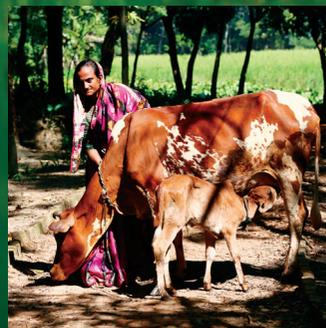


**BRAC GOOD PRACTICES ON
CLIMATE CHANGE ADAPTATION
AND MITIGATION**





BRAC GOOD PRACTICES ON CLIMATE CHANGE ADAPTATION AND MITIGATION

Prepared by

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BRAC University

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Dr Md Liakath Ali

Director, Climate Change Programme
BRAC and BRAC International & Urban Development Programme BRAC

ABBREVIATION

BCCSAP	Bangladesh Climate Change Strategy and Action Plan	DM	Disaster Management
C3ER	Centre for Climate Change and Environmental Research	DRR	Disaster Risk Reduction
CC	Climate Change	DTW	Deep Tube Well
CCP	Climate Change Programme, BRAC	EWS	Early Warning Systems
COP	Conference of Parties	GHG	Green House Gas
CPP	Cyclone Preparedness Programme	ICS	Incident Command System
CREWS	Climate Risk and Early Warning Systems	IDP	Integrated Development Programme, BRAC
DECC	Disaster, Environment and Climate Change Programme, BRAC	IPCC	Intergovernmental Panel on Climate Change
		KII	Key Informant Interview
		NAPA	National Adaptation Plan of Action

NGOs Non-Governmental Organisations

PSF Pond Sand Filters

RHW Rain Water Harvesting

SDGs Sustainable Development Goals

SOP Standard Operating Procedure

TUP Targeting the Ultra Poor

UDP Urban Development Programme,
BRAC

UPGP Ultra Poor Graduation Programme,
BRAC

UNFCCC United Nations Framework
Convention on Climate Change

UNICEF United Nations Children’s Fund

UPG Ultra-Poor Graduation
Programme, BRAC

UWCs Union WASH Committee

VDO Village Development Organisation

VWCs Village WASH Committee

WASH Water, Sanitation and Hygiene
Programme, BRAC

WTP Water Treatment Plant

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1

INTRODUCTION

According to Global Climate Risk Index-2019, Bangladesh is among the top 10 most vulnerable countries in terms of climate change impacts. Being the Asia's largest and the world's most populated delta generally imposes the risk of various natural calamities, and climate change increases its vulnerability to a great extent. Despite the exposure to vulnerability, Bangladesh is acknowledged for its constructive initiatives to tackle the impacts of climate change. The country has invested more than \$10 billion in various climate change actions over the years (World Bank, 2016).

The response towards climate change can be made both by adapting to its impacts and mitigating the intensity of climate change by reducing greenhouse gas emissions. A human intervention

to reduce the sources or enhance the sinks of greenhouse gases can be referred as mitigation (IPCC (Field, 2012). Adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change¹. For combating the impact of climate change, a strong linkage needs to be established between adaptation and mitigation measures.

BRAC is a development organisation dedicated to the alleviation of poverty by empowering the poor to bring about change in their lives created with a vision of a world free from all forms of exploitation and discrimination where everyone has the

¹ <https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/what-do-adaptation-to-climate-change-and-climate-resilience-mean>

opportunity to realize their potential. It was established in Bangladesh in 1972 and currently working in 11² countries across Asia and Africa. Over the course of its evolution, BRAC has proven itself to be a pioneer in recognising and tackling the many different realities of poverty and has started the journey towards piloting, perfecting, and scaling innovations to impact the lives of millions.

BRAC is almost self-sustaining in Bangladesh through its own network of social enterprises and investments. With an overarching goal of changing the system of inequality, it is facilitating social transformation through eight programmatic priorities: eliminating extreme poverty, expanding financial choices, employable skills for decent work, climate change and emergency response, gender equality, universal healthcare, pro-poor urban development, investing in the next generation.

Economic, social and environmental development of a nation is the only the way to achieve sustainable development. However, all the progress that has been made so far will come under threat because of climate change. In order to combat such challenges, BRAC plans on mainstreaming the climate

change issue into the development activities of all programmes and putting focus on strategic planning to address climate change in Bangladesh. The Foreign, Commonwealth & Development Office (FCDO), previously known as DFID of the UK government financed these initiatives.

1.1 BRAC and climate resilience

Since its establishment BRAC has been working for rehabilitation and disbursing relief as emergency response to both human made and natural disasters. As a visionary and leader, BRAC realised the importance of incorporating climate change issues and emergency response to set a development paradigm. BRAC is currently working to enhance resilience and foster sustainable development. Aligned with its commitment towards tackling persistent and emerging concerns, BRAC focuses on 'building resilience to climate change' as one of its eight programmatic priorities in its 2016-2020 strategy.

Moreover, BRAC has its Climate Change Strategy 2016-2020' which has been approved on 4 October 2017 by its governing body to transform BRAC into a climate smart organisation. Therefore, BRAC ensures integration of climate change-related aspects into every stage of programmatic

² <http://www.bracinternational.nl/en/>

activities and interventions, thereby identifying approaches that could support in responding, minimising, and adapting to local climatic risks and vulnerabilities.

For addressing climate change impacts, BRAC follows an integrated approach utilised by several adaptation and mitigation measures through different development initiatives. All activities are implemented following the organisation's own climate change policies as well as the international policies and SDG 13. It provides services to empower people to adapt and respond to the effects of climate change while working to mitigate future impacts through sustainable development practices. BRAC Climate Change programme provides climate-vulnerable people with access to the tools and knowledge to adapt and respond to the adverse climatic changes and to adopt various sustainable practices to combat the impending climatic impacts. BRAC also finds it pivotal to encourage women's participation in its efforts by helping to improve their ability to combat extreme climatic events effectively. In 2019, more than 823,000 people received support to cope with climate change impacts and 335,990 households reached with integrated climate resilient solutions³.

³ <http://www.brac.net/program/climate-chnage-programme/>

1.2 Objective

The main objective of this exploratory study is to identify certain good practices within BRAC's programmes relating to address the impacts of climate change.

1.3 Scope of Work

To assess the BRAC initiatives through a climate change lens;

To review the selected programmes of BRAC and establish a link between climate change resilience and the programmes' activities;

To identify good practices related to 'climate change' in consultation with concerned authorities and by exploring available literature from the selected programmes and document the practices.

2

METHODOLOGY

The methodological framework was designed to attain all the objectives of this study which is a combination of literature review (accomplished project reports or documents), case studies, key informant interviews, expert consultations, and field visits.

BRAC programmes have introduced climate change issues in their interventions considering climate vulnerabilities. A total number of 20 practices of 7 programmes have initially been identified considering productivity, livelihoods, and ecosystem. An extensive literature review has been carried out to assess the programme. Previous reports on the programmes have been reviewed to understand the overall structure of the selected programmes. Moreover, the relevant national policy, strategy, plans, etc. have been reviewed to find out whether the selected programmes aligned with the objectives of such national documents.

Figure 1

Methodological Approach



A number of consultation meetings with relevant programme authorities were held to understand the selected programmes and their activities. Additionally, several Key Informant Interview (KII) sessions were carried out to get expert views on the prospect and limitations of the programme. BRAC's staff and senior management of the programmes were interviewed to obtain their insights for integration of climate change into the programmes.

The selection of indicators of climate attribution matrix helped the study team establish a link between climate change and the programmes. Among the programme interventions, the best practice from each of the programme has been selected based on the climate change attribution matrix, which has been developed primarily to assess whether the programme activities consider climate change issues adequately. The matrix has four indicators to assess the activities that are shown in figure 2. The indicators of the matrix are described below, and the climate change attribution matrix is provided in Annex 1.

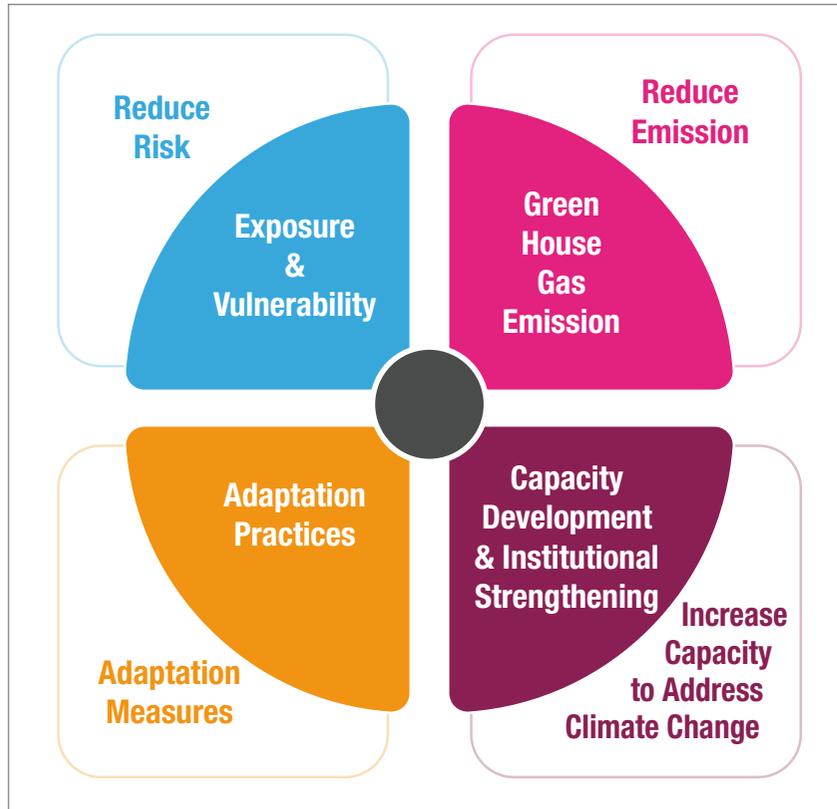
INDICATORS OF ATTRIBUTION MATRIX

Reduce Risk

Reducing the risk of exposure and vulnerability indicator has been used to assess whether the activities have directly or indirectly resulted in the reduction of risk. Risk is often represented as probability or likelihood of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. In this report, the term risk is often used to refer to the potential, when the outcome is uncertain, for adverse consequences on lives, livelihoods, health, ecosystems and species, economic, social and cultural assets, services (including environmental services) and infra-structures (IPCC, 2014). The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected is defined as exposure (IPCC, 2014). By using this indicator, the selected programmes have been assessed to understand whether their activities are reducing the risk of vulnerable people of the study area.

Figure 2

Indicators of Attribution Matrix



Source: IPCC (2014)

Reduce Emission

Reducing emission indicator has been used to see if the activity works for lowering greenhouse gas emission (GHG) or not. Emission reduction actions can take a number of forms. These include pure mitigation actions that curb emissions by replacing old carbon-intensive technology with a cleaner technology or reforesting an area to sequester carbon or through behavioural changes of energy consumption and project implementation (e.g., using less paper, recycling material etc.) or promoting emission reduction as a co-benefit of development impacts. Human activities, such as burning of fossil fuels, conversion of forest into agricultural land, and the intensification of agricultural practices, have substantially increased global GHG emissions. Through this indicator, the programmes have been assessed to see if they are providing mitigation benefits simultaneously with developmental impacts.

Adaptation Measure

This indicator has been used to justify whether the activity of the selected programme has taken any initiative to help the community adapt to the impact of climate change. Following the IPCC (2007) definition, “adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities”. Although a large number of adaptation options in place in a development initiative, their performance, acceptance, and issues linked to implementing is often a critical factor for development partners. This indicator helps to critically analyse the strategic direction for adaptation planning, based on the assessment of climate-related risks and vulnerabilities, and identifies the main adaptation concerns. This indicator also helps to understand whether the activities directly or indirectly considered adaptation options from the planning stage to the overall period of implementation or not.

Increase 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, 2015) can be defined as resilience. This component evaluates an activity based on its capacity to increase the resilience of people to climate change. A comprehensive field visit has been conducted to observe the interventions endorsed by selected programme authorities. During the field observation, several Focus Group Discussions (FGD) and KII sessions with the beneficiaries have been conducted on the endorsed interventions. Several case stories and photographic information on the identified good practices have also been collected from the field. These techniques helped the study team to understand whether the interventions increase the resilience of the people in the surveyed areas or not.

3

CLIMATE SMART BRAC

Climate change has an intrinsic relationship with sustainability and poverty reduction, although there is not always a positive correlation between the two. However, the complexity and extent of climate change effects on poverty reduction and development are often exaggerated and multifaceted. For alleviating poverty along with addressing climate change, BRAC enables its programmes to analyse the problem and solution for adapting and mitigating the climate change impacts, to mobilize its financial resources, and also to choose the effective technologies for sustainable development. Since its inception, BRAC has been working on various environmental issues through its development programmes, enterprises, and its university.

Based on the mission, vision, activities and results, seven programmes of BRAC have been selected as Climate-Smart programmes. This report assessed their activities to explore the good practices or initiatives taken by these programs to address the climate change issue along with their other specific objectives. Detailed activities, interventions, and the policy linkage are mentioned in Annex 2 and 3.

Figure 3

Selected Seven Programmes for this Study



BRAC
Education
Programme



Climate
Change
Programme



BRAC
Humanitarian
Programme



Integrated
Development
Programme



Ultra-poor
graduation
programme



Urban
Development
Programme



Water
Sanitation
and Hygiene
Programme

BRAC Education Programme (BEP) has over 30 years of experience in working with governments and running schools in conflict-prone and post-disaster settings across five countries, including Bangladesh. Major components of this programme are early childhood development, primary and secondary school programmes, adolescent programmes, and support at the tertiary level. Besides this, BEP has started to work diligently to sensitize primary school children on the general concept of climate change impacts, mitigation, and adaptation to combat and adapt to climate change impacts through different hands-on activities. This initiative has been taken to increase awareness among students on environmental issues and changing behaviour of climate so that they can keep their environment safe

and clean. To increase 'climate literacy' and build awareness on the impact of global warming literacy, BEP developed following resources:

- Supplementary materials like workbooks and teacher's guides covering the Disaster Risk Reduction (DRR) cycle including types, causes and effects, mitigation, personal awareness and preparedness for disasters from grades one to five and its appropriate usages
- Activity based manual for secondary level
- Different types of promotional materials to inspire the community for changing their behaviour and attitude to climate change.



BRAC
Education
Programme



Climate Change Programme

BRAC started the disaster, environment and climate change (DECC) programme in 2008 with the mission of providing relief to disaster-affected population. The programme was initiated based on the emerging need to manage a disastrous situation more effectively. Later in 2015, the DECC programme was renamed to Disaster Management and Climate Change (DMCC) programme. In 2018, the DMCC programme was split into BRAC Humanitarian Programme (BHP) and Climate Change Programme (CCP) aligned with BRAC's Climate Change Strategy 2016-2020.

BRAC CCP has been working to minimise the impacts of climate change and reduce the vulnerability of exposed populations. The goal is to motivate people to

adapt and respond to climate change consequences while collaborating through sustainable development strategies to reduce/mitigate potential climate change impacts. To attain the goal CCP is taken the following activities:

- Low-cost option to sequester carbon through Green Envoys, Amar Bon initiation and formation of Gachh Bondhu committees
- Training on Climate Change
- Installation of context specific climate resilient water facilities in water scarce area
- Promoting climate-resilient livelihood options
- Introducing climate-resilient low-cost housing cum cyclone shelter

BHP was initiated to bridge short-term humanitarian and long-term development approaches to promote disaster resilience and sustainable development and address the needs of the most vulnerable communities. Their work is aligned with the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction. The team of trained frontline crisis managers enables BRAC to respond to any disaster within 24-72 hours, anywhere in the country (BRAC, 2018). BHP is working on the following issues:

- Awareness Raising in Collaboration with Cyclone Preparedness Programme (CPP)
- Early Warning System
- Enhance Preparedness of BRAC for Better Response

Integrated Development Programme (IDP) approaches to addressing climate change impacts is using adaptation and mitigation measures through different development initiatives. Haor is one of the most vulnerable areas in terms of climate change impact, and haor dwellers suffer the most. Climate change activities of IDP aim to integrate with development initiatives to improve quality of life, disseminate climate resilience technology, protect resources and build awareness in the haor and IP communities. IDP tends to:

- Integrate with development initiatives and promote diversified and sustainable livelihoods and enhance financial inclusion for climate-vulnerable poor, ultra-poor and marginalized farmers in the haor area
- Provide people with access to the tools and knowledge to adapt and respond to adverse climatic impacts



BRAC
Humanitarian
Programme



Integrated
Development
Programme



Ultra-poor graduation programme

- Minimize the risk and vulnerabilities of climate change at community levels through capacity building
- Improve the condition, participation and influence of women in household and community decision making in IDP operational area
- Enhance access to basic service for education, health, WASH in IDP operational areas.

BRAC Ultra-Poor Graduation Programme (UPG) is the pioneer of the global Graduation approach that is a comprehensive, time-bound, integrated, and sequenced set of services that enable extreme and ultra-poor households to achieve sustainable livelihoods and socioeconomic resilience in order to progress along a pathway out of extreme poverty. UPG is now collaborating with BRAC's Climate Change Programme

(CCP) to provide livelihood solutions through a climatic lens to the ultra-poor group in the selected climate-sensitive areas. People living in hard-to-reach regions and climatic hotspots have limited access to mainstream services and vulnerable to natural disasters (including climate-induced ones). Distance, vulnerability to disaster, high costs, fewer resources to combat the damages from disasters, and a lack of infrastructure are the main barriers for the communities for accessing even basic services such as livelihood, health, information, and education. At the core of the approach are four foundational pillars: livelihood promotion, financial inclusion, social protection, and social empowerment. Participants are provided with assets through grants and interest-free loans to develop productive income-generating activities, as well as long-term

investments in life skills and technical skills training, enterprise development, positive behavioural change, savings, and financial planning (BRAC, 2018). The key elements are as follows-

- Targeting program participants
- Enterprise development training
- Asset transfer and interest-free loan
- Hands on coaching
- Encouragement to save to enhance financial security and resilience
- Healthcare services
- Community mobilization

Graduation from ultra-poor condition by achieving both economic and social advancement.

BRAC initiated the Urban Development Programme (UDP) with a vision to make cities inclusive, resilient, and sustainable. Economic opportunities are pulling people

to the cities. Besides, climate change is forcing the rural communities to migrate from their origin to other places of the country, especially in cities. It has been projected that 50% of the population of Bangladesh will live in urban settlements by 2050 (BRAC, 2017). Currently, 14,000 slums exist across the country, with approximately 7 million people living in them (BRAC, 2018). UDP works in 20 cities with the aim of making cities and human settlements safe, resilient, and sustainable (BRAC, 2018). In order to achieve inclusive, accountable, climate-resilient urban management, the programme has constructed 50 low-cost, climate-resilient houses. Moreover, UDP has arranged the training on 'strengthening urban governance for inclusive, climate-resilient, accountable, and pro-poor urban management and planning' as it has been identified as one of the programmatic priorities of BRAC.





Water
Sanitation
and Hygiene
Programme

Water, Sanitation and Hygiene (WASH) programme was initiated, focusing the disaster management issues. But gradually, gender, disability and climate vulnerability issues were included in the programme. After 2016, BRAC WASH programme has become more climate change-focused, and now the programme interventions are more climate-resilient. The programme is currently working in different climate-vulnerable areas like haor areas, coastal belts and in Chittagong hill tracts.

Until 2015, the programme had two strategies: grants-based services and loan-based services. The poor and the ultra-poor people were under the grants-based strategy. Some grants-based community interventions of the programme are as follow-

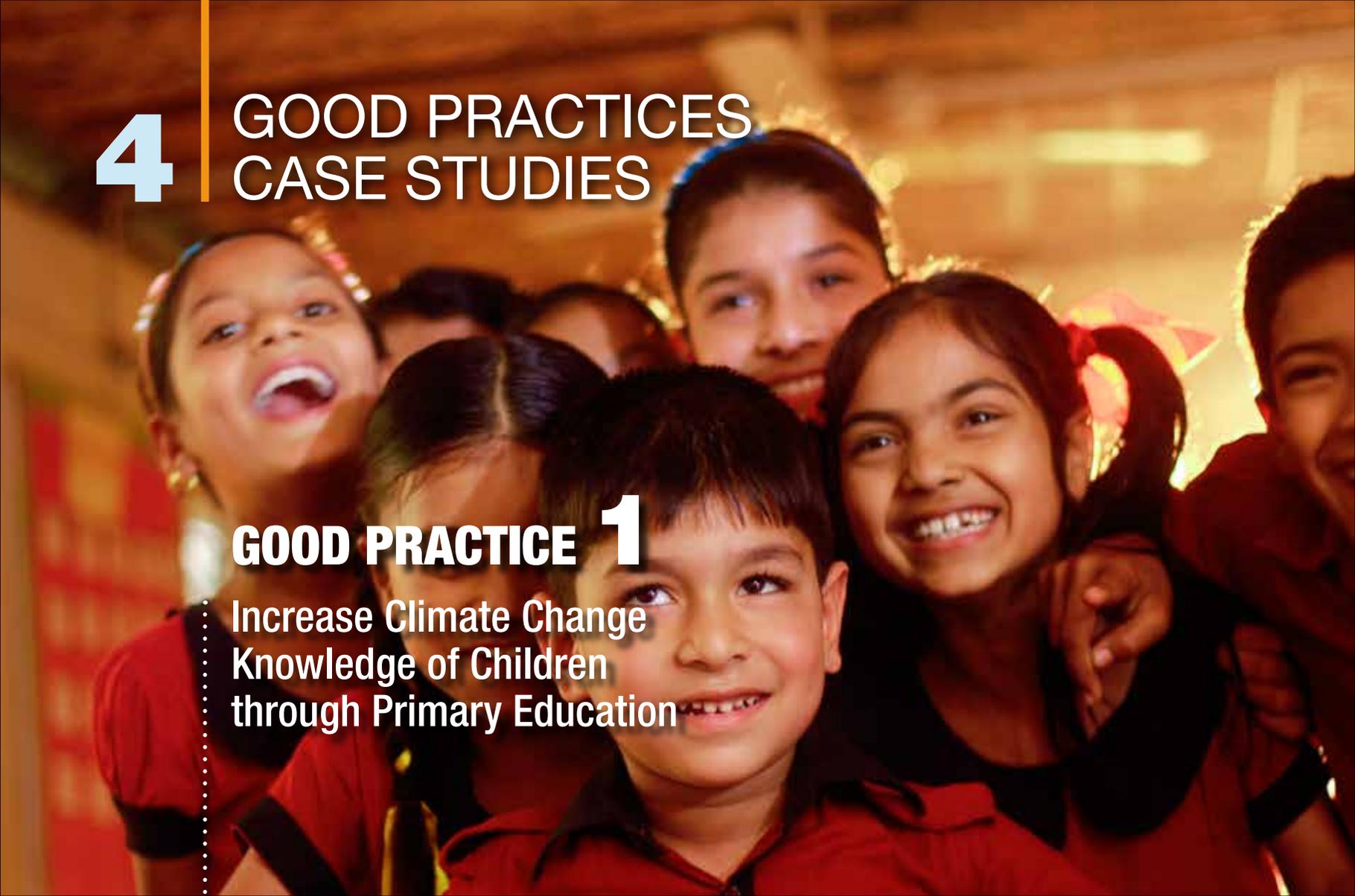
- Installing piped water network in water scarce areas
- Promoting solar powered water pumps to distribute water.
- Constructing context specific water facilities including Pond sand filters (PSF), Rain Water Harvesting (RWH)
- Installing Deep Tube Well (DTW) in the areas where shallow aquifers are contaminated
- Raising the plinth height of sanitation facilities considering the high flood/tide level in haor and coastal areas.
- Promoting protected ring well or dug well with raised platform in suitable place.

4

GOOD PRACTICES CASE STUDIES

GOOD PRACTICE 1

Increase Climate Change
Knowledge of Children
through Primary Education



Background

United Nations Framework Convention on Climate Change (UNFCCC) emphasised on the development and implementation of educational and public awareness programmes on climate change and its impacts. Climate change is creating a range of impacts on children because of their critical exposure and sensitivity to environmental changes. BRAC Education Programme (BEP) is augmented on this principle and is thus working rigorously to attain it by incorporating climate change issue in the BRAC Primary School curriculum.

Key Features, Major Interventions and Accomplishment

Afroza Begum, working a teacher of BRAC Primary School in Kulia is involved with the BRAC Education programme from 2018. Kulia is a union of Debhata Upazilla of Satkhira District, where frequent disaster events sit side-by-side with cyclone, water salinity, and flooding events, with the former worsening the latter year-by-year due to the impacts of climate change (UNICEF, 2016). These issues affect the livelihood of people adversely and force them





to send their children to work instead of going to school. According to Ms. Begum, school dropouts usually take admission to the BRAC Primary School. Besides teaching, Ms. Begum is directly engaged with the community and guardian level consultation to convince them to admit their children who dropped out from schools. As a result, Alamin (13), a former local brickfield worker and Forhad (12), who formerly collected fish, joined BRAC Primary School in 2018. They are now studying in the same school in class four and continuing their education because of community consultation initiative of BRAC Primary School.

The curriculum of the BRAC Primary School is relatively similar to the conventional curriculum, as general subjects such as Bangla, Math, English, Science, Social Science, and Religion, etc. are taught in the school. Moreover, they provide intensive care to students to avoid the extra tuition from other sources. The distinction between conventional curriculum and BRAC Primary School is that an additional workbook titled “Jolobayu Poriborton o Poribesh Bishoyoek Sochetonata Sikkha” (Climate Change and Environmental Awareness Learning) is included with the regular curriculum from class four. That’s why students, including Alamin and Forhad, are learning about different types of environmental

components and their contribution to the earth. They are also learning about the impacts of climate change on the environment, how to keep the environment clean, how to use bins for waste disposal, making organic fertilizer, afforestation, reuse of recyclable products such as plastic water bottles etc. The knowledge gathered from the workbooks is practiced by students both at home and school ground. Along with the teaching instruction, teachers also received session on climate change issues in their foundation and refreshers training programme throughout the year.

A fourth-grader in BRAC Primary School, Alamin, expressed that “Now I am able to use recyclable plastic bottles for tree plantation. From school, I also learned how to make organic compost fertiliser. I shared these skills with my family and friends. My family is now happy to send me to BRAC School.”

These skill development trainings encourage students to use recyclable materials for school and homestead gardening. Additionally, students made an artificial nest for birds around the school and houses. They get an idea of conservation of the natural environment from this task. Furthermore, students also got informed about the safeguard activities during the lightning, earthquake, etc.

A parent-teacher group meeting is arranged every month where BRAC staff and the community people also participate. Important issues such as education, climate change, early warning systems during the disastrous period, etc. are discussed there.

The community and the teachers of the BRAC Primary School expressed that the above-mentioned activities of the school are serving excellently both for education and resilience towards climate change to the community. Hence, they have requested to conduct more capacity building trainings for the teachers and students as well as for the community.



Alignment with national, international and BRAC strategy

The best practice of BEP addresses two overlapping themes of BRAC Climate Change Strategy (2016-2020). The first one is “Response to climate change through adaptation” (Theme 1), which is addressed by BEP through the promotion of education and awareness on climate change issues and conduct training to the develop capacity of students, teachers, and parents. The second one is “Capacity Building” (Theme 4) of the students of BRAC School from an early age by incorporating climate change in the school curriculum. BRAC education programme is also aligned with Bangladesh Climate Change Strategy and Action Plan (BCCSAP) (Theme 6, Programme 2: “Mainstreaming climate change in national, sectoral and spatial development programmes”) through the development and inclusion of climate change issue in the school curriculum. This intervention also works in strengthening human resource capacity (BCCSAP Theme 6, Programme





3). The inclusion of climate change issues in the curriculum is also aligned with the National Adaptation Plan of Action (NAPA) by addressing adverse effects of climate change by existing and future coping mechanisms. In the 7th Five Year Plan, Bangladesh Government has focused on environmental, climate change and risk reduction consideration and aimed to integrate the considerations into project design, budgetary allocations and implementation process (Target I) to ensure environmental sustainability. BEP has included climate change education in the school curriculum. In **SDG Goal 13**, Climate Action has prioritized the improvement of education and awareness-raising on climate mitigation, adaptation, and early warning (Target 13.1). BEP is also addressing this issue through their climate change education in BRAC school curriculum. United Nations Framework Convention on Climate Change (UNFCCC) prioritizes education, training and public awareness as one of their commitments to tackle climate change impacts (Article 4 commitment 1i and article 6).

GOOD PRACTICE 2

**Increasing Green
Coverage through
Plantation**



Background

The Kyoto Protocol emphasized on modalities, rules, and guidelines on how and which additional human-induced activities are changing the greenhouse gas emissions by sources and removals by sinks in the agricultural soils and the land-use change and forestry categories. Planting trees is one of the effective and cheapest ways of taking CO₂ out of the atmosphere to tackle the climate crisis. Reforestation is considered as one of the best nature based solution to climate change. BRAC CCP has been implementing projects that result in greater carbon storage in terrestrial ecosystems which is widely seen as a low-cost alternative to reduce carbon dioxide emission.

Key Features, Major Interventions and Accomplishment

Morzina Begum (45), lives with her husband and a son at South Kodomtola village of Sharankhola upazila in Bagerhat district. Her son, who studies in class 9, wishes to be an engineer in the future. The household income of Morzina Begum's family is





approximately BDT 20,000 per month. Her family fully depends on agriculture. The farmers of Sharankhola face a lot of problems to bring all of their arable lands under crop cultivation, especially during winter's boro crop season. A large portion of their land remains untilled only due to salinity problem, and unavailability of quality seeds and agricultural equipment (Ali, 2012).

She, along with her family members, used to cultivate different types of crops such as vegetables, pulse, and fruit trees before getting involved with BRAC. After the involvement with the Climate Change Programme (CCP) of BRAC in July 2019 she received training on climate change and its consequences. She also became a member of Gach Bondhu Committee created by CCP. Before joining the programme, women of her locality were unaware of climate change and its effects. The women have also been provided training on climate change from the programme. Now they believe that if one tree is cut down, then three should be planted as trees absorb the carbon dioxide from the atmosphere and exhale oxygen. They are also aware of the protective function of trees against natural disasters. They were merely housewives having no income. The scenario changed after they joined with the activities of Climate Change Programme. They were provided plants and vegetable seeds to plant in their

land and open spaces. Three types of trees were provided, namely wooden trees, medicinal trees, and fruit trees. As a result, the unused lands are being used now. Besides, they are able to grow vegetables which they either self-consume or sell at a profit. Due to the positive impacts brought about by the programme, the husbands also encourage the women to plant more trees. Other women of the community also want to join the committee seeing the positive potential of such a programme. The women themselves feel proud to be contributing to the family and doing something beneficial for the environment. They also spread the news of their success to their neighbours and other members of the community.

In the latest cyclone “Bulbul”, the region was not heavily damaged because of the trees. Local women are also interested in planting “Tal” (Palm) trees for the protection against lightning and they have future plans of planting more trees with the support of CCP. The committee members are saving money for planting more trees when the season arrives.

Additionally, she has been informed about the nurturing process of mango gardening and got 70 grafted mango plants from BRAC CCP and planted those in her 30-katha land that is adjacent to their house. She also cultivated vegetables between the rows of mango plants. She expects to earn approximately BDT 3,000 per month by cultivating vegetables. She believes that, income source of her family will be diversified and their lives will be easier after five years when her mango trees grow up.

Nevertheless, there are hurdles to tree planting in the region. The area is a low-lying place, and for this, it has a risk of being submerged underwater. The last cyclone destroyed paddy production massively. Only 12 mounds could be harvested whereas, usually, 40 mounds can be harvested. Therefore, they are interested in planting more trees, which will act as protection against the adverse impacts of climate change.

The community expressed their gratitude to BRAC. They expect to get more support from BRAC for the alleviation of the problem. They believe that if they continue to get support from BRAC, then they will be able to make themselves resilient against the impacts of climate change.



Alignment with national, international and BRAC strategy

The Climate Change Programme (CCP) of BRAC is promoting afforestation and reforestation as a mitigation option following BRAC Climate Change Strategy (2016-2020) through their “Amar Bon” project. Bangladesh Climate Change Strategy and Action Plan (BCCSAP) is also addressed by CCP. It has introduced ecosystem-based adaptation through social afforestation at the community level by “Amar Bon” that is addressed as a climate change mitigation practice by BCCSAP (Theme 5, Programme 7), which states for mitigation and low carbon development through afforestation and reforestation programme. It also aligns with National Adaptation Plan of Action (NAPA) as it states the afforestation and reforestation activity as one of the adaptation strategies to reduce impacts of climate-induced natural disasters and a means to improve the livelihood of the community. It also addresses the Target 1 of the 7th Five Year Plan, by focusing on environmental, climate change and risk reduction consideration and aimed to integrate the considerations into project design, budgetary allocations and implementation process (Target

l) to ensure environmental sustainability. SDG Goal 13 prioritizes on strengthening resilience and adaptive capacity to climate-related hazards and natural disasters (Target 13.1). By the introduction of a forestation project in the coastal area to protect that area from climate-induced extreme events, CCP is also aligning with this Target 13.1. United Nations Framework Convention on Climate Change (UNFCCC) (Article 3 Principal 3) focuses on sinks and reservoirs of greenhouse gases, CCP is working towards mitigation projects that result in greater carbon storage in terrestrial ecosystems which is widely seen as a low-cost alternative to carbon dioxide emission reduction for mitigating climate change.



GOOD PRACTICE 3

Reducing
Vulnerability
through Early
Warning Message
Dissemination



Background

United Nations Framework Convention on Climate Change (UNFCCC) recognizes early warning system as an adaptive measure for climate change, using integrated communication systems for helping the communities to prepare for hazardous climate-related events. A successful early warning and preparedness systems thus have the potential to reduce the loss and damages that emerged from the hazardous climate-related events and pave the path for long term sustainability. Correspondingly, BRAC Humanitarian Programme (BHP) has been using early warning and preparedness systems as a tool to promote disaster resilience and sustainable development.

Key Features, Major Interventions and Accomplishment

Extensive study findings demonstrated that several climatic disasters such as cyclones, floods had affected local people in many ways including damage of houses, crops and fisheries; death to people and domestic animals; and changes of land use pattern, present water body, drinking water sources and also occupation (Khan, 2015).





Shorifa Begum (25) lives at Isshoripur Union of Shyamnagar upazila of Satkhira district. Ms. Begum lives with her son and husband, who is a day labourer.

She got training from BHP on climate change and Early Warning Systems (EWS). She acquired knowledge to prepare for a disaster when a warning is issued and to deal with the impact of a disaster. She also discovered that vulnerable family members such as infants, the aged, pregnant women, disabled people, etc. are at greater risk during the crisis time. Her husband is also involved in volunteer service in Cyclone Preparedness Programme (CPP).

During the recent cyclone, namely 'Bulbul' in November 2019, Ms. Begum received early warning prior to the cyclone. After getting the warning, she and her husband, along with the other members of her family, moved to the nearest safe shelter in Isshoripur Union Parishad office. She was also involved in disseminating the early warning to her neighbours verbally.

Ms. Begum noticed that her house, as well as her father-in-law's house, was damaged when trees fall upon on it. This could have caused severe injury to her family members if they did not move to a safe shelter. By getting familiar with the early warning system Ms. Begum saved the life of the full family as well as the neighbouring community and assets.

Beni Madhab (64) is a resident of Harinagar village of Munshiganj Union of Shaymnagar Upazila of Satkhira district. He lives with 6 of his family members. His house is located beside the river opposite to the Sundarbans. He is a tanner by trade and earns about BDT 20,000-22,000 monthly. He and his eldest son are the earners in the family. He used to live in a house nearer to the river, which was submerged during the devastating cyclone "Aila". After that cyclone, he moved to this current house with support from another organisation. During that time, he did not know much about early warnings and did not care about disasters either. After that callous disaster, he became aware of the different signals of CPP.

During the recent cyclone Bulbul, he received warnings about it through local announcements, siren, masjid announcements, etc. He, along with his family members,

immediately shifted to a shelter for safety after getting the warning. He also preserved dry food on which his family lived for two days after returning from the shelter. During the cyclone, the roofing of the house was blown away; walls of his house were also damaged by the fallen trees.

Mr. Madhab expressed that, though he could not save his house from the damages, he surely saved the lives of his family members. However, he could not get any warnings from mobile communication as there was no electricity in the region during that time.

Reinforcing environmental awareness and stepping towards climate resilience through early warning system saved the lives of a lot of people.

Alignment with national, international and BRAC strategy

The BRAC Climate Change Strategy (2016-2020) has introduced early warning as an adaptation option that can reduce the vulnerability of people by improving adaptation capacity. BRAC Humanitarian Programme is directly linked to this policy as it has introduced a need-based early warning system in cyclone and tidal surge prone coastal areas. This programme is also helping to raise awareness and public education towards climate resilience, which is addressed by BCCSAP as comprehensive disaster management options (Theme 2, Programme 2 & 3). By training the community on disaster preparedness, the programme is strengthening the human resource capacity of the people, which is also addressed in Bangladesh Climate Change Strategy and Action Plan (BCCSAP) as an activity of capacity building (Theme 6, Programme 3). BHP enables the community to be better prepared against disasters by their attained training from BRAC and with the help of CPP during need which addresses the component 'climate change



adaptation information dissemination to the community for emergency preparedness and raising awareness on climate-induced disasters of National Adaptation Plan of Action (NAPA). It also addresses the focus on environmental hazards, climate change, and risk reduction and aims to integrate the considerations into project design, budgetary allocations, and implementation process (Target I) of 7th Five Year Plan. Good health and well-being have prioritized early warning to strengthen the capacity to address climate change impacts by SDG Goal 3 (Target 3.d). In this regard, BHP is addressing this action in its programme. Article 4

commitment 1g of United Nations Framework Convention on Climate Change (UNFCCC) emphasizes on technical and technological development to reduce or eliminate uncertainties related to causes, effects, magnitude and timing of climate change consequences the remaining. A successful early warning and preparedness systems thus have the potential to reduce the loss and damages that emerged from the climate induced disaster events and pave the way for long term sustainability. BHP is using early warning and preparedness systems as a tool to promote disaster resilience and sustainable development.



GOOD PRACTICE 4

**Mobilising Finance
to Increase Adaptive
Capacity**



Background

Climate change is seen as a hardship to which the poor and disadvantaged are the most susceptible. Microfinance services are recognized as tools to play an important role in vulnerability reduction and climate change adaptation among the poor and have proved to provide services that match between client needs and livelihoods better. Thus, the possibility of linking MFS to climate change adaptation deserves careful consideration. BRAC Integrated Development Program (IDP) is considering this linkage to reduce the vulnerability of the disadvantaged people and provide them the means to diversify, accumulate and manage the assets needed to become less susceptible to shocks and stresses and/or better able to deal with their impacts.

Key Features, Major Interventions and Accomplishment

Lujju Begum (25) lives with her five-year-old daughter in Derai upazila of Sunamganj district. This is a wetland region considered as a Haor area. The haor region of Bangladesh experiences annual flooding and host many extremely poor





communities. While the inhabitants are generally adapted to the flooding and inundations, climate change poses unprecedented risks to these communities through changing rainfall patterns and intensifying flash floods events that damage standing crops and cause seasonal shifts that lead to crop failures. The high incidence of child marriages made the situation of the women more terrible and Ms. Begum is a precedent of this. She was married at a very young age. Her husband left her not long after they got married. She came back to her mother with her daughter. She did not have a father either who could look after her. Her mother was an active member of a VDO (Village Development Organisation) of BRAC through which she sought Legal Aid of BRAC. She became a member of BRAC during that time herself in 2014. She is also the general secretary (member) of her community's VDO. She came to know about VDO from other members of her community. Her VDO holds two meetings every month. Before the activities of the VDO had started, the villagers were unaware of a lot of aspects of life such as: alternative livelihood options, social awareness, awareness about climate change etc.

She received a cow, hens, and training from IDP as a member. She bought 3 cows by selling the cow that was initially given to her from the programme. She initially took a loan of 5000 and eventually took loans of 10, 20, 30, and 60 thousand takas. She has later sold one of her cows and buy a tractor with the last loan. She receives around BDT 10000-15000 per month as rent from the tractor. Apart from these, she now receives income from multiple sources, for example: she manages to earn money from selling eggs and chicks produced from her 20-25 hens using her training about animal husbandry rearing from IDP. Moreover, she, along with many other women of the locality got assistance from the programme about vegetable cultivation and gets the seeds of vegetables from them. She grows those on her 10 decimals of the backyard and sells them at a profit. She is also involved in paddy cultivation in 6 months of the year. She sends her daughter to school with her earning. As the women became the earning members of their families, they also got the opportunity to take part in the decision-making process of the family. Child marriages also reduced significantly as a result. Pregnant women also got special assistance from IDP in which a red book is given to aware them about the “dos and don’ts” for the pregnant. This way, the program has brought about a tremendous change both

in the income and social status of the women of the climatic hotspots like haors, by enhancing livelihood and alternative livelihood options through loans in the form of microcredit.

Due to the knowledge imparted about climate change and its impacts from IDP, now they know that it is wise to buy a boat before the onset of the monsoon season. In 2017, Ms. Begum’s vegetables got submerged in water due to flash flood, and her income was affected negatively. BRAC IDP has taught them adaptation measures to turn this negative impact into a positive one. Since then, Ms. Begum and her neighbours kept the practice of cultivating early harvesting crops so that early flash floods could not affect the yield. BRAC workers have also encouraged them to use organic fertilizers, which have yielded more production. Adaptation measures taught and facilitated by IDP also include placing reinforcement and planting trees around the house before the coming of the monsoon as the area is prone to increased lightning, which takes a heavy toll of death every year. Ms. Begum has received palm trees from IDP, BRAC, as a protective measure from lightening.

BRAC Integrated Development Programme (IDP) has



Mobilizing microfinance has helped the vulnerable community needed to become less susceptible to shocks and stresses and/or better able to deal with their impacts. Along with the active development work, IDP helps the beneficiaries in making connections with government officials and other government services. The participants were satisfied with the role of the development programme of BRAC and expressed interest in receiving further training.

developed climate-resilient agricultural practices among haor dwellers. The programme has introduced climate resilient crops and provided training on homestead gardening, especially to the women. This programme is working as both the adaptation and mitigation options as per BRAC Climate Change Strategy (2016-2020). It is also aligned with Bangladesh Climate Change Strategy and

Action Plan (BCCSAP) through their initiative in contributing in the development of climate-resilient cropping systems (Theme 1 Programme 2). Women of the haor are trained in climate-resilient agriculture practices. This activity protects the livelihood of the climate-vulnerable communities, especially women, and the activity also addresses the Programme 9 -Theme 1 of Bangladesh Climate Change Strategy and Action Plan (BCCSAP). This programme also addresses water and sanitation as a component which is listed in the Theme 1 Programme 7 of BCCSAP. The Integrated Development Programme's (IDP) activities in the haor area are linked with National Adaptation Plan of Action (NAPA) through the introduction of climate resilient agricultural practices, which is stated as an existing coping mechanism in the form of intervention measure in the flood-prone regions. United Nations Framework Convention on Climate Change (UNFCCC) prioritizes education, training, and public awareness as one of their commitments to tackle climate change impacts (Article 4 commitment 1i and article 6), which is also addressed by IDP.

GOOD PRACTICE 5

Increase Adaptive
Capacity for Ultra-
poor Households



Background

About 2.1⁴ billion people of world still live in poverty, and 767⁵ million are extremely poor. Most of them live in rural areas and depend on agriculture and rural livelihoods for their income and food security. The effects of increasingly volatile and extreme weather patterns as climate change are damaging infrastructure, wiping out harvests, jeopardizing fish stocks, eroding natural resources and endangering species, causing serious damage to agriculture, water resources, ecosystems, and human health all around the world. With the adoption of the 2030 Agenda for Sustainable Development (Goal 1: No poverty), countries have renewed their commitment to fighting against poverty, hunger, and malnutrition, recognizing that tackling climate change is key for lifting people out of poverty. BRAC UPGP is paying special attention to building resilient livelihoods and helping poor rural people reduce their exposure and vulnerability to climate change and natural disasters.

⁴ <http://www.fao.org/3/I6371en/I6371EN.pdf>

⁵ <http://www.fao.org/3/I6371en/I6371EN.pdf>





Key Features, major interventions and accomplishment

Rawshan Ara, a (48), has come out as victorious fighting against poverty. She lives in Moharajpur village of Koyra Upazilla where the increased frequency of disasters, especially cyclones and increased salinity, in both water and land has been evidenced as an impact of climate change UNICEF, 2016. She lives with four other members of her family: her youngest daughter, aged father, husband, and grand-daughter. One of her daughters does not live with her as she works in the households of others. The income of her husband from running a van was not nearly enough, and they were forced to eat only once a day.

She and her family were hit particularly hard by the cyclone “Aila” in 2009 as a result of which her son had to leave the region in search of livelihood. Their lands were completely submerged during that time, and most of their neighbouring villagers left the area. There were days when she and her family had to bring water from the Koyra Upazila and had to fast eating only a cream roll. Only 3 of her family members remained in their house after “Aila”. She had the mindset of not leaving their household regardless of the adversity.

She had to engage herself in fishing and labouring in other peoples' ponds and lands. In a nutshell, her family had to live hand to mouth. Moreover, her household was extremely vulnerable as her family had to live in a "golpata" house in congested conditions.

In 2014, she received support from BRAC through the UPG programme. After "Aila", she did not know when a survey was conducted by BRAC. Using the data from that survey, a list of 25 people was created who would get support from UPGP. She was informed by BRAC workers that she had been included in that list.

Primarily, she received three days of training, and after the completion of the training, she was provided 4 pieces of tins for the purpose of building a cowshed. After that, she received a cow and BDT160 per week for the maintenance

of that cow. Besides, she also received 10 hens from BRAC. From the profit made from selling the eggs, she bought a male calf for BDT9000 which she later sold for BDT80,000 along with the cow she received from BRAC. Later, she bought another cow using that money and sold the cow after fattening it. In this way, she sold 7 cows to date and still has 4 cows. Using the profit from selling these cows, she has bought 20 decimals of land, built a 1 storey house of 3 storied foundations in the newly bought land, and bought her husband a machine van. She has also started a grocery shop at the front portion of her house in 2016. Additionally, she has taken lease of 3 bighas of land on which she cultivates paddy. She also opened a DPS account for storing her savings. Every year, she sells 70 mounds of paddy.

She has taken loans amounting to BDT 20,000 from MF. She has taken loans multiple times after the repayment of each loan.

Now, she earns 1,500 to 2,500 from her shop every day. Using the profit from the shop, she is financing the instalments of her loan. Her primary source of income has become this shop. She has managed all these by leasing 3 bighas of land from the selling of the cows.

Usually, she and her husband cultivate their land. However, they need to hire workers during the harvesting season. She sold paddy worth BDT12,000 in the last harvesting season. She is receiving training every 3 months from UPG, BRAC, on how to increase productivity and utilize her assets properly. She has also received awareness in disaster management from UPG. The trainings also act as a follow up on what she has already learned.

Presently, she has sent her youngest daughter to school. She has a house of her own in which she has a tube well, latrine, and a pond at the back where she rears fish for self-consumption. She also cultivates different vegetables in her homestead. She learned about all these procedures from the training received from UPG programme. During the recent cyclone Bulbul, she has provided 50 families with dry food. She has also provided neighbouring 20 families with shelter in her house.



Ms. Rowshan feels that she can go a long way using the training she has received from UPG even if she does not receive any further training in the future. She expects to be a “Kotipotri” sometime in the future. She was once destitute, but due to the assistance from the Graduation programme, she has been able to change her fortune. In general, she has become completely self-reliant. She has also taken adaptation measures to protect her assets.

Alignment with national, international and BRAC strategy

The ultra-poor people are provided with climate adaptive livelihood opportunities to make their life solvent and thus reduce their risks from climatic events. Capacity development of these people can be ensured by providing climate adaptive livelihood, which would not be affected by climate change. BRAC Climate Change Strategy (2016-2020) addresses these two issues of adaptation and capacity building. The 7th Five Year Plan is also aligned with this activity as it is focused on environmental, climate change and risk reduction consideration and aimed to integrate the considerations into project design, budgetary

allocations and implementation process (Target I) to ensure environmental sustainability. ‘SDG Goal 1: No poverty’ prioritizes on eradicating extreme poverty for all. Target 1.5 emphasizes on building the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters. BRAC UPG is paying special attention to building climate adaptive livelihoods and helping poor rural people reduce their exposure and vulnerability to climate change and natural disasters, which aligns with SDG 1.

GOOD PRACTICE 6

**Increasing Urban
Resilience through
Introducing
Affordable Housing**



Background

Housing is important as it helps people to lead safe, stable, prosperous, and dignified lives and because it provides owners with a means to save and obtain access to a permanent asset. Sustainable Development Goal (SDG) 11 targets to ensure access for all to adequate, safe, and affordable housing and basic services and upgrade slums⁶. Sufficient supply of affordable, low-carbon, climate-resilient housing is thus critical to eradicate poverty and support economic development, and BRAC Urban Development Programme (UDP) is performing its activities in such a manner.

Key Features, Major Interventions and Accomplishment

Nilufar Yeasmin is a 25-year-old housewife from Satkhira Sadar upazila. She has 6 members in her household. She lives along with her husband, two children, and brother-in-law and father-in-law. Her husband is a dish line worker. The family used to live in a rented house as they did not

⁶ <https://sustainabledevelopment.un.org/sdg11>





have their own permanent house. Her family faced many difficulties as a result. They had to move from place to place for and had no stability, which created difficulties, such as: managing their profession, organizing the house according to their wish, etc. It was her dream to have their own house.

She came to know about the UDP of BRAC from her local BRAC community group, of which she is a member. She then applied for building a house and received a loan of BDT2 lakhs from BRAC for the building of the house. With assistance from the UDP, they have built a low-cost house with resilient structures for residence. The house is constructed in her father-in-law's land. The design of the house was made by BRAC and was presented to her and her husband. They liked the design and proceeded to the next step of construction.

She has also received training regarding climate change and climate resilient characteristics of the house from the programme. One of the salient characteristics of the house is that the bricks used in the house will require no plaster. The tin shed roofing of the house is also different as there is no "ari" there. It protects against natural disasters. The recent cyclone "Bulbul" did not affect the house in any way.

She received training on these characteristics of the house from the BRAC office before construction of the house. She has also received another loan of BDT10,000 from UDP as support for the resilient house. She expects to get more support from the programme as it will greatly benefit her.

Now, she can organize her home as she pleases. She can now accommodate her relatives in her home, which she was unable to do so in the previously rented houses. She can now also rear domestic animals like goats, hens, and ducks, which she could not do in her previous home. She has also planted trees and vegetables in her new house. Previously, all the earnings came from the work of her husband. Now, she expects she can also contribute to the income of her husband by engaging in different aforementioned productive activity. As the construction of the house was only finished in August 2019, she has not yet experienced a considerable increase in income. When she did not have the house, her family had to pay BDT 4000 rent. She considered that after 4 years her repayment to BRAC would be over, and she will have a house of her own, which will benefit her family in the long run.

A home is a basic need of a person. BRAC UDP has provided the safety and security of a family and made them climate-resilient through the resilient house project.

Alignment with national, international and BRAC strategy

UDP has provided support to build climate resilient house for the lower-income dwellers in the coastal area. The house is climate-resilient in the sense that it will not be affected during disasters (e.g., cyclone, storm surge, etc.). BRAC UDP provides loan to the landowners and other support to build such houses. This structure will reduce vulnerability and enable them to be resilient by capacity building. BRAC Climate Change Strategy (2016-2020) has stated this intervention as a response to climate change through adaptation. The UDP is working on resilient housing and other infrastructures to reduce their risk from climate change impacts and ensure sustainability as prioritized

in 7th Five Year Plan (Target I). This initiative, as well as providing training and loans from BRAC to build resilient house, aligns with SDG Goal 9: Industry, innovation, and infrastructure focused on sustainable and resilient infrastructure for economic and social development (Target 9.1). SDG 11 focuses on inclusive, safe, resilient, and sustainable cities for all. Target 11.1 emphasizes ensuring access to adequate, safe and affordable housing and basic services and upgrade slums, which are also being addressed by UDP.





GOOD PRACTICE 7

**Strengthening Water
Entrepreneurs in
Climate Vulnerable
Areas**

Background

While the Paris Agreement and the 2030 Agenda for Sustainable Development both set out a vision of a low-carbon, climate-resilient and sustainable future for all, technological innovation is identified as a key catalyst of efforts to implement national climate action. The Paris Agreement explicitly refers to Article 10 to the need for such innovation. It is well documented that entrepreneurs play an important role in contributing to a country's growth and prosperity (Baumol, 2017) and resilience from climate change impacts as well. The global climate crisis increases variability in the water cycle, reducing the predictability of water availability and demand, affecting water quality, exacerbating water scarcity, and threatening sustainable development worldwide (United Nations, 2019). BRAC Water, Sanitation, and Hygiene (WASH) Programme is focusing on enterprise development to reduce water scarcity.





Key Features, Major Interventions and Accomplishment

Jahane Alam (30) from Koyra, has a business of selling water from their water treatment plant in the region. He has diversified working experience, including working in different NGOs. Although his income varied with his various jobs, he managed to live a decent life with the earning.

The people of Koyra face the impact of climate change in a means of potable water scarcity due to salinity intrusion and sea-level rise. People used to get drinking water from tube wells and ponds that were not completely safe. Most of the tube wells have either too much iron or saline water. Only 3-4% of tube wells in the area provide safe drinking water. Moreover, in 2009 during Aila, the tube wells got submerged in water and constituted a tremendous water problem.

In 2012, Mr. Alam and his friends banded together to solve the water crisis in the Koyra region and thus set up a business of the Water Treatment Plant (WTP).

They named their project Social Investment Project (SIP) and named the water treatment business “Shoccho Pani”. The combined primary investment was BDT 18 lakh. BRAC WASH program played a significant role in setting up their system when he contacted BRAC in the initial stages to seek assistance. His previous working experience with the NGOs made him learn about the WASH Programme of BRAC. The programme provided some technical advice, including the process to dump wastewater. Moreover, their business

The plant now has the capacity to produce 70 jars per hour. Water is provided in 20-liter jars for a price of 30 taka. About 100-150 jars are sold daily on average. Sales are high in the summer compared to the winter. The plant currently has 2200 jars of its own. The business has gained a reputation of providing quality water in the region. The business is earning revenue of monthly 80-90 thousand takas of revenue.

got a loan of 1.5 lakh taka from WASH in 2018. In spite of having various organisations interested in providing loans, they took the loan from the programme of BRAC because it looks after the project in which the loan is being provided as well. WASH has also supported entrepreneurs by building awareness through workshops and training. It helped them understand how water quality had to be maintained.

As the region is prone to natural disasters like cyclones, understanding climate change for an entrepreneur of that region is very important. Knowledge about climate change thus has been imparted to the entrepreneurs in the workshops and training arranged by WASH. In the last cyclone “Bulbul”, the plant had to remain closed for 15 days because there was no electricity. People buy more water before the onset of disasters. Mr. Alam plans to buy more jars as reserve water to store prior to such events. They would also like to explore alternative sources of power.

Before starting the business, he never thought that they would be able to make the people of his locality to buy water. But they got a very positive response from the people. They expect to get even more support from WASH, BRAC, in the future.



Alignment with national, international and BRAC strategy

By introducing the water and sanitation programme in climate-vulnerable areas as a health protection activity, WASH programme is addressing the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) (Theme 1, Programme 7). The programme is also strengthening the capacity of the community people who are getting training or loans and grants by WASH and thus is aligned with Bangladesh Climate Change Strategy and Action Plan (BCCSAP) as an activity of capacity building (Theme 6, Programme 3). In the 7th Five Year Plan, Bangladesh Government has focused on environmental, climate

change and risk reduction consideration and aimed to integrate the considerations into project design, budgetary allocations and implementation process (Target I) to ensure environmental sustainability. WASH programme is focused on fulfilling this target by supporting the vulnerable people by ensuring the supply of safe water by water treatment, which is a major challenge for the climate change induced salinity prone areas. The activities also address United Nations Framework Convention on Climate Change (UNFCCC) (Article 4 commitment 1g) by technical and technological development to reduce or eliminate uncertainties related to causes, effects, magnitude and timing of climate change consequences the remaining.

5

CONCLUDING REMARKS

Combating the impacts of climate change and the challenges ahead to make climate resilient communities requires collective efforts. Over the years, BRAC has been working on environment and climate change issues to make a climate resilient communities. Therefore, BRAC has already integrated climate change issues into their programmes. Under this study, the research team has identified the good practices of seven programmes of BRAC, which considered climate change aspects in their interventions.

However, emphasis should be given on collaboration, partnership, and network building to develop climate-smart interventions. Moreover, constructive and effective

communication among different programmes is also necessary to stay informed and updated about each other's activities, interventions and to find out the scope for collaborative actions. Similarly, partnership and network building with other organisations, i.e., government organisations, international and national non-government organisations, think tanks and development partners, should be given importance in developing new ideas for integrating climate change issues. As the study assessed the programmes through a climatic lens, an opportunity has come forward for BRAC to scale up the good practices and thus to create a climate-resilient community on a wider range.

| ANNEXES |

ANNEX 1: CLIMATE CHANGE ATTRIBUTION MATRIX

Programme	Code	Activities	Indicator: Climate Resilience			
			Reduce Risk (Exposure & Vulnerability)	Reduce Emission (GHG Emission)	Adaptive Measure (Adaptation Practices)	Increase Capacity to Address Climate Change
BEP	BEP 01	Inclusion of climate change topics in BRAC primary school curriculum	✓	X	✓	✓
	BEP 02	Provide training on environmental and climate change issues	X	X	✓	✓
CCP	CCP 01	Ecosystem based adaptation through social afforestation at community level (Amar Bon)	✓	✓	✓	✓
	CCP 02	Piloting climate resilient housing models including livelihood solutions for ultra-poor people	✓	X	✓	✓
	CCP 03	Climate resilient livelihood solutions for ultra-poor vulnerable households	✓	X	X	✓
	CCP 04	Community based water related adaptation technology	X	X	✓	✓
	CCP 05	Capacity building training on climate change both at institutional and community level	✓	X	X	✓
BHP	BHP 01	Effective Early warning message dissemination at organisational and community level	✓	X	✓	✓
IDP	IDP 01	Enterprise development/ income generating activities training to project participants	✓	X	✓	✓
	IDP 02	New extension workers trained and enhancing resilience	✓	X	X	✓
	IDP 03	Women trained on climate resilient agriculture practices -and homestead seed support	X	X	✓	✓
UPGP	UPG 01	Livelihood support	✓	X	✓	✓
UDP	UDP 01	Capacity building training on urban CC and DRR	✓	X	X	✓
	UDP 02	Distribute seeds, plants and seedlings for reducing heat and air pollution and promoting urban agriculture	X	✓	X	X
	UDP 03	Prepare community action plans (including CC and DRR)	X	X	✓	✓
	UDP 04	Climate resilient infrastructure for lower income settlement dwellers	✓	X	X	✓
	UDP 05	Low cost affordable climate resilient housing	✓	X	✓	✓
WASH	WAS 01	Identify, screen and provide revolving funds and grants for improved (safe) drinkingwater sources and sanitary latrines to individual clients and communities	✓	X	✓	✓
	WAS 02	Follow up with VWCs and UWCs	N/A	N/A	N/A	N/A
	WAS 03	Household visits and Follow ups	N/A	N/A	N/A	N/A

ANNEX 2: OBJECTIVES AND INTERVENTIONS TAKEN BY BRAC PROGRAMMES

Sl. No.	Name of the Programme	Objectives	Interventions
1	BRAC Education Programme	<ul style="list-style-type: none"> To ensure learning on climate change education from primary level 	<ul style="list-style-type: none"> Inclusion of climate change topics as a supplementary subject in BRAC Primary school curriculum Material development, e.g., teachers' guide, students' workbook, flipchart, training books for teachers and BRAC staffs
		<ul style="list-style-type: none"> To enhance the knowledge and awareness of climate change education for the community 	<ul style="list-style-type: none"> Different types of promotional materials to inspire the community for changing their behaviour and attitude to climate change
		<ul style="list-style-type: none"> To make the students capable of contributing in terms of mitigation and adaptation of climate change issues 	<ul style="list-style-type: none"> Training on environment, climate change, life skills and disaster related issues for teachers and students
2	Climate Change Programme	Training on Climate Change	
		<ul style="list-style-type: none"> To raise awareness and understanding of BRAC staff about, <ul style="list-style-type: none"> -the impacts of climate change and -options for adaption and mitigation in the context of Bangladesh as well as BRAC 	<ul style="list-style-type: none"> Organize Refreshers ToT and trainings on Climate Change issues for BRAC Staff Capacitate cadre of "Climate Change Champions within BRAC" focusing on young people
		Green Envoys	
		<ul style="list-style-type: none"> Reduce carbon footprint 	<ul style="list-style-type: none"> Carryout Carbon Footprint assessment at BRAC Centre Conducting all initiatives in an environmentally responsible manner to protect the public, employees and the earth through an integral management system
		<ul style="list-style-type: none"> To raise understanding of Green Envoy members of the Environment Policy of BRAC, as well as the role 	<ul style="list-style-type: none"> Formation of 64 Green Envoy, 1 Green Team and 1 Green Standing committee formation
		Amar Bon initiation and formation of Gachh Bondhu committees	
<ul style="list-style-type: none"> Reduce carbon emission through afforestation Increase long term economic benefits of the vulnerable community through fruit-bearing and woody plant Promoting women empowerment through formation of Gachh Bondhu committee 	<ul style="list-style-type: none"> Distribute saplings in 65,000 HHs for social afforestation/reforestation Initiate Amar Bon and formation of 150 "Gachh Bondhu" committees Monitoring and arrangement of funding (amount deposited by the member of committee and funds from the CCP) for tree plantation and care. 		

Sl. No.	Name of the Programme	Objectives	Interventions
		Installation of RO plant to get saline free water	<ul style="list-style-type: none"> Install desalination plant for community use
		<ul style="list-style-type: none"> Reduce the freshwater scarcity in the project area Combat climate change impact (increased salinity intrusion) through an adaptive solution (desalination) 	
		Climate-resilient housing	<ul style="list-style-type: none"> Build climate resilient housing
		<ul style="list-style-type: none"> Provide livelihood solutions to ultra-poor vulnerable households 	
		<ul style="list-style-type: none"> Promote low cost climate resilient housing model to, <ul style="list-style-type: none"> -protect the vulnerable and marginalized people and - ensure safeguard of lives, infrastructure and livelihoods living in the climate hotspots 	
		<ul style="list-style-type: none"> Promote climate change adaption through Renewable energy interventions 	
<ul style="list-style-type: none"> Increasing awareness and capacity building of the vulnerable community to combat climate induced disasters 			
3	BRAC Humanitarian Programme	Awareness Raising in Collaboration with Cyclone Preparedness Programme (CPP)	<ul style="list-style-type: none"> Conduct simulation and drill
		<ul style="list-style-type: none"> Raising awareness against cyclone and flood through simulation and drill 	
		Early Warning System	<ul style="list-style-type: none"> Dissemination through megaphones and text message
		<ul style="list-style-type: none"> Dissemination of early warning system at organisational and community level to ensure quick response 	
Enhance Preparedness of BRAC for Better Response	<ul style="list-style-type: none"> Conduct training 		
		<ul style="list-style-type: none"> Capacity building of BRAC staffs <ul style="list-style-type: none"> -preparedness for better response during catastrophes 	

Sl. No.	Name of the Programme	Objectives	Interventions	
4	Integrated Development Programme	<ul style="list-style-type: none"> Integrate with development initiatives and <ul style="list-style-type: none"> -promote diversified and sustainable livelihoods and -enhance financial inclusion for climate vulnerable poor, ultra-poor and marginalized farmers in the haor area 	<ul style="list-style-type: none"> New extension workers trained including PLEW, AI technician, introduced early rice variety, farmers training on dike cropping, commercial vegetable production, duck rearing, dried fish, nursery development, hydroponic grass production, and livelihoods activities in IDP areas 	
		<ul style="list-style-type: none"> Provide people with access to the tools and knowledge to adapt and respond to adverse climatic impacts 		
		<ul style="list-style-type: none"> Minimize the risk and vulnerabilities of climate change at the community level through capacity building 		<ul style="list-style-type: none"> Participants received enterprise development / Income Generating Activities training
		<ul style="list-style-type: none"> Enhance access to basic service on education, health, WASH in IDP operational areas 		
5	Ultra-poor graduation programme	<ul style="list-style-type: none"> Improve the condition, participation and influence of women in household and community decision making in IDP operational area 	<ul style="list-style-type: none"> Women trained on climate resilient agriculture practices – Homestead vegetable cultivation with use of climate resilience variety and technology 	
		<ul style="list-style-type: none"> Enable extreme and ultra-poor households to <ul style="list-style-type: none"> -achieve key milestones towards climate smart, sustainable livelihoods and socioeconomic resilience and -progress along a pathway out of extreme poverty Adaptation to the local context 	<ul style="list-style-type: none"> Livelihood Promotion Financial inclusion Social protection Social empowerment 	
6	Urban Development Programme	<ul style="list-style-type: none"> Adopt and implement integrated policies and plans towards inclusion, resource efficiency 	<ul style="list-style-type: none"> Preparing community action plan 	
		<ul style="list-style-type: none"> Mitigation and adaptation to climate change, and resilience to disasters 	<ul style="list-style-type: none"> Promoting urban agriculture to reduce heat and air pollution Climate resilient housing and infrastructure for lower income group 	
		<ul style="list-style-type: none"> To strengthen urban governance for inclusive, climate-resilient, accountable and pro-poor urban management and planning 	<ul style="list-style-type: none"> Capacity building training on inclusive, climate-resilient, accountable and pro-poor urban management and planning for govt. officials of City Corporation and municipals 	

Sl. No.	Name of the Programme	Objectives	Interventions
7	Water Sanitation and Hygiene Programme	<ul style="list-style-type: none"> Ensure access to, and usage of, safe water and sanitation facilities at affordable costs 	<ul style="list-style-type: none"> Enterprise development by providing revolving funds and grants for safe water sources and sanitary latrines Establishment of 20 laboratories for testing water quality at district level
		<ul style="list-style-type: none"> Capacity building and raising awareness of water, sanitation and hygiene among the community 	<ul style="list-style-type: none"> Formation of VWC and UWC to ensure community participation Training up women to ensure women empowerment v. Coordination meeting to follow up Secondary school program to aware female students to be aware of menstrual hygiene

ANNEX 3: POLICY LINKAGE WITH BRAC PROGRAMMES

Programmes	Selected Best Practices	Alignment with					
		BCCSAP	NAPA	BRAC Climate Change Strategy	SDG	7 th FYP	UNFCCC
BRAC Education Programme	Inclusion of Climate change topics in BRAC curriculum	T2- Comprehensive disaster management P3- Awareness raising and public education towards climate resilience	4.3.2- (Facilitating type measure) Inclusion of climate change issues in curriculum at secondary and tertiary educational institution.	Theme 1 Response to climate change through adaptation	Target 13.3- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	Target E-Human Resource Development (Education, Health and Population)	Article 4 commitment 1.i - Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organisations
		T6- Capacity building and institutional strengthening P2- Mainstreaming climate change in national, sectoral and spatial development programmes P3- Strengthening human resource capacity P5- Strengthening institutional capacity for climate change management		Theme 4 Capacity Building			
Climate Change Programme	Ecosystem based afforestation "Amar Bon"	T5- Mitigation and low carbon development P7- Afforestation and reforestation programme	4.1- Existing knowledge on coping strategies	Theme 1- Response to climate change through adaptation	Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	Target I-Environmental Sustainability	Article 3 Principal 3- The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.
				Theme 2- Response to climate change through mitigation			

Programmes	Selected Best Practices	Alignment with					
		BCCSAP	NAPA	BRAC Climate Change Strategy	SDG	7 th FYP	UNFCCC
BRAC Humanitarian Programme	Effective Early warning message dissemination at organisational and community level	Theme 6- Capacity building and institutional Programme 3- Strengthening human resource capacity T3- Infrastructure P5- Adaptation against flood	4.3.2- (Facilitating type measure) Climate change and adaptation information dissemination to vulnerable community for emergency preparedness measures and awareness raising on enhanced climatic disasters.	Theme 1- Response to climate change through adaptation	Target 3.d: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks	Target H-Gender equality, income inequality and social protection	Article 4 commitment 1.g- Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies
		T2-Comprehensive disaster management P1- Improvement of flood forecasting and early warning		Theme 3- Response to climate change through action research	Target 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.		
Integrated Development Programme	Promote diversified and sustainable livelihoods and enhance financial condition of the climate vulnerable marginalized people	T2-Comprehensive disaster management P1- Improvement of flood forecasting and early warning	4.1- Existing knowledge on coping strategies	Theme 1- Response to climate change through adaptation	Target 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.	Target A- Income and poverty	
		T1- Food security, social protection and health P2- Development of climate resilient cropping systems P9- Livelihood protection of vulnerable socio- economic groups	4.3.1- (Intervention type measure) Adaptation to agriculture systems in areas prone to enhanced flash flooding in North East and Central Region.	Theme 2- Response to climate change through mitigation	Target 3.d: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks Target 1.3: Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable		

Programmes	Selected Best Practices	Alignment with					
		BCCSAP	NAPA	BRAC Climate Change Strategy	SDG	7 th FYP	UNFCCC
Ultra-poor graduation programme	Livelihood support	T1- Food security, social protection and health P8- Livelihood protection in ecologically fragile areas P9- Livelihood protection of vulnerable socio- economic groups		Theme 1- Response to climate change through adaptation	Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	Target A- Income and poverty	
		T2-Comprehensive disaster management P4- Risk management against loss of income and property loss		Theme 4- Capacity building			
Urban Development Programme	Climate resilient housing			Theme 1- Response to climate change through adaptation	Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	Target D- Urban Development	
				Theme 3- Response to climate change through action research			
Water Sanitation and Hygiene Programme	Identify, screen and provide revolving funds and grants for entrepreneur development to ensure drinking water	T6- Capacity building and institutional strengthening P3- Strengthening human resource capacity		Theme 1- Response to climate change through adaptation	Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	Target F- Water and Sanitation	
		T1-- Food security, social protection and health P7- Water and sanitation programme in climate vulnerable areas			Target 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations		

BRAC Climate Change Programme

BRAC Centre, 75 Mohakhali
Dhaka 1212
Bangladesh

T: +88 02 222281265
F: +88 02 222263542
W: <http://www.brac.net/program/climate-change-programme/>

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