

Anticipatory Action: Why Localization Matters?

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BACKGROUND

Forecast-based financing (FbF) and Action, also known as anticipatory action, have emerged as effective approaches to disaster risk reduction and response in Bangladesh. FbF involves the use of scientific forecasts and early warning systems to anticipate impending disasters such as cyclones, floods, or droughts. By leveraging this information, financial resources can be pre-allocated to enable early action before the disaster strikes. In Bangladesh, where the vulnerability to natural hazards is significant, FbF has proven instrumental in reducing the impact of disasters on communities and saving lives. By triggering early actions such as pre-positioning relief supplies, activating emergency response teams, and evacuating at-risk populations, FbF ensures a timely and effective response to imminent threats. This proactive approach has led to improved disaster preparedness, enhanced resilience, and minimized loss and damage in the country. As Bangladesh faces recurring disasters, anticipatory action has become a crucial component of its disaster risk management strategy, demonstrating its effectiveness in protecting vulnerable communities and enhancing their capacity to cope with disasters.

Localizing Forecast-based financing (FbF) and Action is an essential step in enhancing the effectiveness and sustainability of disaster risk reduction efforts. By tailoring FbF and anticipatory action to local contexts, communities can have a more active role in decision-making processes and be better prepared for imminent disasters. Localizing FbF involves leveraging local knowledge, expertise, and resources to develop early warning systems and response mechanisms that are relevant and accessible to the community. This approach ensures that local needs, vulnerabilities, and capacities are taken into account, enabling a more targeted and timely response. Moreover, it fosters community ownership and participation, empowering local actors to play a proactive role in disaster preparedness and response. By strengthening local capacities, institutions, and networks, localizing FbF and Action can contribute to building resilience at the grassroots level, enabling communities to better withstand and recover from the adverse impacts of disasters.

LOCALIZATION OF ANTICIPATORY ACTION IN SUFAL II

Scaling up Forecast-based Action and Learning in Bangladesh (SUFAL II) has demonstrated a remarkable experience in the localization of Forecast-based Financing (FbF) and Action, making a significant impact on disaster risk reduction in the communities it serves. By working closely with local stakeholders, SUFAL has ensured that FbF/A interventions are tailored to the specific needs and contexts of the communities. They have actively engaged with community members, local leaders, and relevant organizations to understand their vulnerabilities, traditional knowledge, and existing coping mechanisms. SUFAL has leveraged this knowledge to develop localized early warning systems, combining impact-based forecasting with community-based indicators. This approach has not only enhanced the accuracy of early warnings but also increased community trust and participation in accessing and utilizing impact based early warning message to save lives and protect assets in ahead of floods. Additionally, SUFAL has focused on building local capacity and resilience by providing training, resources, and support to communities, empowering them to take proactive measures in anticipation of disasters. Through their localized approach, SUFAL has demonstrated how FbF and anticipatory action can be effectively implemented at the grassroots level, leading to more effective disaster preparedness, reduced losses, and enhanced community resilience.

KEY COMPONENTS OF LOCALIZED ANTICIPATORY ACTION

Anticipatory action involves the deployment of resources and interventions based on early warning systems and predictive analysis. There are three key components that form the foundation of anticipatory action: **early warning systems**, **early actions**, and **pre-arranged financing mechanisms**. Early warning systems play a crucial role in detecting and predicting the onset of hazards, such as floods cyclones, riverbank erosion etc, enabling timely response planning. Early action measures involve pre-positioning essential supplies, capacitating local communities, and establishing protocols to ensure seamless and coordinated action before a crisis emerges. Lastly, pre-arranged financing mechanisms ensure that funding is readily available for immediate action when a warning is issued, and the trigger is activated for facilitating swift and effective early actions. Together, these three

components empower decision-makers to anticipate and act before disasters strike, ultimately saving lives and reducing the impact of emergencies.

FORECAST & EARLY WARNING

In Bangladesh, the flood forecasting system is authorized by the Bangladesh Water Development Board (BWDB). Flood forecasting and Warning Center (FFWC) under BWDB is working to generate and disseminate the flood forecast. Traditionally, they provide national-level flood forecast information with limited location-specific information. To improve that, the project applied the localization approach and improved the forecasting capacity through following interventions:

GENERATE IMPACT-BASED FORECAST

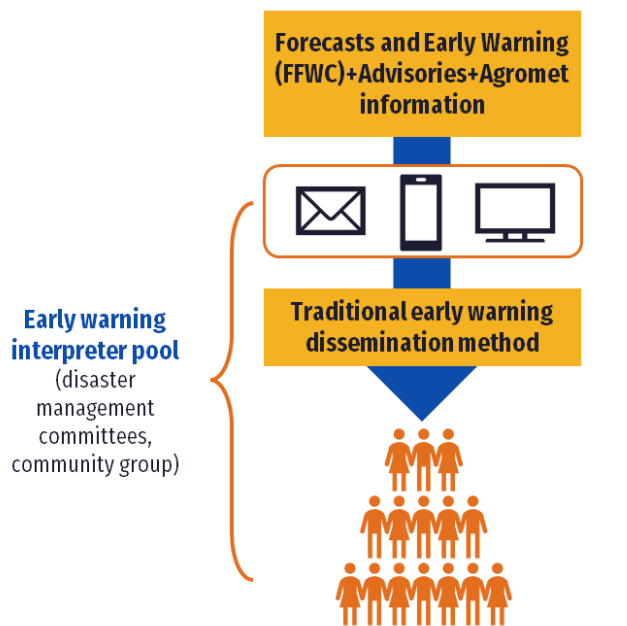
Impact-based forecasting requires to overlay the inundation and vulnerability map to identify the potential dimension of a natural disaster. The project gathered topographic data from satellite imageries and topographic surveys to generate a finer-resolution inundation forecast map for the target areas of Northern Bangladesh flood zones. This inundation forecast enabled FFWC to provide an impact outlook for 5 -15 days lead time to support making decisions about tactical early actions. The project also developed vulnerability maps by applying a methodology developed during the first phase of the SUFAL project. A set of sensitive and adaptive capacity indicators was identified in consultation with DDM (Department of Disaster Management), FFWC and other relevant stakeholders. The mapping process considered secondary data sources (Bangladesh Bureau of statistics) which have been verified at field level. Finally, the impact map was produced and successfully used during the 2020 and 2022 floods in Northern flood zone areas.

STRENGTHEN LOCAL FORECAST CAPACITY

In order to trigger FbA (Forecast-based Early Actions) timely, accurate, localized forecast information is necessary. For this, flood Danger Levels (DL) needed to be updated and adequate numbers of flood monitoring gauges should be in place for developing localized forecasts. FFWC does not have any flood gauge station in the Brahmaputra River reach between Noonkahawa station (where the river enters Bangladesh) and Chilmari station of Kurigram district. Furthermore, the 10-day lead time probabilistic forecast was only available starting from Bahadurabad station in Islampur, Jamalpur. As a result, along a 100 km reach of the river, there is no forecast and only a 5-days deterministic forecast available which is a major hindrance for early actions, especially in the districts of upper Jamuna basin such as Kurigram district. Consultations during SUFAL-I's post-monsoon assessment showed that even 10 to 15 days of lead time was not sufficient for taking forecast-based, strategic decisions or ensuring institutional readiness for Early Actions. Impact-based forecasting with readiness activities was required for the most affected sectors such as agriculture, livestock, WASH and health. Following interventions have been implemented to improve the local forecasting capacity:

- 1. Review danger level of existing gauges** in the project locations in consultation with FFWC authorities. As a result of these consultations levels have been updated which contributed towards more accurate forecasting.
- 2. Strengthening the capacity for accessing and interpreting forecast and warning.** It is more likely that people at risk will take actions if they receive understandable and reliable early warning information. Therefore, an upazila (sub-district) - level pool of interpreters has been formed to interpret technical forecast information for FbA mechanism. This action found an easy solution to use technical formats to understand warning messages for taking FbA.
- 3. Dissemination of localized flood forecast.** Previously the forecasts have been directly shared with the community (see figure 1). To ensure that information reaches the most vulnerable disaster management committee members and community groups. SUFAL supported them in developing their capacity as forecast interpreters. Moreover, along with the public announcement (the traditional dissemination media) the project introduced voice message services and digital display boards to reach the most vulnerable communities.

Figure 1: Early Warning Dissemination Process by SUFAL

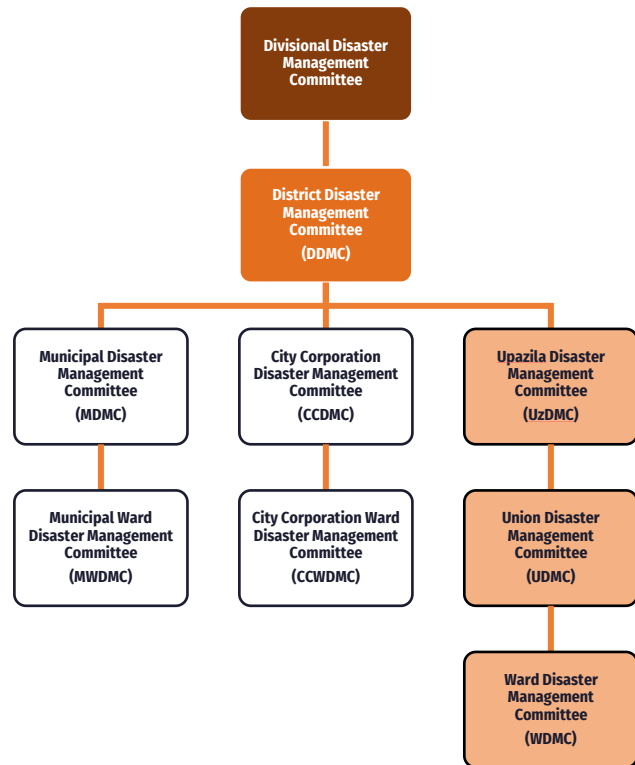


EARLY ACTION

SUFAL increased awareness and enhanced institutional capacity in decision-making and triggering early actions. As the DMCs (Disaster Management Committees) got trained in FbA processes, they obtained better command on taking responsible and timely early action by identifying existing resources. The project mobilized volunteers under UDMCs (upazila level Disaster Management Committees) to support the community by providing information, evacuation support, etc.

According to the revised SOD (Standing Order on Disaster, 2019) the project introduced the concept and guidelines for the **formation of WDMCs** (ward level Disaster Management Committees) to upazila and union administration and DMCs to mobilize communities. In order to meaningfully engage with communities, SUFAL-II supported the **formation of three types of community groups** at the union level: (i) farmer's group, (ii) women's group, and (iii) youth group. The groups are linked with UDMCs and WDMCs. SUFAL supports them in developing their capacity to implement FbA. In turn, community groups also support the project with a better understanding of community risk characteristics and support designing effective strategies for implementing FbA. To understand the local risk and to identify indigenous knowledge and resources the project embedded FbA in the **Community Risk Assessment** process. The lead time has been included in the traditional risk reduction action plan. In addition to that, sector-specific early actions were identified through the process. The early actions identified through the community consultation are compiled in the **early action matrix** which contains the action to be taken by the Disaster Management Committees, different government departments and the communities based on two-stage trigger activation e.g readiness trigger and response trigger. Along with these the project allocated **funds** for supporting communities to take early action and provided **multi-purpose cash grants** as early action for arranging their daily necessities to survive during a disaster.

Figure 2: Disaster Management Coordination at Local Level in Bangladesh



FINANCING MECHANISMS

For arranging the pre-finance of the anticipatory action, mostly the UN managed CERF (Central Emergency Response Fund), IFRC managed DREF (Disaster Response & Emergency Fund) and START-Ready funds are used. The trigger mechanisms will often not be activated although there is impact on local level. To address this issue the project has commenced different studies to identify other alternative sources of pre-arranged financing which can be allocated for taking early actions having localized triggers. The project has identified 4 social protection schemes and one humanitarian assistance scheme to be feasible to readjust and utilized for anticipatory action. Advocacy for guideline revision and the piloting is ongoing which would result in a more locally accessible pre-arranged finance mechanism. In some project locations, the actions identified by the communities are included in the local government's annual development plan and budget has been allocated for that.

RECOMMENDATIONS

Based on the experience of Supporting Flood Forecast-based Action and Learning in Bangladesh PHASE II (SUFAL II) project, the following recommendations can be made to further enhance the localization of Forecast-based financing (FbF) and Action:

1. **Strengthen Local Partnerships:** Foster strong partnerships with local communities, government agencies, NGOs, and other relevant stakeholders. Collaborate closely with these partners to understand local contexts, needs, and capacities, and ensure their meaningful participation throughout the entire FbF and Action process.
2. **Empower Local Communities:** Empower local communities by providing them with the necessary knowledge, skills, and resources to actively participate in decision-making processes related to FbF and Action. Encourage the establishment of community-based early warning systems and response mechanisms, enabling communities to take ownership of their own disaster preparedness and response.
3. **Utilize Local Knowledge:** Recognize and integrate local knowledge systems and traditional practices in FbF and Action initiatives. Local communities often possess valuable insights and coping mechanisms that can complement scientific forecasts and enhance the effectiveness of early warning systems.
4. **Build Local Capacity:** Invest in capacity-building initiatives at the local level, including training programs on early warning systems, disaster response planning, and community-based risk assessment. This will strengthen local institutions, networks, and skills, enabling them to effectively implement FbF and anticipatory action.
5. **Tailor Information Dissemination:** Customize communication and information dissemination strategies to suit the local context and ensure the accessibility of forecasts and early warnings. Utilize multiple channels, including community radio stations, community meetings, and mobile technology, to reach a wide range of community members, including those who may have limited access to formal information sources.
6. **Monitor and Evaluate:** Establish robust monitoring and evaluation mechanisms to assess the impact and effectiveness of localized FbF and Action initiatives. Regularly collect feedback from communities, review response actions, and share lessons learned to continually improve the localization process.

By implementing these recommendations, based on the experience of SUFAL II, the localization of FbF and Action can be further enhanced, leading to more effective disaster risk reduction, increased community resilience, and improved response to impending disasters in Bangladesh.

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Women store items to prepare for a flood in Bangladesh.
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Women in Gaibandha district in Northern Bangladesh listening to flood information voice messages. © Jannatul Mawa

