Anticipatory Action Framework

Bangladesh Cyclones – 2023

Approved by the Resident Coordinator on 11 September 2023
Endorsed by the USG/ERC OCHA on 23 December 2023

Contents

1. Introduction

In January 2023, the Under-Secretary-General and Emergency Relief Coordinator (USG/ERC) granted a request by Resident Coordinator in Bangladesh to continue OCHA's support in facilitating and financing coordinated anticipatory action in line with the Humanitarian Coordination Task Team (HCTT) strategy to increase the geographic reach and to expand to other hazards. This enabled the expansion of the anticipatory action framework for monsoon floods in Bangladesh earlier this year, as well as this new framework for cyclones.

Extensive anticipatory action experience has been built over the past few years in Bangladesh for a variety of hazards. Regarding monsoon river floods, the Bangladesh Red Crescent Society (BDRCS) pioneered the approach in 2015, developing trigger-thresholds and Early Action Protocol (EAP). A previous coordinated anticipatory action framework triggered in 2020 which yielded extensive learning and evaluations providing a basis for the improvement of the framework ever since.[1] Furthermore, an Anticipatory Action Technical Working Group exists within the HCTT structure, complementing the government-led Taskforce on Forecast-based Financing/ Action (FbF/A). This framework is also a contribution to the United Nations Secretary-General's Early Warning for All initiative (EW4All).[2]

Risk/Hazard – Cyclones

There are mainly three type of sub-hazard of cyclone are wind, rainfall and storm surge. Major impact in the past events the storm surge flooding is the most divisive hazard as demonstrated in the year 1970, 199, 2007 cause loss of life and livelihood. But storm surge flooding model still in research level and start applying as test basis in Bangladesh coast. Where, the cyclone tract and landfall wind speed forecast is gain more confidence. Besides, cyclone storm wind cause huge impacts in the coastal life and livelihood. But terrestrial rainfall from cyclonic events causes flash floods and landslides in the eastern part of the coast. There is a likelihood of cyclone wind crossing Category I in coastal districts with frequency 1 in 5 years.

About 60 million people are frequently exposed to cyclonic storms and 20% of the exposed population are living below the poverty line and 5-7 dependents per household and the house structure are very poor to stand against wind. Hence, risk is very high in the coastal districts of Bangladesh.

Bangladesh is highly vulnerable to climate-related shocks and stresses, including cyclonic events, which usually occur from May to June and October to November each year. The country's geographical location, with a vast coastline along the Bay of Bengal, makes it particularly vulnerable to tropical cyclones. In recent decades, though the preparedness program for cyclones by the government and development partners has been improved substantially in saving lives, cyclones still cause significant damage to livelihood, assets, and development. According to the Ministry of Environment, Forest and Climate Change (MoEF), a severe cyclone strikes the country every 3 years on average. According to the Bangladesh Meteorological Department (BMD), 10 cyclones impacted coastal districts of Bangladesh over the past 32 years (1991 to 2023), and six tropical cyclones with wind speeds exceeding 125 km/h formed in the Bay of Bengal.

Anticipatory Action

By using early warning systems and scientific advances in predicting disasters, anticipatory action maximises the window of opportunity between the moment of prediction and the arrival of a specific forecasted shock to trigger interventions that prevent or mitigate imminent humanitarian impacts. This approach leads to more effective, efficient and dignified responses and protects hard-won development gains. Anticipatory

[1] For an entry point to the learning outcomes, please see here: https://www.unocha.org/our-work/humanitarian-financing/anticipatory-action/summary-bangladesh-pilot

[2] https://public.wmo.int/en/earlywarningsforall

actions aim to interrupt the severity of a shock – in this case the cyclone impact – on vulnerable households by targeting populations most at risk. The targeting of anticipatory action ("at risk") is therefore distinct and different from targeting for the humanitarian response which is determined by existing need ("in need").

Anticipatory action is defined as acting ahead of predicted hazards to prevent or reduce acute humanitarian impacts before they fully unfold. Building on growing evidence that acting prior to the onset of a predictable hazard is significantly more effective than traditional humanitarian response, collective anticipatory action frameworks are being established and facilitated by OCHA. Each framework comprises 3 core elements, all of which are underpinned by a clear learning, monitoring and evaluation plan:

- A robust forecasting embedded in a clear decision-making process (the **model**).
- Pre-agreed action plans that can fundamentally alter the trajectory of the crisis (the **delivery**).
- Pre-arranged finance (the **money**).

In line with best practices for anticipatory action, this framework pre-agrees the cyclone forecasting trigger and the activities which are launched thanks to pre-arranged financing. In addition, documenting evidence and learning is part of the framework.

Prior anticipatory action in Bangladesh

Extensive anticipatory action experience by WFP, the Red Cross/Red Crescent and others has been built over the past few years in Bangladesh. The Bangladesh Red Crescent Society (BDRCS) and the World Food Programme (WFP) have been pioneers in implementing anticipatory action in Bangladesh. They piloted this approach in 2015, 2017, and 2019, with a particular focus on anticipatory action cash assistance. BDRCS has played a significant role in the implementation of AA cash assistance, while WFP has worked on the institutionalisation of anticipatory action within the region. The BDRCS and WFP developed trigger thresholds and Early Action Protocol (EAP) for Monsoon Flood and which was adopted in CERF AA National Framework and activated in the 2020 monsoon flood.

In 2019, an "Anticipatory Action Technical Working Group" was established, bringing together interested agencies under the leadership of BDRCS. The group was officially launched under the auspices of the Ministry of Disaster Management and Relief (MoDMR) and is linked to the HCTT co-chaired by the UN Resident Coordinator (RC) and MoDMR Senior Secretary.

In 2020, OCHA facilitated a collective approach to anticipatory action as part of a global pilot phase. Building on existing structures and experiences, the pilot framework pre-established when and on what basis financing and action would be triggered ahead of a specific monsoon flooding peak; how much funding would go to which agency; and what activities the funding would be used for and in what time frame. On 4 July 2020, severe floods were forecasted from 18 July onward. The framework was triggered, and CERF funding was released. By the time the water reached life-threatening levels, more than 220,000 people had already received assistance through WFP, FAO and UNFPA, which worked with the Red Cross/Red Crescent, 10 local non-governmental organisations (NGOs) and the Government. WFP and some NGOs also carried out similar, independent anticipatory actions during the same time. Using the IFRC DREF, BDRCS carried out the anticipatory action for the 2020 monsoon floods on 4 July 2020, before the first peak of the flood under FbA.

In 2021, a pilot framework for collective anticipatory action to monsoon floods in Bangladesh was endorsed by the RC and pre-approved by the Emergency Relief Coordinator (ERC), for multi-sectoral interventions carried out by the UN and the Red Cross/Red Crescent in close collaboration with NGOs and the Government through CERF funding. The objective of the pilot was to further scale up the quality and quantity of collective anticipatory humanitarian action to people at risk of predicted severe monsoon flooding of the Jamuna River in Bangladesh, covering five highly vulnerable districts (Bogura (Bogra); Gaibandha; Kurigram; Jamalpur; and Sirajganj) and using available forecasts with a two-step trigger system to predict severe monsoon floods.

Based on this experience, the anticipatory action framework for monsoon in Bangladesh was expanded in 2023, to increase the reach in the Jamuna River basin and add coverage of the Padma River basin.

Following discussions in May 2023, it was agreed to work to expand the coverage of Anticipatory Action initiatives to the full range of major hazards in the country starting with cyclones, and then looking at flash flooding and landslides. Considering the scope of the challenge for cyclones in terms of exposed population – nearly 44 million people

Overarching framework and core principles

The Resident Coordinator (RC) is responsible for the overall coordination and accountability of international assistance by the United Nations in the country, which includes CERF allocations. The RC is also the UN's main point of entry for liaison with the Government. Under the leadership of the RC, the coordinated anticipatory action frameworks are anchored in existing in-country humanitarian coordination mechanisms and modalities for anticipatory action, which is also sometimes referred to as forecast-based action (FbA) or forecast-based financing (FbF).

This coordinated anticipatory action framework builds on existing protocols to reinforce existing coordination mechanisms, including the BDRCS and WFP Co-led Anticipatory Action Technical Working Group, the Needs Assessment Working Group (NAWG), the Inter-Cluster Working Group (ICCG), Humanitarian Advisory Group (HAG) and the HCTT. The framework is also in line with existing tools, including the relevant Joint Contingency Plan framework for climate-related disasters in the context of the HCTT Nexus Strategy 2021-25.

2. The Model: Forecast and Triggers

Forecast

Monitoring will take place during cyclone season in Bangladesh, which occurs twice per year from April to May and October to November. The AA-TWG will consolidate the forecast and communicate it to the HCTT members via a user-friendly dashboard. The sources used for the forecast are the Bangladesh Meteorological Department (BMD), India Meteorological Department (IMD), European Centre for Medium-Range Weather Forecasts (ECMWF), Global Forecast System (GFS), and Joint Typhoon Warning Center (JT WC).

Monitoring protocol

A team from national meteorological (BMD), local expert IWFM), and OCHA technical team to monitor the disturbance in the BOB and compare the forecast against the pre-agreed criteria. Team will prepare a situation report and disseminate to the group (as agreed). The team will send mail to the Head of RC at different stages of trigger if reached.

For this, two forecasts were selected based on a thorough study conducted by BDRCS/GRC found that rural house structure damage due to 125km/h winds in the central and western zones are respectively 30 per cent and 25 per cent. As such, it is assumed that wind speed exceeding 125 km/hr will cause structural damage to more than 25 percent of houses (RP 1 in 5 years).

- First, BMD issues a Signal 1 (squally weather) or above warning with a lead time of 3-5 days (25% or more likely) with wind speeds of 125 km/h or greater in the coastal districts of Bangladesh.
- Second, BMD issues a Signal 5 or above warning with a lead time of 48-72 hours (50% or more likely) with wind speeds of 125 km/h or greater in the coastal districts of Bangladesh

Trigger

A trigger for anticipatory action should be based on a set of criteria to help answer the questions of when and where to act before an imminent cyclone. It should determine when a cyclone becomes an out-of-the-ordinary (or severe) shock, and the humanitarian impact crosses a certain threshold for the exposed vulnerable community. For this framework, a 1 in 5-year return period or more is considered a severe shock where-

Over the past 32 years (1991 to 2023), BMD shows that 10 cyclones impacted coastal districts of Bangladesh and six tropical cyclones with wind speeds exceeding 125 km/h formed in the Bay of Bengal. As such, the identified threshold assumes wind speeds of 125 km/h as extreme events. Some 200 households were surveyed by BDRCS/GRC; structure failure modelling exercises were performed to analyse the impacts on rural house structures. This found that rural house structure damage due to 125km/h winds in the central and western zone are respectively 30 per cent and 25 per cent. As such, it is assumed that wind speeds in excess of 125 km/h will cause structural damage to more than 25 percent of houses.

The trigger was developed using the following analysis and assumptions, which can be used when expanding the framework to a wider geographic area where geographic activation is required.

- Extreme cyclone event is forecasted 125 km/hr and impact threshold 25% HH asset damage.
- Use the location of landfall and the distance to the centroid of the unions of the pilot districts to use GIS modelling in order to determine if the targeted districts will be affected
- Apply distance vs velocity reduction factor (developed under DREF EAP cyclone of IFRC) and estimate the likely velocity of the union.
- Identify – where to act - rank the unions/upazila for the priority of AA based on the score from vulnerability, exposure, and wind speed exceeding 125 km/hr.

This framework will be triggered by a tropical cyclone that is forecasted to meet the following two-stage trigger statements:

Stage I: Pre-Activation

- “When BMD issues a Signal 1 (squally weather) or above warning with a lead time of 3-5 days (25% or more likely) or more and at least two models from BMD, IMD, ECMWF, GFS and JTWC forecast wind speeds of 125 km/h or greater in the coastal districts of Bangladesh”.
- **OR** "at least two models from BMD, IMD, ECMWF, GFS and JTWC forecast wind speeds of 125 km/h or greater in the coastal districts of Bangladesh with (i) a lead time of 3-5 days or more, or (ii) likelihood of 25% or more".

Stage II: Activation

- "When BMD issues a Signal 5 or above warning with a lead time of 48-72 hours (50% or more likely) or more and at least three models from BMD, IMD, ECMWF, GFS and JTWC forecast wind speeds of 125 km/h or greater in the coastal pilot districts"with a lead time of 48-72 hours or more in the coastal pilot districts.
- **OR** "at least three models from BMD, IMD, ECMWF, GFS and JTWC forecast wind speeds of 125 km/h or greater in the coastal districts of Bangladesh".

The action trigger inherently has a detection rate of 100 per cent (i.e., any cyclone whose actual track meets the trigger conditions will cause the framework to activate). This is because the actual track of the cyclone is effectively included in the forecast, as the forecasted position at a lead time of zero hours.

Activation protocol

Who	What	How	When
AA Working Group - Cyclone focal point	BMD /IMD / ECMWF / GFS / JTWC forecast analysis	Populates (twice a day) the forecast and observation in the log sheet	As soon as forecast is produced, and before forecast is truncated to 72 hours
AA Working Group - Cyclone focal point	Evaluate whether trigger has been met, and send email to distribution list	Communicates status of 5-day readiness and/or 72-48 hours action trigger to the HCTT members, RC/RCO as well as concerned UN Agencies, OCHA and other partners through email. A WhatsApp Group is also used to facilitate communication. The communication includes an intervention map.	
CERF secretariat	When a readiness trigger is issued (or an action trigger without a previous readiness trigger), CERF will immediately send the approval letters to the agencies	Endorsed framework and CERF application by RC and Emergency Relief Coordinator (ERC) Pre-approved CERF approval letters to UN agencies	As triggers are reached
RC	The RC can pause the activation process upon discussion with the NDMO	Direct contact between RC and NDMO	Once the framework is activated, in the possible outlier cases where a track of a storm clearly would result in minimal impact.
MoDMR	The MoDMR can discuss with the RC if it is the case to pause the activation	Direct contact between RC and MoDMR (it can be facilitated by OCHA HoO)	Once the framework is activated, in the possible outlier cases where a track of a storm clearly would result in minimal impact.

Any triggering of the framework should lead to action. However, for theoretically possible outlier cases where a track of a storm clearly would result in minimal impact, the Resident Coordinator, in consultation with the government, may pause any activation.

Challenges and potential improvements in the future

- Need for impact-based forecasting after triggers are reached. This could start already but be improved continuously.
- Lead time for action may be extremely short. More investment in the science of cyclone forecasting could increase lead times and accuracy.
- Tropical cyclones through the lens of wind speed are only one hazard resulting from storms, alongside, e.g., rainfall and storm surge. Bangladesh faces other predictable hazards that are not included in this anticipatory action framework, such as monsoon or flash floods, the anticipatory

action framework for which could potentially be better integrated into the cyclone anticipatory action framework. Anticipatory action for other hazards may also be explored.

3. The Delivery: Anticipatory Action Plan

Overview

Lack of resilience, early warning, and resources before a cyclone impact may cause poor households in affected areas to lose their lives, houses, assets, (including agricultural assets), crops, food grains, and income from livestock. Affected people often lose their agricultural assets like seeds, grains and may also be forced to adopt negative coping strategies such as skipping meals, reducing portion sizes and consuming lower quality food as a consequence. Women and girls often struggle to meet essential material needs during a crisis, leading to compromises on health, creating limited mobility and isolation, in addition to a greater risk of gender-based violence. Evidence from past emergencies demonstrates that the menstrual health of adolescent girls worsens during crises. High mortality of livestock was observed in each cyclone due to not taking to shelter along with damages in the fisheries sector due to washed away by surge and rain induced flooding. These effects can have long-term impacts on communities, eroding development gains and exacerbating susceptibility to future shocks.

Five out of eight sea-facing districts are being targeted under this framework. The targeted districts were selected based on a ranking using the INFORM RISK analysis (such as exposure and vulnerability) and frequency of cyclone landfall in the Bangladesh coast with windspeed exceeding 118 km/h (Category I), based on data from 1977 to 2023.

Rank	Districts	INFORM Natural Hazard	INFORM Vulnerability	Frequency Exceeding Windspeed of 118 km/h (Cat.1)	Score
1	Satkhira	6.9	5.5	0.1304	4.95
2	Patuakhali	5.6	6.7	0.1304	4.89
3	Bhola	5.0	5.8	0.1522	4.41
4	Noakhali	5.9	5.6	0.1304	4.31
5	Barguna	7.2	6.4	0.0870	4.01
6	Khulna	6.0	5.9	0.0870	3.08
7	Pirojpur	5.4	6.1	0.0870	2.86
8	Bagerhat	6.0	6.5	0.0652	2.54

Anticipatory actions that are effective in preventing or reducing the humanitarian impact of severe cyclones need to be delivered within the window of opportunity, i.e., between the trigger and the peak impact of the cyclone. Agencies thus need the operational capacity (thematic, logistic, administrative, financial, human resources) to implement the action effectively. For this pilot, interventions have been selected to be rooted in the current operating environment, including the agency's capacity to deliver, the ability to mitigate the impact of cyclones, and learning from past experiences. To maximise impact, the anticipatory action interventions of the participating agencies are coordinated and geographically aligned with one another.

The details for UN-lead agency anticipatory actions as part of the pilot are found in the annexed CERF applications.

Interventions by the Food and Agriculture Organization (FAO)

Objectives

Protecting livelihood assets through the provision of anticipatory actions in cyclone-prone coastal areas.

FAO-led anticipatory actions

FAO's anticipatory action project aims to protect the livelihoods and agriculture assets of 10,000 farming households in the four identified most vulnerable districts – Satkhira, Barguna, Patuakhali and Noakhali – as well as to reach some 25,000 households with early warning messages. FAO's main activities are:

Readiness phase

1. Beneficiary Registration Exercise in high-risk prone areas
2. Early Warning Message (EWM) development
3. Government partner sensitisation

Activation phase

1. EWM dissemination
2. Distribution of water/air-proof seed/food/water storage silos
3. Distribution of nutrient-enriched ruminant animal feed (50 kg per household)
4. Distribution of Cash+ Grants to listed farming households to prepare themselves (transportation/ evacuation/labour/animal shelter raising/repair/destocking, etc.)
5. Internal impact assessment/evaluation as well as participation in the common independent evaluation

Interventions by the UN Population Fund (UNFPA)

Objectives

Integrated anticipatory actions for gender-based violence (GBV) and sexual and reproductive health (SRH), to mitigate cyclone-induced risks to women, girls and third gender persons including pregnant women and persons with disabilities.

UNFPA-led anticipatory actions

UNFPA's interventions will seek to mitigate the impacts of GBV, maternal mortality, and challenges in the menstrual health of adolescent girls during a cyclone event, by deploying flood anticipatory action activities in two high-risk districts – Patuakhali and Noakhali. Concretely, UNFPA will target 7,000 at-risk women and adolescent girls, including 1,000 pregnant women and 200 trans women.

The integrated GBV-SRH intervention in the two targeted districts focuses on:

- Provision of 3,000 dignity kits for women of reproductive age (19-49 years), including 200 contextualised dignity kits for trans women (Hijra)
- Provision of 3,000 menstrual health management (MHM) kits for adolescent girls (10-18 years)
- Provision of 1,000 baby kits to pregnant women
- Cash support to cover the two-way transportation (from home to distribution point and back) expenses of 6,000 women (including trans women), adolescent girls and pregnant women. Higher cash support is provided for pregnant women, to additionally cover transportation to health facilities for antenatal care (ANC) and encourage facility-based delivery.

Interventions by the UN Children's Fund (UNICEF)

Objectives

Provision of integrated multi-sectoral high-impact anticipatory action interventions in WASH, Education, Multi-Purpose Cash, Child Protection and Common Service for Communication and Community Engagement (CCE) for vulnerable women and children in all five districts identified for this framework – Bhola, Barguna and Patuakhali in Barisal Division; Noakhali in Chattogram Division; and Satkhira in Khulna Division.

UNICEF-led anticipatory actions

UNICEF's project will target up to 300,000 of the most vulnerable community members affected by the cyclone in the five targeted districts. The integrated interventions will ensure that the affected populations have access to a comprehensive package of services that will reduce the risk of life-threatening water and sanitation-related diseases in affected areas (such as acute watery diarrhoea); provide an opportunity for children to continue their education and strengthen systems and communities' resilience through cash transfers.

- The integrated multi-sectoral interventions will provide urgent and quick-impact lifesaving anticipatory action interventions, such as:
- Providing safe, sustainable and climate-resilient water, sanitation and hygiene (WASH) services;
- Ensuring uninterrupted learning for children affected by cyclones;
- Providing unconditional cash support (BDT 5,000 based on the Cash Working group guidelines) to cyclone-affected vulnerable households (2,500) targeting pregnant and lactating mothers with young children (ages 0-4 years).
- Enable contextualization of the forecast in actionable information together with relevant stakeholders and strengthen the provision of rapid and coordinated communication and community engagement (CCE) for the people at risk of Cyclone.
- The multisectoral interventions will also support the strengthening of government capacity to ensure continuity of essential WASH services and enhance the government's ability to communicate the available services better with the communities at risk on how communities can protect assets and livelihoods to reduce economic losses.

Interventions by the World Food Programme (WFP)

Objectives

Anticipatory action to support disaster preparedness and food assistance for vulnerable cyclone-affected households.

WFP-led anticipatory actions

WFP will be focusing its cyclone preparedness interventions on socio-economically poor and vulnerable households in the cyclone-prone districts of Satkhira, Potuakhali and Bhola. Forty-five thousand households will be selected and verification of the bKash accounts will be undertaken in a pre-readiness phase, to enable instant cash transfer immediately upon activation of the trigger. WFP will inform beneficiaries of their entitlement through mobile messages (SMS).
Once activated, the 45,000 beneficiary households will receive a one-off unconditional cash transfer of BDT5,000 (equivalent to US$42) via mobile cash transfer (bKash) before the cyclone hits. The transfer value

of BDT5,000 was calculated to cover 75 per cent of the minimum expenditure basket (MEB) for a household comprising five members.

Immediately after a devastating cyclone, the affected communities often struggle with massive infrastructure damage, including housing, and a severe shortage of essential supplies such as food and clean drinking water. These affected beneficiaries will receive a post-cyclone early cash support to meet their needs in such dire situations. The post-cyclone immediate cash assistance will be made for the following purposes:

A) Selected 28,650 families will receive 3,000 BDT (equivalent to US$27) for minor repairs or reconstruction of their wrecked household. Beneficiaries will purchase the repairing materials, such as bamboo, ropes, and labour, or any other expenses related to rebuilding their homes. The support will help them secure their living conditions immediately after the cyclone.

B) Selected 28,650 families will receive 1,500 BDT (equivalent to US$14.) for the purchase of dry food items including jerry can for fresh drinking water. WFP will support beneficiaries to purchase these items according to their dietary needs and preferences. These will support affected families to remain in their household and maintain minimum consumption of food for the family members.

Cyclone early warning messages will also be disseminated, including in local languages and to remote villages. The dissemination of the last-mile early warning messages will be continued jointly with the Cyclone Preparedness Program (CPP) volunteers and within the community.

4. The Money: Central Emergency Response Fund (CERF)

Pre-arranged financing to fuel anticipatory action is critical to enable timely, effective anticipatory action, especially in sudden-onset disasters. To ensure sustainability of anticipatory action approaches, a key recommendation from the USG/ERC is for agencies to seek alternative sources of financing for coordinated anticipatory action over the longer-term. This is in addition to the considerable resources invested by partner agencies themselves in building coordinated anticipatory action alongside other preparedness. CERF has provided an envelope of 7.5M USD for Anticipatory Action.

With the introduction of the Cyclone programme this funding will be available for the seasonally appropriate hazard - Cyclone in Oct-Dec and April-May and riverine floods in June - October. The same pool of funds will be used for both projects so if one is triggered additional funding would need to be re-secured to address a second trigger for the other hazard, but this funding is not guaranteed by CERF.

Financing overview from CERF

Agency	Funding Requirement (US$)	Co-Funding
FAO	782,349	n/a
UNFPA	448,510	n/a
UNICEF	2,299,962	260,000
WFP	3,900,000	
Total	**7,430,821**	

Central Emergency Response Fund (CERF)

The Emergency Relief Coordinator (ERC) agreed to allocate US$7.5 million from CERF to support anticipatory action in Bangladesh. CERF will disburse funds to anticipatory action frameworks on a no-regrets basis once three conditions are met:

- Endorsement by the relevant Resident/Humanitarian Coordinator of the Anticipatory Action framework (this document) and the CERF application package comprising an application chapeau, agency-specific project proposals and agency-specific budgets (in annex);

- Pre-approval by the ERC of the Anticipatory Action framework (this document) and the CERF application package comprising an application chapeau, agency-specific project proposals and agency-specific budgets (in annex); and

- Activation of either the readiness trigger or the action trigger within a maximum of two years from the ERC's pre-approval of the framework.

CERF disbursement is guaranteed once a trigger is reached. As the CERF funding will be activated and distributed as automatically as possible immediately upon the defined trigger(s) being reached, CERF will disburse funds on a no-regrets basis. While a portion of the funds can be used immediately upon disbursement for readiness activities, the remaining portion of the funding can only be used if and when an action trigger is reached. The proportion of funding for readiness and for action activities will be clearly defined in the pre-approved project proposals and budget. The need to distinguish between these two cost categories in advance is critical given the different potential scenarios.

Pre-arrangement and/or receipt of CERF funding for anticipatory action does not preclude or guarantee additional CERF funding for a complementary rapid response to save lives resulting from the same or other shocks. This means that the pre-arranged funding by CERF for anticipatory action is for the hazards and triggers outlined in this framework. Should there be additional needs or other disasters, other CERF funding modalities can be requested.

Exact details on financing per agency can be found in the annexed CERF application documents.

Challenges

- While financing is increasingly available to carry out anticipatory actions, collective anticipatory action requires an investment in building the framework. These "start-up costs" (or "build costs" as part of a "build – fuel – evaluate" cycle of frameworks) are incurred by participating agencies prior to the activation of a framework to set up effective anticipatory actions. These costs may also include projects which enable a collective approach (e.g. common targeting approaches) and other costs that pooled funds, including the CERF, traditionally do not fund.
- To enable a timely response within a short window of opportunity, anticipatory action at scale requires commensurate disaster risk preparedness, including the prepositioning of goods. There is limited funding available for such emergency response preparedness, thus limiting the scope of this anticipatory action framework.
- It must be understood that anticipatory action may support some of the most vulnerable communities facing the impact of a tropical cyclone. Yet, the storms are still likely to cause damage beyond the maximum number of people targeted, beyond the geographic reach or the scope of sectors covered by this anticipatory action framework. More thought needs to be invested in ensuring linkages between emergency response preparedness, anticipatory action, rapid response and early recovery, including around community engagement, activities and financing.

5. The Learning

Any activation of this framework will offer enhanced learning opportunities anticipatory action. An ad hoc monitoring, evaluation and learning (MEAL) committee will be convened by OCHA with partners to this framework to coordinate learning and evidence gathering on anticipatory action.

One key aspect of learning will be to assess the impact of the framework against the premise of where possible, anticipatory actions may lead to a faster, more efficient, and more dignified humanitarian response, which also may protect development gains.

Learning from frameworks should be achieved at the highest possible standards and rigour.
While the ad-hoc committee will discuss the key learning questions in more detail, the following areas of learning have been pre-identified as possible starting points designing monitoring and evaluation (M&E) as well as an independent evaluation:

- **Timing:** Did the timing of the intervention in relation to cyclone land-fall make a difference?
- **Joint targeting:** Did the common beneficiary database and joint targeting lead to better assistance provided to beneficiaries by agencies who used this modality?
- **Early warning:** How effective is the joint approach to early warning? Did the content of the messages matter?
- **Localisation:** Did the anticipatory approach enable greater localization of the humanitarian response?
- **Partnership:** What can be learned from the partnership with the government, including how to support a take-up of anticipatory approaches?
- **Pre-crisis survey:** understand what are the risks of cyclone's impact on the community, households, and individuals that can be potentially mitigated prior to the hazard and therefore design effective Cyclone AA intervention
- **Actions:** How can the anticipatory action by each agency be further improved?
- **Effectiveness:** Was the AA found effective in reducing the impact of the shocks?
- **AAP:** To what extent was the level of effective participation from communities ensured by the AA?

Monitoring & Evaluation

Each agency will use its existing M&E systems to collect and track data on implementation progress and outputs achieved. This can be financed through the CERF funds. All findings will be shared with OCHA. M&E questionnaires should be coordinated among agencies to allow for maximum learning, each to evaluate and report on a set of common questions across all interventions. This may also enable a reduction of interviews required by beneficiaries. The work will bring in MEAL experts at the global level and can draw on recently published guidance to evaluate anticipatory action.[3] Further common questions can be discussed and agreed through the ad-hoc committee.

Independent Evaluation

Agencies participating in this framework also agree to participate in an independent evaluation, which may include the sharing of beneficiary data for this purpose. The ad hoc committee will oversee this evaluation and define the scope of the exercise.

[3] See for instance here: https://www.anticipation-hub.org/news/new-guidance-on-planning-and-monitoring-country-capacity-strengthening-for-anticipatory-action

6. Final Provisions

Advocacy and Public Communications

Agencies agree to coordinate, under the leadership of the Resident Coordinator, key messages around the pilot, including during the development, activation and learning phase. In case of an activation of the pilot, close coordination facilitated by OCHA will support as a minimum: a joint press release and mutual amplification of social media stories.

To enhance common messaging and advocacy for anticipatory action, agencies agree to share any visuals (photos, videos) and impact stories with the ad hoc committee as these become available.

1. Annexes

Annex 1 – Historical Analysis

Table 1: Historical data on cyclone impact on coastal areas of Bangladesh (used in return period calculation against wind speed, 125 km/h)

Year	Name	Wind speed (km/h)	Storm surge height (m)	Affected population	Affected houses (fully damaged)	Loss of life	Livestock
1991	Bob 1	250	6.5	15,000,000	854,399	138,882	700,000
2007	Sidr	223	4.57	6,737,815	564,967	> 10,000	382,000
2009	Aila	120	3.05	3,900,000	243,000	190	NA
2015	Komen	65	1-2	2.6 million	88,900	9	N/A
2016	Roanu	90	1.5	1,297,010	216,771	24	NA
2017	Mora	146	1.5	3,300,000	17,023	7	NA
2019	Fani	88[4]	1.5	1.6 million	2,363[5]	17	175
2019	Bulbul	140	1.83	2.1 million	16,580[6]	25	NA
2020	Amphan	151	3-5	2.6 million	55,667	26	NA
2021	Yaas	150[7]	1.8-2.4	1.3 million	26,000	9	NA
2022	Sitrang	88[8]	1-2.4	1 million	20,000	35	NA
2023	Mocha	145	1.5-2	0.75 million	17,000	0	NA

Map 1: Map of cyclone hit frequency (used in priority analysis for district selection to consider in pilot study)

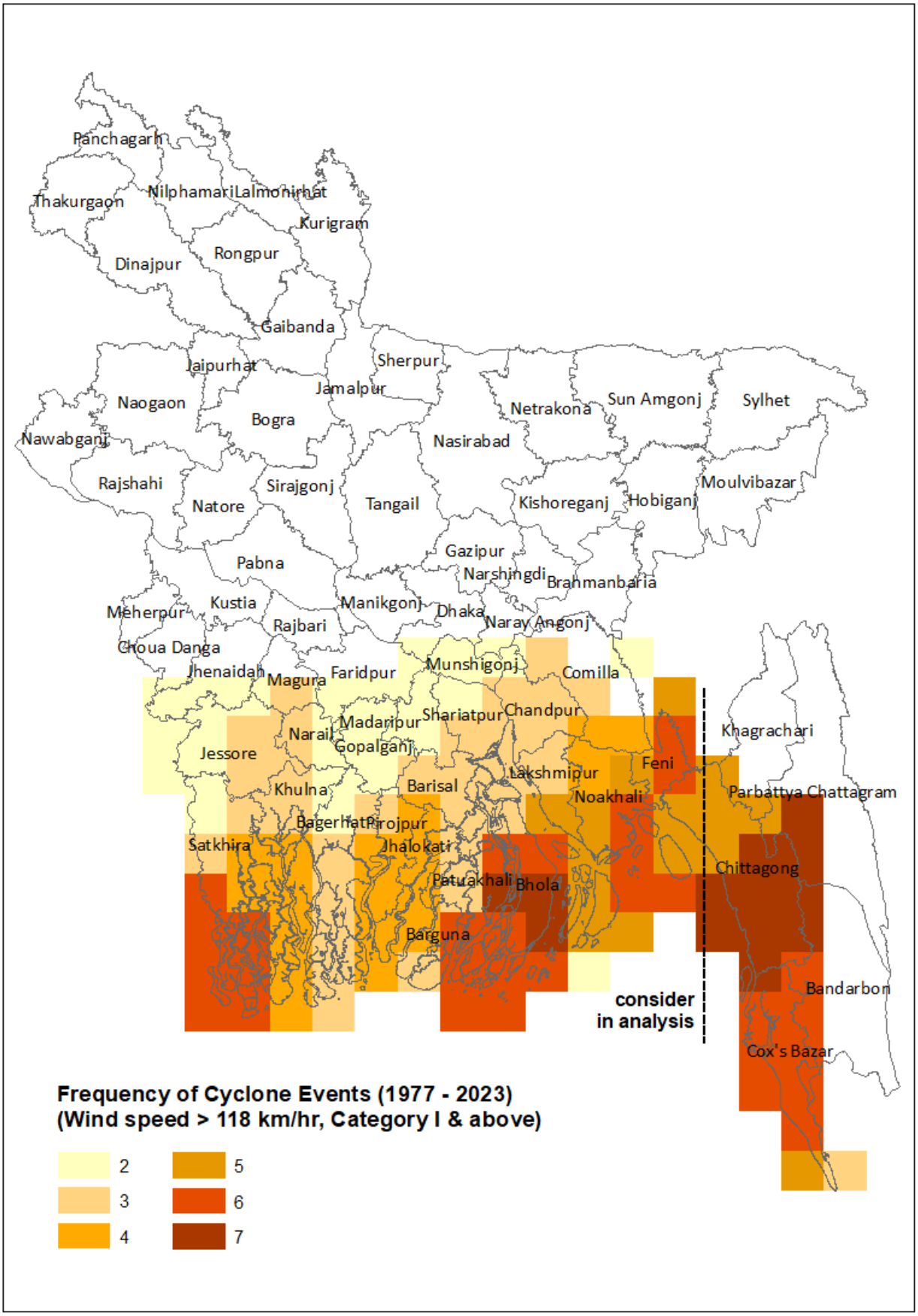
[4] https://rcbd-my.sharepoint.com/:b:/g/personal/md_salauddin_bdrcs_org/ET-1jqDyZUVCguTx9iBEPFwBk9gdmd-rPqn20eSfvOKVmw?e=dKmzen

[5] https://rcbd-my.sharepoint.com/:b:/g/personal/md_salauddin_bdrcs_org/Ecnf7HeIyIFCgqh1gc9iz8gBSv0XNTwpORcWSDSuQIGpPA?e=f7xE97

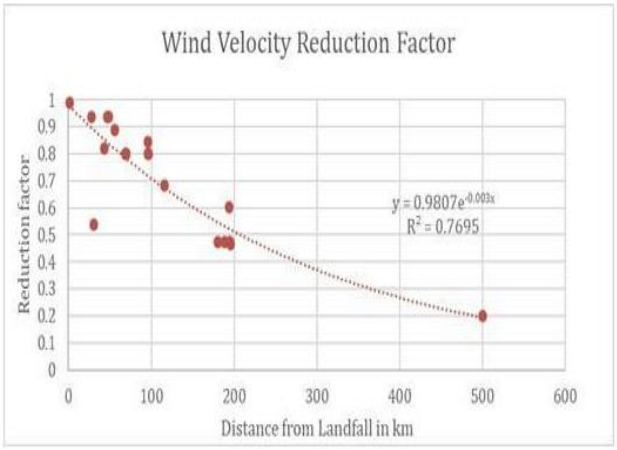
[6] https://rcbd-my.sharepoint.com/:b:/g/personal/md_salauddin_bdrcs_org/Ef1QmBTieOxKjNBe0AxlwSIBJ-QEHsksa2YtjNOKGcIz0w?e=5rRHUy

[7] https://reliefweb.int/report/bangladesh/bangladesh-cyclone-yaas-final-report-n-mdrbd027

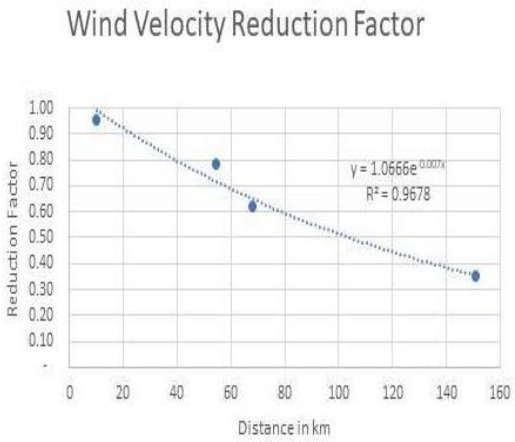
[8] https://reliefweb.int/report/bangladesh/cyclone-sitrang-bangladesh-situation-report-2-26-october-2022#:~:text=Wind%20speed%20during%20landfall,%2D88%20kmph%2C%20during%20landfall.


Panchagarh
Thakurgaon
Nilphamari
Lalmonirhat
Kurigram
Rongpur
Dinajpur
Gaibanda
Joipurhat
Sherpur
Jamalpur
Naogaon
Bogra
Nawabganj
Nasirabad
Netrakona
Sun Amgonj
Sylhet
Rajshahi
Sirajgonj
Tangail
Kishoreganj
Hobiganj
Moulvibazar
Natore
Pabna
Gazipur
Narshingdi
Brahmanbaria
Meherpur
Kustia
Manikgonj
Dhaka
Naray Angonj
Rajbari
Choua Danga
Munshigonj
Comilla
Jhenaidah
Magura
Faridpur
Shariatpur
Chandpur
Madaripur
Narail
Khagrachari
Jessore
Gopalganj
Feni
Lakshmipur
Khulna
Barisal
Noakhali
Parbattya Chattagram
Bagerhat
Pirojpur
Satkhira
Jhalokati
Chittagong
Patuakhali
Bhola
Barguna
Bandarbon
consider
in analysis
Cox's Bazar
Frequency of Cyclone Events (1977 - 2023)
(Wind speed > 118 km/hr, Category I & above)
2
3
4
5
6
7

Graph 1: Wind speed reduction factor model in respective to distance (sources: BMD & IMD)

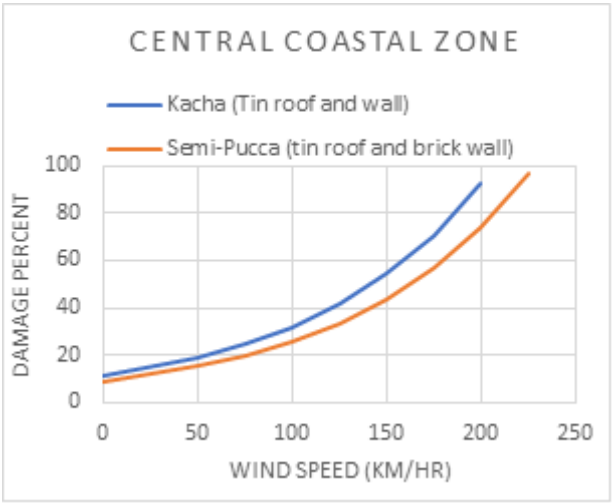


Cyclone Amphan (2020)



Cyclone Mocha (2023)

Graph 2: HH asset damage curve, will be used in trigger model for impact assessment



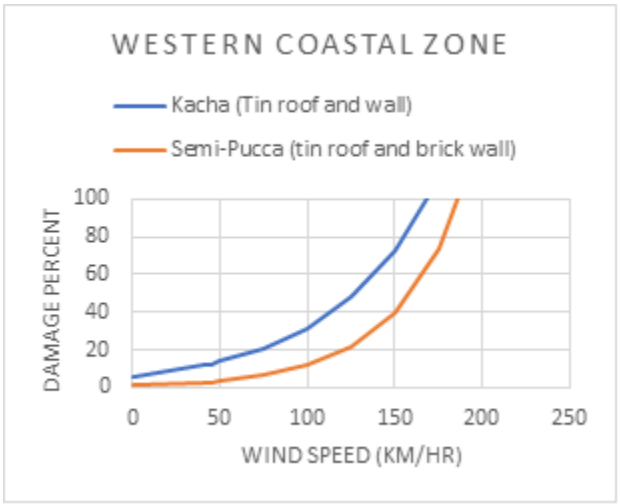


Table 2: Impacts (damage percentage) on rural houses for windspeed 125km/h

Zone	Semi Pucca (70%)	Kacha (30%)	Impact (weighted average)
Central	30	40	30
Western	20	45	25

Some 200 households were surveyed by BDRCS/GRC; structure failure modelling exercises were performed to analyse the impacts on rural house structures. This found that rural house structure damage due to 125km/h winds in the central and western zone are respectively 30 per cent and 25 per cent. As such, it is assumed that windspeeds in excess of 125 km/h will cause structural damage to more than 25 per cent of houses.

Table 3: Cyclone forecast models (reference are in trigger statements)

Forecast	Content	Lead time	Skill
BMD	Windspeed, Storm Surge (not location specific)	DD: 48 hr. CS: 30 hours	Wind velocity forecast skill is good when the storm 1,000 km from the coast. Storm Surge forecast needs improvement.
IMD	Track with wind speed and tentative storm surge	DD: 48-120 hr. SCS: 48 hr. +	After the formation of CS – the forecast is good, but storm surge improvement needed
ECMWF	Wind and storm surge	10 days	After the formation of DD, skill is good
GFS	Wind and storm surge	10 days	After formation of D/DD, skill is good
JTWC	Track with wind speed and tentative storm surge	After the formation of DD	After the formation of CS – the forecast is good

Source: EAP Cyclone, IFRC

Annex 2 – Distribution list

To	
Resident Coordinator	Gwyn Lewis, Resident coordinator Office (lewisg@un.org) Aleyda Valdes, Humanitarian Affair Advisor (valdes@un.org) Kazi Rahman, Humanitarian Affair Specialist (kazi.rahman2@un.org)
cc	
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Annex 3 – DRAFT Trigger Messages

From:
To: distribution list (see annex)

SUBJECT: Cyclone Anticipatory Action Bangladesh – Readiness Trigger Reached

[readiness trigger]

This is an automated message.

Dear Resident Coordinator, dear colleagues,

The readiness trigger of the coordinated anticipatory action pilot for tropical cyclones in Bangladesh has been reached in line with the 120-hour forecast shared by the Bangladesh Meteorological Service, operators of Regional Specialized Meteorological Centre (RSMC) New Delhi.

Readiness activities in line with the framework document [link] should now commence. CERF funding to UN agencies is being released. OCHA may convene a meeting of the participating partners.

Best wishes and good luck,

[action trigger]

SUBJECT: Cyclone Anticipatory Action Bangladesh – Action Trigger Reached

This is an automated message.

Dear Resident Coordinator, dear colleagues,

The action trigger of the coordinated anticipatory action pilot for tropical cyclones in Bangladesh has been reached in line with the 72-hour official forecast shared by the Bangladesh Meteorological Service, operators of Regional Specialized Meteorological Centre (RSMC) New Delhi.

All activities in line with the framework document [link] should now commence. OCHA may convene a meeting of the participating partners.

Best wishes and good luck,

PS: Please remember that the impact of this pilot will be evaluated. We encourage all partners to document decisions and lessons learned as best as possible during this activation. Finally, please also ensure any visuals, stories or social media posts are shared with the group.

Annex 4 – Overview of Activities

Cluster	Output	Lead Agency	Proposed Activities	Target (people)
Food Security – Agriculture	A database of vulnerable households is established	FAO	• Collection of household-level data (including contact number and Mobile Money Transfer - MMT numbers) • Identification and mapping of FAO beneficiary households	125,000 people
Food Security – Agriculture	10,000 households received 60-litre capacity water/air proof storage silo/drum	FAO	• Procurement of 10,000 water/air proof silos/drums • Distribution Planning of the silos/drums • Distribution arranged and undertaken in each of 4 districts	50,000 people
Food Security – Agriculture	10,000 households received 2 bags/ 50 kgs of high-nutrient animal feed	FAO	• Procurement of 500 MT high-nutrient animal feed • Distribution planning with GOB partners • Distributions arranged and undertaken in each of 4 districts	50,000 people
Food Security – Agriculture	10,000 households received Cash+ grants	FAO	• Prepare CTPO and make it ready for disbursement • Send the cash disbursement request to the Financial Service Provider-FSP for cash disbursement • Disbursement of cash to beneficiaries' households	50,000 people
Food Security – Agriculture	Early Warning Messages reach to 25,000 households	FAO	• Development and agreement of EWMs content and delivery schedule as per timed event • Delivery of messages to targeted households	125,000 people
Food Security – Agriculture	Post-distribution / impact assessments with findings and recommendations	FAO	• Assessment design developed by FAO MEAL Unit • Undertake assessment at response sites	125,000 people
Protection – GBV	Lifesaving GBV risk mitigation measures are delivered for women and girls including transgender persons	UNFPA	• Distribution of Dignity Kits to the most vulnerable and disadvantage women of reproductive age (19-49 years) and third gender persons to mitigate GBV risk • Conditional cash support to women and transgender to cover two-way transportation expenses during collection of kits • Orientation for cyclone preparedness programme volunteers (CPP) on GBV risk mitigation, PFA, safe referral and AAP / PSEA	3,200 people
Sexual & Reproductive Health	Minimum Initial Service Package (MISP) support provided to pregnant women and front-line health service providers ensuring safe birth, reducing maternal mortality and sexually transmitted infections and diseases	UNFPA	• Distribution of MHM kits to adolescent girls (10-18 years) • Distribution of baby kits to pregnant women • Conditional cash support to adolescent girls to cover transportation to distribution points and to pregnant women to cover transportation to health facilities for Antenatal Care (ANC), referral to obstetric emergencies and encourage facility-based delivery • Health facility and/ or evacuation centre readiness through deployment of midwives and community volunteers to support pregnant women	4,000 people
Education	Enhanced disaster resilience of both schools and communities and securing uninterrupted learning for children in five districts	UNICEF	• Distribute learning/recreational materials to schools for affected learners and teachers. • Mobilisation of the school community (children, teachers, parents and SMC) on cyclone readiness to ensure safety of lives and school properties (infrastructure and learning materials)	20,400 people

Multi-Purpose Cash (MPC)	**Households with pregnant women and children 0-4 years receiving income support in cyclone affected areas**	**UNICEF**	• **· Community and stakeholders mobilization to finalize the list of targeted household** • **· Transfer multipurpose cash assistance to targeted households/beneficiaries based on a specific criterion of vulnerabilities** • **· Collection of feedback and complaints as well as conduct post-distribution monitoring and analysis to capture learnings and generate evidence**	**2,500 households** **10,250 people**
WASH	Provision of life-saving WASH services for cyclone-affected people	UNICEF	• Distribution of life-saving WASH supplies (Water Purification Tablets (WPTs), Jerrycans • Deployed 20 Mobile Water Treatment Plants in the potential evacuation point and Cyclone Shelters to provide safe drinking water • Minor repair/maintenance/installation of temporary water points at evacuation point and cyclone shelters • Minor Repair and maintenance/ installed Temporary toilets and Hand washing devices (WASH Facilities) in the evacuation point and Cyclone Shelters. • Distribution of Hygiene kit including Menstrual hygiene management (MHM) materials • Mass communication on early warning and hygiene promotion through local Cable network, miking etc. emphasizing hand washing with soap frequently and during critical times along with use of latrines, use of WPT, Menstrual hygiene, Water safely plans. 30 sessions per upazila	300,000 people accessing sufficient safe water 67,500 people receiving critical WASH supplies
Common Services – Communication and Community Engagement (CCE)	Enable contextualization of the forecast in actionable information together with relevant stakeholders and the strengthen the provision of rapid and coordinated CCE for people at risk of cyclones	UNICEF	• Convene a meeting for (BMD, DoA, DLS, DGHS. DDM etc) for (common service) Coordinated Communication and Community Engagement action • Facilitate GoB to disseminate contextualised and coordinated messages on forecast-based anticipatory action to the at-risk population through national media. • Rapid development of the contextualised messages for population at risk based on the forecast, potential impacts, target population, etc. • Disseminate forecast specific contextualize messages to the national media and community radio stations for broadcasting to the population at risk along with a briefing to ensure effectiveness. • Disseminate the contextualised lifesaving messages to the population at risk through local networks of the Cyclone Preparedness Programme, government departments, NGOS, community radio stations • Dissemination of Life-saving Child Protection messages (Preventing family separation, child marriage, and GBV risk mitigation) to the community • Community engagement action/session/event on mitigating measures and enable communities to take immediate actions to lessen risks/impact of cyclone • Collect people concerns and questions through the CPP volunteers, social listening, Hotline and inform appropriate authority	148,180 people

Multi-Purpose Cash	Provision of cash transfer to 225,000 people (45,000 HH) as anticipatory action	WFP	• Geographical targeting of the Cyclone prone areas in the selected districts • Collection of pre-existing lists of households for selecting potentially affected HHs by severe cyclone • Development of household database for AA through verification • Cash transfer system implementation through bKash including registration and activation of accounts • Ensure transfer of cash immediately after the 2nd trigger (activation)	225,000 people
Multi-Purpose Cash	Design and field trial of early warning dissemination and preparedness actions (2023) for the households in the selected remote and riverine chars	WFP	• Develop early warning dissemination framework for the AA and organise consultations with the Government and other relevant organisations • Dissemination of early warning for the selected unions using different channels	225,000 people
Multi-Purpose Cash	Collaboration with the relevant government departments and ministries to strengthen Cyclone Preparedness Program forecasting capacity and scaling-up of AA interventions jointly with the Government	WFP	• Plan for meetings on Cyclone forecasting with CPP and BMD • Preparation of action plan to enhance CPP forecasting capacity • Preparation of AA joint work plan with MoDMR • Implementation of AA activities with MoDMR and ensuring AA assistance to the social safety-net beneficiaries of MoWCA in targeted unions • Document evidence from field trial of the AA tools including geographical targeting, household targeting, cash transfer system and early action trigger setting, early warning and preparedness • Revise systems and tools in consultation with other actors • Organize lessons-learned sessions with government and stakeholders	1,000 people
Multi-Purpose Cash	Collaborate with local government, UDMC, and Shelter Management Committee to make the cyclone shelters functional	WFP	• Ensure of the usability of the cyclone shelter • Activate shelter management committee to ensure accessible shelter • Arrange separate accommodation for male, female, lactating women and adolescent girls at cyclone shelters • Support people at risk to take shelter providing safe evacuation	225,000 people
Multi-Purpose Cash	Conditional cash transfer for minor repairing or reconstruction of wrecked household	WFP	• Immediate after cyclone as AA plus support (2023) for the households in the selected remote and riverine chars to rectify damage houses	143,250 people
Multi-Purpose Cash	Conditional cash transfer for the purchase of dry food items including jerry can for fresh drinking water	WFP	• Immediate after cyclone as AA plus support (2023) for the households in the selected remote and riverine chars to buy food items and drinking water	143,250 people

Annex 5 - CERF Chapeau and Project Proposals

See https://cerf.un.org.

Note. This Framework must be revised after the cyclone season 2023 ends.