy; adopted an Environment Policy and an Environmental and Social Safeguard Framework (ESSF) to establish itself as a climate-smart organisation meeting global standards. BRAC's study on organisation readiness reveals that its social development programmes approach their activities with a changed perception including aspects that address adverse climate change impacts on communities. BRAC's capacity building approach to climate change includes its institutional capacity development as well as the capacity building of the community it serves. The organisation is particularly focusing on building capacity of its youth staff working across the country to address climate change issues as they will be the future leaders and front liners of BRAC. After building institutional and community level capacity and piloting mostly adaptation and mitigation interventions, BRAC aims to establish the concept of 'climate resilience' among its stakeholders and thus, integrate climate resilience in all of its development endeavours in future.

To achieve climate resilience, BRAC has already developed a Climate Resilience Framework (CRF) to synchronise action plans. The framework is a four step process to achieve *adaptive capacity* to maintain a desired state amid changing climate, achieve *anticipatory capacity* to reduce the impact of climate variability and extremes through preparedness and planning, *absorptive capacity* to deal with the impacts of climate variability and extremes and finally transforming the organisation into a climate smart one through good governance, leadership and innovative approaches.

As part of BRAC's approach for mainstreaming climate change, a case study was conducted to contextualise Ultra-Poor Graduation (UPG) programme interventions with climate change aspects followed by an in-depth analysis using the climate change lens. Based on the four pillars of livelihood promotion, financial inclusion, social protection and social empowerment, the Ultra-Poor Graduation programme has pioneered equitable adaptation by improving the socio-economic condition of ultra-poor women in climate vulnerable areas. The in-depth analysis provided insights of UPG programme approach in building adaptive capacity of the ultra-poor households.

1 BACKGROUND

Climate change has implications on development planning. Sustainable development of a nation is ensured by its economic, social and environmental sustainability — the three pillars of sustainable development. However, all the progress will be threatened due to global climate change, particularly, the developing countries will be affected more than the developed countries in the near future. Growing weather unpredictability and increased frequency and intensity of climatic events will put different sectors of development under threat and therefore taking climate change into account in all development planning should become imperative for any country. To combat future climate change challenges, incorporating climate change adaptation and mitigation plans into different strata of development starting from the government level to the institutional and community levels can ensure a path to a climate smart nation that grows sustainably.

Climate change is a cross-cutting issue that has implications across development sectors. As a result, mainstreaming climate change into development plans is likely to be more successful than addressing it in isolation through sectoral climate change policies or plans (Vincent and Colenbrander, 2018). Ensuring that climate change is taken into account in integrated development planning has two benefits. First, it ensures that development gains will not be undermined by climate risk. Second, it offers the opportunity to build adaptive capacity and resilience in the face of climate change, so the risk of future adverse impacts is minimised. Only addressing development without taking into account existing and anticipated climate vulnerabilities means that development interventions are likely to prove unsustainable and possibly maladaptive in the long term (Ayers et al., 2014). Keeping this concept in mind, BRAC has given top priority to climate change and plans to mainstream climate change in all its major development programmes.

1.1 Understanding mainstreaming

In terms of climate change, the term 'mainstreaming' indicates the integration of climate change policies and measures into development planning and decision-making, so as to ensure the long-term sustainability of investments as well as to reduce climate susceptibility of development activities (UNDP-UNEP, 2011).

Mainstreaming can involve setting up institutional or organisational structures, or designing and implementing projects in a way that they 'automatically' take climate change into account. The assumption of mainstreaming is that a project or policy has a goal – related to mobility, population well-being or health care – and that the sustainability and impact of the initiative can be increased by taking potential climate change impacts into account.

It is an iterative process of integrating climate change considerations into decision-making, budgeting, implementation and monitoring processes. It is a multi-year, multi-stakeholder effort grounded in the contribution of adaptation and mitigation to well-being, pro-poor economic growth, and achievement of the SDGs (Mogelgaard et al., 2014).

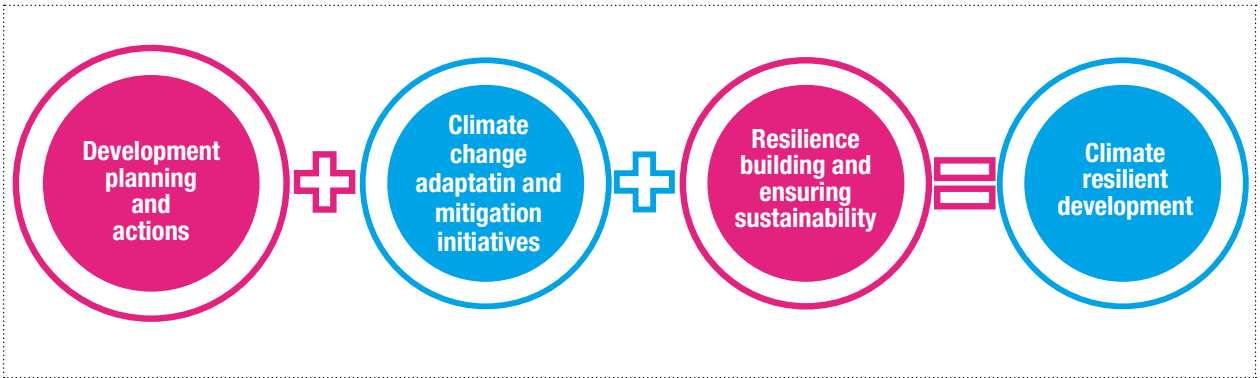
1.2 Why mainstream climate change into development plans

Since climate change is a cross cutting issue, it poses risks to many sectors of development and therefore it cannot be addressed effectively, placing it in a silo. Instead, it should be mainstreamed, or integrated into various development priorities. There is a two-way relationship between climate risk and development plans, i.e. goal of a development plan may be affected by climate change and the development goal may in turn increase climate vulnerability. In addition, development goals may increase climate risk further through greenhouse gas emission and actions like deforestation (Vincent and Colenbrander, 2018). Both mainstreaming and dedicated approaches (adaptation and mitigation) are needed for resilience whereas capacity building is essential for adaptation to impacts of climate change (Figure 1). Mainstreaming climate change into policies, plans, and development actions contributes to:

- Reducing vulnerability to climate change impacts
- Increasing the adaptive capacity of local communities and national development efforts threatened by climate change impacts
- Ensuring sustainable development avoiding decisions that may lead to maladaptation

Figure 1:

Climate resilient development through mainstreaming climate change



1.3 The need for mainstreaming climate change into development of Bangladesh

Impacts of climate change are visible in Bangladesh in the form of temperature extremes, erratic rainfall and increased number of intensified floods and flash floods, drought-like situations, cyclones and sea level rise induced salinity intrusion. Moreover, Bangladesh is frequently cited as one of the most vulnerable countries to climate change because its geography makes it physically exposed to climatic hazards and also because of the socio-economic factors that make people vulnerable. Social vulnerability often drives physical exposure, which in turn can exacerbate social vulnerabilities (Ayers et al., 2014).

The development characteristics of Bangladesh make it particularly vulnerable and limit adaptive capacity. Moreover, in terms of economic impacts of climate variables on per capita economic growth, Bangladesh is the most vulnerable country (Pretis et al., 2018). Furthermore, it is particularly vulnerable due to dependency on agriculture which is affected and exposed to the impacts of climate change.

Everyone in Bangladesh is not equally vulnerable to climate change. The urban poor are especially vulnerable, because of the fragility of infrastructure in slums, and lack of employment security. In rural areas, those with insecure livelihoods in climate hotspots are particularly vulnerable. Inherent gender inequalities in various social, economic and political institutions make women particularly vulnerable.

The combination of physical and social vulnerability means that in Bangladesh, climate change adaptation, mitigation and development must be tackled together. Managing physical climate hazards without addressing factors related to underdevelopment means that people would remain vulnerable (Ayers et al., 2014).

2 METHODOLOGY FOR MAINSTREAMING CLIMATE CHANGE AT INSTITUTIONAL LEVEL

Mainstreaming is a process-driven approach that has three steps: finding the entry points and making the case to set the stage for mainstreaming; mainstreaming on-going policy processes; mainstreaming budgets and finance, implementation and monitoring (UNDP-UNEP, 2011).

The International Institute for Environment and Development (IIED) has put forward a framework for mainstreaming that is centred on three building blocks: a policy and planning building block (including policy frameworks, financial frameworks and institutional arrangements); a programmes and projects building block; and an enabling environment building block (political will, information services) (Pervin, 2013).

All different approaches used for mainstreaming tend to combine some amount of 'process' in terms of the steps that need to be taken to integrate climate considerations within development plans and decisions, and wider contextual factors and variables that will affect the effectiveness of the mainstreaming process.

Figure 2:

A generalised approach for mainstreaming climate change at institutional level

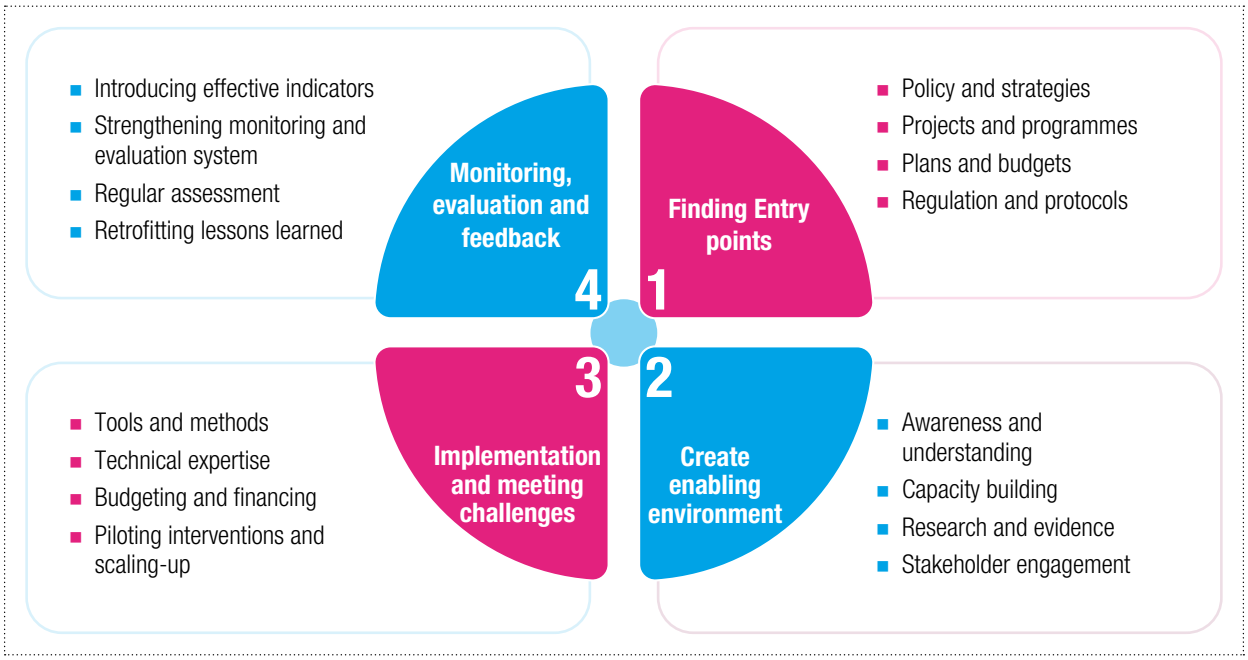


Figure 2 illustrates a generalised framework for mainstreaming climate change at institutional level and the key components of mainstreaming dimensions. The 'entry points' reflect where the programme has found opportunities for integrating climate change adaptation and mitigation into the planning process. The enabling environment or 'system' is what supports mainstreaming. Meeting the implementation challenge aims to ensure mainstreaming into budgeting, financing and implementation. Climate change mainstreaming requires a robust monitoring framework of indicators and outputs that appropriately monitors progress towards reducing vulnerability and enabling adaptation and climate-resilient development. Regular context assessment and evaluation of the interventions will facilitate 'learning by doing'.

3 BRAC'S APPROACH FOR MAINSTREAMING CLIMATE CHANGE

BRAC acts as a catalyst, creating opportunities for people living in poverty to realise their potential. Founded in 1972, the organisation specialises in piloting, perfecting, and scaling innovations to impact the lives of millions. BRAC was born in Bangladesh, and operates in 11 countries across Asia and Africa. BRAC's aim is to change systems of inequity, empower people, and lift them out of poverty. However, even with its wide reach of 120 million people, all progress falls under threat with the adverse impacts of climate change.

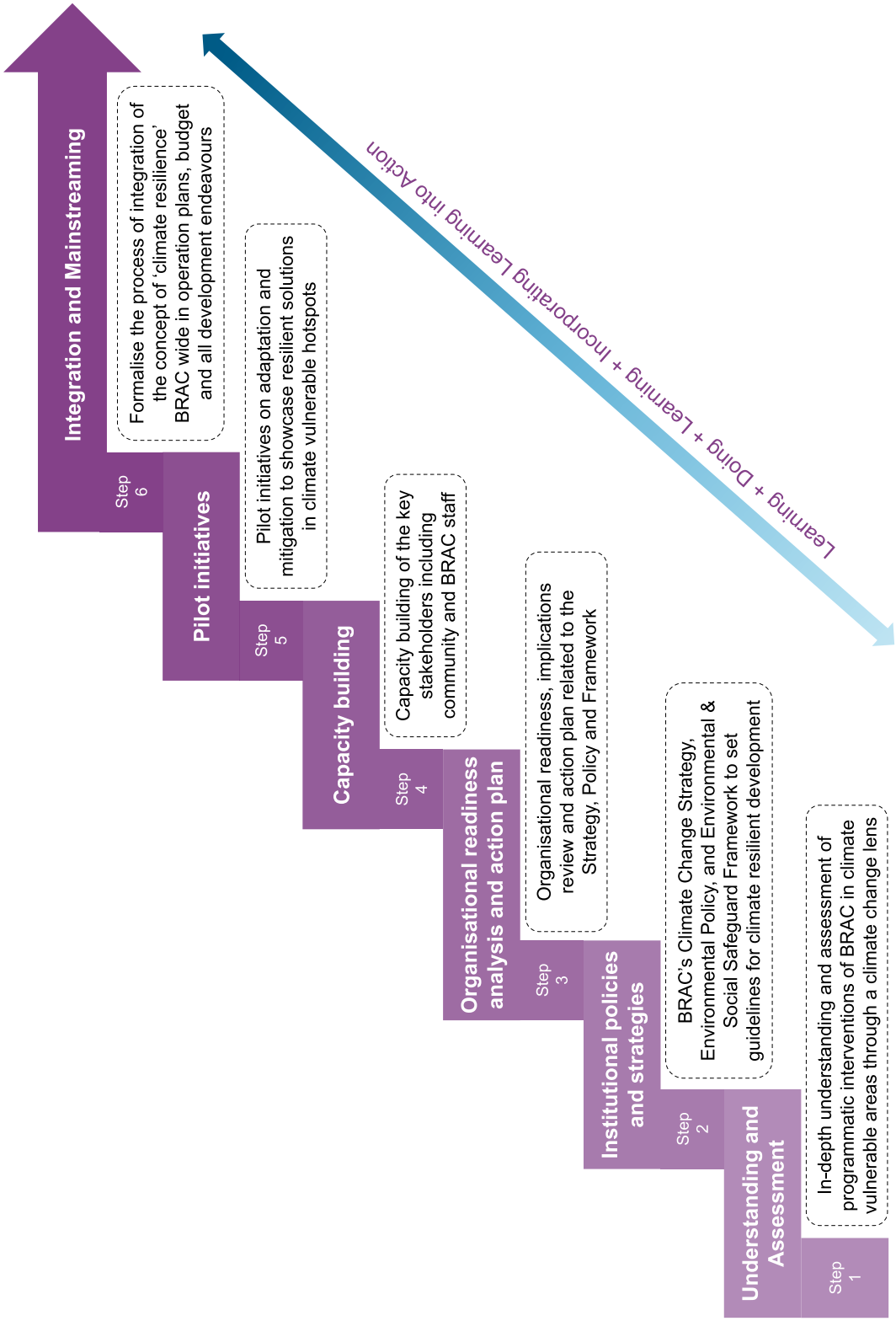
Climate change has put BRAC on a path to find a comprehensive strategy to address its causes and enable its programmes to combat and adapt to its effects, as well as to mobilise financial resources, and to choose cleaner technologies for sustainable development. Considering climate change vulnerability, integration of programme interventions is necessary where BRAC programmes synergistically work towards overcoming the dynamics of climate change impacts through a holistic approach.

BRAC climate change mainstreaming framework (Figure-3) proposes a linear sequence of understanding and assessment of programme interventions, policy and strategy development, organisational readiness, capacity building, and incorporation of learnings into policy and planning. The steps for mainstreaming climate change at BRAC are:

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
In-depth understanding and assessment of programme interventions of BRAC in climate vulnerable areas	Institutional policies and strategies to set guidelines for climate resilient development	Organisational readiness analysis and review of action plans	Capacity building	Pilot initiatives on adaptation and mitigation	Integration and mainstreaming of 'climate resilience' in operation plans, budget and all development endeavours

Figure 3:

BRAC climate change mainstreaming framework

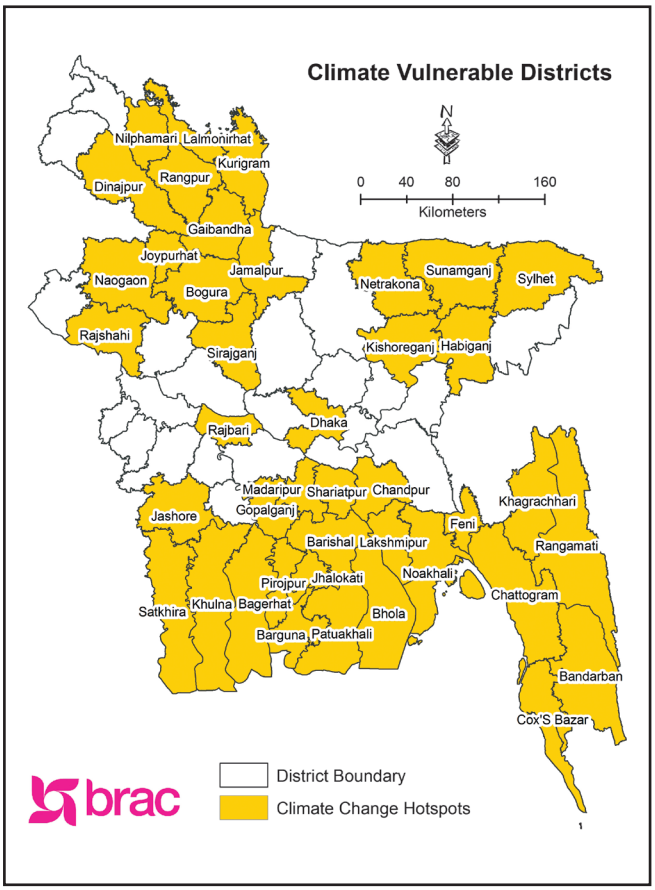


3.1 Understanding and assessment of BRAC programmes and interventions

Based on geographic characteristics, weather pattern and climate vulnerability, BRAC has identified 41 districts of Bangladesh as more climate vulnerable out of 64 (Figure 4). Climate vulnerability of different sectors like agriculture, biodiversity, water resources, livelihood, health and disasters were taken into account while selecting the districts. Furthermore, the detailed climatic risk associated with these districts were identified based on various studies, policies and strategies such as Bangladesh Delta Plan 2100, Bangladesh Climate Change Strategy and Action Plan, Bangladesh Government Risk Atlas and the World Bank studies (Table-1). BRAC has already established a set of programmes and interventions serving millions of people in these climate vulnerable areas. In order to incorporate climate smart processes among these programme activities, possible points of entry and opportunities need to be identified. Therefore, BRAC conducted in-depth assessment of selective programmatic interventions in these areas through a climate change lens for identifying entry points and opportunities for mainstreaming.

Figure 4:

Climate vulnerable districts.



Vulnerable Regions	Most Vulnerable Districts
Western Coastal Region	Satkhira, Khulna, Bagerhat, Jashore
Central Coastal Region	Barguna, Jhalakathi, Patuakhali, Pirojpur, Bhola, Barisal, Noakhali, Chandpur, Laxmipur
Eastern Coastal Region	Chattogram, Cox's Bazar
Chattogram Hill Tracks	Bandarban, Rangamati, Khagrachhari
The Banind and Drought Prone Areas	Rajshahi, Joypurhat, Naogaon, Rangpur, Dinajpur
The Haor and Flash Flood Areas	Sunamganj, Sylhet, Kishoreganj, Netrokona
The River Systems and Estuaries	Kurigram, Lalmonirhat, Nilphamari, Gaibandha, Bagura, Sirajganj, Jamalpur, Shariatpur, Rajbari, Madaripur, Gopalganj, Feni
The Urban Areas	Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Sylhet

Source:

- Bangladesh Delta Plan 2100. General Economics Division. Bangladesh Planning Commission. GoB
- BCCSAP (2009). Bangladesh Climate Change Strategy and Action Plan. Ministry of Environment and Forests. GoB.
- GoB Risk Atlas (2016). Multi-hazard risk and vulnerability assessment, modelling and mapping. Department of Disaster Management Ministry of Disaster Management and Relief.
- World Bank (2018), Bangladesh's Hotspots: The Impact of Temperature and Precipitation Changes on Living Standards. Worlbank.org/SouthAsiaHotspots

Table-1: Climate change vulnerabilities in the selected 41 distircts.

Hotspots	Most vulnerable Districts	Climate vulnerability	Remarks
Western Coastal Region	Satkhira, Khulna, Bagerhat, Jashore	• Salinity intrusion • Accelerated Sea Level Rise • Cyclones and storm surges • Tidal fluctuations • Heat waves	○ 6-21 mm/year sea level rise ○ Frequent and intense cyclones ○ Current storm surge heights are topping over polder embankments ○ According to Soil Resource Development Institute (SRDI), out of 2.86 million hectares of coastal and offshore lands about 1.0 million hectares of arable lands are affected by varying degrees of salinity ○ High salinity in groundwater and surface water in dry season
Central Coastal Region	Barguna, Jhalakathi, Patuakhali, Pirojpur, Bhola, Barisal, Noakhali, Chandpur, Laxmipur	• Cyclonic storm surges and eventual damages of infrastructures, agriculture and aquaculture • Most of the islands are vulnerable to cyclone storm surges, tidal flooding and erosion	
Eastern Coastal Region	Chattogram, Cox's Bazar	• Directly exposed to intense cyclone and storm surges • Accelerated Sea Level Rise	
Chittagang Hill Tracks	Bandarban, Rangamati, Khagrachhari	• The Carbon-intensive climate scenario leads to more severe hotspots by 2050 • Although low-lying coastal areas in Chattogram have received a lot of attention in Bangladesh from an extreme events perspective, the hill tracts in Chattogram also emerge as vulnerable to changes in average temperature and precipitation.	○ Projected changes in average temperature and precipitation will have a negative impact on living standards in Chattogram division ○ High intensity of rainfall will increase the risk of landslide and flash flood vulnerability ○ Low rainfall and prolonged dry season creating drought like situation and water scarcity
The Barind and Drought Prone Areas	Rajshahi, Joypurhat, Naogaon, Rangpur, Dinajpur	• Temperature increase • Rainfall decrease • Reducing ground water levels • Seasonal pattern change	○ Increase in minimum temperatures by 0.85°C between 1948 – 2011; maximum temperatures increased by 0.5°C ○ Long period of consecutive dry days ○ Number of water bodies, their area and water holding capacity reducing
The Haor and Flash Flood Areas	Sunamganj, Sylhet, Kishoreganj, Netrokona	• Intense rainfall • Rainfall pattern change • Flash flood	○ Increases in mean annual water discharge in rivers; causing flash floods resulting extensive area under flooding, damage to infrastructure, destruction of crops and livelihoods. ○ Thunder Storm and Lightning hotspot
The River Systems and Estuaries	Kurigarm, Lalmonirhat, Nilphamari, Gaibandha, Bogura, Sirajganj, Jamalpur, Shariatpur, Rajbari, Madaripur, Gopalganj, Feni	• Rainfall pattern change • Flood due to high rainfall • Riverine erosion and accretion	○ With 13% increase in precipitation projected and annual discharge of rivers over the Ganges- the Brahmaputra- the Meghna floodplains,riverine erosion could increase ○ Loss of agricultural production, farmland, crops, homesteads and livelihoods affecting thousands of hectares along major rivers; damage to infrastructure
The Urban Areas	Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Sylhet	• Heat waves • High rainfall induced waterlogging • High emission of CO_2 and environmental pollution	○ Destination of climate induced migrants crating more pressure on limited resources ○ Environmental and health hazards for all sections of the urban population

Concept of Climate Change Lens and BRAC's Standpoint

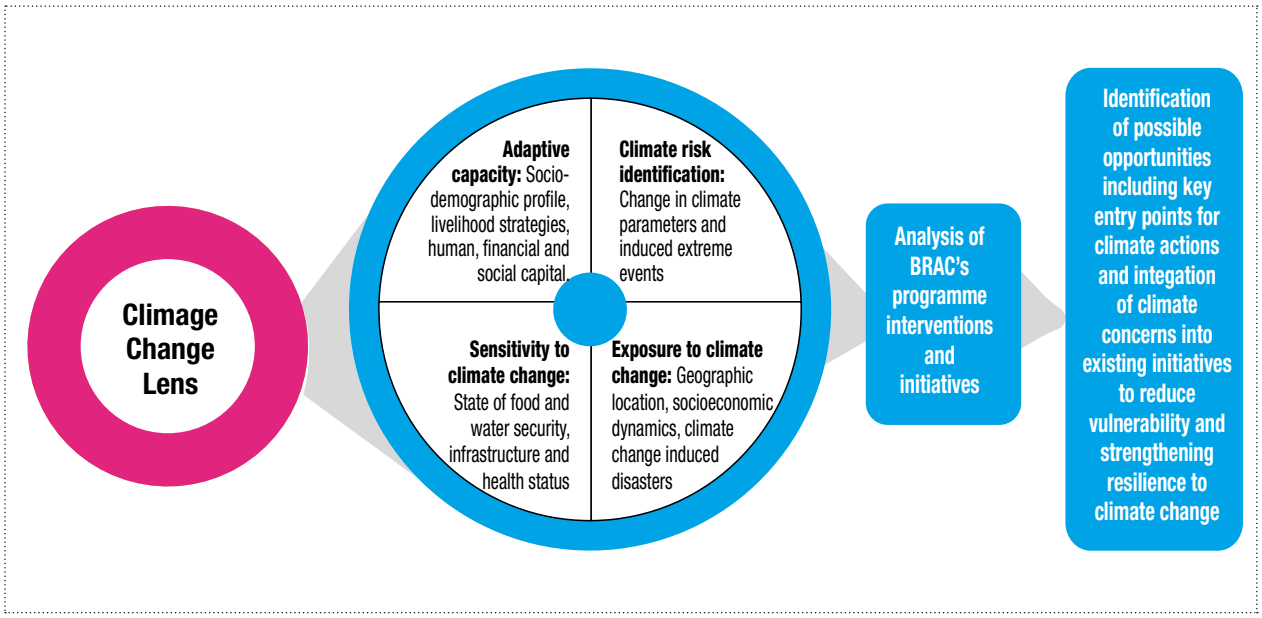
A climate change lens is an analytical process to examine programme interventions in terms of climate vulnerabilities and resilience building potential. The lens aims to test whether the planned or implemented options meet the basic climate concerns, are able to reduce the current and potential threats and risks from climate change, and/or increase community resilience (CDMP II, 2011). The application of a climate lens involves examining:

- the extent to which the interventions could be vulnerable to climate risks;
- the extent to which climate change risks have been taken into consideration in the course of selecting or designing interventions and implementation;
- the extent to which the intervention could lead to strengthen climate resilience or, increase vulnerability leading to maladaptation.

Climate change lens is a conceptual term that is analogous to viewing or designing any intervention from the perspective of climate change and its different aspects. Assessing an activity through climate change lens means analysing all climatic risk that a particular intervention may face and points of entry to integrate adaptive or/and mitigating options. The ultimate goal of applying climate change lens is to incorporate climate smart solutions in such a way that it leads to increasing resilience (Figure 5).

Figure 5:

Conceptual framework of climate change lens



BRAC aims to not only become a climate smart organisation but also to create climate change resilient communities living in the vulnerable hotspots of Bangladesh. Keeping this goal in mind, BRAC has already started the process conducting thorough study of relevant development programmes and their activities or interventions. Moreover, extensive field survey is conducted to observe practically the different sectors and vulnerable populations being served by the programmatic interventions. The study conducted identified the climatic risk factors of the selected areas; analysed sectoral vulnerability including various livelihoods and pointed out

some possible opportunities or points of entry where actions can be taken to reduce vulnerability or minimise the risk[1]. This approach can be a pathway for BRAC to assess development interventions with climate change lens.

3.2 Policy and strategy formulation and adoption

BRAC in Bangladesh aims to make a high-leverage contribution to the country-wide and overall national effort by the government that would help achieve SDG 13 – Climate Actions. One of the eight programmatic priorities of BRAC, as stated in its strategy for Bangladesh, is "Addressing the challenges of and building resilience to climate change" to achieve BRAC's overall goal. The organisation calls for greater attention to tackle both the persistent (poverty, unemployment/ underemployment, under nutrition etc.) and emerging problems (increasing number of natural disasters and other hazards due to climate change impacts, unplanned urbanization etc.) in its 2016-20 strategy.

BRAC has a huge knowledge base, especially in problem-solving and widespread social and institutional networks. BRAC is working for diverse communities with different socioeconomic needs in Bangladesh and 11 other countries. BRAC has great potential to influence climate resilient development in Bangladesh and elsewhere, and has committed itself to contribute significantly to combat climate change challenges. BRAC's mission and vision statements about addressing climate change are as follows:

BRAC's vision to address climate change

A progressive development process where BRAC and all its programmes synergistically work towards overcoming the dynamics of climate change through holistic approach that best serves the community, partner development organisations and all other stakeholders through a holistic approach.

BRAC's mission to address climate change

To empower people to adapt and respond to the effects of climate change while working to mitigate future impacts through sustainable development practices. BRAC's climate change activities aim to integrate with development initiatives to improve quality of life, protect resources and build awareness in the communities we serve.

Adopted policies and strategies

BRAC has adopted an environment policy, an Environmental and Social Safeguard Framework (ESSF) and a Climate Change Strategy 2016-20, to establish itself as a climate-smart organisation meeting global standards.

BRAC Climate Change Strategy

The BRAC Climate Change Strategy sets out a vision of BRAC that can be realistically achieved with appropriate institutional commitment. Keeping BRAC's stand point in perspective of adopting a "rights-based approach" targeting and prioritising the poor, by focusing on peoples civil, economic and social human rights, BRAC's Climate Change Strategy seeks to include the

[1] A study is conducted for mainstreaming climate change adaption into Ultra Poor Graduation (UPG) Programme which is attached to this report as case study.

'mainstreaming of climate change' into every programme, so these programmes are ready to combat and become more resilient when adapting to climate challenges that may hamper its development efforts. Hence, the goal of this strategy is to enable BRAC to effectively respond to and contribute to national as well as global efforts to minimise climate change impacts through adaptation, mitigation, research and capacity building initiatives, with an intention to achieve SDGs and significantly contribute to ensure climate resilient development. And, more specifically, the overall objective of this strategy is to support BRAC Senior Management to take informed decisions on how climate change can be mainstreamed into its programmes. There are five thematic areas outlined in the strategy, which are:

Theme 1	Response to climate change through adaptation
Theme 2	Response to climate change through mitigation
Theme 3	Response to climate change through action research
Theme 4	Capacity building
Theme 5	Collaboration and networking

BRAC Environmental Policy

The BRAC Environmental Policy looks at the effects on environment relating to organisational operations and sets out a plan by which BRAC would be able to minimise any environmental impact caused by its operations, towards achieving both social and ecological sustainability. The aim is to include environmental concerns as an essential element of both planning and decision-making processes. Integral to the management system within BRAC is conducting all initiatives in an environmentally responsible manner to protect the public, BRAC employees and the earth. This will not only show BRAC's commitment, but will ultimately also save money and set an example. It will raise environmental awareness among its staff and promote its image to donors, clients and the greater community.

BRAC Environmental and Social Safeguard Framework (ESSF)

The Environmental and Social Safeguard Framework (ESSF) was formulated to affirm BRAC's commitment to sustainable development, and lays out the sustainability standards for the organisation and its implementing partners. The framework describes the requirements, processes and tools that will assist BRAC and its implementing partners to comprehensively commit to sustainable development in BRAC's engagements. The framework provisions include project development and implementation, review and approval processes, as well as monitoring and evaluation, partnerships and legal agreements with BRAC implementing partners, and stakeholder participation processes. BRAC's ESSF contains two overarching principles — precautionary approach and human rights based approach — and seven thematic safeguard standards that are biodiversity conservation, resource efficiency, pollution prevention and management of chemicals and wastes, involuntary resettlement, indigenous peoples, labour and working conditions, protection of tangible cultural heritage, and gender equality.

3.3 Organisational readiness

BRAC conducted a review of its readiness to address climate change and to assess the organisational implications related to the adoption of a Climate Change Strategy 2016-2020, Environmental & Social Safeguard Framework (ESSF), and Environmental Policy. The aim of this review was to initiate the process of transforming BRAC into a climate smart organisation and enhance its contribution to tackling climate change. The specific objective of this assignment was to review the three key policy documents and assess BRAC's various social development programmes and social enterprise readiness to combat climate change impacts, as well as its capacity to access various climate funds.

The findings of this organisational readiness and implications review recommend that BRAC's social development programmes approach their activities with a changed perception by including aspects that address adverse climate change impacts affecting communities. Any development effort is bound to be hampered in the current aggravated climate change scenario that is worsening day by day. And, therefore, with BRAC having the capacity and resources to go large scale, the BRAC programmes should initiate steps to integrate into their planning as well as implementation methods certain ingredients that could holistically transform BRAC into a climate smart organisation that is also a leader in serving poor climate-vulnerable communities with sustainable climate resilient solutions. Furthermore, BRAC should introduce a mechanism to develop a cohort of "climate change champions" as change agents, largely engaging the youth already involved with BRAC, either as Young Professionals (YPs) or as community volunteers, to proactively take part in addressing climate change through sustainable, climate resilient solutions.

3.4 Capacity building

CCapacity-building is defined as the "process of developing and strengthening the skills, instincts, abilities, processes and resources that organisations and communities need to survive, adapt, and thrive in a fast-changing world.", (United Nation, 2019). In development perspective, capacity building involves increasing or strengthening the skills and knowledge of stakeholders involved, in order for them to function more efficiently and in a larger scale. With rapidly changing global dynamics, capacity development of the community and organisation is a key element to sustain and thrive against the development barriers. It's a continuous improvement strategy toward the creation of a sustainable community and effective organisation. As climate is changing with potential consequences for future, capacity building is a prime need. Climate change capacity building involves increasing the ability of the stakeholders to survive and adapt to the negative impacts of climate change induced events and thus bring about transformation that helps them sustain for a longer term.

BRAC's capacity building approach as regards climate change includes its institutional capacity development as well as the capacity building of the community it serves. As BRAC has already started the process of climate mainstreaming, capacity building of its staff is a vital part of the whole process. BRAC uses a number of tools or methods to increase climate change knowledge and instil climate adaptive thinking into its staff from all departments and programmes. BRAC particularly targets the younger generation so that they are ready for future climate change impact. Along with preparing its senior management, the organisation is also working to build capacity of young staff members in the climate vulnerable districts to contribute to not only transforming

BRAC into a climate smart organisation but also tackle unwanted climate change consequences. Training on climate change followed by participatory workshop, various educational sessions, seminars and awareness session are all part of the broader aim to transform BRAC into a climate smart organisation. At the community level, BRAC has already started, and will continue, to build capacity of the vulnerable population by supporting them with climate adaptive livelihood training, education and awareness sessions on climate induced disasters and preparedness. Finally, at the organisation level, BRAC has initiated some policy level interventions to bring about small but effective changes in the working system that will help BRAC become more energy efficient and climate smart in the long run.

3.5 Pilot initiatives on adaptation and mitigation

After capacity building, BRAC aims to pilot adaptation and mitigation initiatives to demonstrate and create examples of climate smart interventions in different parts of the country. Adaptation is the key factor in combating climate change particularly in a developing country like Bangladesh as it is more vulnerable. In order to reduce vulnerability from climate change impact and climate induced hazards, designing appropriate and area specific adaptation is very important. A blend of existing knowledge and adaptive practices with modern and context specific planning would help communities adapt to both present and future vulnerabilities.

BRAC plans to initiate suitable adaptation measures in the climate vulnerable hotspots of Bangladesh. An extensive study to be conducted by BRAC across selected programmatic interventions would identify suitable, context specific and potentially resilient adaptation options that can be piloted now, and scaled up later. There are already a set of adaptation measures practiced by the local community in climate affected areas. Linking the existing measures with those of BRAC can ensure a set of appropriate adaptation options that not only help people to become more climate resilient but also prevent maladaptation. Moreover, BRAC draws lessons from adaptation options practised in climate vulnerable countries with similar characteristics and implement them into the adaptive and context specific practices of the climate hotspots.

Bangladesh has a minimal contribution to global carbon emission with per capita emission of 0.5 metric tonnes (World Bank, 2014). However, since models project a significantly larger volume in future, the Government of Bangladesh has planned to contribute to global efforts to counter climate change by unconditionally reducing carbon emission up to 5% and conditionally up to 15% by 2030 from the current scenario (NDC, 2015). To align with the government plan, BRAC also plans to mitigate carbon emission. It will start with assessing the carbon footprint2 of the organisation itself, particularly the head office, to obtain a comprehensive view of emission of such a large organisation. This assessment will also serve as a baseline scenario for any future assessment. Moreover, necessary actions can be taken based on this baseline of BRAC's carbon footprint. BRAC also attempts to contribute to the global effort of mitigation with rigorous afforestation and plantation programmes in several districts of Bangladesh, actively planting saplings and supplying saplings to beneficiary families across the country. BRAC desires to become self-sufficient by enabling itself to tackle climate impacts in future.

[2] The amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organisation, or community.

3.6 Integration of 'climate resilience' in all development endeavours

To properly mainstream climate change at BRAC, incorporating climate resilient approach across all levels of the organisation starting from policy and strategic planning to operations and interventions is most important. After building institutional and community level capacity and piloting model adaptations and mitigation interventions, BRAC hopes to establish the concept of 'climate resilience' among its stakeholders and thus, ultimately integrate 'climate resilience' in all of its development endeavours in future.

BRAC has already adopted a set of policies to establish itself as climate-smart, meeting global standards. These policies and strategies are meant to support BRAC programmes, partners and members in planning, designing and performing their development activities in a climate smart, green and environment friendly manner as well as ensuring sustainability by confirming environmental and social safeguards. These documents are the guiding principles to ensure climate adaptive and environment friendly approach in planning and designing development programmes.

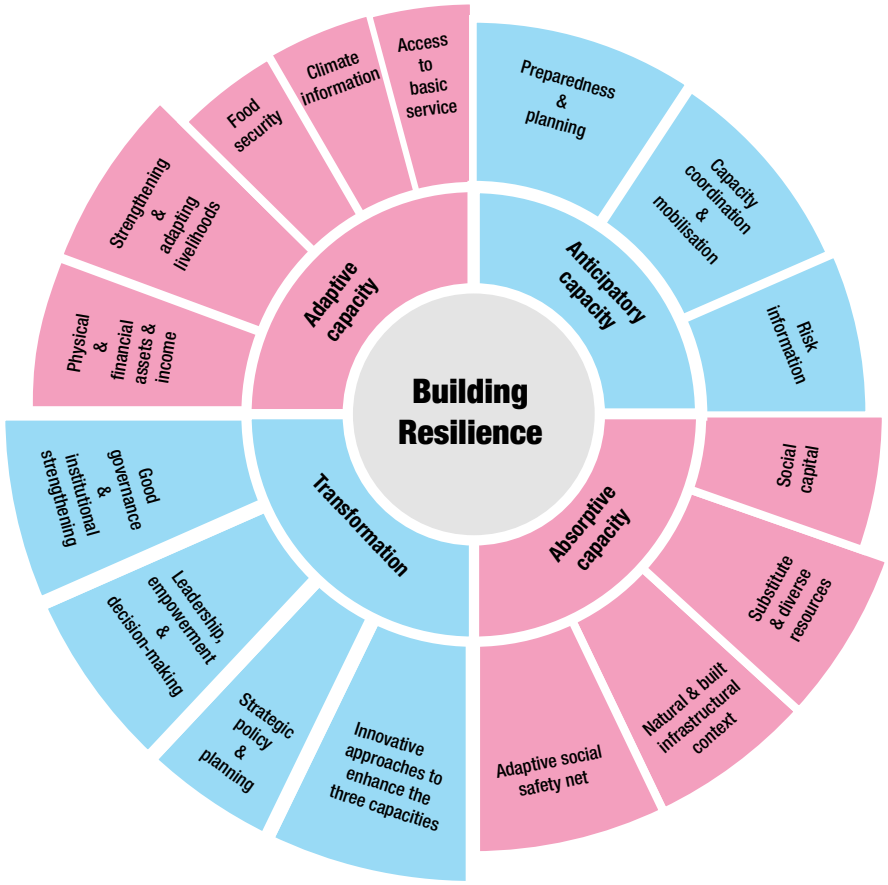
Mainstreaming climate change into planning automatically implies that operations and interventions will be sustainable and climate smart. BRAC Environmental Policy demonstrates goals and values to manage organisational operations by minimising environmental impacts and sets standards for organisational etiquette, strategy and implementation. It is meant to assist BRAC programmes, partners and members in performing their development activities effectively and in a more environment friendly manner offering some prescribed ideas, detailed guidance and action plan to ensure sustainable development. Also, incorporating climate smart initiatives in the annual operation plan (AOP) of different programmes and allocation of resources through proper climate budgeting and financing can ensure the integration of 'climate resilience' in all development endeavours of BRAC.

4 BRAC'S CLIMATE RESILIENCE FRAMEWORK FOR SYNCHRONISING THE CLIMATE ACTIONS

Resilience building includes strategic planning, and new and practical ways of approaching claimate adaptation challenges. The major development programmes of BRAC report their achievements following the BRAC Climate Resilience Framework (Figure 6). BRAC's resilience building process has four major components: adaptive capacity, anticipatory capacity, absorptive capacity and transformation. Each of these components have multiple sub-components contributing to resilience (Figure 6).

Figure 6:

Components of BRAC climate resilience framework



Source: BRAC, 2020

Adaptive Capacity

Adaptive capacity relates to the ability to take decisions to achieve and/or maintain a desired state under a changing condition. Adaptive capacity does not only include the capacity to adapt to evolving and unexpected climatic shocks and stresses. It is also the ability to learn from a disturbance to be able to formulate new strategies to engage with future changes (Manyena et al. 2011, Bahadur et al. 2015). Several sub-components such as physical and financial assets, strengthening and adapting livelihoods, food security, access to basic services and climate information contribute to adaptive capacity.

BRAC facilitates asset, livelihood and income generation for targeted poor communities to help them overcome hardships and make them more resilient to climate change. BRAC also promotes climate smart agricultural practices in climate vulnerable areas to support sustainable agriculture and ensure food security. There are different programme interventions in place that promote climate smart livelihood solutions and context specific alternative livelihoods. By enhancing social and financial strength, these activities will help build adaptive capacity of poor and ultra-poor households to withstand future climatic shocks, thus, increasing resilience. Also, these programmes contribute directly to poverty reduction through context specific livelihood support.

On the other hand, information and training on climate change will raise awareness of the beneficiaries, community people as well as staff members which will enable them to plan and initiate informed decisions. Existing BRAC programmes such as Climate Change programme (CCP), Ultra-Poor Graduation (UPG) programme and BRAC Education programme (BEP) are engaged in delivering such activities. BRAC's Water, Sanitation and Hygiene (WASH) programme undertakes rigorous activities and provides a range of services and options to ensure access to safe drinking water and hygienic sanitation services for the communities living in climate vulnerable and water stressed areas, including those subjected to saline and arsenic contamination. Additionally, CCP also intends to install rainwater harvesting systems and desalination plants in salinity affected areas to ensure access to potable drinking water.

Anticipatory Capacity

Anticipatory capacity entails the ability of social systems to anticipate and reduce the impact of climate variability and extremes through preparedness and planning (Bahadur et al 2015). A wide range of actions starting from ability to anticipate shocks and consequently take adequate measures to reduce their impact, planning activities for emergency preparedness demonstrate a community's ability to anticipate shocks and stresses and take adequate measures to reduce their impact.

To cope with the shock and disruption arising from climate extreme events, BRAC adopted early warning system and dissemination of knowledge and information on climate change for the vulnerable communities. In addition, BRAC is working towards training local government officials, elected representatives, beneficiaries and its staff on climate change and disaster risk reduction (DRR). In collaboration with local government agencies and other local level stakeholders BRAC is also working towards developing community/city/town action plan on climate change and DRR. Collectively, these activities are expected to contribute towards enhancing anticipatory capacity under the proposed framework. BRAC has multiple programmes such as Climate Change Programme (CCP), Urban Development Programme (UDP), BRAC Humanitarian Programme (BHP) and BRAC Education Programme (BEP) working towards enhancing anticipatory capacity.

Absorptive Capacity

Absorptive capacity refers to the ability of social systems to absorb and deal with the impacts of climate variability and extremes. It demonstrates the ability of social systems to 'buffer, bear and endure' the impacts of climate extremes in the short term and to avoid disasters using available skills and resources (Bahadur et al. 2015).

BRAC programmes such as UPG and UDP provide matching savings support, grants and loans to ultra-poor and marginal community members. BRAC is also working on adaptive social safety net programme to support vulnerable communities to cope with climate shocks. BRAC has also taken mitigation and ecosystems-based adaptation initiatives with their social afforestation programme across 41 climate vulnerable districts which contributes to building sustainable assets and resources. BRAC provides access to various humanitarian and healthcare services for the vulnerable and deprived communities across the country. BRAC community-based health care approach employs a wide network of health workers to ensure low-cost basic healthcare and nutrition services for vulnerable communities, particularly ones affected by climate change. Such community-based programmes both enhance and benefit from social capital.

Transformation

The fourth component of building resilience is transformation which generally refers to deliberate attempts to engineer the changes required to achieve a desired goal or outcome. According to Bahadur et al. (2015) transformation is not a capacity itself but rather initiatives that can catalyse, restructure, strengthen and improve the above mentioned three capacities. Transformation can be brought about by good governance and institutional strengthening, policy shifts, leadership and empowerment processes and innovation in technologies and processes (Olsson et al., 2004). Transformative interventions in the context of climate change and development should be catalytic, have impact at scale and produce sustainable outcomes (Bahadur et al. 2015).

One of the major steps towards BRAC's transformation taken by CCP is to mainstream climate change into the relevant programmes of BRAC and turn BRAC into a climate smart organisation. Overall, CCP is providing support in different forms to all relevant programmes of BRAC that can be composed into different components of the climate change resilient framework and thus, synchronise climate actions of programmatic interventions under one umbrella. BEP, by educating children on climate change adaptation, can influence their families as well as associated communities. BEP can contribute towards raising girls as agents of change to achieve LCRD through priority investment on girls' education.

5 BRAC'S EXPERIENCES OF MAINSTREAMING

BRAC has already started the process of mainstreaming climate change in its programmes. However, achieving the ultimate goal still has a long way to go. The process of mainstreaming has started at all levels of the BRAC Climate Change Mainstreaming Framework (Figure 3), which however, is still in an early stage.

BRAC has already published its Climate Change Strategy (2016-2020 and is updating the strategy for 2021-2025), BRAC Environmental Policy and BRAC Environmental and Social Safeguard Framework (ESSF). BRAC's Climate Change Strategy aims to enable mechanisms to assist BRAC to effectively address the impact of climate change and support adaptation and mitigation initiatives by integrating them into development programmes. The strategy sets out a vision for BRAC that can be realistically achieved with appropriate institutional commitment. BRAC Environmental Policy sets out a guiding principle for its programmatic interventions as well as its general body to plan, formulate and implement activities in an environmentally sound and climate smart manner. Besides, the overarching principles (precautionary and human-right) and seven thematic safeguard standards of BRAC's ESSF describes the requirements, processes and tools to assist BRAC and its implementing partners to comprehensively commit to sustainability in its engagements.

In order to support climate change initiatives and mainstream climate change more efficiently, BRAC has undertaken institutional arrangement by establishing a dedicated programme for climate actions currently known as Climate Change Programme (CCP). CCP has its roots in Disaster, Environment and Climate Change Programme (DECC), which started in 2008. Initially DECC helped communities become resilient to disasters and developed prevention and adaptation strategies while building institutional capacities for emergency response and preparedness following the Standard Operating Procedure (SOP), a first of its kind, for disaster response. Later on, in 2015, the programme was named Disaster Management and Climate Change (DMCC) with a focus on disaster risk reduction, adaptation and post disaster measures combining indigenous knowledge with modern technology for climate smart and sustainable solutions.

With rising concern and increasing need to mainstream climate change, BRAC has undergone a programmatic restructuring where DMCC evolved into two separate programmes — BRAC Humanitarian Programme (BHP) and Climate Change Programme (CCP) in 2018. The CCP aims to achieve BRAC's goals by implementing dedicated climate change interventions. Apart from providing communities with tools to combat climate shocks, one major activity of CCP is to mainstream climate change throughout BRAC's administration and programmes. Therefore,

CCP has initiated a mainstreaming framework (Figure 3) that will ultimately transform BRAC into a climate smart organisation. With support from CCP, BRAC has initiated capacity building through training sessions and workshops at both headquarters and field offices. Capacity building is an ongoing process of integrating adaptation thoughts and mitigation knowledge across programmes and their staff.

To pilot and scale up climate resilient interventions, BRAC has already identified 41 climate vulnerable districts. BRAC aims to demonstrate and create, through pilot initiatives, model examples of climate smart interventions through development activities in different parts of the country that can be later scaled up and turned into sustainable ones.

The strategic partnership arrangement (SPA) between BRAC and Foreign, Commonwealth and Development Office (former DFID) is supporting BRAC programmes to implement interventions for building climate resilience and encourage innovation and best practices. Seven programmes of BRAC (BEP, BHP, CCP, IDP, UDP, UPGP and WASH) report their activities under two key indicators (3.1 and 4.1) of SPA result framework related to climate change, with CCP being the focal point for assessing effectiveness, preparing the report and facilitating the process of implementing interventions.

Output Indicator 3.1: Number of people receiving support to better cope with the effects of climate change.

Outcome Indicator 4.1: Number of climate vulnerable households in selected districts strengthen their resilience through adoption of BRAC designed resilience package.

Overall, BRAC's climate change activities aim to integrate with development initiatives to improve quality of life, protect resources and build awareness in the communities that BRAC serves.

6 CHALLENGES AND WAY FORWARD FOR MAINSTREAMING

BRAC has already faced and anticipate to face certain challenges in future since the mainstreaming process is still in primary stage. Though BRAC has been involved implicitly in climate resilient activities through their selected program interventions as mentioned earlier, higher emphasis on climate change and incorporating climate change into programme activities in all BRAC endeavours has started only recently. Therefore, there is still much scope for capacity building of BRAC staff. A proper M&E and reporting toolkit need to be developed for ensuring smooth implementation of climate smart options in programmatic interventions reporting under indicator 3.1 and 4.1.

Raising awareness at the community level is a challenge. Climate change is a complex issue and requires consistent awareness raising and knowledge dissemination. At the institutional level, regular communication of climate change knowledge is important and therefore, a common platform such as a portal or monthly meeting might be effective. This will also help in finding some key entry points for climate change interventions.

The challenge of bridging the implementation gap automatically contributes to institutional reshaping for policy-making and budgeting, creating new challenges as well as opportunities for awareness raising and capacity building. Even though climate change is given top priority, there is still a lack of understanding of the issues and their integration into decision making. Therefore, staff capacity building should be given top priority to enable them to see development initiatives through a climate lens.

7 CONCLUSION

Mainstreaming is the best way to deal with climate change since it is cross-sectoral. Mainstreaming climate change into development plans is particularly important to ensure sustainability of adaptation and to ensure that climate change does not erode hard-won development gains. However, mainstreaming climate change is a long-term process that needs persistent effort from all quarters. Bringing organisational change and building capacity, developing climate focused programmes, initiating and piloting climate resilient activities, mobilising resources accordingly, and putting climate change in the centre of the decision making and planning processes are key factors for transforming BRAC into a climate smart organisation.

Making climate change an integral part of decision-making process is vital. However, addressing the issue at the policy level will not give fruitful results in the long term as mainstreaming is a cross cutting process. Enhanced level of awareness, understanding and commitment from all departments with increased capacity is crucial in making the process successful. Moreover, identifying key entry points will not work in the long term if a supporting environment is not ensured. Therefore, governance support is important in enabling appropriate environment. Raising awareness and knowledge of climate change integration into the decision-making process will expedite climate integration across all the sectors.

BRAC climate change mainstreaming framework provides linear sequence of action that creates a model pathway to achieve that within the organisation. Following this framework, BRAC would be able ascertain key entry points across its relevant programmes and make their interventions climate resilient. This will ultimately facilitate creating a climate resilient community.

A journey of million miles starts with a single footstep. With a vision to become a climate smart organisation both at the institutional and community level, BRAC is determined to take small steps continuously to reach its eventual goal of becoming climate resilient and climate smart.

CASE STUDY

MAINSTREAMING CLIMATE CHANGE ADAPTATION INTO ULTRA-POOR GRADUATION (UPG) PROGRAMME

8 MAINSTREAMING CLIMATE CHANGE ADAPTATION INTO ULTRA-POOR GRADUATION (UPG) PROGRAMME

8.1 Introduction

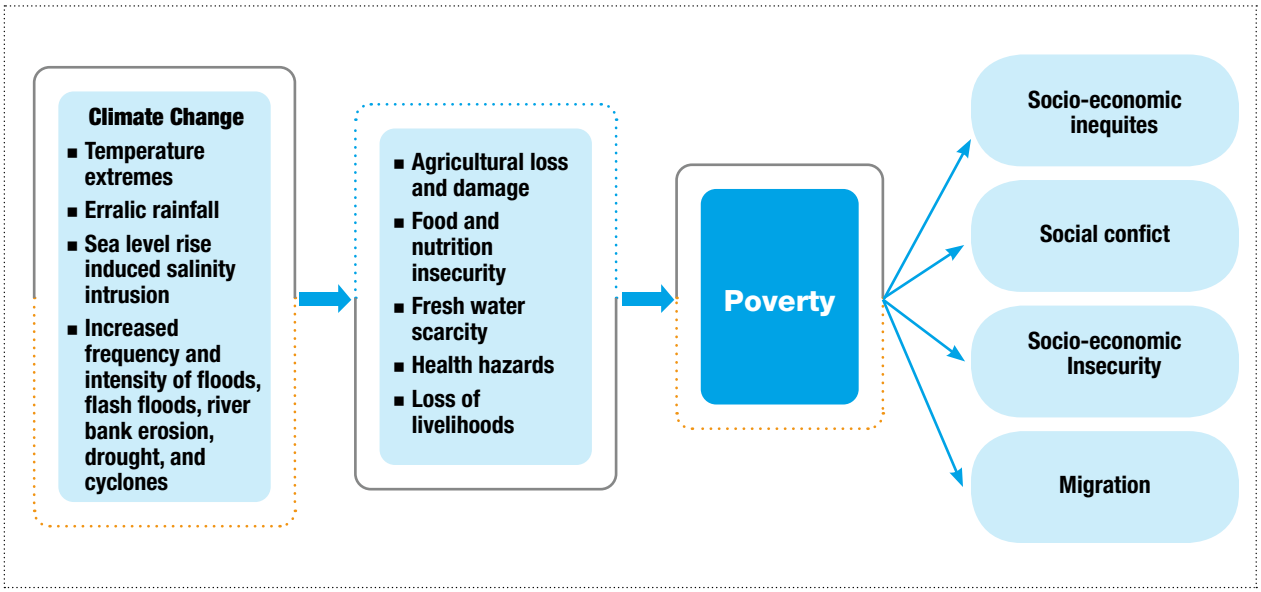
8.1.1 Climate change, livelihood and poverty

The detrimental effect of climate change can be seen in the rising number of extreme climatic events affecting the lives and livelihoods of communities and individuals particularly for poor people in vulnerable areas. The geographic and climatic characteristics of Bangladesh combined with the marginalisation of large sections of the population make the nation particularly susceptible to climate change impacts. Water resources and agriculture are reported to be most impacted sectors, both of which play a vital role in the livelihood of people.

The climatic events in Bangladesh come as temperature extremes, erratic rainfall, sea level rise, salinity intrusion, and increased intensity of floods, flash floods, riverbank erosion, drought, and cyclones. They affect livelihoods, public health, agriculture and food security, water availability, and push people below the poverty line, leading to human displacement, increased conflict and social insecurity (Figure-7). Even though Bangladesh has made tremendous progress

Figure 7:

Link between climate change and poverty



in reducing extreme poverty, majority of the population lives just above the poverty line and therefore, is highly susceptible to even minor changes in climatic pattern. It is evident that if the current scenario (business as usual) continues, climate change will increase existing poverty in Bangladesh.

8.1.2 Geographical distribution of poverty and climate change vulnerability in Bangladesh

Bangladesh is adversely affected and highly vulnerable to climate change due to its unique geographical location. The dominance of floodplains and low elevation compounded by its high population density with overwhelming dependence on natural resources and low economic and technological capacity make the country highly susceptible to the adverse effects of climate change (Ahmed, 2006).

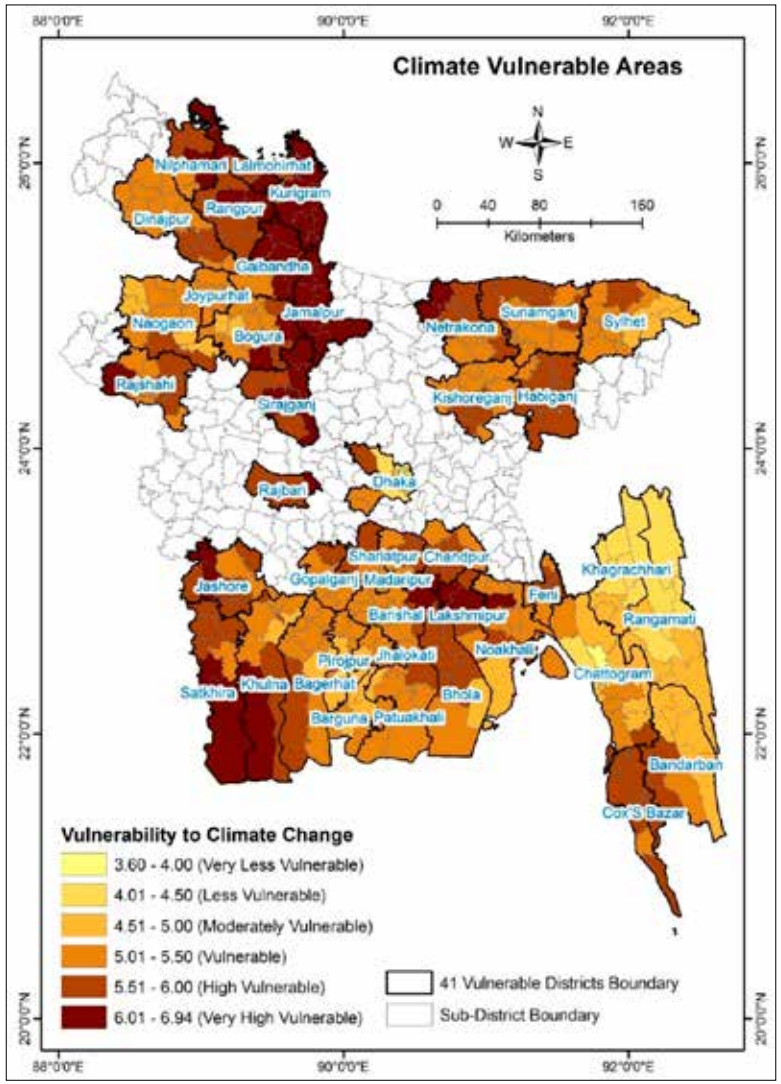
Considering the increasing climate change vulnerabilities in different sectors (Agriculture, Livestock, Fisheries, Livelihood, Water Resources, Biodiversity, Natural Disasters and Human Health), BRAC identified 41 climate vulnerable districts (Figure 8) based on the Bangladesh Delta Plan 2100, Bangladesh Climate Change Strategy and Action Plan (BCCSAP), Bangladesh Government Risk Atlas and the World Bank studies. To detail the climate risk profile of these 41 districts, a sub-district (Upazila) level climate change vulnerability map was prepared based on the vulnerability index methodology, developed in Nationwide Climate Vulnerability Assessment (NCVA) report (MoEFCC and GIZ 2018). The parameters considered for conducting the NCVA are listed below:

- People affected due to natural disaster,
- Heat stress,
- Ground water quality depletion and degradation,
- Mangrove forest vulnerability,
- Land availability for livestock,
- Water availability,
- Crop yield vulnerability,
- Decrease in livestock & poultry health vulnerability,
- Land availability for agriculture,
- Change in fish culture,
- Change in fish capture,
- Rail network vulnerability, and
- Road network vulnerability.

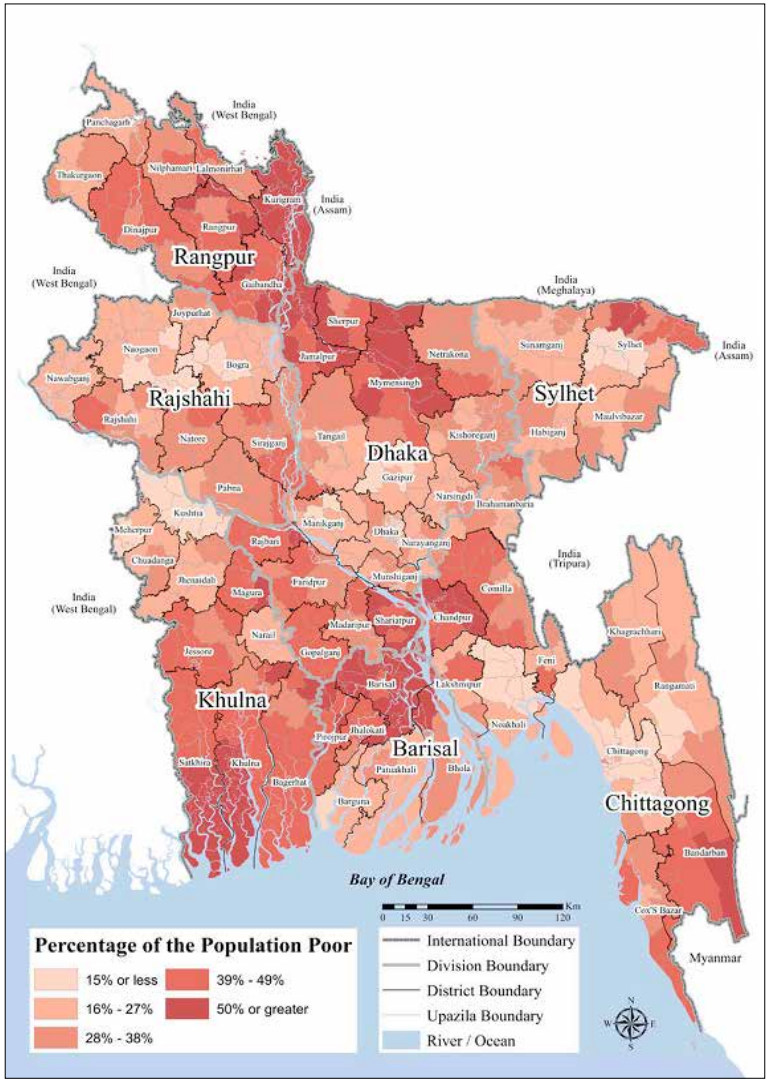
The sub-district level climate change vulnerability map, compared with the poverty map of Bangladesh, confirms that poverty and climate change vulnerability have similar geographical distribution (Figure-8).

Figure 8:

Geographical distribution of climate change vulnerability and poverty in Bangladesh



BRAC selected 41 climate vulnerable districts (Source: MoEFCC and GIZ, 2018)



Bangladesh poverty map (Source: World Bank, 2010)

8.1.3 Climate vulnerable population

Climate change will hit the poorest the hardest. The poorest, who have the least resources and the least capacity to adapt, are the most vulnerable to climate change. Moreover, projected changes in the incidence, frequency, intensity, and duration of climate extremes, as well as gradual changes in the average climate, will notably threaten their livelihoods — further increasing inequality. Climate change is therefore a serious threat to poverty eradication (Hallegatte and Rozenberg, 2017).

About 12.9% of the population in Bangladesh live below the global poverty line of USD 1.90 per day[3]. People living in ultra-poverty are confronted by a multitude of interconnected and cyclical problems. They have little or no land or productive assets and simultaneously struggle to cope with food shortage, poor health, social stigma, and a lack of basic services like clean water and sanitation. They are mostly excluded from social services and healthcare, live in climate vulnerable remote areas disconnected from markets, and are often unable to work due to prolonged illnesses or disability in the family (Ayeb-Karlsson et al., 2016).

Furthermore, gender inequality in Bangladesh is compounded by climate change as women have to spend more time and resources dealing with the impacts and consequences (World Bank 2011a). Women face impacts of climate change disproportionately because of their social roles, discrimination, poverty and dependence on natural resources for their livelihood (World Bank 2011b). Climate change induced loss of livelihoods forces men to seek employment elsewhere, which further increases the vulnerability of women who are left behind (MoEF, (2013). So, the ultra-poor women's groups living in the vulnerable areas are on the frontline of adverse climate change impacts (Figure 9).

Figure 9:

Poor/ ultra-poor women groups living in climate hotspots are the most vulnerable to climate change

[3] The report uses the World Bank measure for most figures. The measure is based on consumption data (in this case, from 2015) and a poverty line of USD 1.90 a day in 2011 PPP – purchasing power parity.

8.1.4 Livelihood resilience to climate change

Livelihood is defined as "the sources used and the activities undertaken in order to live". It is usually determined by the entitlements and assets to which people have access. Such assets can be categorised as human[4], social[5], natural[6], physical[7], or financial[8]. Conversely, resilience[9] refers to the capacity of an individual, household, community or ecosystem to recover from the shock of an undesired or extreme event and return to previous conditions with as minimal damage as possible. So, the livelihood resilience can be defined as the capacity of all people across generations to sustain and improve their livelihood opportunities and well-being despite environmental, economic, social and political disturbances (Ayeb-Karlsson et al., 2015).

Recurrent and intensified extreme events arising from climate change have significant negative impact on the livelihood of people of the country. The impact is even greater as a large part of the population consists of rural population that live on marginal income with poor adaptive capacity. Agricultural adaptation, alternative livelihoods, and migration are the most common adaptation strategies in the vulnerable areas (Ayeb-Karlsson et al., 2016). Building adaptive capacity10 in the form of adaptation11 activities is essential in reducing vulnerability to climate change. Thus, devising diversified livelihood options for these vulnerable people would enhance their adaptive capacity by improving their financial strength and assets to withstand the impact of climate change, and eventually, help build a resilient community. Furthermore, women have the potential to become powerful agents of change when given the opportunity to participate in the design and leadership of resilience livelihood interventions.

[4] **Human capital:** value derived from skills training, consisting of people's health, skills, knowledge and motivation

[5] **Social capital:** value derived from social networks and institutions that improve people's social status and help them maintain and develop human capital in partnership with others, and

[6] **Natural capital:** value that resides in natural resources to produce goods and services

[6] **Natural capital:** value that resides in natural resources to produce goods and services

[7] **Physical capital:** value derived from durable and non-durable infrastructure, which contributes to the production process

[8] **Financial capital:** value derived from income sources, assets and consumption patterns, which enables households to own or trade other capitals.

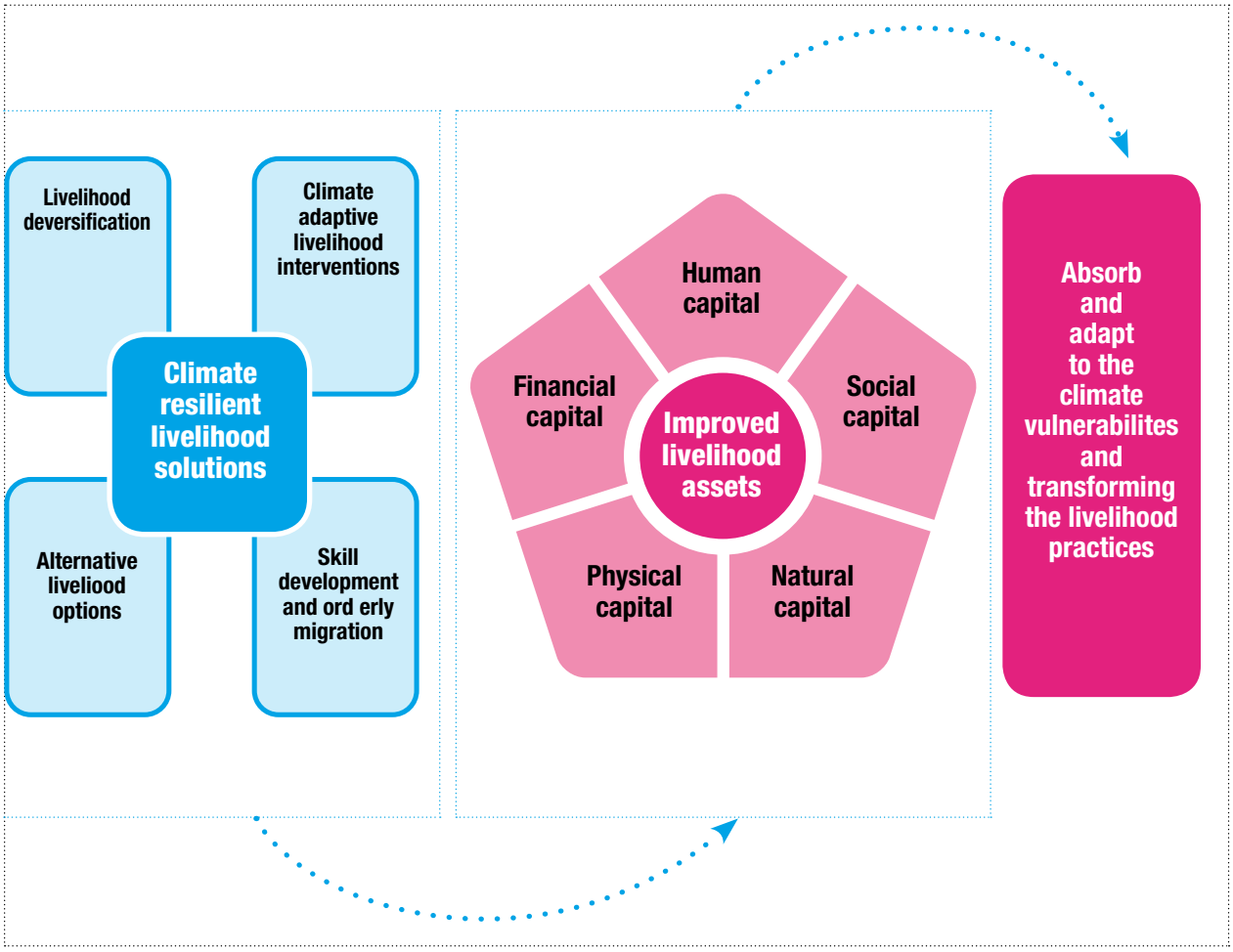
[9] **Resilience:** The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation." (IPCC AR5, 2014)

[10] **Adaptive Capacity:** "The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences." (IPCC AR5, 2014)

[11] **Adaptation:** Adaptation is defined as the process of adjustment to actual or expected climate change and its effects. Adaptation seeks to reduce the vulnerability of ecological, social and/or economic systems to climate change; and to minimise damage (or, in some cases, exploit benefits) associated with climate change. Adaptation definition includes short-term coping as well as long-term transformations

Figure 10:

Pathway to livelihood resilience



8.2 Methodology

The potential effects of climate change and natural disasters on the ultra-poor in Bangladesh are substantial, affecting their access to livelihood, fresh drinking water, savings, food security, housing, and health conditions.

BRAC's Ultra-Poor Graduation (UPG) programme, formerly known as Targeting the Ultra-Poor (TUP) programme, is recognised worldwide for pioneering the graduation approach and acclaimed for its innovative and holistic solution to ultra-poverty. To build resilience of ultra-poor households, UPG programme can transform their activities appropriately responding to climate change impacts, vulnerabilities and local adaptation measures. Considering the scope of integrating climate resilience building initiatives and mainstreaming[12] climate change adaptation in the UPG programme, BRAC Climate Change Programme (CCP) studied the UPG Programme

[12] The term '**mainstreaming**' refers to the integration of policies and measures to address climate change into ongoing sectoral and development planning and decision-making, so as to ensure the long-term sustainability of investments as well as to reduce the sensitivity of development activities to climate change. Mainstreaming is a process-driven approach that has three steps: finding the entry points and making the case to set the stage for mainstreaming; mainstreaming into on-going policy processes; and meeting the implementation challenge by mainstreaming into budgets and finance, implementation and monitoring

activities. The overall aim of this study was to identify possible entry points for adding and strengthening climate resilience components to mainstream climate change adaptation in UPG Programme and analyse the needs of vulnerable women in maintaining sustainable livelihoods. The specific objectives were:

- To get better understanding of UPG Programme and finding the scope of mainstreaming climate change adaptation
- To identify the impacts of climate change on livelihood practices and assess climate resilient viable livelihood options for women

This study was conducted in three climate vulnerable regions: exposed coastal areas, drought-prone areas and flood prone areas (Table-2).

Table-2: Name of the study area

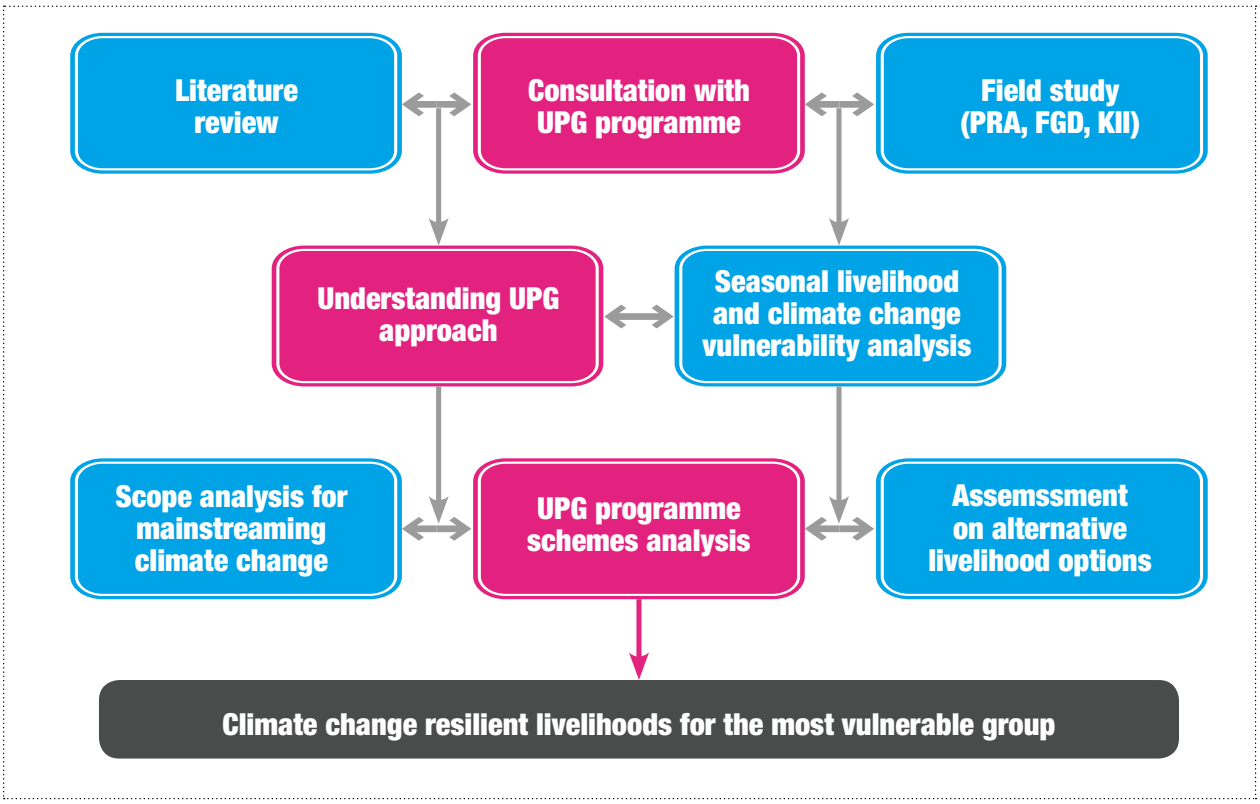
Geo-physical Eco-zones	District	Upazila	Climate change vulnerabilities
Exposed coastal areas	Satkhira	Shyamnagar, Kolaroa, Tala	Sea level rise, Salinity intrusion, Cyclone, Storm surges, Tidal flooding, Water logging, Heat wave, Rainfall pattern change
	Khulna	Paikgacha, Koyra	
	Bagerhat	Mongla, Sharankhola	
Drought-prone areas	Rajshahi	Godagari	Heat wave, Low rainfall, Groundwater level depletion
Flood prone areas	Kurigram	Nageshwari, Ulipur, Kurigram Sadar	Erratic rainfall, Frequent flooding, Riverbank erosion, Cold wave
	Lalmonirhat	Aditmari, Lalmonirhat Sadar	

The mixed-method study conducted a range of assessments to identify the most feasible climate change resilient livelihoods for poor and ultra-poor women. The investigation, involving literature review, participatory field assessments, GIS exercises, and community and expert consultations, has helped ensure an inclusive and dynamic process (Figure 11).

A wide range of participatory rapid appraisal (PRA) tools were used in this study including in-depth interviews, focus group discussions (FGDs) and key informant interviews (KII). The PRA tools were used for collecting data from the UPG programme staff, participants, local people and climate vulnerable households. Also, ultra-poor graduates from 2012, 2017 and 2018 were interviewed to measure their progress from the perspective of different timeline. A comprehensive needs assessment tool was used which included seasonal community hazard mapping, a mobility chart for women, seasonal livelihood calendar and viable livelihood options index.

Figure 11:

Methodological steps for the study



8.3 Understanding BRAC Ultra-Poor Graduation programme

The Ultra-Poor Graduation (UPG) programme is recognised worldwide for pioneering the graduation approach and acclaimed for its innovative and holistic solution to ultra-poverty.

The graduation approach is a comprehensive, time-bound, integrated and sequenced set of interventions to enable ultra-poor households achieve key milestones towards sustainable livelihoods and socioeconomic resilience, in order to get out of extreme poverty (Figure 12).

Since its inception in 2002 to until December 2020, the programme has served almost 2.1 million ultra-poor households in Bangladesh. UPG programme's target population is ultra-poor women, but its intervention package benefits the entire household. UPG programme is grounded on four pillars of the graduation approach.

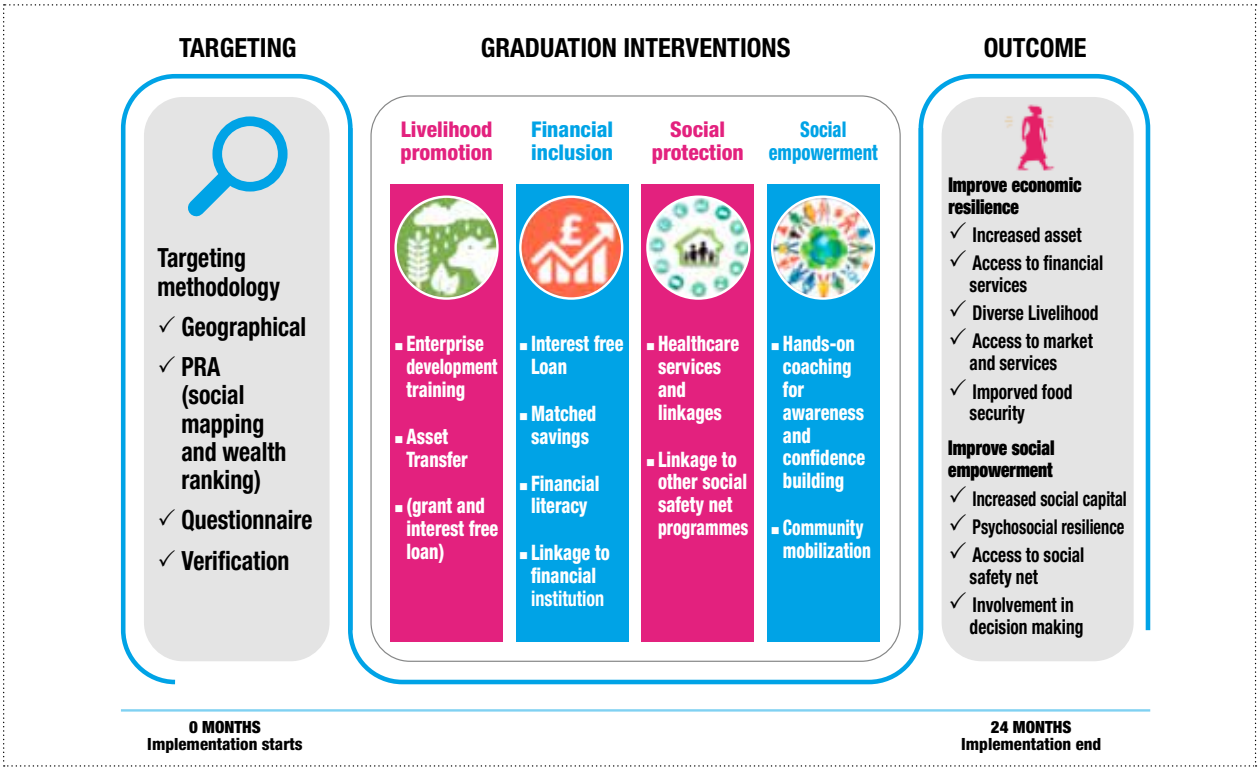
- **Livelihoods promotion:** Asset transfer, grants, and interest free loans to procure a viable asset or start a business along with technical skills training.
- **Financial inclusion:** Direct access to convenient, formal or informal financial services accompanied with financial literacy training.
- **Social protection:** Support basic income security such as consumption support and crisis relief, and access to health, education, and employment opportunities through linkages with government services.
- **Social empowerment:** Regular check-ins and life-skills support on health and social issues that build confidence, resilience and promote social inclusion.

The UPG programme consists of eight key elements:

1. **Targeting** – Meticulous targeting using poverty maps and village level participatory rural appraisals to identify the most vulnerable members of that community.
2. **Enterprise development training** – Enterprise-related training on livestock, agriculture or non-farm activities as preferred by participants.
3. **Asset transfer and interest free loan** – A high value asset package or capital to start small businesses through grants and interest free loans.
4. **Hands on coaching** – Ensuring livelihoods growth, enhancing participants' decision-making skills, building confidence, and raising awareness on relevant health and social issues and planning for future.
5. **Savings** – Participants' savings are matched by the programme to promote savings behaviour, enhance financial security and resilience, and enable future investment.
6. **Healthcare services** – Participants and family members receive preventative care guidance and healthcare related awareness. They are provided treatment through local healthcare providers and financial assistance.
7. **Community mobilisation** – To integrate participants in the community, a committee is formed comprising of key members of the village. It creates an enabling environment for participants in the form of social protection, helps protect their assets, facilitates access to government services, and offers support in times of need.
8. **Graduation** – Ultra-poor households graduate from the programme by achieving economic and social advancement measured by pre-determined criteria over the course of 24 months.

Figure 12:

The Graduation model



8.4 BRAC Ultra-Poor Graduation programme and equitable adaptation to climate change

Disadvantaged and vulnerable populations in Bangladesh are disproportionately at risk to the impacts of climate change and incremental[13], equitable and transformational[14] adaptation is required to respond to these risks. Adaptation to climate change must be inclusive, equitable, and representative. Adaptation must meet the needs of the poorest directly, putting them at the centre of decision-making. Equitable adaptation emphasises the equality of opportunity and inclusivity which improves the economic productivity, social cohesion, security, health and peace (Pelling and Garschagen, 2019).

BRAC has pioneered equitable adaptation in Bangladesh by improving socio-economic condition of the ultra-poor[15] women living in climate vulnerable areas since the inception of Ultra-Poor Graduation (UPG) programme in 2002. Every year, the programme serves thousands of ultra-poor households in Bangladesh, infusing socioeconomic resilience, as well as promoting sustainable livelihoods through innovative and holistic graduation approach and at the same time contributes to equitable adaptation to climate change (Figure 13).

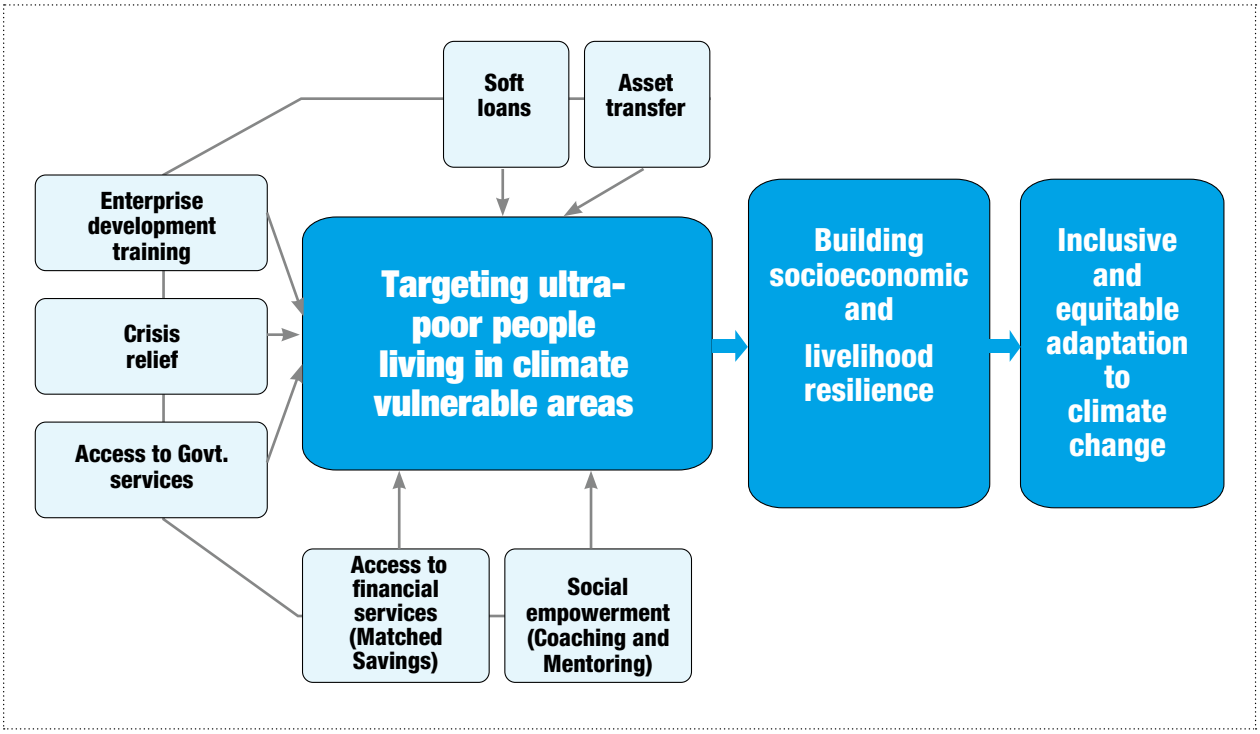
[13] **Incremental Adaptation:** Adaptation actions where the central aim is to maintain the essence and integrity of a system or process at a given scale. The adaptation options are largely incremental in nature. They either involve doing incrementally more of what is being done to manage existing pressures on natural resources or making incremental modifications to the existing suite of management actions.

[14] **Transformational adaptation:** Adaptation that changes the fundamental attributes of a system in response to climate and its effects. Three classes of transformational adaptations are those that are adopted at a much larger scale, that are truly new to a particular region or resource system, and that transform places and shift locations.

[15] **Ultra-poor**: Though the extreme poor live on less than $1.90/day, the ultra-poor are the lowest earning (< $0.70 to $0.80 per day) and most vulnerable subset of this population globally. The multidimensional and nuanced problems of the ultra-poor — food insecurity, poor health, social stigma, limited skills, assets or savings — require an approach that is comprehensive, long-term and substantive enough to empower the ultra-poor to engage with markets and their own communities and graduate from extreme poverty.

Figure 13:

Approach to equitable adaptation to climate change



8.5 Ultra-Poor Graduation programme in the context of climate change adaptation

The activities of UPG programme contributes directly to poverty reduction of the ultra-poor people of Bangladesh who are also most climate vulnerable. By uplifting social and financial strength, UPG programme helps build adaptive capacity of these ultra-poor households to withstand future climatic shocks, thus, increasing their climate resilience. As BRAC aims to increase resilience of vulnerable population, contextualising the UPG programme through the lens of climate vulnerability would lead to opportunities or entry points to make the activities more climate adaptive. This section will discuss the currently practised ultra-poor graduation programme elements and possible suggestions to contextualise the programme with climate change.

8.5.1 Existing Ultra-Poor Graduation programme

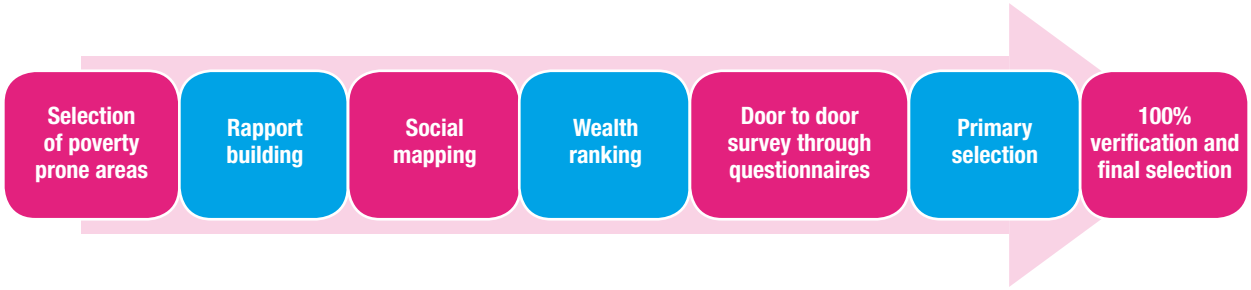
The ultra-poor graduation programme currently runs on the following elements:

1. Targeting
2. Enterprise development training
3. Asset transfer and interest free loan
4. Hands on coaching
5. Matched Savings
6. Healthcare services
7. Community mobilisation
8. Graduation

Step 1 Targeting

Selection process

Participant selection is one of the most critical components. The following diagram describes the process:



1. **Selection of poverty prone areas:** Before going to the field, the UPG programme relies on poverty maps created by the World Food Programme. Later, to ascertain where the ultra-poor reside, the programme staff meet with the staff of other BRAC programmes to prepare a list of poverty prone sub-districts (upazila). Then, the programme selects the villages or with the most poverty.

2. **Rapport building:** The frontline staff visit a village prior to selecting it, for enquiring about the poverty status of residents. If satisfied with the poverty status, they invite locals of those villages to a discussion where a participatory rural appraisal (PRA) is carried out as part of the selection process.

3. **Social mapping:** Social mapping happens during the PRA with residents of the selected villages. During the discussion, participants' households are mapped out to find out their location in the village. Along with their households, nearby roads, shops and other landmarks are also marked.

4. **Wealth ranking:** During the PRA, identification cards are prepared of all households included on the social map. The cards contain detailed information of the household. Programme staff then facilitate a question-answer session to find out the financial, economic and social conditions of these households. With the information and feedback from villages, the households are categorised by wealth such as very poor, moderate poor, poor, not so poor, rich etc.

5. **Questionnaire survey:** With detailed information of all the households, the frontline staff then visit every household listed in the bottom three wealth categories and fill out a questionnaire to assess accurate information of their livelihood status. The information received through the questionnaire is compared against the UPG programme selection criteria. The households matching that criteria are primarily selected.

6. **Verification and final selection:** 100% verification of the primarily selected households is necessary to ensure that UPG selection is accurate. The verification is conducted by field managers cross-checking the questionnaires with home visits.

   Further, BRAC collects no-objection certificate (NOC) from local organisations to validate that the participants are not receiving similar support from them or any other microfinance institutions.

Selection Criteria

The selected participants are divided into three groups:[16]

Group 1 participants are aged above 50 years and selected based on specific prerequisites and criteria. This group's interventions mainly focus on facilitating participants' access to government social safety net programmes. In addition, the participants are provided with small assets or business capital through grants, tailored enterprise development training, hands on coaching and matched savings, community mobilisation and healthcare services. The programme cycle for Group 1 is 12 months.

Pre-requisites

1. Household per capita income does not exceed BDT 2000[17]
2. The household has no member between 18-50, excluding students and persons with disabilities
3. The household doesn't have any linkage with any MFI or FI
4. The household should have at least one member who is physically capable to engage in income generating activities

Selection criteria:

1. The household is dependent on irregular income
2. The household has productive assets worth no more than BDT 5000
3. The household has a maximum of 30 decimals of land

Group 2 and 3 participants are aged between 16 and 50 years and selected based on specific prerequisites and criteria too. Within the 24-month programme cycle, they receive enterprise development training, asset transfer with interest free loan, hands on coaching, community mobilisation and healthcare services. Group-2 participants have to return 40% to 60% of the asset value while Group-3 participants have to return 80% of the loans they were provided.

Pre-requisites for Group 2 & 3:

1. Household per capita income is no more than BDT 2000 where the participant earns less than USD 1.90 per day
2. The household has at least one member whose age is between 18 and 50 (Group 2 & Group 3)
3. The household doesn't have any linkage with any Microfinance Institution or NGO

Group-2

1. The female household member needs to go outside for earning due to ultra-poverty
2. The household has productive asset worth of BDT 5000
3. The household has maximum 10 decimals of land

Group-3

1. The household is dependent on irregular income
2. The household has productive asset worth maximum BDT 10,000
3. The household has maximum 30 decimals of land

People meeting at least two of the three criteria are selected either in Group 2 or Group 3.

[16] Selection criteria of 2020 cohort

[17] This value is adjusted according to the World Bank the global poverty line of purchasing power parity (PPP) of 1.9 USD per day.

Step 2 Enterprise development training

During the participant selection process, specialised field staff[18] conduct a feasibility study of which enterprises would be profitable in the area and make a list of suitable options. After that, frontline staff visit participants to ask about their preference of enterprise. While giving priority to the participants' choice, the field staff also check the surroundings of participants' house and previous experience with their preferred option. Once the participants give their consent, they are supported with enterprise development training on livestock, agriculture or non-farm activities for two days.

Step 3 Asset transfer and interest free loan

After finishing the enterprise development training, the programme transfers a high value asset package or capital to start small businesses through grants and interest free loans.

Step 4 Hands on coaching

Regular hands-on coaching (fortnightly) through home visits and group visits by frontline staff are conducted after transferring the assets. Through the hands-on coaching, the programme ensures livelihood growth, enhances participants' decision-making skills, builds confidence, and raises awareness on relevant health and social issues and helps participants with future planning.

Step 5 Matched savings

The programme encourages participants to save by matching their savings with its own funds to instil the habit and, thereby enhance their financial security and resilience, and enable future investments.

Step 6 Healthcare services

Participants and their family members receive preventive care guidance and healthcare related awareness. They are provided treatment through linkages with local healthcare providers and financial assistance.

Step 7 Community mobilisation

To integrate participants into the community, a committee is formed with key members of the village. It creates an enabling environment for participants with social protection, helps protect their assets, facilitates access to government services, and offers support in times of need.

Step 8 Graduation

After completing the two-year programme, participants graduate if they are able to access greater economic and social opportunities such as microfinance, local markets, health care services, education, livelihoods, financial services, etc. including government services. These opportunities help the participants step into the mainstream development programmes. Secondly, graduation is measured through specific indicators:

[18] Senior Technical officer (Poultry and Livestock)

Economic indicators

1. Participant's household has three types of productive assets (mandatory)
2. Value of current productive asset has doubled compared to the initial value recorded (1 point)
3. Participant is saving regularly in any one institution (1 point)

Social indicators

4. Household members use sanitary latrine (mandatory)
5. Household members have access to safe drinking water (mandatory)
6. Household members are able to eat good meals at least two times a day (mandatory)
7. The household's school-aged children are going to school (mandatory)
8. Participant has begun taking part in household decision-making process in terms of children's marriage, education of children, asset purchase/sales or other family matters since joining the programme (2 points)
9. No under-age marriages have occurred in the household since joining the programme (1 point)
10. Participant has improved house conditions considering the geographical context (2 point)
11. Participant has received service from the government/non-government offices at least once after joining the programme (1 point)
12. Participant has received invitation to attend family/social event at least once after joining the programme (1 point)
13. Participant or any other family member lent or borrowed cash or other items or purchases on credit after joining the programme (1 point)

Among the 13 indicators participants must achieve five mandatory indicators and score 7 out of 10 from the other indicators to complete graduation.

8.5.2 How Ultra-Poor Graduation programme addresses climate change

On a broader scale, BRAC UPG programme provides a holistic solution to ultra-poverty. Moreover, the interventions lead to enhanced adaptive capacity of climate vulnerable ultra-poor population by uplifting their financial and social strength through improved financial, social, physical and human capital. From Targeting to Graduation, the programme takes different measures to make its participants resilient to climatic shocks. Here is a glimpse of how the UPG programme addresses climate change in its programme intervention:

a) **Targeting:** The ultra-poor people living in the most climate vulnerable regions are given the highest priority for selection. UPG programme considers Bangladesh poverty maps and climate change vulnerability maps for selecting sub-districts. Moreover, UPG programme prioritises area with high climate change impact for selecting the poverty prone villages. This automatically ensures climate vulnerable participants are selected.

Social mapping and wealth ranking help mapping out the ultra-poor households in the most climate vulnerable locations and categorise them accordingly. A household questionnaire survey of climate vulnerable households is carried out to collect accurate information on the livelihood status and extent of climate vulnerability. Here, UPG programme considers exposure, sensitivity and adaptive capacity of the participants to explore their climate vulnerability. Final participants are selected based on the UPG prerequisites and criteria duly verified. The participant profile is thus, based on poverty status and climate vulnerability.

b) **Enterprise selection:** Considering different context specific vulnerabilities, UPG programme lists various enterprise options. Later, while offering the enterprise options to the participants, the programme checks the feasibility of the enterprises in different specific contexts. The enterprise options are context-specific and non-hazardous to environment. Enterprise options are provided that suit the specific location and climate vulnerability of the participants among other factors based on participants' profile which is the result of a continuous appraisal process.

c) **Infrastructure and fodder management:** When transferring high value asset package, availability of supportive infrastructure, particularly adaptive ability is considered. Raised floor for livestock in a flood-prone areas is one of the examples of infrastructural considerations. Geography specific fodder management is a major part of providing participants with livelihood scheme. Napier grass in dry (northern) area, watery grass in water logging area and hydroponic in hoar area are encouraged from the programme for fodder management.

d) **Savings:** UPG participants are encouraged to save regularly to promote their savings behavior, enhance financial security and enable them for future investments. It also helps facilitate a contingency or emergency fund and future investment.

e) **SWOT analysis after asset transfer:** After transferring the asset to the programme participant, the frontline staffs seat with the participants and does a comparative analysis of the household's income and expenditure and later conduct SWOT analysis to identify the strengths, weakness, opportunities and threats of the participants. Considering the climate change induced extreme events as threat, the participants are encouraged to identify their opportunities for attaining sustainable development. The programme also teaches its participants to do the contingency planning for alternative livelihood options if any disaster occurs. These considerations in the SWOT analysis automatically helps in building the resilience of the households to withstand the impact of climate change by increasing their ability to carry out their own financial planning.

f) **Hands-on-coaching:** One of the social issues UPG teaches to its participants is 'Disaster management'. In the group visits the frontline staffs teach the participants on why disaster happens, do's and don'ts if any disaster occurs, how to absorb the shocks fast etc. During this regular fortnightly hands on coaching staff uses flipchart to aware participants on different social, health as well as disaster risk reduction in the context of climate change.

g) **Season based discussion:** The frontline staffs discuss relevant issues with the participants according to the climatic seasons. With this discussion, they want to raise awareness among the participants on season based natural occurrence, such as lightening in the monsoon season, fire incidents in dry season etc.

h) **Home gardening, tree plantation:** The programme encourages its participants for home gardening and tree plantation for ensuring their proper nutrition and some extra income. The programme considers local climatic aspects while providing vegetable seeds for promoting home gardening.

i) **Village Social Solidarity Committee (VSSC):** The programme facilitates greater social inclusion by connecting participants to Village Social Solidarity Committees (VSSC). This committee also assist the participants to get access to the local government in order to avail the social safety net services along with others support such as food, cash, hygiene products, medical support, and agricultural supplies in emergencies. The committee acts accordingly in any kind of emergency (storm, cyclone, pandemic etc.) for the ultra-poor people. In addition, the VSSC have regular discussion on climate change impacts for creating awareness among the members.

The net result is that the ultra-poor climate vulnerable participants graduate with increased adaptive capacity and enhanced climate resilience.

8.6 Asset based enterprise development approach: Analysis under climate change lens

8.6.1 UPG schemes and climate change vulnerability

BRAC Climate Change Programme (CCP) conducted in-depth analysis of UPG interventions in climate vulnerable areas through a climate change lens. It was found that UPG Programme carefully catergorises participants and transfers assets and skills for enterprise development. Three different enterprises and nine schemes were considered according to age, capacity, prior experience, and condition of household of the participants. These enterprises are improving livelihoods of vulnerable ultra-poor households by providing assets and associated training, generating income and facilitating savings to face the extreme events. The results of this analysis are summarised below:

Livestock Rearing

Schemes:

- Cow (1 Female Cow)
- Cow (1 Bull Cow)
- Goat (1 Male goat+2 Female Goats+ 5 Chicken/Duck)
- Goat (3 Female Goat+ 5 Chicken/Duck)
- Sheep (1Male Sheep + 3 Female Sheep+ 5 Chicken/Duck)

Vulnerability assessment under climate change lens

- Climate change creates stress in livestock and poultry. High temperature will increase body metabolism which will cause less growth in livestock. This leads to less meat, milk and egg production.

- Climate change induced extreme and slow onset events (flood, cyclone, drought, salinity etc.) can reduce the availability of spaces for rearing livestock.
- Shortages in fodder and freshwater will have severe consequences on the feasibility of goats and cows as a source of milk and meat.
- Goats are highly vulnerable to wind and rain as they get sick easily with cold related diseases.
- High tolerance to salinity and resilience to lower intake of feed and water make sheep more resilient than any other livestock. An adult sheep can survive with 2-6 litres of water per day.

Livestock and climate change adaptation: Bangladesh perspective

According to IPCC (2019), half of all emissions of methane, one of the most potent greenhouse gases, come from cattle and rice fields. Therefore, in recent times, livestock as an adaptive livelihood is under debate as the sector contributes to GHG emission. However, highest greenhouse gas (GHG) emitting countries are among the least vulnerable to negative impacts of future climate change. Conversely, Bangladesh, with low emissions, is acutely the most vulnerable to negative impacts of climate change (Althor et al., 2016). As per World Bank (2014) data, Bangladesh's per capia CO2 emission is 0.474 metric tonnes. Despite minimal emission rate, Government of Bangladesh aims to achieve lower greenhouse gas emission as part of its two-fold strategy — increasing climate resilience, being the other one. This balanced approach is reflected in its Nationally Determined Contributions (NDC) which committed to reduce GHG emissions in power, industry and transport sectors. It has pledged an unconditional 5% greenhouse gas emissions cut by 2030, adding that with financing and technology support it will cut emissions by 15%.

Agriculture is viewed as the most important sector of Bangladesh's economy due to its role in food security, employment and livelihood and comprises of three subsectors including fisheries, livestock and forestry. Livestock provides 15 percent of total employment in the country (MoEF, 2013). The poor and other vulnerable groups are likely to be at high risk of food insecurity as a result of climate change. Adaptation strategies in response to climate change at community level involves a mixture of livelihood options ensuring food security and nutrition. Furthermore, livestock represents the major stores of wealth that are mobilised in response to climatic shocks.

Considering Bangladesh's national plan of GHG emission reduction through power, industry and transport sector and minimal carbon emission, livestock is still a viable option for livelihood adaptation in Bangladesh. Livestock is a moveable asset that is more adaptive to climate change compared to crop-based practices. Many livestock related options can enhance the adaptive capacity of vulnerable communities, in particular, smallholders and pastoralists (IPCC, 2019).

Agriculture and social forestry

Schemes:

- Agriculture+1Goat/Sheep
- Integrated Cultivation (Rice + Fish + Vegetables)
- Narsery+1 Goat/Sheep

Vulnerability assessment through climate change lens

- Changes in crop suitability and associated agricultural biodiversity, decrease in input efficiency, monoculture, and prevalence of pests and diseases are some of the major impacts of climate change on agriculture.
- Erratic rainfall may have serious negative impacts on fruits and vegetables.
- Agricultural loss and damage from climate change induced extreme and slow onset events (flood, cyclone, drought, salinity etc.).

Non-farm

Schemes:

- Trading Goods+1 Goat/Sheep

Vulnerability assessment through climate change lens

- Small grocery shops and their inventory can be affected by floods and cyclones, thus destroying the investment.

8.6.2 Blending asset-based enterprise with local adaptation measures

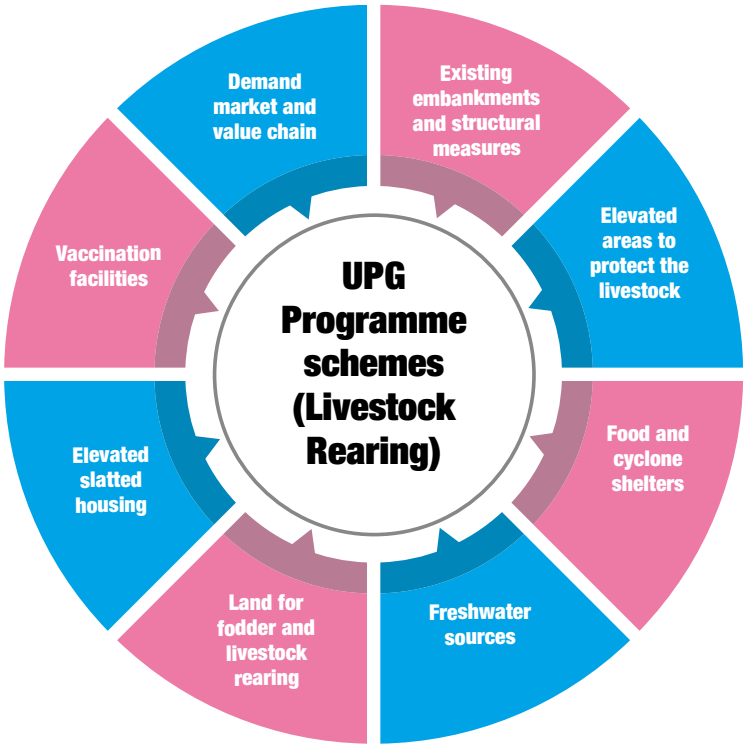
Existing adaptation measures in a an area could become viable options that might effectively support UPG Programme schemes become more relevant.

In order to reduce the vulnerability to climate change, UPG programme adopts a comprehensive approach while providing livelihood support accounting for local adaptation factors. Blending the interventions with existing local adaptation measures help in making the interventions sustainable (Figure- 14, 15, 16).

For example, UPG programme considers certain local adaptation measures while selecting livestock scheme to make them fit and sustainable in the local climatic context (Figure 14). For instance, it considers whether there are appropriate shelters in the areas prone to floods and cyclones, or embankments. The programme considers whether there are freshwater sources, available vaccination facilities and enough land for fodder and pasturing.

Figure 14:

Comprehensive approach for selecting livestock rearing based enterprise as livelihood option for strengthening resilience of ultra-poor living in climate vulnerable areas.



UPG programme also considers local adaptation options and practices like irrigation, freshwater sources, and existing agricultural practices for providing agricultural inputs. Structural measures to protect agricultural land are also considered an added advantage.

For social forestry, land availability is an important factor, particularly for nurseries and tree plantation (Figure 15). Most importantly, for better adaptation, locally available climate resilient species are considered first, which helps the trees to survive in the long run and cope with extreme events.

Figure 15:

Comprehensive approach for selecting Agriculture & Social Forestry based enterprise as livelihood option for strengthening resilience of ultra-poor living in climate vulnerable areas.

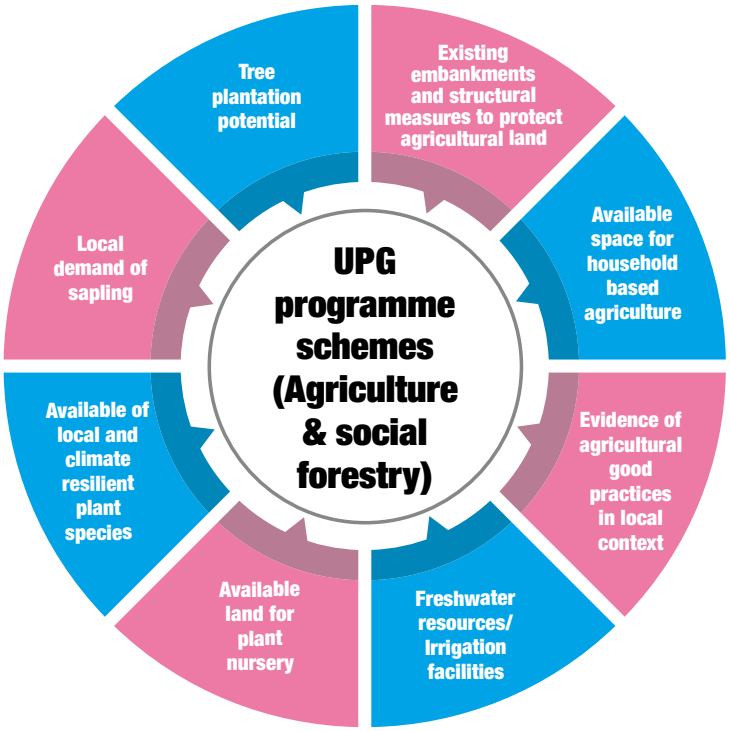
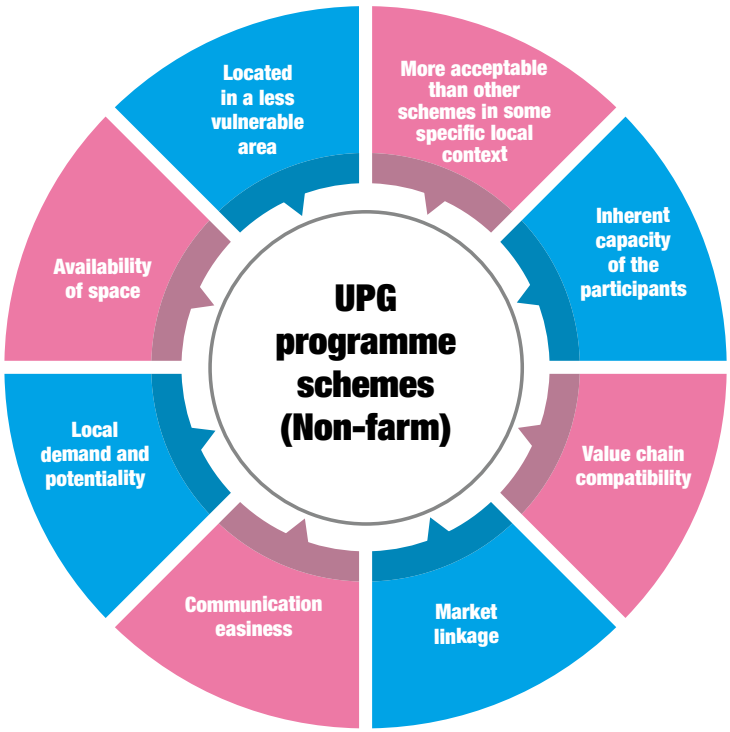


Figure 16:

Comprehensive approach for selecting Non-farm based enterprise as livelihood option for strengthening resilience of ultra-poor living in climate vulnerable areas.



Among the local adaptation measures (Figure 16) considered for non-farm schemes, market linkage and communication are two important factors. Ideally the goods provided should have sufficient demand in the local market and there should be adequate space for the business to run smoothly.

Local adaptation interventions, along with UPG programme schemes, contribute to resilience of vulnerable communities. Moreover, the existing adaptive measures can supplement the UPG schemes for contributing more in building resilience.

Table-3: Reducing vulnerability by considering local level adaptation measures with UPG Programme schemes

UPG programme schemes	Considering local level adaptation measures
Cow (1 Female Cow)	■ Existing embankments and structural measures for protecting the livelihoods ■ Available elevated areas to protect the livestock from flood and storm surge. ■ Available flood and cyclone shelters with space for livestock. ■ Availability of freshwater and alternative sources of water. ■ Availability of land for fodder and livestock rearing. ■ Housing condition (elevated, slatted and space available for livestock) ■ Availability of vaccination facilities. ■ Innovative agricultural options and good practices in the specific area. ■ Availability of land for nursery, local and climate resilient plant species, organic fertilizer, local demand of sapling and tree plantation potentials. ■ Available market system analysis and value chain development.
Cow (1 Bull Cow)	
Goat (1 Male goat + 2 Female Goats + 5 Chicken/Duck)	
Goat (3 Female Goat + 5 Chicken/Duck)	
Sheep (1Male Sheep + 3 Female Sheep + 5 Chiken/ Duck)	
Agriculture input + 1 Goat/ Sheep	
Integrated cultivation (Rice+Fish + Vegetables)	
Nursery +1 Goat/Sheep	
Trading Goods +1 Goat/ Sheep	

8.7 Way forward

Grounded on the four pillars of livelihood promotion, financial inclusion, social protection and social empowerment, BRAC pioneered equitable adaptation in Bangladesh by improving socio-economic condition of ultra-poor women in climate vulnerable areas since inception of Ultra Poor Graduation Programme in 2002 (Formerly known as Targeting the Ultra-Poor). Considering the close linkage between climate change and development, BRAC's climate change activities aim to integrate development initiatives to improve quality of life, protect resources and build awareness in the marginal communities. Mainstreaming climate change adaptation into the UPG interventions is a perfect example of integrating development with climate change.

Considering the UPG model as a unique adaptation model for the climate vulnerable areas, following are some of the aspects that can be incorporated into the graduation approach:

Baseline and end-line adaptive capacity analysis of the participants can help the UPG programme track increase or decrease of their adaptive capacity.

A thorough examination of the nine schemes under three different enterprises of UPG programme from a climate perspective would demonstrate the programme's contribution to mainstreaming climate change. Furthermore, some potential and alternative climate resilient livelihood options can be considered based on climate-resilience, sustainability, scalability, gender responsiveness, profitability and market access, resource availability and environmental impact.

Climate change could be incorporated into the training of UPG programme staff. The capacity building can include these themes below:

- Climate change impacts and adaptation
- Climate change vulnerability assessment
- Climate hazard mapping and community-based adaptation
- Climate resilient livelihood options
- Local livelihood resilience planning, diversification and implementation
- Climate resilient development and equitable adaptation
- Integration of climate change adaptation options in the UPG model.

Integration of activities of different community-based organisations at local level is important to combat the impacts of climate change through a comprehensive manner. Creating linkage between Village Social Solidarity Committees (VSSC) and other Community Based Organisations (CBOs) like Union Disaster Management Committee (UDMC) would help in planning and taking risk informed decisions in climate emergencies. Moreover, the VSSC members can be trained to conduct Community Climate Vulnerability Assessment (CCVA) and develop Local Resilience Planning (LRP) so that they can assess their vulnerability and accordingly plan how to strengthen their climate resilience. Furthermore, advocacy support can be provided to VSSC for incorporating the developed LRPs into local development plans and getting resources to implement them.

Project activities can be monitored and evaluated through the climate change lens. The indicators of monitoring and evaluation should be set in a way that helps contextualising UPG model as a climate adaptive graduation model in the vulnerable areas.

BRAC is progressing towards a future where all of its interventions are designed and implemented in a way that is climate resilient. Thus, Climate Change Programme (CCP) has contributed in retrofitting the Ultra-Poor Graduation programme for climate change adaptation. This approach to mainstream climate change into UPG programme can be emulated by other BRAC programmes in their interventions.

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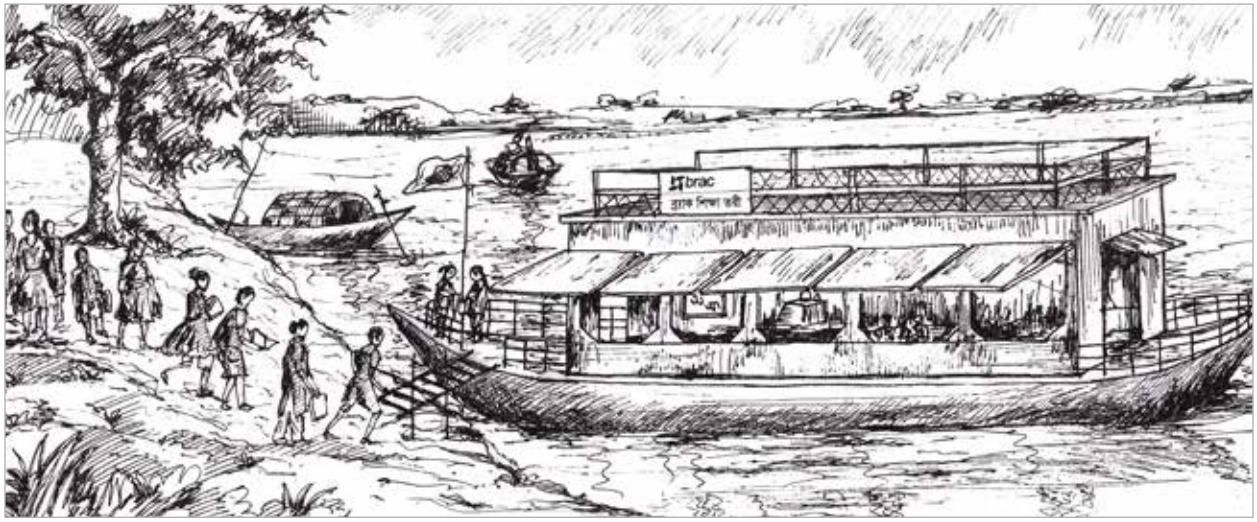
GOOD PRACTICES ON CLIMATE CHANGE ADAPTATION

Climate Resilient Housing

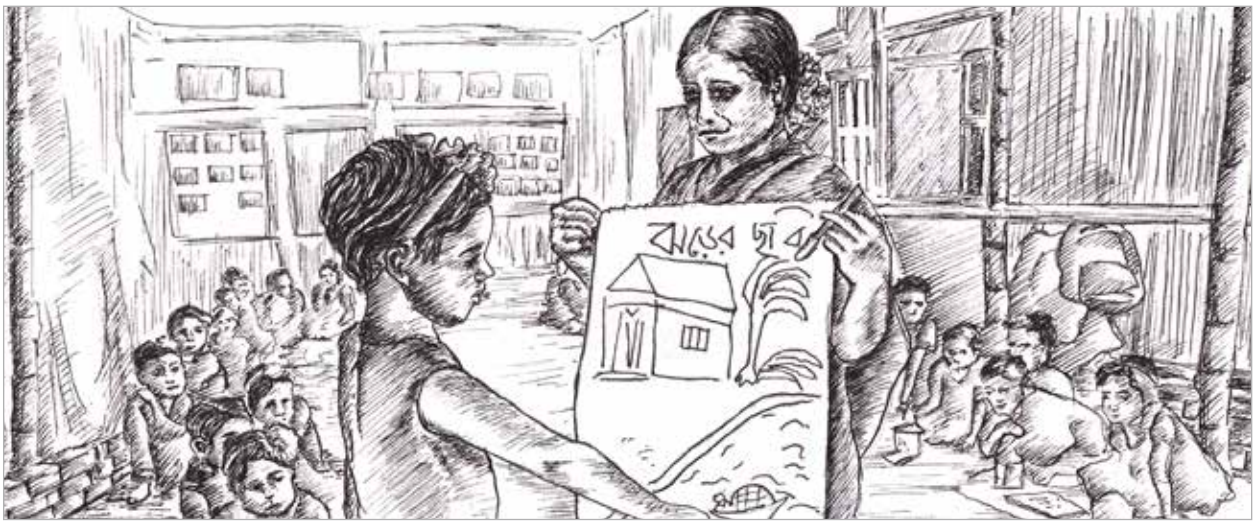
Climate Adaptive Crop Agriculture



Boat Schools for Children

Solar Powered Piped Water System

Pond Dyke Farming



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