



**Ministry of Disaster Management and Relief (MoDMR)
Government of the People's Republic of Bangladesh**

**National Early Action Protocol (NEAP)
for Monsoon Riverine Flood
Anticipatory Action**

A GUIDELINE FOR IMPLEMENTING ANTICIPATORY ACTION



**Version 01
June 2024**

**A standardized, harmonized
protocol for all stakeholders to
guide in implementing anticipatory
actions for riverine flood-prone
areas of Bangladesh covering the
Ganges-Brahmaputra River basins
during the monsoon season**

Message

I am happy to know that Ministry of Disaster Management and Relief is going to formulate National Early Action Protocol (NEAP) for monsoon riverine flood. I would like to extend my deepest gratitude for all the collaborators for their exceptional collaboration in developing the National Harmonized Early Action Protocol (NEAP). Your unwavering commitment and expertise have been pivotal in crafting a cohesive framework for anticipatory actions against monsoon floods.

I would like to particularly acknowledge the Department of Disaster Management (DDM) for their exemplary leadership, and the Flood Forecast and Warning Centre of the Bangladesh Water Development Board along with Regional Integrated Multi-Hazard Early Warning System (RIMES) for their invaluable technical support. The knowledge and experience accumulated through years of managing disaster risk in Bangladesh have been crucial in shaping the NEAP.

A special thanks to our esteemed partners and agencies for their relentless cooperation and tireless efforts. Your contributions have been instrumental in ensuring the robustness and effectiveness of this protocol.

With the NEAP in place, I am confident that we are better equipped to undertake anticipatory actions, thereby enhancing our resilience to monsoon floods and other disasters. Your efforts have significantly strengthened our disaster management framework, and I look forward to continued collaboration in our collective mission.

Md. Mohibbur Rahman, MP

State Minister

Ministry of Disaster Management and Relief

Message

On behalf of the Ministry of Disaster Management and Relief, I am writing to express my sincere appreciation for the pioneering work that Bangladesh has undertaken in the field of Anticipatory Actions within the realm of disaster risk management. Since 2015, our country has set a remarkable example by institutionalizing Anticipatory Actions in the existing standard protocols through the Standing Orders on Disaster in 2019.

The commitment shown by over fifteen government agencies and thirty humanitarian organizations in implementing Anticipatory Humanitarian Actions is truly commendable. By proactively preparing for potential risks and taking early measures, Bangladesh is not only saving lives but also strengthening the resilience of communities in the face of disasters.

Our efforts serve as a beacon of inspiration for others in the global community, and I believe that sharing best practices and collaborating with peers will further advance the field of anticipatory actions and contribute to more effective disaster risk management worldwide.

Thank Technical Working Group (TWG) for developing the National Early Action Protocol (NEAP) for Monsoon Riverine Flood once again for their dedication and leadership in this critical area. I look forward to continued progress and collaboration in the future.

Md. Kamrul Hasan, ndc

Secretary

Ministry of Disaster Management and Relief (MoDMR)

Message

On behalf of Department of Disaster Management (DDM), I wish to express my heartfelt appreciation for this collaborative effort in developing the National Harmonized Early Action Protocol (NEAP). Our dedication and expertise have been instrumental in creating a unified framework for anticipatory actions against monsoon floods.

Special thanks to the Technical Working Group (TWG) for developing National Early Action Protocol (NEAP) for Monsoon Riverine Flood for their leadership and to the Flood Forecast and Warning Centre for their technical support. To our esteemed partners and agencies, your cooperation and tireless efforts have been invaluable.

I am confident that the NEAP will guide future anticipatory actions in Bangladesh, boosting our resilience against disasters.

Md. Mijanur Rahman

Director General &

Vice-Chairperson- National Forecast Based Financing/ Anticipatory Taskforce (FbF/A)

Department of Disaster Management (DDM)

Foreword

Bangladesh has been a pioneering country to test and practice Anticipatory Actions across the globe during the past decade. Since 2015, Anticipatory Actions have been a key agenda in the holistic disaster risk management framework, and it has been institutionalized in the existing standard protocols of the government of Bangladesh through the Standing Orders on Disaster in 2019.

Today, over fifteen government and thirty humanitarian agencies implement Anticipatory Humanitarian actions through various Early Action Protocols (EAPs). However, discrepancies have emerged over the past decade. Learning from these, the Forecast Based Action Task Force under the Ministry of Disaster Management and Relief decided in 2022 to develop a harmonized EAP for monsoon floods.

The task was vested in the Department of Disaster Management with the support of a Technical Working Group (TWG). The TWG was comprised of World Food Programme (WFP), Bangladesh Red Crescent Society (BDRCS), Care Bangladesh, Regional Integrated Multi-Hazard Early Warning System (RIMES), Save the Children, Concern Worldwide, and Red Cross Movement.

With a series of consultative sessions, write-shops, and core-group development sessions, the Harmonized National Early Action protocol was finalized in early 2024. The protocol is to be the successor to the existing agency-wise protocols in the future.

Ministry of Disaster Management and Relief (MoDMR) and Department of Disaster Management (DDM) would like to acknowledge all members who have taken part in this process and wider humanitarian agencies for their tireless efforts during the past decade. MoDMR and DDM would like to place a special gratitude to the Technical Working Group members for their proactive role in producing the EAP in a timely and consultative manner.

We highly appreciate the Flood Forecast and Warning Centre (FFWC) of Bangladesh Water Development Board and RIMES for its continued assistance in the technical aspects of the protocol.

Special appreciation goes to WFP, BDRCS and CARE for their assistance and leadership with DDM. We hope the NEAP will guide future anticipatory actions in the country.

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Lead- Technical Working Group for the
Development of National Early Action Protocol (NEAP)
for Monsoon Riverine Flood, Disaster of Management
(DDM)

K.M. Abdul Wadud
Additional Secretary &
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Executive Summary

Bangladesh is the land of rivers; the water flows through to be connected to the bay. Riverine floods are one of the common hazards that are intensifying in their impact and severity due to climate change, river morphological changes and increased vulnerability of the population due to the poverty cycle associated with flooding. According to INFORM RISK INDEX, 2024, Bangladesh ranks among the top three countries with very high risk (score: 9.9) of riverine monsoon flood.¹

The National Early Action Protocol (NEAP) for Monsoon Riverine Flood Anticipatory Action is a comprehensive framework for implementing anticipatory actions to mitigate the impact of riverine floods during monsoon season in Bangladesh. The NEAP is aimed at reducing vulnerability and enhancing community resilience through proactive measures taken ahead of the flood occurrence.

It applies to all stages of anticipatory action, including risk assessment, planning, implementation, and post-action evaluation. The protocol is applicable to riverine flood-prone areas of Bangladesh covering the Ganges-Brahmaputra River basins during the monsoon season from June to October. This NEAP is a guiding document for all stakeholders (MoDMR, DDM, FFWC, BMD, UN, I/NGOs, and any relevant practitioners) to implement anticipatory action in a unified way for monsoon riverine flood in the Ganges-Brahmaputra River Basin. According to the NEAP, the Ministry of Disaster Management and Relief (MoDMR) will lead the national anticipatory action program as a part of the overall disaster management and risk reduction programs in Bangladesh. Additionally, they will provide guidance to the Department of Disaster Management (DDM) for coordinating with relevant stakeholders for resource and financial allocation. Flood Forecasting and Warning Centre (FFWC) will generate flood forecasts with necessary support from other regional and national technical agencies and determine prevailing scenarios based on hydrological and hydrodynamic forecast data for triggering AA. Local government institutions, including fisheries and agriculture, will coordinate the implementation of the NEAP and ensure readiness for disaster response.

¹ https://drmkc.jrc.ec.europa.eu/inform-index/Portals/0/InfoRM/2024/INFORM_Risk_Mid_2024_v068.xlsx

For slow-onset hazards like monsoon riverine floods in the Jamuna or the Ganges floodplain, where the overall dynamics are complex, deterministic triggers might be complemented by multiple scenarios while the decision-making is assisted by a human layer. Triggers for riverine floods occurring during monsoon season are set considering ranges of parameters including water level/discharge in the river, probability of danger level exceedance, forecast trend, flood magnitude, flood duration, available lead time. On top of this, human judgement might be required to determine the evolving nature of this complex hazard and decision-making on the ground. For riverine floods, scenario-based triggers are set based on Flood Danger Level (nearest river gauge and or that DMC/administration agreed upon) and forecast trend of water level/discharge in the river. While water level forecasts from FFWC are currently available with 5 days lead time for more than 50 stations and 10 days lead time for more than 35 stations; the discharge forecast is available at Bahadurabad and Hardinge Bridge stations of the Brahmaputra and the Ganges basins respectively. The one-month outlook provides an overview of whether a significant flood event is likely during the next one month. Uncertainty increases with the increase in the lead-time of the forecast.

An Early Action Matrix which links the various forecast scenarios with range of possible actions, is designed as a subjective triggering mechanism compared to single deterministic trigger where a set of actions are triggered when a single threshold is exceeded. The scenario-based triggers are intended for institutional early actions and have been designed based on a series of consultations with the grassroot to national level stakeholders. In the scenario-based approach, a set of actions is triggered at different pre-determined scenarios. For example, some actions might be triggered if the forecast shows that the water level is at danger level and the flood forecast is indicating an increasing trend. The other factor considered in the matrix is the danger level exceedance probability. The forecast station which should be followed for AA in a particular location, is pre-agreed by local administration and disaster management committees with technical advice from Bangladesh Water Development Board. 'Forecast Consistency' is also a very important consideration, especially for the forecasters. For example, the forecast indicating a 75% chance of danger level exceedance within 15 days is not the option to be considered. Rather, the forecaster should observe the next couple of forecasts to evaluate forecast consistency

before issuing an early warning or deciding the trigger. The decision-makers will need to look at the probable impact of floods to determine where to take action and where to prioritize the pre-set actions listed in the Early Action Matrix.

FFWC's flood monitoring, forecasting, and warning activities run from April to October every year in Bangladesh, remains open 24/7 during this period and the forecast products are updated daily. FFWC regularly monitors the overall river and flood situation in Bangladesh utilizing their station-based water level monitoring and flood forecast products. Once the possibility of a flood event is detected, FFWC will continue to monitor the situation and trigger scenarios. If the MPCG pre-activation trigger is met, FFWC will request DDM for a National FbF/A Task Force meeting. In case the MPCG trigger is not met, FFWC will continue to issue flood forecasts and warning bulletins with a list of pre-agreed scenario-based early actions as usual.

Releasing funds automatically for distributing multi-purpose cash grants or any cash support is a sensitive action for both government and humanitarian organizations. Therefore, it is essential to consider the potential impact of a flood event, including its magnitude, duration, probability of danger level exceedance, forecast trend and consistency. So, events that are anticipated to be of 3 days duration or less for the monsoon riverine floods should not be responded to with MPCG in order to avoid undermining or contributing to the negative coping capacity of the communities.

Previously forecast information was centered on physical event characteristics such as magnitude, timing, and duration whereas, impact-based forecasting (IbF) focused on potential event impacts such as the number of affected people, damage to structures, and disruption of services; IbF has shifted our attention from "what the weather will be" to "What the weather will do". The impact-based forecast is produced by combining the vulnerability and flood exposure assessment. In a highly inundated area, the level of impact can be low if the percentage of elements exposed is minimal. Dynamic risk mapping is considered the ultimate tool in anticipating and acting rationally before a flood.

This protocol adopts a no-regret strategy, ensuring that there are no feelings of regret for actions taken following the authoritative forecast meeting and decisions made by the National Taskforce to activate the triggers. The scenario-based actions proposed in this NEAP are adaptive measures

that are worth the effort, whatever the extent of the predicted flood event. These actions are essential for saving productive assets and improving sustainable resilience of the community regardless of the magnitude of a flood event.

Financing and resource allocation is yet mostly reactive but has potential scopes in anticipatory action. The Disaster Management Funds Rules, 2021, under Section 32, Sub-section 06 of the Disaster Management Act 2012, outline the management structure of two distinct funds: the National Disaster Management Fund, and the 'District Disaster Management Fund. Section 10 of the DM Fund Rules specifies that the funds could be used for various pre-disaster activities, which is one of its kind. A detailed guideline for fund collection and utilization should be developed for the Disaster Management Fund following the review of the existing Disaster Management Fund Rules-2021 in coordination with governments' Finance Division and Planning Division. To address chronic poverty and vulnerability, the Government of Bangladesh is implementing a large number of social safety net programs among which some have the potential to be shock responsive to AA. The AA trigger mechanism can be integrated with the Employment Generation Programme for the Poorest (EGPP) by ensuring that the system is adaptable enough to offer additional support to the assistance currently being provided for the beneficiaries through safety net schemes. Old Age Allowance, Allowances for the Persons with Disability, Allowance for Widow and Husband's Deserted Destitute Women under Ministry of Social Welfare (MoSW) and Mother and Child Benefit Programme under Ministry of Women and Children Affairs (MoWCA) can be strategically channeled through inter-ministerial coordination for pre-disaster anticipatory action, reducing risks and enhancing resilience. Gratuitous relief, particularly cash assistance, holds significant potential as a Humanitarian assistance programme that can be adjusted for pre-activation and adapted flexibly to meet contextual needs and socio-economic conditions.

The Annual Development Plan, based on discussions with respective ministries percentage allocation of in-cash and in-kind support at the local level, would be a potential option for AA financing. Risk Reduction Action Plans developed through Community Risk Assessment could be endorsed in union-level annual development plans and be funded by the Economic Relations Division of government based on trigger activation and decisions made at the inter-ministrial

coordination committee meeting. Section 5 of the Agricultural Extension Policy, 2020, emphasized forecast and early warning to reduce agricultural loss from any potential disaster. The Department of Livestock Services under the Ministry of Fisheries and Livestock has provisions and incentives for Livestock Rehabilitation and emergency services during disasters that could be directed for pre-disaster anticipatory action. The SLIP Fund can be utilized for early emergency actions according to the guidelines detailed in Section 9.6.2. This includes considering the allocation of the relevant ministerial budget towards disaster risk reduction and response efforts, and prioritizing commitments outlined in the Sendai Framework. A specific percentage of allocation for anticipatory actions can be designated with a unique budget code. Additionally, a provision for percentage allocation of in-cash and/or in-kind support from disaster risk reduction and climate change adaptation projects of national or international non-governmental organizations and humanitarian agencies can serve as a contingency fund for anticipatory actions, with coordination facilitated through the NGO Affairs Bureau of Bangladesh. **Climate Adaptation Funds** and incentives from the Ministry of Environment, Forest and Climate Change could be directed for pre-disaster anticipatory action.

The limited resources must be allocated with practical targeting for effective and efficient optimization. A three-step geographical targeting will include identification of affected districts through historical data, ranking unions through flood depth map, exposure profile, vulnerability profile, risk, and resource map, and finally validation through local consultations with Upazila & Union level Govt. officials, Project Implementation Officer (PIO), Local Red Crescent Unit, NGOs, Union Disaster Management Committees, etc. Household targeting will emphasize on accumulating information from available database (emergency response beneficiary database of different organization, social safety-net database, lists provided by the local institutions (UDMCs) following pre-set criteria.

The coordination and communication framework of the National Monsoon Riverine Flood Early Action Protocol is designed to prevent duplication, foster information sharing, implement best practices, efficiently utilize resources, ensure timely financial delivery to target communities, and provide effective measures to minimize the risk for vulnerable communities. This NEAP will be hosted by the National Taskforce on Forecast-based Financing/ Action with The Anticipatory

Action Technical Working Group. While the taskforce will lead coordination with the relevant committees as per Standing Orders on Disaster (SOD), anticipatory action technical working group (AA-TWG) will coordinate with the national clusters and working groups under HCTT for coordinated implementation. This Early Action Protocol proposes for the combination of technology and human layer for decision making and all-over coordination under three pillars of anticipatory action: Forecast, Action, Finance. The task force will coordinate with relevant committees as per SOD, 2019 to enhance coordination and synergy which include but are not limited to: Inter-ministerial Disaster Management Coordination Committee; Committee for Speedy Dissemination of Special Weather Bulletin/ Disaster Warning Message and Determining Strategy; Disaster Management Committee on Training and Mass Awareness; NGO Coordination Committee for Disaster Management; District Disaster Management Committees. AA-TWG, under the broader umbrella of Humanitarian Coordination Task Team, will bridge humanitarian organization with taskforce to provide technical support.

Collective accountability will be ensured by DDM in coordination with MoDMR to support respective authorities. In 2019, the Government of Bangladesh, through the approved revised SOD, recognized the present cluster coordination mechanism. Therefore, it is expected that the collective accountability mechanism will be shared and agreed upon with the key actors/ level stakeholders. Moreover, district level partners will try to develop a district level hub to share the actions and learning and update the NEAP operationalizing SOP in collaboration with DDM.

This NEAP will ensure community consultation at each stage of its operation to not just understand the hazard, but also the risks those hazards pose based on various population groups' vulnerabilities, exposure, and capacities to cope. It will ensure information sharing, sensitization, and advocacy of and engagement of diverse groups which further extend to common standard feedback and complaint mechanism ensuring privacy and anonymity. Recognizing the inherent probability in forecasts, taking early action will be considered as 'No Regret Approach,' to not only address immediate risks but also contribute to enhancing livelihoods and increasing resilience in vulnerable communities. This protocol will support the development of a common operational dataset for quality interventions and will collaborate with specialized clusters and organizations working specific groups to reduce barriers for access to assistance and meaningful

participation. In collaboration with relevant clusters and working groups the Task Force will guide/ensure pre-crisis assessment of risks and needs and/or impact of flood on specific groups of vulnerable groups. This approach is instrumental in building resilient communities that prioritize the needs of the most vulnerable members, emphasizing the specific risks faced by children in climate-induced hazards and centralizing their voice in decision-making processes for early actions. Involving children and youth in the planning process and risk assessments will enhance preparedness and ensure holistic resilience for a secure future.

Monitoring and Information management team under DDM will play a leading role in ensuring the overseeing of trigger activation. All other sectoral departments will follow the reporting procedure and template developed by MIM. MoDMR would be the ultimate reporting authority for any FBA/F. PIO will collect the information from all relevant departments and use the below format to share the information with MIM department. The reporting would be done one day before the event to ensure all the necessary early actions have been taken and the financing for all activities is secured. If not, DDM through the ministry would communicate with relevant departments including the I/NGOs, CSOs to ensure all planned early actions have been taken. Within 15 days after the flood happens a final status report would be shared with DDM and would be circulated through Ministry to all the stakeholders.

The National Monsoon Riverine Flood Early Action Protocol is a live document which will be revised based on the experience and lessons learned from at least three consecutive events with the guidance of FbF/A Taskforce. The EAP will work as a comprehensive framework to implement anticipatory actions in the Ganges-Brahmaputra River basins to mitigate the adverse impact of monsoon riverine floods.

Acronyms

| | |
|--------|--|
| AA | Anticipatory Action |
| AA-TWG | Anticipatory Action Technical Working Group |
| ADP | Annual Development Plan |
| BDRCS | Bangladesh Red CrescentCrescent Society |
| BMD | Bangladesh Meteorological Department |
| BTRC | Bangladesh Telecommunication Regulatory Commission |
| BWDB | Bangladesh Water Development Board |
| CARE | Care Bangladesh |
| CfW | Cash for Work |
| CP | Child Protection |
| CRA | Community Risk Assessment |
| CRVA | Community Risk and Vulnerability Assessment |
| CSO | Civil Society Organization |
| DAE | Department of Agricultural Extension |
| DDM | Department of Disaster Management |
| DGHS | Directorate General of Health Services |
| DL | Danger Level |
| DLS | Department of Livestock Services |
| DMC | Disaster Management Committee |
| DoF | Department of Fisheries |
| DPHE | Department of Public Health Engineering |
| DRM | Disaster Risk Management |
| DRR | Disaster Risk Reduction |
| DRRO | District Relief and Rehabilitation Officer |
| FbA | Forecast-based Action |
| FbF | Forecast-based Financing |
| FbF/A | Forecast-based Financing/ Action |
| FFWC | Flood Forecast and Warning Centre |

| | |
|--------|---|
| FPP | Flood Preparedness Program |
| GBV | Gender-based Violence |
| GiHA | Gender in Humanitarian Action |
| HCTT | Humanitarian Coordination Task Team |
| IbF | Impact-based Forecasting |
| IMDMCC | Inter-Ministerial Disaster Management Coordination Committee |
| INFORM | Index for Risk Management |
| INGO | International Non-government Organization |
| LGED | Local Government Engineering Department |
| MIM | Monitoring and Information Management |
| MMT | Mobile Money Transfer |
| MoDMR | Ministry of Disaster Management and Relief |
| MoEF | Ministry of Environment, Forest, and Climate Change |
| MoF | Ministry of Finance |
| Mol | Ministry of Information |
| MoSW | Ministry of Social Welfare |
| MoWCA | Ministry of Women and Children Affairs |
| MPCG | Multi-purpose Cash Grant |
| MSL | Mean Sea Level |
| NEAP | National Early Action Protocol |
| NGO | Non-government Organization |
| PIO | Project Implementation Officer |
| PSD | Public Security Division |
| PTD | Posts and Telecommunications Division |
| RCCC | Red Cross Red Crescent Climate Centre |
| RCRC | Red Cross and Red Crescent |
| RIMES | The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia |
| RRAP | Risk Reduction Action Plan |
| SAFE | Scaling up Anticipatory Action in Flood prone Areas of Bangladesh |

| | |
|-------|---|
| SCB | Save the Children in Bangladesh |
| SLMC | Strengthening Last Mile Communication |
| SoB | Survey of Bangladesh |
| SOD | Standing Orders on Disaster |
| SOP | Standard Operating Procedure |
| SUFAL | Scaling up Forecast based Action and Learning in Bangladesh |
| UDMC | Union Disaster Management Committee |
| UzDMC | Upazila Disaster Management Committee |
| UN | United Nation |
| UNRCO | United Nation Resident Coordinator Office |
| WASH | Water, Sanitation and Hygiene |
| WFP | World Food Programme |

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1. Purpose

The purpose of this 'The National Early Action Protocol (NEAP) for Monsoon Riverine Flood Anticipatory Action' is to establish a comprehensive framework for the implementation of anticipatory actions to mitigate the impact of riverine floods occurring during monsoon season. Anticipatory action involves proactive measures taken ahead of the flood occurrence to reduce vulnerability and enhance community resilience. This NEAP is developed with the aim of having a standard, harmonized protocol to guide when implementing anticipatory action for monsoon riverine flood in its geographical scoping.

2. Scope

This NEAP applies to MoDMR, DDM, FFWC, BMD, UN, INGOs, and NGOs responsible for coordinating and implementing anticipatory actions for floods. It encompasses all stages of anticipatory action, including risk assessment, planning, implementation, and post-action evaluation.

This protocol will be applicable to riverine flood-prone areas of Bangladesh covering the Ganges-Brahmaputra River basins during the monsoon season (June to October). Although there are other monsoon riverine flood-prone areas of the country like the floodplains of Meghna River basin, it has been excluded from this version of the protocol due to: (i) absence of skillful and probabilistic forecasts, (ii) lack of evidence on triggering anticipatory action for monsoon riverine floods in the Meghna River basin, (iii) difference in agroecological zone, etc. The Brahmaputra River basin covers Bogura, Dhaka, Gaibandha, Jamalpur, Kurigram, Lalmonirhat, Manikganj, Munshiganj, Natore, Nilphamari, Pabna, Rajshahi, Rangpur, Sirajganj and Tangail districts. The Ganges River basin comprises of Chapainawagbanj, Panchagarh, Thakurgaon, Dinajpur, Joypurhat, Kushtia, Rajbari, Faridpur, Gopalganj, Madaripur and Shariatpur districts.

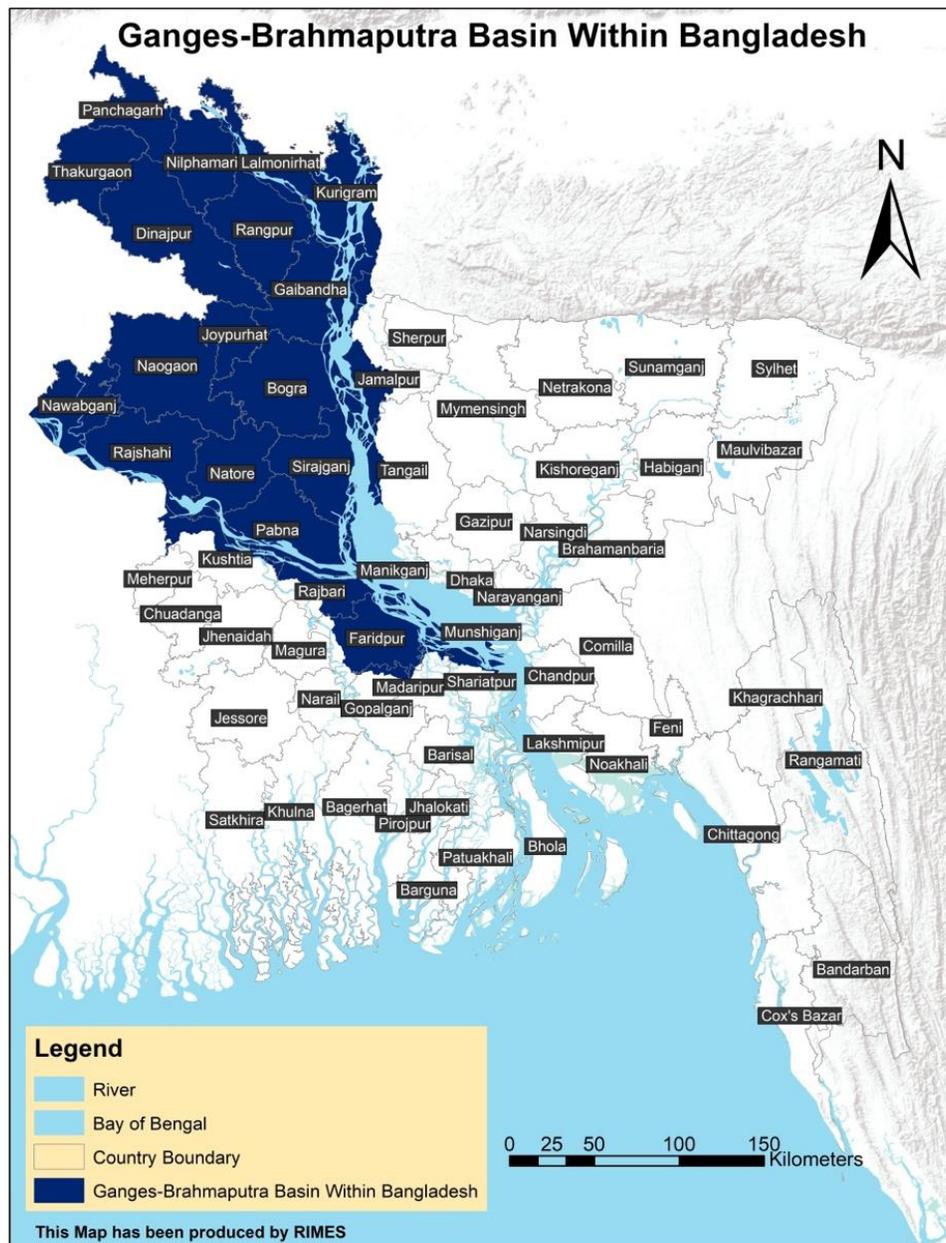


Figure 1: Ganges-Brahmaputra Basin within Bangladesh

3. Key Stakeholders and Intended Users

3.1. Ministry of Disaster Management and Relief (MoDMR)

The Ministry of Disaster Management and Relief (MoDMR) is the mandated ministry to drive national disaster management and risk reduction programs. Its mission relative to this agenda is:

“To achieve a paradigm shift in disaster management from conventional response and relief to a

more comprehensive risk reduction culture, and to promote food security as an important factor in ensuring the resilience of communities to hazards". MoDMR will be responsible for overall supervision and providing guidance to DDM for coordinating with relevant stakeholders and allocating financial resources to implement AA programs.

3.2. Department of Disaster Management (DDM)

Department of Disaster Management (DDM) is the lead agency for undertaking risk reduction activities; responding to disaster events efficiently as well as strengthening and coordinating programs undertaken by different stakeholders related to DRR and DRM. DDM through its network of disaster management committees, from the national to local level, is at the frontline of anticipatory action on the ground. Based on the flood forecast and trigger scenario analysis by FFWC and allied technical organizations, DDM will prioritize the anticipatory actions based on anticipated impacts and provide necessary directives to downstream disaster management committees for triggering anticipatory actions. DDM in collaboration with INGOs and NGOs will also conduct the monitoring and evaluation of anticipatory actions immediately after the flood.

3.3. Flood Forecasting and Warning Centre (FFWC)

Flood Forecasting and Warning Centre (FFWC) of Bangladesh Water Development Board (BWDB) is the mandated agency for generation of flood forecast and early warning. FFWC will be responsible for generation of flood forecasts with necessary support from other regional and national technical agencies and determination of prevailing scenarios based on the analysis of hydrological and hydrodynamic forecast data for triggering AA. FFWC will lead the end of season performance evaluation of forecast and be responsible for improving forecast skills, as well as expansion and enhancement of flood forecasting system with technical support from relevant technical agencies.

3.4. Local Government Institutions

Local Government Institutions, who are to some extent part of the disaster management committees, will support the implementation of anticipatory actions as per the directives of DDM and outlined in this protocol.

3.5. Sectoral Agencies

Successful implementation of anticipatory action includes mobilizing at risk communities which requires support from sectoral agencies like Department of Agricultural Extension (DAE), Department of Livestock Services (DLS), Department of Public Health and Engineering (DPHE), Department of Fisheries (DoF), etc. At subnational and local level, the sectoral agency representatives will coordinate in implementing sectoral early actions and at the national level, the sectoral agencies will coordinate to mobilize necessary resources and provide required information to the national Taskforce on FbF/A. Furthermore, the sectoral agencies will also ensure appropriate preparedness at the institutional level to ensure their readiness for anticipatory action.

3.6. I/NGOs, UN Organizations, RCRC Movement

The I/NGOs, UN organizations and RCRC movement have played a significant role through their pilot programs to generate evidence by implementing anticipatory action. Currently, about 30 actors are working on anticipatory actions in Bangladesh incorporating hazards like: monsoon riverine flood, cyclone, heatwave, landslides, flash flood, riverbank erosion, lightning, etc. The technical working group on anticipatory action will coordinate the organizations to rule out AA as per NEAP, avoid duplication, ensure efficient use of resources and collective evidence for improvement in guidance of the Government-led FbF/A Taskforce.

4. Terminologies

4.1. Anticipatory Action

Anticipatory action is acting ahead of a hazard that is predicted by improved forecast products to prevent or reduce its potential impacts. It is a way of acting early with prearranged financing and resources. The overall goal is to prevent natural hazards from becoming disasters and reduce human suffering. Forecast-based Action (FbA) or Forecast-based Financing (FbF) are often synonymous and enable anticipatory action.

4.2. Monsoon Riverine Flood

Monsoon Riverine floods occur due to upstream high seasonal rainfall. During the monsoon season (from June to September), the amount of water entering Bangladesh from upstream is greater than the capacity of the rivers to discharge into the sea. As the flow exceeds the capacity of a stream, water overflows the bank and inundates adjacent floodplains. Over 80% of the total rainfall in Bangladesh occurs during the monsoon season. Heavy rainfall combined with the huge runoff from the upstream carried by the three major rivers can cause catastrophic floods.

4.3. Lead Time

Lead time refers to the length of time between the issuance of a forecast and the occurrence of the phenomena that was predicted. Lead-time determines how much time might be available before the occurrence of an impending flood after the forecast or warning has been issued. For example, a winter seasonal forecast issued at the end of the preceding summer season, is said to be of one season lead. A flood forecast issued one week ahead of an anticipated flood event, is said to be of one week or 7-days lead.

4.4. Water Level

Water level, also known as gauge height or stage, is the elevation of the free surface of a river relative to a specified vertical datum. BWDB nowadays measures the water level with respect to Mean Sea Level (MSL) determined by Survey of Bangladesh (SoB).

4.5. Flood Danger Level

In Bangladesh, danger level at a river location is the level above which it is likely that the flood may cause damages to nearby crops and homesteads. In a river having no embankment, the danger level is about the annual average flood level. In an embanked river, danger level is fixed slightly below the design flood level of the embankment. The danger level at a given location needs continuous verification as it may change due to various reasons e.g., embankments may be breached, bed-level of river may rise due to excessive siltation, etc.

4.6. Flood Duration

Flood duration is the period when the water level of a river at a specific station remains above danger level. From the flood forecast, at some stage, it might be predicted how many days the

flood will stay above danger level, which is called expected duration. Within this period, surrounding areas of the station are expected to be flooded. It should be noted that the expected duration cannot be determined at an early stage of flood detection.

4.7. Flood Magnitude

Flood magnitude can be measured by the highest level that the water level of a certain river reaches during a flood spell, often referred to as “peak water level” or “flood peak”.

4.8. Danger level exceedance probability

Danger level exceedance probability defines the chance of water level or discharge crossing a certain threshold (danger level or recorded highest water level).

4.9. Forecast Trend

Forecast trend is the general direction of forecasted water level/discharge i.e., water level/discharge increasing or decreasing in consecutive days.

4.10. Trigger

Anticipatory or forecast-based action aims to reduce suffering and protect lives by acting before disasters strike. Central to this approach are triggers, which define thresholds for when to act. These mechanisms initiate early actions once thresholds are met, either through predefined activities or real-time action plans. Effective coordination and urgency are essential to ensure timely actions. Clearly defining when, where, and what actions to take is crucial, especially for humanitarian cash support. Accessing funds requires comprehensive, hazard-specific, location-specific, and impact-based guidelines.

4.11. Hazard

‘Hazard’ means any unnatural incident which is created by natural law, due to technical faults or by humans and as a result bring down the normal lifestyle of peoples in to danger and risk through occurring devastation and create sorrows and sufferings including devastating and irreparable damages to necessary items to maintain livelihood.

4.12. Vulnerability

Vulnerability” means any such existing socio-economic, geographical and environmental condition of any community which may make expected capability of the community vulnerable,

4.14. Forecast Information

For FbF/A for monsoon riverine flood, it is important to utilize the flood forecast from an authentic source with reliable performance. Flood forecasting in Bangladesh has significantly improved in the recent years. Flood Forecasting & Warning Centre (FFWC) of Bangladesh Water Development Board (BWDB) is the mandated organization for flood monitoring and issuing flood forecasting and warning in Bangladesh. FFWC issues the following forecast products:

Table 1: Available forecast products of FFWC

| Forecast product | Forecast type | Forecast parameter | Lead time | Location |
|---------------------------------------|---------------|--------------------|-----------|-------------|
| 5-day water level forecast | Deterministic | Water level | 5 days | 61 stations |
| 10-day water level forecast | Probabilistic | Water level | 10 days | 38 stations |
| 15-day streamflow forecast | Probabilistic | Discharge | 15 days | 3 basins |
| 1-month outlook (experimental) | Probabilistic | Discharge | 1 month | 1 basin |

5. Trigger for Monsoon Riverine Flood

For rapid onset hazards like cyclones, deterministic triggers are usually used to activate early actions. For example, multi-purpose cash grant (MPCG) will be distributed if the wind gust is expected to be more than 150km/hour during cyclone landfall. However, in case of slow-onset hazards like riverine flood in the Jamuna or the Ganges floodplain where the overall dynamics are complex, deterministic triggers might be complemented by multiple scenarios while the decision-making is assisted by a human layer². Triggers for riverine floods occurring during monsoon season are set in a way that they indicate when a flood of a magnitude, scale, and duration, that has caused a disastrous impact in the past is likely to occur. In addition, it is often

² It means that the triggering is not fully automated rather guided by human judgement. For example, depending on the context, the authorities may decide to trigger certain actions in a scenario where the conditions are not numerically met but close enough that actions seem more rational than inaction. In that case margin error would be 5cm for water level.

not enough to just look at predictions of only one parameter. For example, when a flood forecast is issued with 15 days lead time, to provide assistance or allocate funding, it is important to consider a range of parameters, including but not limited to magnitude, timing, trend, duration available lead time, probability of danger level exceedance, etc. On top of this, human judgement might be required to determine the evolving nature of this complex hazard and decision-making on the ground. This will allow room for situational awareness and adaptive decision-making.

5.1 Scenario-based Trigger

For monsoon riverine floods, scenario-based triggers are set based on Flood Danger Level (nearest river gauge and or that DMC/administration agreed upon) and forecast trend of water level/discharge in the river. While water level forecasts from FFWC are currently available with 5 days lead time for more than 50 stations and 10 days lead time for more than 35 stations; the discharge forecast is available at Bahadurabad and Hardinge Bridge stations of the Brahmaputra and the Ganges basins respectively. FFWC has been generating one-month probabilistic flood outlook for the Brahmaputra-Jamuna basin on experimental basis since 2023 with technical support from RIMES. The one-month outlook provides an overview of whether a significant flood event is likely during the next one month. This outlook is updated once a week. In addition, FFWC may access similar products from other Global Producing Centers. Uncertainty increases with the increase in the lead-time of the forecast. Therefore, to utilize the extended or sub-seasonal forecast products, the forecast consistency should be checked. In this case the forecast should be consistent for two consecutive weeks.

An Early Action Matrix which links the various forecast scenarios with range of possible actions, is designed as a subjective triggering mechanism compared to single deterministic trigger where a set of actions are triggered when a single threshold is exceeded. The scenario-based triggers are intended for institutional early actions, and it has been designed based on series of consultations with the grassroot to national level stakeholders.

In the scenario-based approach, a set of actions is triggered at different pre-determined scenarios. Pre-set actions are mapped against different scenarios (combination of parameters), which are the triggers for respective actions. For example, some actions might be triggered if the forecast shows that the water level is at danger level and the flood forecast is indicating an

increasing trend. Similarly, actions might be triggered for other combinations of danger level and forecast trend. The other factor considered in the matrix is ‘danger level exceedance probability’. It should be noted that, FFWC issues forecast for the major rivers in Bangladesh at specific forecast stations (locations). The scenario-based triggers are therefore location-specific as they are based on FFWC forecasts issued at a particular location. The forecast station which should be followed for AA in a particular location is pre-agreed by local administration and disaster management committees with technical advice from Bangladesh Water Development Board.

Table 2: Scenario based Early Action Matrix for AA

| Scenario | Actions | Responsible Institutions |
|---|---|--------------------------|
| 1. Current water level is within 1 m below Danger Level (DL). The forecast indicates a decrease or steady state in water level during the next 10 -15 days and no possibility of DL exceedance. <i>(This is a likely scenario before the first flood event of the season and after a flood event)</i> | Follow flood forecasts for possible development of a flood situation | All |
| | Instruction to leave flood shelter (In case of people already staying in flood shelters) | UDMC |
| | Provide special advisory for the farmers | DAE, DLS, DoF |
| 2. Current water level is within 1 m below DL. The forecast indicates that streamflow is likely to increase. One-month streamflow outlook indicating more than 50% probability of DL exceedance and/or 15 days forecast it is 50 - 75%. | Follow flood forecasts for possible development of a flood situation | All |
| | Pre-activation trigger for MPCG is activated if forecast is consistent for three consecutive days at the boundary stations (Bahadurabad, Hardinge Bridge etc.) | FFWC, DDM, MoDMR |
| | Shelter preparation/repairing; Minor repair of embankments and evacuation routes; Formation of volunteer and medical teams; Prepare evacuation boats; Form area-based flood monitoring teams; Conduct rescue drills | UDMC, UzDMC, BWDB |
| | Water purification tablet storage; Store disinfectant and anti-venom | DPHE, DGHS |
| | Livestock vaccination campaign | DLS |

| Scenario | Actions | Responsible Institutions |
|---|--|--------------------------|
| 3. Current water level is within 1 m below DL. Forecast is indicating likely increase of water level and there is more than 75% probability of DL exceedance as per 10- and 15-days forecast. | Issue flood bulletin with scenario-based actions | FFWC, BWDB |
| | National FbF/A task force meeting; AA technical working group meeting, Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) meeting | MoDMR, DDM |
| | MPCG will be disbursed if forecast for a location indicates high impact ³ for more than 3 days as per 5 days deterministic and or 10 days probabilistic water level forecast | MoDMR, DDM |
| | Early warning dissemination | DDM |
| | Disaster management committee meeting; Repairing evacuation routes; Shelter preparation/Preparation of evacuation points (repair rooms, WASH facilities, electric supply, with provisions for gender and special needs); Making arrangements for temporary shelter; Making a list of destitute and helpless families; Evacuate families at risk; Keep evacuation boats ready; Formation of volunteer teams, formation of women volunteer group; Distribution of temporary shelter kits for households evacuating from low-lying; Generator /solar power management; Arrange stock of dry food. | DMCs, LGED |
| | Installation/Repairing tube wells/latrines at shelters; Storage of emergency medicine supply; Formation of medical teams; Storage of water purification tablets. | UDMC, DPHE |
| | Issue special advisories including on crop harvesting, crop/ livestock/ fisheries management | DAE, DLS, DoF |
| | Arrange stock of livestock feed/fodder; Vaccination campaign for livestock | DLS, DMCs |

³Past pilot projects considered this level to be 'Danger Level+0.85m' which roughly corresponds to an affected population over 40 per cent.

| Scenario | Actions | Responsible Institutions |
|---|--|--------------------------|
| 4. Current water level is at or above DL but below DL+1m. Forecast is indicating that water level is likely to decrease during next few days as per 5,10 days forecast and may fall below DL | Follow flood forecasts to monitor development of a subsequent flood situation | All |
| | Provide instructions for repair of broken roads and embankments | UzDMC, BWDB |
| | Stockpiling of emergency medicine | DGHS, DPHE |
| | Provide special advisory for the farmers | DAE, DLS, DoF |
| 5. Current water level is at or above DL but below DL+1m. Forecast is indicating that water level is likely to increase next few days during next as per 5,10 days forecast (<i>At this stage flood impact is likely to be severe</i>) | Disaster Management Committee meeting; Distribution of dry food and fodder; Make arrangement for hot meal distribution at the shelters; Rescue activities for people living in chars or low-lying areas; Distribution of dry food and fodder; Installation of temporary tube wells / latrines; Ensuring the safety of women and children in shelters; Installation of temporary mobile charging stations (solar); Dissemination of warning through loudspeakers, community radios etc. | DMCs |
| | Provision of emergency healthcare facilities at flood shelters and evacuation points | UDMC, DGHS |
| | Distribution of emergency medicine, dignity, and hygiene kits; Establishment of temporary health care center; Storage of disinfectants; Emergency medicine storage; Distribute water purification tablets; Provide special advisory from DPHE (use of purification tablets etc.) | DPHE, DGHS, UDMC |
| | Provide special advisory for the farmers | DAE, DLS, DoF |
| 6. Current water level is more than 1m above DL. Forecast is indicating that water level is likely to decrease during next few days as per 5/10 days forecast, and water level may fall below DL during this period (<i>This scenario is likely after a flood peak</i>) | Follow flood forecasts to monitor development of a subsequent flood situation or possible worsening of flood situation | All |
| | Emergency medicine distribution; Water purification tablet distribution; Special advisory on health | DPHE |
| | Provide special advisory for the farmers | DAE, DLS, DoF |

| Scenario | Actions | Responsible Institutions |
|--|--|--------------------------|
| 7. Current water level is more than 1m above DL. Forecast is indicating that water level is likely to increase during next few days as per 5/10 days forecast (<i>At this stage flood impact is likely to be catastrophic</i>) | Disaster Management Committee Meeting; Prepare new flood shelters; Ensure safety and security of women and children at shelters; Arrange hot meals at shelters | DMC |
| | Early warning dissemination | DDM |

‘Forecast Consistency’ is also a very important consideration, especially for the forecasters. For example, the forecast indicating a 75% chance of danger level exceedance within 15 days is not the one to be considered. Rather, the forecaster should observe the next couple of forecasts to evaluate forecast consistency before issuing an early warning or deciding the trigger. Forecast consistency is checked to reduce uncertainty in forecasts. Time to peak, and rate of increase of water level or discharge, are also sometimes considered in decision making. The decision-makers will need to look at the probable impact of floods to determine where to take the actions and prioritize the pre-set actions listed in the Early Action Matrix.

A sector-wise list of early actions and their possible lead time were identified through consultations in different districts with the community, local government, and relevant stakeholders. This list is provided in [Annex 1](#).

5.2. Consideration for Multi-Purpose Cash Transfer

For the Government or humanitarian organizations to automatically release fund for distribution of multi-purpose cash grant (MPCG) which is considered a sensitive action, impact of the potential flood event, flood magnitude and duration should be considered in addition to danger level exceedance probability and forecast trend.

A forecasted short duration flood of low magnitude might not trigger multi-purpose cash grant (MPCG) support considering the community’s coping capacity to deal with such an event. It has been considered that communities’ inherent resilience is enough to cope with short duration flooding up to 3 days. So, events that are anticipated to be of 3 days duration or less for the

riverine floods should not be responded with MPCG. This approach will ensure the coping capacity of the communities are not undermined or negatively contributed to.

5.3. Towards Impact-based Forecasting

Impact-based forecasting (IbF) is a new emerging topic among the National Meteorological and Hydrological service agencies as it has shifted our attention from “what the weather will be” to “What the weather will do”. IbF is a structured approach for combining hazard, exposure, and vulnerability data to identify risk and support decision-making, with the ultimate objective of encouraging early action that reduces damages and loss of life from natural hazards. Previously forecast information was centered on physical event characteristics such as magnitude, timing, and duration whereas impact forecast, focused on potential event impacts such as the number of affected people, damage to structures, and disruption of services.

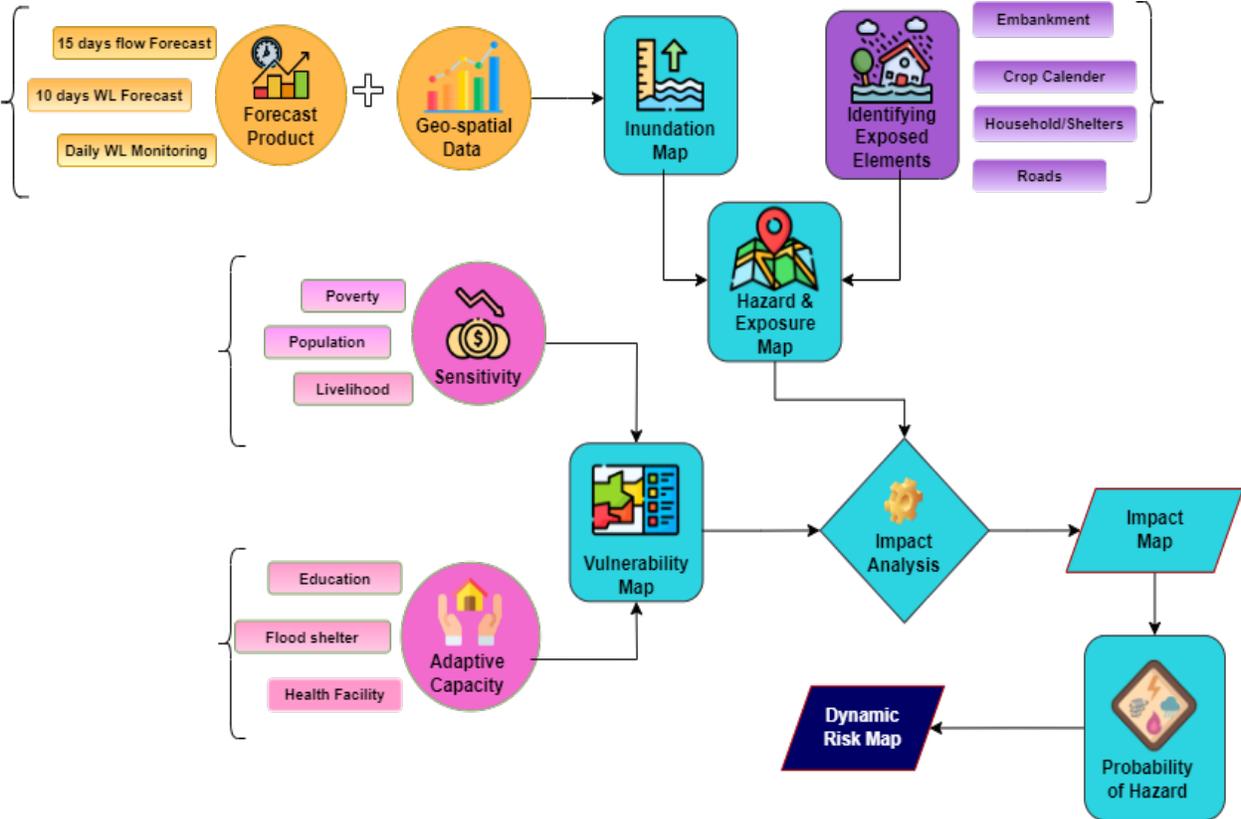


Figure 3: Conceptual Framework of Impact-based Forecast

For impact forecasting of floods, inundation mapping is required. The inundation depth is used to determine the percentage of exposed elements (roads, households, crops). A vulnerability

assessment, considering socio-economic and demographic data, is also a prerequisite for generating local-level impact maps.

The impact-based forecast is produced by combining the vulnerability and flood exposure assessment. In a highly inundated area, the level of impact can be low if the percentage of elements exposed is minimal. On the other hand, a moderately inundated region exposing many communities will demonstrate a higher impact level. Impact forecasting can work as a tool for decision-making and implementing forecast-based action. Impact forecasting provides guidance on % of the area for different impact levels, critical road segments, cropland, settlement affected, and flood-free areas. Furthermore, a dynamic risk analysis can also be conducted, by combining likelihood of flood (probabilistic flood forecast) with impact. Dynamic risk mapping is considered the ultimate tool in anticipating and acting rationally before a flood.

6. Trigger Activation

The Flood Forecasting & Warning Centre (FFWC) of Bangladesh Water Development Board (BWDB) operates 'Flood Information Centre' as national focal point in connection with Flood Disaster Management. FFWC's flood monitoring, forecasting, and warning activities run from April to October every year in Bangladesh and FFWC remains open 24 hours a day, 7 days a week during this period and the forecast products are updated daily.

FFWC will be the lead organization for trigger monitoring. FFWC regularly monitors the overall river and flood situation in Bangladesh utilizing their station-based water level monitoring and flood forecast products. Once the possibility of a flood event is detected, FFWC will continue to monitor the situation and trigger scenarios. In general, FFWC can include in their bulletin where and what priority actions could be taken according to the matrix. FFWC will check if the MPCG pre-activation trigger is met. If the MPCG pre-activation trigger is met, FFWC will request DDM for a National FbF/A Task Force meeting. DDM will coordinate with MoDMR and facilitate the meeting in consultation with the Inter-Ministerial Disaster Management Coordination Committee (IMDMCC). The taskforce will decide whether MPCG activation is required or not. If the MPCG trigger is activated, the Government, UN Agencies, NGO, INGO will act accordingly and disburse pre-agreed MPCG or Social Protection Schemes. In case the MPCG trigger is not met,

FFWC will continue to issue flood forecast and warning bulletin with a list of pre-agreed scenario-based early actions as usual. DMCs, sectoral departments, NGO, INGO, UN agencies will mobilize sectoral/community-based early actions from district downwards.

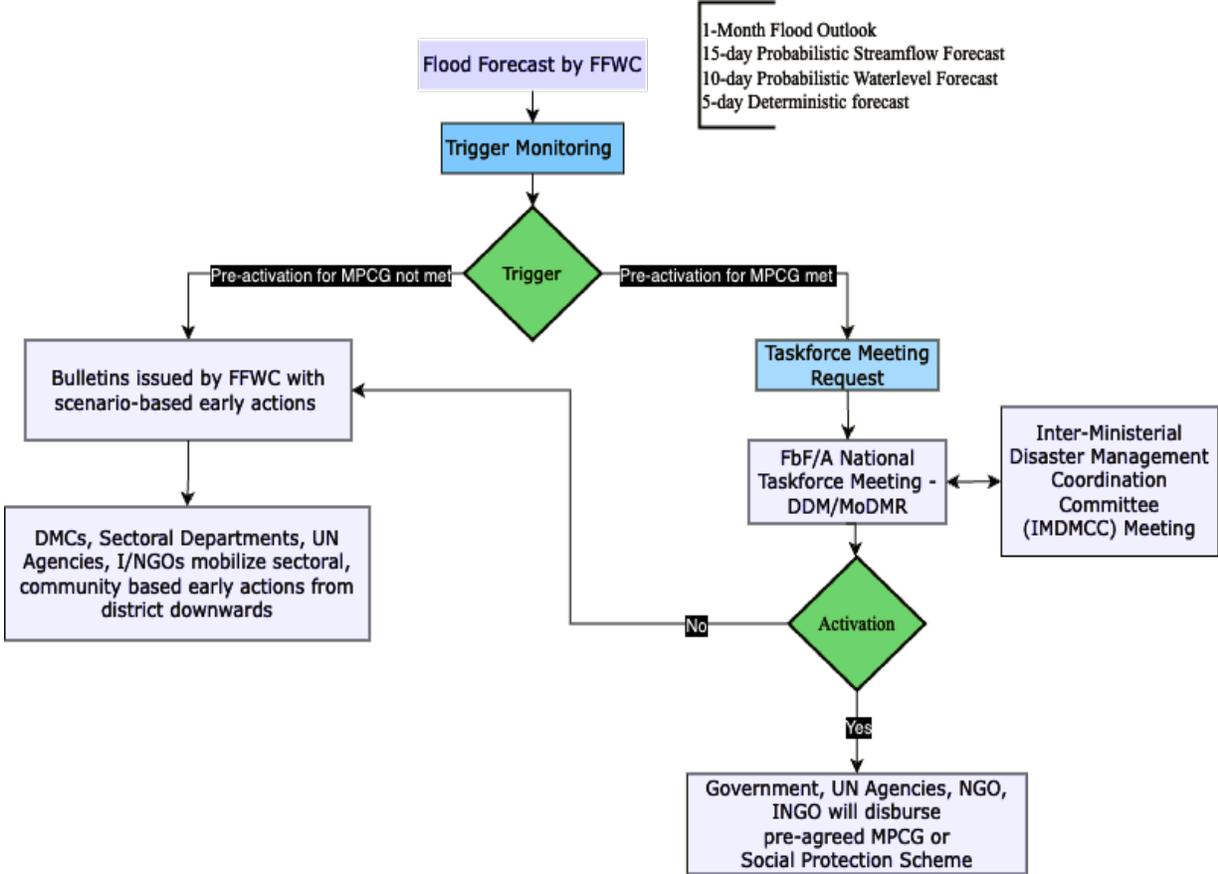


Figure 4: Trigger Activation Process

7. Acting in Vain

Forecast uncertainty is inherent in forecasts and warnings that are issued by the responsible authority. In case of probabilistic forecasting, a certain percentage of likelihood of occurrence of a flood event is considered. Therefore, the possibility remains what if the anticipated flood event does not occur? This protocol will follow a no-regret approach; therefore, having no regret for action taken after authoritative forecast meeting triggers, and decision made by the National Taskforce to activate the triggers. The scenario-based actions proposed in this NEAP are adaptive measures that are worth the effort whatever the extent of the predicted flood event. These types of measures include those actions that help increase community resilience even if flood does not occur or the extent of the flood is lower than anticipated. Actions such as repairing of damaged

roads or embankments, vaccination of livestock, harvesting of mature crops, etc. are considered no-regret actions. These actions are important for saving productive assets and improving sustainable resilience of the community regardless of the magnitude of a flood event.

On the other hand, even if the flood does not occur, the proposed early actions will still benefit the most vulnerable households in the high-risk areas. Whereas the cash for work, cash provided will be used in securing daily basic needs of the targeted households, while the work will still be relevant, as there will be no disadvantage seen: For example, relocation of livestock (if acted in vain) might stress the animals for a short time but are not expected to cause any long-term negative impact.

8. Resource Planning and Financial Logistics

8.1. Disaster Management Funds

The Disaster Management Funds (DM Fund) Rules, 2021, situated under Section 32, Sub-section 06 of the Disaster Management Act 2012, outline the management structure of two distinct funds: (i) the National Disaster Management Fund, and (ii) the 'District Disaster Management Fund. Sources for these funds include grants by the government, grants from foreign entities with national government approval, grants from local authorities, grants from reputable national citizens, and any legal sources.

The Section 10 of the DM Fund Rules specifies that the funds could be used for various pre-disaster activities, encompassing:

- a) Dissemination of forecasts and early warnings.
- b) Allocation of essential services and safe drinking water to emergency shelters.
- c) Ensuring health supplies for women, with special care for pregnant women.
- d) Procurement and distribution of emergency supplies to affected communities.
- e) Eviction of illegal occupants from premises is needed for disaster response.
- f) Acquisition of fuels for rescue vehicles and machinery.
- g) Inclusion of non-government organizations and personnel, with medical care costs covered.
- h) Implementation of security measures to protect women and girls in shelters.

- i) Provision of funds for security personnel in shelter centers.
- j) Any action declared by the government.

According to Section 12, Sub-section (3) of the rules, small or medium-scale project or activity allocations must be under BDT 10 (ten) lac, while large-scale projects or activities must range from above BDT 10 (ten) lac to under BDT 50 (fifty) lac.

Under Section 26 of the Act, the Deputy Commissioner is authorized to requisition emergency resources, services, infrastructure, vehicles, or conveniences during disasters. A detailed guideline for fund collection and utilization should be developed for the Disaster Management Fund following the review of the existing Disaster Management Fund Rules-2021 in coordination with governments' Finance Division and Planning Division.

8.2. Social Safety Net Programs

To address chronic poverty and vulnerability, the Government of Bangladesh (GoB) is implementing a large number of social safety net (SSN) programs. These programs address poverty and vulnerability from a broad perspective: through education, health, nutrition, employment, disaster response programs, etc. Vulnerable groups, particularly the elderly, women, children, and disabled persons, are given priority in the delivery of safety net support. Among some of the programs have been selected to be piloted by different agencies after feasibility assessment.

The Employment Generation Programme for the Poorest (EGPP) under the social safety net programmes of Department of Disaster Management (DDM) can be channeled for pre-disaster anticipatory action based on trigger by design tweak its guideline from 2013.

Old Age Allowance, Allowances for the Persons with Disability, Allowance for Widow and Husband's Deserted Destitute Women under **Ministry of Social Welfare (MoSW)** and Mother and Child Benefit Programme (MCBP) under **Ministry of Women and Children Affairs (MoWCA)** can be strategically channeled through inter-ministerial coordination for pre-disaster anticipatory action, reducing risks and enhancing resilience.

Humanitarian Assistance programme implementation Guidelines Under section 5, clause (B) of the Humanitarian Assistance Programme Implementation Guidelines 2012-13⁴, assistance can be provided during or immediately after the disaster; it is also applicable for Gratuitous Relief (GR) food and cash respectively under 7(B) and 7(C). However, humanitarian assistance has potential for pre-activation with percentage (%) allocation for anticipatory action. This must be addressed through the design tweak for the revision of current Humanitarian Assistance Guidelines, along with contextualizing the allocation on need based and socio-economic condition.

8.3. Annual Development Plan (ADP)

Based on discussions with respective ministries percentage allocation of in-cash and in-kind support at the local level would be a potential option for AA financing. Risk Reduction Action Plans (RRAP) developed through Community Risk Assessment (CRA) could be endorsed in union-level annual development plans and be funded by the Economic Relations Division of government based on trigger activation and decisions made at the inter-minitrial coordination committee meeting.

8.4 Livestock Services and Agricultural Extension Support

Section 5 (14) of the Agricultural Extension Policy, 2020⁵, emphasized forecast and early warning to reduce agricultural loss from any potential disaster. It further states any technical, logistical and/or human resource support can be created based on the agro-meteorological forecast. Moreover, section 5 (11) has provision for Agricultural Rehabilitation and Incentives. The Department of Livestock Services under the Ministry of Fisheries and Livestock has provisions and incentives for Livestock Rehabilitation and emergency service during disaster that could be directed for pre-disaster anticipatory action.⁶

⁴https://modmr.gov.bd/sites/default/files/files/modmr.portal.gov.bd/files/ecf436eb_5909_4d4e_bd7e_627e2a98bc9a/Humanitarian%20Assistance0001.pdf

⁵https://file.portal.gov.bd/files/dae.sylhet.gov.bd/news/8d13c384_8e42_419f_ad87_221879dab727/5157d50bba8edcaf2cacdfec503f75b0.pdf

⁶https://dls.gov.bd/sites/default/files/files/dls.portal.gov.bd/page/3e0a4222_4c8f_4f8c_9932_5d6f00947f41/2023-09-26-06-06-42d30455de9a76ea39606c582d7b05b6.pdf

8.5 Utilization of School Level Development Plan (SLIP) Fund

The SLIP Fund could be employed for early action in emergencies based on guidelines outlined in Section 9.6.2.⁷

8.6 Annual Budget of Ministry of Disaster Management and Relief

Considering the allocation of the respective ministerial budget on disaster risk reduction and response action, and by prioritizing the commitment of Sendai Framework, specific percentage (%) allocation for the anticipatory action with a unique budget code.

8.7 Anticipatory Action Contingency Fund

Provision of percentage (%) allocation of in-cash and/or in-kind support from the disaster risk reduction (DRR) and climate change adaptation (CCA) projects of national or international non-government organizations and humanitarian agencies as contingency fund for anticipatory action through coordination with NGO Affairs Bureau of Bangladesh.

8.8 Climate Fund

Climate Adaptation Funds and incentives from the Ministry of Environment, Forest and Climate Change could be directed for pre-disaster anticipatory action.

No Regret Approach for resource planning and financing

Recognizing the inherent probability in forecasts, taking early action is considered a No Regret Approach, or simply, act in vain, as resources utilized not only address immediate risks but also contribute to enhancing livelihoods and increasing resilience in vulnerable communities. Additionally, sensitization, capacity building and awareness as part of readiness action to support the anticipatory action will be highly emphasized.

9. Targeting at-risk communities

9.1. Geographical Targeting

Three steps geographical targeting approach will be followed:

⁷https://www.dpe.gov.bd/sites/default/files/files/dpe.portal.gov.bd/files/b0c6e210_85ce_4c33_a3d9_66c809945959/Revised%20SLIP%20Guideline%20%2031.10.16.pdf

- a) Step-one: Identification of the flood-affected districts following the historical data by GIS and remote sensing.
- b) Step-two: Geographical targeting starts with pre-activation trigger (GLOFAS forecast and uses secondary data). Composite map- flood depth map, exposure profile, vulnerability profile, risk, and resource map, will be done to do the ranking of unions in terms of anticipated impact.
- c) Step-three: Validation of the findings through local consultations with Upazila & Union level Govt. officials, Project Implementation Officer (PIO), Local Red Crescent Unit, NGOs, Union Disaster Management Committees, etc.

9.2. Household Targeting

- a) Emergency response beneficiary database of different organization
- b) Social safety-net database: Government regular social safety-net database (VGD, Mother and Child Benefit, Old Age, Disability, etc.) available from the Union Parishad (UP), Upazila, and District.
- c) The list provided by the local institutions (UDMCs): Identification of the beneficiaries by the local UP representatives based on selection criteria (organize random cross verification and finalize the list).

9.3. Household Targeting Criteria

- a) Participant's basic information: name, date of birth, mobile no, sex, marital status, Father's name, mother's name, Participant's mobile money transfer (MMT) [bKash, Nagad, Rocket] account number, National ID/birth certificate number, District, Upazila, Union, Ward number, Village.
- b) Household flood impact and vulnerability information: Structure of the participant's house with facilities; HH experience in a severe flood disaster in the past five years; HH main source of income and amount; HH amount of land (in decimals); HH having total family member; HH having children, adolescent girl, women; Number of livestock (cow/buffalo) owned by household.
- c) Household's vulnerability related information: HH having elderly member (over 60 years); HH having widow, widower, abandoned or divorced women; Children of the HH involved in

labor/work/outside the home; HH having pregnant or lactating mother; HH having person with disability; Female headed HH; Ethnic/indigenous HH.

10. Coordination and communication framework

The coordination and communication framework of the National Monsoon Riverine Flood Early Action Protocol is designed to prevent duplication, foster information sharing, implement best practices, efficiently utilize resources, ensure timely financial delivery to target communities, and provide effective measures to minimize the risk for vulnerable communities. The National Monsoon Riverine Flood Early Action Protocol will be hosted by the National Taskforce on Forecast-based Financing/ Action (FbF/A) with The Anticipatory Action Technical Working Group. While the taskforce will lead coordination with the relevant committees as per SOD, AA-TWG will coordinate with the national clusters and working groups under HCTT for coordinated implementation. FFWC will be responsible for all-over forecast monitoring and providing technical support.

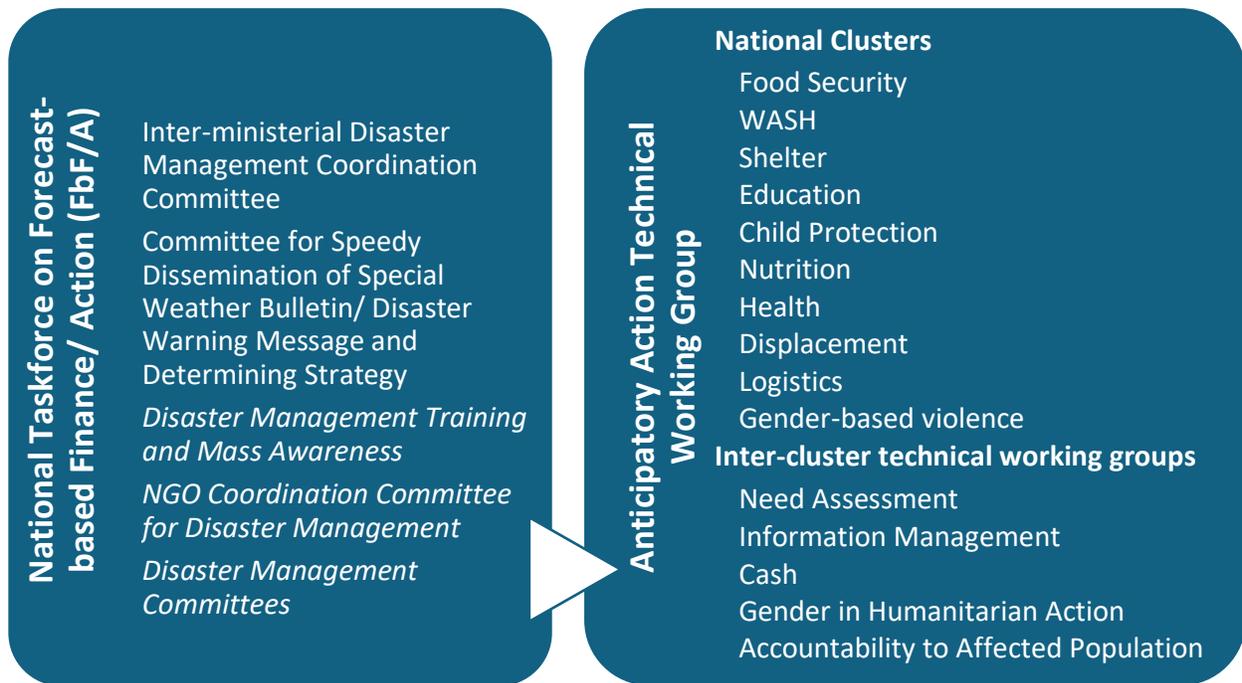


Figure 5: Coordination Focal for Anticipatory Action

This Early Action Protocol proposes for the combination of technology and human layer for decision making and all-over coordination under three pillars of anticipatory action: (i) Forecast, (ii) Action, (iii) Finance. The framework is given in [Figure 7 under section 6](#).

The early action protocol will emphasize the roles, and responsibilities of departments/ agencies in the Standing Order on Disaster, 2019. It will highly focus on the risk reduction function in the alert/ warning stage that can be extended to the disaster stage based on the trigger. However, in border head, act as follows:

Table 3: Key Responsibility and Coordination Scoping (prepared by CARE analyzing SOD,2019)

| Responsibilities | Lead ministries/ departments | Support agencies | Supporting Committees |
|---|---|--|---|
| Community-based Risk Reduction and Early Action Plan | MoDMR, DDM | UN Agencies, INGOs, NGOs | UzDMCs, UDMCs, WDMCs |
| Establish effective warning disseminating mechanism for reaching alert messages to the community | MoDMR, DDM BWDB | Mol BMD FFWC PTD BTRC | Committee for Speedy Dissemination of Special Weather Bulletin/ Disaster Warning Message and Determining Strategy |
| Develop local warning system to enable the dissemination of warning messages very quickly to the people at risk | MoDMR, DDM <i>(activation of digital information centre at district/ upazila/ union)</i> | Mol BMD FFWC PTD PSD BTRC | Committee for Speedy Dissemination of Special Weather Bulletin/ Disaster Warning Message and Determining Strategy |

| Responsibilities | Lead ministries/ departments | Support agencies | Supporting Committees |
|--|---|---|---|
| Capacity strengthening of DMCs, police, Bangladesh Navy, Ansar, VDP, FPP, Fire Service and Civil Defense, Red Crescent, PIO, DRRO, volunteers, Media professionals, sectoral departments and relevant personnel for effective warning dissemination and early action | MoDMR, Department of Disaster Management, Flood Forecast and Warning Centre | Mol Bangladesh Police Bangladesh Betar Bangladesh Television | Committee for Speedy Dissemination of Special Weather Bulletin/ Disaster Warning Message and Determining Strategy |
| Allocation of finance and resources for taking early action [includes shock-responsive social protection] | Ministry of Disaster Management and Relief Finance Division | DDM MoF Planning Commission | Inter-ministerial coordination Committee |
| Localized and comprehensive early-action decision-making | MoDMR, Department of Disaster Management | MoF Planning Commission | NGO Coordination Committee Disaster Management Committee |

The National Taskforce on Forecast-based Financing/ Action will meet once every three months during the normal period, and more than once as per need during a disaster period; Quorum will be ensured with the presence of at least one-third of the committee members; If necessary, the committee may co-opt a member to join the committee.

Based on the dynamic of FbF/A, the composition of the task force, and need for strong coordination, the responsibilities may extent to:

- a) Coordinate with relevant committees under SOD to create synergy for enhanced implementation of FbA.
- b) Enhance monsoon riverine flood forecast with longer lead time and determine ways, methods, and strategies for message dissemination.

- c) Provide specific, timely and actionable advisories aligned with forecast and early warning that reach the last mile users.
- d) Determine ways to quickly disseminate the forecasts, early warnings, and advisories among the communities at risk.
- e) Develop effective approaches to increase public awareness of disaster-related issues including interpretation of warning messages and make recommendations on related issues.
- f) Evaluate understanding of communities on flood forecast and early warning; propose required revisions.
- g) Propose utilization of available channels/modes of information dissemination; link flag signal method developed by Flood Preparedness Program (FFP) to the trigger and threshold; propose revision as necessary.
- h) Recommend preparing a database with mobile phone numbers and e-mail addresses of the responsible people at academic institutions, religious institutions, offices, and business centers, and updating them to disseminate early warning.
- i) Recommend knowledge enhancement and awareness raising among institutions and communities on taking FbA.
- j) Provide necessary advice including technical guidance in preparing contingency plans and conducting mock drills and simulations.

The task force will coordinate with relevant committees as per SOD, 2019 to enhance coordination and synergy which include but are not limited to:

- **Inter-ministerial Disaster Management Coordination Committee:** for enhanced and effective coordination for unified implementation of AA.
- **Committee for Speedy Dissemination of Special Weather Bulletin/ Disaster Warning Message and Determining Strategy:** the committee will support the task force to enhance the generation and dissemination of forecasts, early warnings, and advisories.
- **Disaster Management Training and Mass Awareness:** the committee will support the task force to enhance the knowledge of institutions on implementing FbF/A and create

awareness of taking early action by generating training modules and creating skilled human resources.

- **NGO Coordination Committee for Disaster Management:** to enhance coordination among NGOs to ensure effective and efficient use of resources and to coordinate with DMCs.
- **District Disaster Management Committees:** to ensure dissemination of information and guidance from district to community through upazila, and union; effective and efficient use of resources and funds to implement FbA.

The Anticipatory Action Technical Working Group within the taskforce will meet bi-monthly, and more than once as per need during a disaster period; Quorum will be ensured with the presence of at least one-third of the committee members; The technical working group will be under the broader umbrella of Humanitarian Coordination Task Team (HCTT) will bridge with taskforce to provide technical support. The technical working group on Anticipatory Action will ensure coordination among the organizations with an international coordinator and national coordinator assigned by Government-led FbF/A Task Force, chaired by the MoDMR.

- a) The technical working group will be an integrated part of the FbF/A task force and will technically support the task force by generating evidence from the ground to improve the FbF/A for monsoon riverine floods.
- b) The technical working group will also be part of the Humanitarian Coordination Task Team (HCTT) and will bridge between HCTT and the taskforce for stronger coordination.
- c) Assist the taskforce in developing the National Early Action Protocol for Monsoon Riverine Flood from the gathered evidence and learning; develop a financing mechanism to take early action.
- d) Support the forecast agencies to strengthen forecast and early warning capacity; propose innovation for information dissemination to reach the last mile.
- e) Support sensitization of community and institution on the concept of FbF/A and increase awareness.
- f) Ensure coordinated implementation among FbF/A practitioners through a 4W matrix for anticipatory action.

- g) Build the capacity of humanitarian workers to design and implement inclusive programmes.
- h) Provide capacity building initiatives for persons with specific needs to strengthen their meaningful participation.

11. Collective Accountability

Collective accountability will be ensured by the Department of Disaster Management in coordination with the Ministry of Disaster Management and Relief (MoDMR) to support national authorities for monsoon riverine flood. In 2019, the Government of Bangladesh, through the approved revised SOD⁸, recognized the present cluster coordination mechanism. Therefore, it is expected that the collective accountability mechanism will be shared and agreed upon with the key actors/ level stakeholders. Moreover, district level partners will try to develop a district level hub to share the actions and learning and update the NEAP operationalizing SOP in collaboration with DDM.

11.1. Accountability to the Affected Population

This NEAP will ensure community consultation at each stage of its operation and listening to people, taking their concerns seriously. It will ensure Information sharing, sensitization, and advocacy of and engagement of diverse groups. There will be a process to allow the people to file complaints/feedback in an anonymous manner and a common standard feedback and complaint tool will be developed.

11.2. Collective Accountability for Risk Information Forecasting and Early Warning

This NEAP will ensure understanding not just of hazards, but also the risks those hazards pose based on various population groups' vulnerabilities, exposure, and capacities to cope. It will engage scientists, meteorological agencies, or risk modelers, as well as communities, local/national/regional authorities and specialists working in sectors like health, nutrition, water

⁸https://modmr.portal.gov.bd/sites/default/files/files/modmr.portal.gov.bd/policies/7a9f5844_76c0_46f6_9d8a_5e176d2510b9/SOD%202019%20_English_FINAL.pdf

and sanitation, food security and livelihoods, education, protection, etc. Established triggers may not always be effective in modelling lived experience, so need to be regularly reviewed.

11.3 Accountability for Financing

Recognizing the inherent probability in forecasts, taking early action is considered a 'No Regret Approach,' as resources utilized not only address immediate risks but also contribute to enhancing livelihoods and increasing resilience in vulnerable communities.

11.4 Inclusion (Gender, Youth, Elderly, Persons with Disabilities)

This protocol will support the development of a common operational dataset for quality interventions. It will ensure the collection of data on sex, age and disability using a variety of tools tested in different disaster contexts. The Task- force will collaborate with specialized clusters and organizations working with specific groups. It will ensure taking preparedness measures to remove barriers for access to assistance and meaningful participation.

Climate induced hazards have multiplied impact on women, including pregnant women and adolescent girls and other vulnerable groups such as third gender, women, and girls with disabilities. In collaboration with relevant clusters and working groups (GBV, CP and GiHA) the Task Force will guide/ensure pre-crisis assessment of risks and needs and/or impact of flood on specific groups of vulnerable groups. Subsequently, addressing those risks and needs in all Anticipatory actions/ measures including early warning, evacuation, cash transfers etc.

11.5 Protecting Children through Anticipatory Action

This NEAP will ensure child protection through child and youth centric anticipatory action. This approach recognizes their intensified vulnerabilities, ensuring interventions tailored to their specific needs and capacities. This approach is instrumental in building resilient communities that prioritize the needs of the most vulnerable members, emphasizing the specific risks faced by children in climate-induced hazards and centralizing their voice in decision-making processes for early actions. Children in flood-prone areas face heightened risks, facing physical hazards, reduced access in education facilities, sexual and gender-based violence, waterborne diseases, and psychological trauma during natural disasters that disrupt their safety and well-being. Anticipatory measures, including early warning systems, education materials, evacuation plans, and community education, are crucial to mitigate these threats. Involving children and youth in

the planning process and risk assessments will enhance preparedness and ensure holistic resilience for a secure future. Ensuring child-friendly shelters and immediate rescues is also crucial for reducing vulnerability and impact from flood hazard.

12. Monitoring

DDM Monitoring and Information Management (MIM) team with the supervision of FbF/A taskforce will play a leading role ensuring the oversight of trigger activation. All other sectoral departments will follow the reporting procedure and templet developed by MIM.

13. Reporting

The Ministry of Disaster Management and Relief would be the ultimate reporting authority for any FBA/F. MIM department under the department of disaster management would coordinate the reporting. PIO would collect the information from all relevant departments and use the below format to share the information with MIM department. The reporting would be done one day before the event to ensure all the necessary early actions have been taken and the financing for all activities is secured. If not, DDM through the ministry will communicate with relevant departments including the I/NGOs, CSOs to ensure all planned early actions have been taken. Within 15 days after the flood happens a final status report will be shared with DDM and would be circulated through Ministry to all the stakeholders.

Table 4: Proposed reporting templet

| | | | | | |
|---|---------------|------------------|---------------|------------------|---------------|
| Name of Disaster: Monsoon Riverine Flood | | | | | |
| Name of Union: | | | | | |
| Ward number: | | | | | |
| Name of Upazila: | | | | | |
| Name of District: | | | | | |
| Number of people reached through action-oriented early warning 5 days ahead of flood | | | | | |
| Total | Miking | TV/ Radio | Mobile | Neighbors | Others |
| | | | | | |

| Number of people reached through action-oriented early warning 10 days ahead of flood | | | | | |
|---|---------------------|----------------------------|---------------|------------------|---------------|
| <i>Total</i> | <i>Miking</i> | <i>TV/ Radio</i> | <i>Mobile</i> | <i>Neighbors</i> | <i>Others</i> |
| | | | | | |
| Number of people reached through action-oriented early warning 15 days ahead of flood | | | | | |
| <i>Total</i> | <i>Miking</i> | <i>TV/ Radio</i> | <i>Mobile</i> | <i>Neighbors</i> | <i>Others</i> |
| | | | | | |
| Number of people reached through action-oriented early warning 30 days ahead of flood | | | | | |
| <i>Total</i> | <i>Miking</i> | <i>TV/ Radio</i> | <i>Mobile</i> | <i>Neighbors</i> | <i>Others</i> |
| | | | | | |
| Readiness trigger | | | | | |
| <i>Date of readiness trigger:</i> | | | | | |
| <i>List of readiness action</i> | <i>Budget (BDT)</i> | <i>Budget allocated by</i> | <i>Remark</i> | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Humanitarian CASH trigger Stage 1 | | | | | |
| <i>Date of Stage 1 trigger activation:</i> | | | | | |
| <i>List of actions</i> | <i>Budget (BDT)</i> | <i>Budget allocated by</i> | <i>Remark</i> | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Humanitarian CASH trigger Stage 2 | | | | | |
| <i>Date of Stage 2 trigger Activation:</i> | | | | | |
| <i>List of actions</i> | <i>Budget (BDT)</i> | <i>Budget allocated by</i> | <i>Remark</i> | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Reach through early action | | | |
|-----------------------------------|------------------------------|--------------------------|--|
| <i>Union</i> | <i># total population</i> | <i># total livestock</i> | <i>Total agricultural land (hectare)</i> |
| | | | |
| | | | |
| | | | |
| <i>List of Action</i> | <i># population targeted</i> | <i># Livestock saved</i> | <i>Total agriculture saved (BDT)</i> |
| | | | |
| | | | |
| | | | |

14. Conclusion

The National Monsoon Riverine Flood Early Action Protocol is a live document which will be revised based on the experience and lessons learned from at least three consecutive events with the guidance of FbF/A Taskforce. The NEAP will work as a comprehensive framework to implement anticipatory actions in the Ganges-Brahmaputra River basins to mitigate the adverse impact of monsoon riverine floods.

Annex 1: List of Early Actions Identified Against Various Lead Time Accumulated from Sub-national level Consultations⁹

| Sl. | Early Action | Lead time (days) | | | | | | | | | | | | | | | | |
|---------------------|---|------------------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| | | >15 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Coordination | | | | | | | | | | | | | | | | | | |
| 1 | DMC Coordination Meeting to assess the situation and decide on early actions (district, Upazila, union) | x | x | x | x | x | x | x | x | x | x | x | x | x | | | | |
| 2 | Coordination with BDRCS volunteers, community volunteers, women's groups, FPP | | | | | | | x | x | x | x | x | x | x | x | x | x | x |
| 3 | Provision of protective gear for DMCs and volunteers | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | |
| DRM | | | | | | | | | | | | | | | | | | |
| 5 | Preparation of general advisory on forecast and flood risk for households | | x | | | | | x | | | | | x | x | x | x | x | x |
| 6 | Dissemination of forecast and early warning information to the community - Checking and repair of hand-held / mobile loudspeakers - Volunteer support, renting a van, boats, etc. | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| 7 | Listing the most vulnerable households for evacuation and other support | | x | x | x | x | x | x | | | | | | | | | | |

⁹ Initially, SUFAL project conducted consultations with targeted communities to identify potential early actions, and the kind of support community and households would need to mitigate impacts of anticipated floods in a 15-day timeframe. Later, this list was used for consultations at subdistrict (upazila) level with key institutions (local government administration, disaster management, agricultural extension, livestock services, fisheries, public health and engineering, women affairs, primary and secondary education). From this list, some early actions were tested in the 2020 - 2023 monsoon seasons.

| Sl. | Early Action | Lead time (days) | | | | | | | | | | | | | | | | | |
|-----|--|------------------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|
| | | >15 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | |
| 8 | Preparation of flood shelters and evacuation points (repair rooms, WASH facilities, electric supply, with provisions for gender and special needs, COVID19 considerations) | x | x | x | x | x | x | x | x | x | x | x | x | x | | | | | |
| 9 | Distribution of temporary shelter kits for households evacuating from low-lying areas and areas outside embankments | | x | x | x | x | x | x | x | x | x | x | x | x | | | | | |
| 10 | Repair damage to access roads, evacuation routes, and embankments (Coordination with BWDB) - CfW for fixing roads, evacuation points | x | x | x | x | x | x | x | x | x | x | x | x | x | | | | | |
| 11 | Distribution of materials for protecting and strengthening households (e.g., bamboo, bricks, stove) | | | | | | | x | x | x | x | x | x | x | | | | | |
| 12 | Cash grant to households for evacuation | | | | | | | x | x | x | x | x | x | x | | | | | |
| 13 | Provision of face masks, first-aid kits, medical support at shelters (Coordinate with DoH, DPHE) - Depending on the expected numbers of persons taking shelter at each point | | | | | | | | | | | | | | | | x | x | x |
| 14 | Evacuation support to most vulnerable households: pregnant or lactating women, children, elderly, persons with disability, women-headed households (e.g., provision of boats and trawlers) - Arrangement of transportation in case of | | | | | | | | | | | | | | | | x | x | x |

| Sl. | Early Action | Lead time (days) | | | | | | | | | | | | | | | | |
|--------------------|---|------------------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| | | >15 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| | evacuation (boats, trawlers) - Rent, fuel costs | | | | | | | | | | | | | | | | | |
| 15 | Provision of food and NFI (blankets, clothes) at flood shelters and evacuation points | | | | | | | | | | | | | | | x | x | x |
| Agriculture | | | | | | | | | | | | | | | | | | |
| 16 | Assessment and monitoring of the situation by DAE, DoF | x | x | x | | | | | | | | | | | | | | |
| 17 | Preparation of advisory on agriculture, livestock, and fisheries (dependent on flood timing) | | x | x | | | | | | | | | | | | | | |
| 18 | Dissemination of awareness messages on the protection of agricultural assets | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| 19 | Listing the most vulnerable households for agricultural support | | x | x | x | x | x | x | | | | | | | | | | |
| 20 | Distribution of materials for the protection of agriculture and fisheries (e.g., fishing nets, fish feed) | | | | | | | x | x | x | x | x | x | x | | | | |
| 21 | Cash grant to households for protection of agricultural assets | | | | | | | x | x | x | x | x | x | x | | | | |
| 22 | Selling crops and fish (Coordination with DAE, DoF for market access) | | | | | | x | x | x | x | x | x | x | | | | | |
| Livestock | | | | | | | | | | | | | | | | | | |
| 23 | Assessment and monitoring of the situation by DLS | x | x | x | | | | | | | | | | | | | | |

| Sl. | Early Action | Lead time (days) | | | | | | | | | | | | | | | | |
|--------------------------|---|------------------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| | | >15 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 24 | Preparation of advisory on livestock management | | x | x | x | | | | | | | | | | | | | |
| 25 | Dissemination of awareness messages on livestock management | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| 26 | Stockpiling medicine/vaccination for cows, goats, and poultry (Coordination with DLS) | | x | x | x | x | x | x | x | x | x | x | x | x | | | | |
| 27 | Listing most vulnerable households for protection and evacuation of livestock | | x | x | x | x | x | x | x | x | x | | | | | | | |
| 28 | Arrangement of location for sheltering livestock | | x | x | x | x | x | x | x | x | x | | | | | | | |
| 29 | Cash grant to households for livestock protection and evacuation | | | | | | | x | x | x | x | x | x | x | | | | |
| 30 | Distribution of medicine/vaccination for cows (Coordination with DLS) | | | | | | | x | x | x | x | x | x | x | | | | |
| 31 | Distribution of materials for protection of poultry and livestock (e.g., fodder) | | | | | | | x | x | x | x | x | x | x | | | | |
| 32 | Support to households for evacuation of small animals (e.g., trawlers) | | | | | | | | | | | | x | x | x | x | x | x |
| 33 | Provision of water and fodder in evacuation shelters/points | | | | | | | | | | | | x | x | x | x | x | x |
| 34 | Selling poultry and small animals (Coordination with DLS for market access) | | | | | | x | x | x | x | x | x | x | | | | | |
| Health & WASH | | | | | | | | | | | | | | | | | | |
| 35 | Assessment and monitoring of the situation by DPHE and DGHS | x | x | x | | | | | | | | | | | | | | |
| 36 | Preparation of advisory on health and WASH | | x | x | x | x | x | | | | | | | | | | | |

| Sl. | Early Action | Lead time (days) | | | | | | | | | | | | | | | | | |
|--------------------------|--|------------------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|
| | | >15 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | |
| 37 | Dissemination of messages on health and hygiene promotion; water source protection | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | |
| 38 | Listing the most vulnerable households for health and WASH support | | x | x | x | x | x | x | x | x | x | | | | | | | | |
| 39 | Protection and repair of tube wells and toilets in common and large catchment areas (schools, flood shelters, evacuation points) | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | |
| 40 | Stockpiling water purification tablets, ORS, medicine for injury/illness, snake bites | | | | | | | x | x | x | x | x | x | x | x | x | x | x | |
| 41 | Stockpiling menstrual kits (community clinic) | | | | | | | x | x | x | x | x | x | x | x | x | x | x | |
| 42 | Distribution of water container/tanks to households (20L/500L), water purification tablet, soap, ORS | | | | | | | x | x | x | x | x | x | x | | | | | |
| 43 | Distribution of water purification tablets, ORS, medicine to households | | | | | | | x | x | x | x | x | x | x | | | | | |
| 44 | Distribution of hygiene kits (soap, towels, menstrual towels) to households | | | | | | | x | x | x | x | x | x | x | | | | | |
| 45 | Cash grant to households for health, WASH, including water source protection | | | | | | | x | x | x | x | x | x | x | | | | | |
| 46 | Medical evacuation support for sick and elderly | | | | | | | | | | | | | | | | x | x | x |
| 47 | Provision of emergency healthcare facilities at flood shelters and evacuation points | | | | | | | | | | | | | | | | x | x | x |
| Social Protection | | | | | | | | | | | | | | | | | | | |
| 49 | Assessment and monitoring of the situation by DMCs and DSS/DSW | x | x | x | | | | | | | | | | | | | | | |

| Sl. | Early Action | Lead time (days) | | | | | | | | | | | | | | | | |
|-----|--|------------------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| | | >15 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 50 | Listing most vulnerable households for MPCG (Cross-check list of VGD/VGF) - Selection criteria: household location, poverty level, gender/inclusion, Agri/WASH/health | x | x | x | x | x | x | x | x | x | x | x | | | | | | |
| 51 | Multi-purpose cash grants (MPCG) to ultra-poor and poor households in flood forecasted zones | | | | | | | x | x | x | x | x | x | x | | | | |
| 52 | Distribution of food packages to ultra-poor and poor households in flood forecasted zones | | | | | | | x | x | x | x | x | x | x | | | | |
| 53 | Distribution of baby food to ultra-poor and poor households in flood forecasted zones | | | | | | | x | x | x | x | x | x | x | | | | |

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Cover Photo: Hatia Gauge Station, Ulipur, Kurigram; Credit: SUFAL Consortium