



The co-benefits of forecast-based financing and anticipatory action



Forecast-based financing: an approach gathering momentum

When forecast-based financing (FbF) was first piloted in 2014, it was seen as a risky, experimental approach. Since then, it has gathered incredible momentum and is now widely seen as a key feature of the disaster risk-management ecosystem. Made possible by dedicated financing mechanisms, such as Forecast-based Action by the Disaster Response Emergency Fund (FbA by the DREF), FbF is now being successfully implemented in countries around the world, and for hazards ranging from ashfall to cyclones.

FbF is an anticipatory action approach ([REAP 2022](#) ) , specifically the financing mechanism that enables preagreed anticipatory actions (see Box 1) to be implemented. At the launch of the Anticipation Hub in December 2020, Jagan Chapagain, secretary-general of the International Federation of Red Cross and Red Crescent Societies (IFRC), described anticipatory action as a “moral obligation”, while Thomas Zahneisen, the former director of humanitarian assistance at Germany’s Federal Foreign Office, stated: “We have reached a stage where we don’t have to prove the relevance and effectiveness of anticipatory approaches. They save lives and mitigate humanitarian impacts more effectively, using less money, and are more dignified” ([Climate Centre 2020a](#) ) .

Now that proof of concept has been established, practitioners are moving beyond analysis of its mitigation impacts for extreme events to investigate the added value that FbF brings. This briefing provides an overview of some of these co-benefits, namely the emerging successes and positive impacts associated with FbF interventions. It draws on interviews with key stakeholders who are primarily from within the Red Cross Red Crescent Movement and, as such, has a Red Cross Red Crescent focus. Nevertheless, these co-benefits may also be present among other FbF programmes.




Capacity building

One of the main co-benefits to emerge from the interviews was the capacity-building potential of FbF. These benefits are not just for the FbF programmes themselves, but transferable to wider disaster-management efforts. This stems from several factors.



The Kenya Red Cross Society conducts a multistakeholder simulation exercise to test its EAP, March 2022.
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Firstly, capacity building is built into the FbF approach and is a key area for which funds are allocated. For example, the IFRC’s guidelines on FbF stipulate that part of the funds supplied by the FbA by the DREF must be allocated to readiness activities, which can include “refresher training for staff and volunteers, annual simulations, coordination meetings [...] or any activity required to ensure that the National Society is ready to act early” ([IFRC 2022, p.8](#) )¹. This funding, spread over the five-year lifespan of an Early Action Protocol (EAP),² enables a National Society to plan for and invest in regular training that strengthens its capacity. This benefits not just its FbF activities, but also its other programmes.

The benefits related to capacity building are further amplified by the robust analysis and research that go into the feasibility studies for anticipatory action and EAP preparation. Though the interviewees for this briefing noted the large amount of work involved in setting up FbF programmes, they also acknowledged that this helped to increase their capacity in hazard and risk analysis.

For example, stakeholders in Kyrgyzstan, Tajikistan and Zambia mentioned how much easier it was to tackle their second EAP once they had developed their first, and how much they learned during the

¹ A maximum 65 per cent of the budget can be for readiness activities and prepositioned stock (combined).

² An EAP is “the ‘plan’ that guides timely implementation of early action activities” ([IFRC 2022, p.4](#) ) .

process that they could then apply in other areas. In Central Africa, practitioners from several countries identified many ways in which they felt FbF contributed to a better Covid-19 response, including:

- increased capacity in risk monitoring
- developing contingency plans
- anticipating and mobilizing for interventions
- enhanced financial and procurement structures
- increased coordination with other actors.



This demonstrates that investments in capacity building for anticipatory action translate into a systemic investment in overall capacity. Such enhanced capacity is crucial for realizing other benefits, such as scaling up and expanding anticipatory action; budgetary investment can only go so far without the personnel and capacity to implement these actions.




Strengthened multihazard interventions

As climate change increases the frequency and severity of many hazards, the ability to manage multiple and compounding hazards is becoming increasingly important. Other, non-climate-related hazards are also a growing concern. This adds weight to calls for approaches such as FbF, which have cross-cutting benefits for multihazard preparedness and action, to be implemented more widely.

Similar to strengthened capacity, FbF can contribute to an increased capacity to adapt to and address multiple hazards. While each EAP only focuses on one hazard (many countries develop multiple EAPs to cover multiple hazards), investments in response preparedness and readiness have translated into an increased capacity to address other hazards. This includes biological and health-related hazards (e.g., pandemics) as well as geologic, climate- and weather-related hazards.


One recent example is Covid-19. A review of extreme weather events between January and September 2020 revealed that 92 of 132 events “overlapped with the Covid-19 pandemic” ([Reliefweb 2020](#) ) , while 10 National Societies with EAPs (either approved or in the latter stages of development) were able to adapt these to include the emergent risks from Covid-19 ([Tozier de la Poterie et al. 2021](#) ). The fact that they were able to plan for another crisis while managing the pandemic

demonstrates a capacity to respond to multiple hazards at the same time. A recent report from Central Africa posited that the FbF approach has “set the foundation for a more accurate and integrated multihazard approach” ([Netherlands Red Cross 2020, p.13](#) ) in countries where this approach is used. Risk assessments, vulnerability analysis and the identification of target populations are given as examples of capacities that are transferable across hazards, and benefitted other programmes (e.g., urban food relief, cash-based interventions).

These observations were backed by testimonies from practitioners and advisors on the ground, who highlighted the many ways in which FbF had set up National Societies for success when coping with Covid-19. These include:

- increased training, which meant staff were better prepared and ready to be deployed
- increased capacity to develop contingency plans
- increased competence in data management
- enhanced ability to run community engagement and communications campaigns, through a greater understanding of community needs
- training in geographic information systems and other technical skills that enabled staff to better analyse and map hotspots and high-risk areas, and to build monitoring dashboards.

Box 1. Laying the groundwork for cash transfers

Cash is recognized as a growing and “appropriate anticipatory modality” ([Pelly 2019](#) ) and is frequently included as an option in FbF feasibility studies, or as a preagreed early action in EAPs. Through the use or exploration of cash-based transfers in anticipatory action programmes, multiple National Societies and governments – for example in southern Africa and Latin America – have begun to overcome their initial hesitation towards cash-based transfers and set up pilot programmes, for FbF and for other humanitarian actions. Furthermore, FbF often facilitates the setting up of cash-transfer programmes through pre-establishing memorandums of understanding, or working arrangements with financial partners, among other benefits. This makes it easier for other actors to replicate these systems.



Scaling up the capacity to implement anticipatory action

One limiting factor in scaling up anticipatory action has been the fact that the increase in financing available has not always been matched by an increase in investments in the capacity of local actors on the ground, who shape and implement programmes. During an interview, Kara Devonna Siahaan, head of the Anticipation Hub, noted that “if we could ramp up the capacity of National Societies to deliver action, we could do so much more”. The parallel investment in capacity for National Societies offered by the FbA by the DREF mechanism is therefore critical to expanding anticipatory action. This increased capacity can take many different forms.

Improved coordination and expanded partnerships

FbF interventions are not stand-alone projects; to flourish, many actors must be involved. For projects within the Red Cross Red Crescent Movement, these include: the Climate Centre and the 510 initiative of the Netherlands Red Cross, which offer technical and data support; Partner National Societies for technical and project support; and the IFRC, which provides guidance and financial support through its FbA by the DREF mechanism.

By operating at the confluence of the science, policy and humanitarian spheres, FbF facilitates diverse and far-ranging engagements with actors from academia, hydrometeorological agencies, social protection departments, national and international development institutions and disaster-management stakeholders, among others. It also cuts across multiple levels of governance, from disaster-affected communities through to national governments and international actors. As one stakeholder from Latin America noted, “often, the technical and scientific institutes are there. But we [the Red Cross] need to be their bridge with communities, because we know better how to communicate with communities.”

FbF requires multistakeholder engagement to operate effectively. For example, there is a need for close coordination between actors to strengthen forecasts, to move funds and resources, and to mobilize actions in a short period. As such, it usually involves the creation of technical working groups, through which partner organizations build shared systems and regular channels for communication and coordination. These can then support interventions beyond FbF, as the ‘doorways’ are open and relationships are established (see Box 2).

For example, FbF uses impact-based forecasts – specific, targeted analysis of vulnerable areas and populations – rather than general early warnings. These enable stakeholders to identify the areas with the highest vulnerability and, as a result, target their early actions towards those most in need. In the ten days before Cyclone Amphan


Box 2. Reduced barriers to participating in anticipatory action

FbF puts the infrastructure for early actions in place and, at times, other actors or funders can use this infrastructure for their own early actions. Viet Nam’s EAP for Heat Waves lists early actions including the setting up of cooling tents for street workers to shelter, and distributing awareness-raising materials ahead of the hazard. Though FbA by the DREF funds can only be activated when the official trigger is reached, the Viet Nam Red Cross Society has accessed other funding pools to implement these early actions – but for heat waves that are less extreme (i.e., at a lower level than established by the EAP trigger). And although the Viet Nam Red Cross Society could not access FbA by the DREF funds during a heat wave, it could use the pre-positioned materials (e.g., tents) that were purchased using FbA by the DREF funds.

hit Bangladesh, these impact-based forecasts were combined with the daily synoptic reports from the Cyclone Preparedness Programme. This approach helped other actors involved in disaster preparedness to realize that they could also act in anticipation of a cyclone, rather than waiting for an early warning that a cyclone is going to strike.

The FbF mechanism also provides funds for advocacy efforts around anticipatory action, as well as training and workshops for volunteers and other actors. In Bangladesh, this has led to policy-makers, government officials and other disaster-response actors to implement anticipatory approaches. For example, many now use the more robust and detailed impact-based forecasts to predict where hazards will have the strongest effects. Meanwhile, the Inter Sector Coordination Group at Cox’s Bazar has changed from having a ‘response team’ to an ‘early action and response readiness team’ and has established a new ‘pre-alert phase’ in its planning, during which daily information from the Bangladesh Red Crescent Society’s FbF team is used to guide their early actions.

Shared triggers

An emerging co-benefit of FbF programmes is the establishment of ‘triggers’ (i.e., thresholds) which are activated to release funds. These are an essential element of EAPs and determine the threshold at which funds are released from the FbA by the DREF; as such, they provide examples that others can draw upon when designing their own anticipatory action programmes. For example, the first activation of the FbA by the DREF mechanism occurred in Mongolia in January 2020, ahead of a *dzud* (cold wave) ([Climate Centre 2020b](#) ); the trigger used was then embraced by the Food and Agriculture Organization of the United Nations in Mongolia and used to justify and activate its own early actions. Likewise, in Bangladesh, the United Nations’ Central Emergency Response Fund and the World Food Programme (WFP) used a flood

trigger developed by the Bangladesh Red Crescent Society to support their own early actions ahead of floods ([Tozier de la Poterie 2021](#)).

These examples demonstrate that triggers established through FbF processes can help other organizations going through a similar process. Furthermore, collaborating with others to act on a trigger increases its value and reach, for example by enabling others to take actions beyond the scope that would be possible solely with funds and/or capacity within the Red Cross Red Crescent Movement.

Evidence to support calls for impact-based forecasting and improved climate services

FbF relies on skilled climate and weather experts, and on actionable forecasts for them to use. As a result, National Societies must coordinate closely with meteorological, hydrological and climate agencies. The development of an FbF project always involves analysis of the skill levels of available forecasters, and frequently involves investing in improved climate and meteorological services through capacity building and training, and even academic partnerships to strengthen meteorological services. These technical experts are often directly involved in codeveloping the triggers in EAPs. For example, in Viet Nam a trigger was codeveloped by the Viet Nam Red Cross Society and the Vietnam Institute of Meteorology, Hydrology and Climate Change.

These collaborations demonstrate increased interest in climate services from the humanitarian sector, and vice versa. This should drive demand for impact-based forecasts that identify what the weather will do, not just what the weather will be. A good example of how FbF is building support for impact-based forecasting and enhanced climate services is the guide [The Future of Forecasts: Impact-Based Forecasting for Early Action](#) (ARRCC et al. 2020), co-developed by humanitarian actors and the UK's Met Office.

Improved procedures

FbF often contributes to improved procedures in countries where it is implemented. An example of this comes from Bangladesh, where EAPs for floods and cyclones were implemented in 2020. The FbF team built upon the decades-long work of the Cyclone Preparedness Programme, which was already well established in the country. The Cyclone Preparedness Programme uses a system of flag signals along the coastline, which provide communities with visual early warnings. One of FbF's contributions was to provide complementary, daily synoptic reports in the ten days leading up to Cyclone Amphan in 2020. These provided additional levels of regional detail and anticipated impact, and were picked up by other stakeholders as a signal to commence early actions.

In Cox's Bazar, the Inter Sector Coordination Group changed its procedure from waiting for the first flag from the Cyclone Preparedness Programme to go up, to acting early based on the synoptic forecast. As such, the flag system became a trigger to commence action, rather than to commence conversations and mobilize efforts for early action. These changes to procedure were formalized in the creation of a 'pre-alert phase' and an 'early action plan' to replace the previous '72-hour response plan'.

Addressing supply-chain issues

As part of their EAP development, National Societies can allocate a portion of overall budgets to preposition relief items ([IFRC 2022](#)). As some National Societies have discovered, this spurs co-benefits of its own. As well as having the items on hand to expedite early actions, it also enables National Societies to address or circumvent supply-chain issues. For example, stakeholders in Mongolia shared how their activation of an EAP was not hampered by lockdowns or supply-chain issues arising from Covid-19, because they had purchased and prepositioned these essential items well in advance.

Advocacy for a paradigm shift from reaction to anticipation

As mentioned, the multistakeholder nature of FbF means that building relationships and collaboration are core components. These in turn contribute to advocacy efforts, as stakeholders must engage with diverse actors to increase their appetite for, and interest in, FbF and anticipatory action. One example is the activation of the EAP for Floods in Bangladesh in 2020. Unlike cyclones, floods do not have widespread preparedness and early-action bodies behind them. When the Bangladesh Red Crescent Society prepared its EAP for Floods, it engaged with others to fill that void, advocating for the importance of anticipatory action as a key component of humanitarian interventions for floods. This advocacy produced results, as WFP supported the Bangladesh Red Crescent Society to implement early actions – a clear indication of a paradigm shift towards anticipatory action in the country.



A simulation exercise of anticipatory actions ahead of cyclones in Bangladesh. © Bangladesh Red Crescent Society

Professionalization

FbF can be a driver of professionalization within an organization. In Ecuador, meteorological institutions and the Geophysical Institute (Instituto Geofísico) have collaborated with the Ecuadorian Red Cross since the inception of anticipatory action projects, on activities including trigger development, training, and building a network of trained citizen scientists. FbF has also spurred new developments, such as the professionalization of hazard maps, where actors defined the parameters for these, standardized the hazard analysis and expanded it to include volcanos.

A stronger disaster-management ecosystem: response

FbF doesn't just prepare stakeholders to rapidly mobilize for early action; it can also establish the infrastructure needed for more effective responses. By putting in place systems to act early, FbF interventions can help to ensure a smooth transition into the response activities that occur later. As one key informant put it, "investing in FbF is investing in a more rapid response... [it] is creating a continuum of response". This attests to the ways in which FbF is starting to shift countries' response architecture.

A stronger disaster-management ecosystem: preparedness

By its very nature, anticipatory action contributes to disaster preparedness. One example is its key role in Preparedness for Effective Response systems. This is reflected in the IFRC's analysis of this relationship: "Having an Early Action system in place is one of the 37 components of the National Disaster Preparedness and Response mechanism under the operational capacity area, which highlights one of the direct contributions from FbF to the National Society Preparedness for Effective Response approach [...] additionally, Forecast-based

Financing projects build up other aspects of the National Society response mechanism such as analysis, planning, coordination, technical sectors, beneficiaries for affected population selection, logistics, financial management and accountability, hence its close link to many of the components of the Preparedness for Effective Response" (IFRC 2020, p.3 [\[7\]](#)).




Conclusions


This briefing is a non-exhaustive overview of the co-benefits arising from FbF, and the anticipatory actions it supports, that have come to light so far. As this approach continues to develop and mature, being applied in new countries and to additional hazards, it is likely that further positive impacts will come to light. For now, this briefing is intended as a guide for practitioners in the field, who can adapt their own approaches to try to realize these benefits in their own projects or programmes. In this way, we hope that the co-benefits identified here will grow and increase the positive impacts of FbF and anticipatory action.

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