

An Agenda for Expanding Forecast-Based Action to Situations of Conflict

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Forecast-based humanitarian action enables actors to start their work before a predicted disaster strikes. This can prevent the loss of many more lives and livelihoods than purely reactive humanitarian action ever could. However, to increase the impact, anticipatory actions could be expanded to conflict situations. This working paper provides an overview of the current uses of FbA and facilitates the move toward linking it to situations of conflict. To integrate FbA in conflict contexts, this working paper proposes a set of research questions and concrete next steps for various actors.

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Executive Summary

Forecast-based humanitarian action is increasingly important: based on timely warnings concerning hydro-meteorological hazards such as floods and storms, a growing number of humanitarian actors are able to start their work before the predicted disaster hits. This can prevent the loss of many more lives and livelihoods than purely reactive humanitarian action ever could. There also is growing interest among donors to fund such actions based on scientific forecasts of hydro-meteorological hazards – but these are not the only type of humanitarian crisis. This paper argues that Forecast-based Action (FbA) could be expanded to situations of conflict and outlines practical considerations for how to approach this complex endeavor.

The paper first provides an overview of the basis of FbA, how and in what situations it is currently used, and which different actors are actively involved. We then describe a framework of key building blocks that have allowed for FbA to be applied to hydro-meteorological hazards and examine how these building blocks could be used to expand the approach to other types of crises. They include: 1) data/forecasts and decision-making processes; 2) pre-agreed actions; 3) funding mechanisms; 4) champions; and 5) delivery channels.

To facilitate the move toward linking FbA to situations of conflict, actors should break down the individual elements that make up this complex issue. Applying the framework of key building blocks can help to engage different champions of FbA in areas where they can add the most value. However, in doing so actors should distinguish between two basic types: 1) FbA based on forecasts of hydro-meteorological hazards in conflict situations (i.e., to act early in anticipation of climate-related hazards in situations of ongoing conflict); and 2) FbA based on forecasts of conflict (i.e., to act early in anticipation of humanitarian impacts of violent conflict).

For both types, actors can build on the knowledge, practices and lessons learned from existing experiences with Forecast-based Action and related fields, including development and peace and conflict studies, which we map out in this paper. We also identify concrete knowledge gaps in the understanding of FbA that need to be filled by further research. To do so, we propose a set of research questions for each of the building blocks and concrete next steps for different actors.

The move to expand FbA to situations of conflicts should involve cooperation and knowledge-sharing among sectors that often work separately, including the humanitarian, development, peacebuilding and related spheres, as well as the forecasting community and relevant research institutions. This collaboration should happen at the practitioner level as well as at the coordinating level; for example, donors should explore opportunities to jointly fund different champions of FbA, while implementing actors and coordinating bodies should share existing methods, approaches and lessons learned from their FbA experiences. Researchers and forecasters should develop multi-disciplinary and mixed-methods research approaches to benefit from all actors' comparative advantages and to ultimately reduce suffering and save lives and livelihoods. As with any kind of FbA, anticipatory actions in situations of conflict cannot be a standalone solution but must be integrated in the overall disaster risk management continuum.

List of Acronyms

ACLED	Armed Conflict Location & Event Data Project
CERF	Central Emergency Response Fund
CEWARN	Conflict Early Warning and Response Mechanism
DREF	Disaster Relief Emergency Fund for early action
DRF	Disaster Risk Financing
DRR	Disaster risk reduction
EAP	Early Action Protocol
FAO	Food and Agriculture Organization
FbA	Forecast-based Action
FbF	Forecast-based Financing
GECARR	Good Enough Context Analysis for Rapid Response
GIS	Geographic Information Systems
GPPi	Global Public Policy Institute
HDX	Humanitarian Data Exchange
ICG	International Crisis Group
ICRC	International Committee of the Red Cross
IDPs	Internally displaced people
IFRC	International Federation of Red Cross and Red Crescent Societies
INGOs	International non-governmental organizations
NHMS	National Hydrological and Meteorological Services
NNGOs	National non-governmental organizations
OCHA	UN Office for the Coordination of Humanitarian Affairs
PRIO	Peace Research Institute Oslo
RCRC	Red Cross Red Crescent Movement
REAP	Risk Informed Early Action Partnership
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
ViEWS	Violence Early-Warning System
WFP	World Food Programme

What Is Forecast-Based Action?

In May 2020, cyclone Amphan threatened the lives and livelihoods of 14.2 million people in Bangladesh and India who were living within its forecasted path. The swift release of funds from humanitarian actors, including the International Federation of Red Cross and Red Crescent Societies (IFRC), well before the cyclone made landfall on the coast of Bangladesh allowed for early action, which included preparing evacuation shelters for the influx of people and supporting the evacuation of those at risk. These actions had been agreed upon in advance and had only recently been revised to address the aggravated circumstances stemming from the COVID-19 pandemic. To support an early response, the IFRC released its funding based on forecasts and risk analyses that anticipated the cyclone’s potential impact, and thus enabled the Bangladesh Red Crescent Society to take precautionary measures, which greatly decreased the fallout of the disaster. While the cyclone itself was inevitable and caused heavy rainfall as well as strong winds and storm surges, its effect could be mitigated through early actions that were triggered by forecasts.

Humanitarian actors are increasingly challenging a purely *reactive* approach to disasters and crises. Especially in cases where disasters were forecasted accurately and the humanitarian consequences therefore foreseeable, failures to avoid the ensuing humanitarian crises have been met with heavy criticism. To address this, some humanitarian actors suggest a more *anticipatory* approach to humanitarian action where funding is provided based on forecasted disasters and impacts, and actions are taken before a disaster occurs. The thinking behind the growing demand for Forecast-based Action (FbA) emphasizes that it avoids not only unnecessary suffering, but also the reduced costs incurred by late action.

So far, FbA is almost exclusively used to prevent or mitigate humanitarian crises resulting from hydro-meteorological hazards,¹ but is largely absent from situations linked to or induced by violent conflict. FbA is part of a wide-range of efforts aimed at enhancing disaster risk reduction (DRR). It has also been used to help tackle the growing risks associated with climate change. In addition to its existing applications, we argue that FbA could be expanded to inform humanitarian action in situations of conflict. After outlining the current circumstances under which FbA is typically implemented, we explain why expanding its scope is necessary and how different actors can approach this endeavor.

Currently, FbA is far from being implemented on a system-wide basis. While it is common sense that acting too late despite timely warnings can result in more deaths and loss of livelihoods, the concept of putting early actions into practice is not common practice. Many actors, including those implementing, planning and funding

1 “Hydro-meteorological hazards” are events that concern the transfer of water and energy between the land surface and the lower atmosphere. The term does not include geological hazards such as volcanos, tsunamis and earthquakes, biological hazards like COVID-19, or clear technological hazards such as nuclear explosions or toxic waste.

Key Terminology

In its essence, “forecast-based action” means that implementing and funding partners follow a pre-agreed plan, such as Early Action Protocols (EAP) and/or contingency plans, when certain criteria are met. For example, if a scientific forecast reaches a pre-determined threshold, this triggers the release of a fixed amount of funding for predetermined actions before a disaster materializes and acute impacts are felt. These early actions serve to prevent or mitigate the impacts of the disaster, or to improve the response. While we recognize that the term “anticipatory action” is increasingly popular, we use the narrower term “Forecast-based Action” to discuss actions taken based on scientific forecasts. In this paper, “anticipatory actions” refers to actions based not only on scientific forecasts, but also broader analyses such as consensus-based decision-making and qualitative expert assessments for triggering a response.

humanitarian actions, are still somewhat skeptical of FbA, even when it comes to its application in situations that are not marked by conflict. For example, many government agencies seem to cling to a reversed incentive structure that leads them to prioritize later action. Given that the reward for effective FbA is limited and complex to measure, some governments fear the risk of acting on a forecast that proves wrong and thereby squandering scarce resources. However, recent studies in the humanitarian sector highlight the benefits of FbA and summarize the lessons learned from relevant initiatives and financing mechanisms.² Since humanitarian needs around the world are increasing while humanitarian financing is not, funds must be used more efficiently.³ To achieve this, the humanitarian community is focusing more on innovative humanitarian financing, including the Red Cross Red Crescent’s Forecast-based Financing (FbF) approach.

A number of “champions” are calling on the sector to make greater use of early warnings and take a step toward earlier action. Consequently, there is growing interest in scaling up FbA. In the past years, the number and variety of actors engaged in FbA has also increased. Among these early adapters are different bodies from the Red Cross Red Crescent Movement (RCRC), INGOs (such as the Start Network) and UN agencies (WFP, FAO, OCHA). The actors that are most relevant for the purpose of this paper can broadly be described as: 1) **donors** (e.g., donor governments and specific funds); 2) **implementers** (e.g., NNGOs/INGOs, UN agencies, governmental bodies working at the project level, different bodies from the RCRC); 3) **coordinating bodies/head organizations** (e.g., INGOs, UN agencies at the headquarter level, different bodies from the RCRC); 4) **researchers** (e.g., academia, research institutions); and 5) **forecasters** (e.g., national hydrological and meteorological services, private sector forecasting companies). In practice, these functions often overlap and

2 See for example e.g. Pichon, 2019; Tanner et al., 2019; Weingärtner et al., 2020; Weingärtner & Wilkinson, 2019; Wilkinson et al., 2018; Willitts-King, Poole, & Bryant, 2018.

3 This financial focus partly raised criticism stating that lives and livelihoods should be saved regardless of higher or lower costs. Having said that, one can argue that spending less money allows for a larger scope to reach affected populations.

specific organizations can contain multiple or hybrid roles. Especially in this newly emerging approach, actors advocate for inter- and multi-disciplinary involvement and consolidation of partnerships. The private sector is also increasingly involved in FbA, as are experts on climate change adaptation as well as development actors like the World Bank. Importantly, FbA requires not only institutions and organizations that are ready to support the approach and push it forward, but also individual champions in decisive positions.

Major donors are also among those early actors: the German Federal Foreign Office, for example, has increased its commitment to support FbA from €1.8 million in 2014 to €7.5 million in 2019.⁴ In late June 2020, OCHA's Central Emergency Response Fund (CERF) announced the release of \$15 million for anticipatory action in Somalia. In addition, the fund released \$5.2 million in July 2020 for interagency anticipatory actions to address forecasted floods in Bangladesh based on a two-step trigger model designed by the Red Cross Red Crescent.

Scaling FbA is even more complex in situations that are also affected by conflict – as is anticipating the impact of the conflict itself. However, there are a number of reasons why different actors operating in conflict settings should scale up not only their current efforts, but could take a step further by developing FbA to serve the people affected by conflict. First and foremost, conflicts are major drivers of humanitarian crises and must be addressed as such.⁵ Most deaths from disasters occur in conflict areas and fragile states, and funding for responses to these humanitarian needs has been increasing. Despite this growing need, conflict-affected states are often neglected by DRR efforts. To reach a majority of affected populations and save both lives and livelihoods, actors aiming for a more anticipatory humanitarian system should consider applying the principles of FbA to conflict situations. In addition, given their exhausted coping capacities,⁶ people affected by conflict are at a higher risk of being negatively impacted by climate-related disasters, which further fuel humanitarian needs. Furthermore, discussions regarding the triple nexus of humanitarian, development and peacebuilding efforts show that conflicts and episodes of violence can produce substantial setbacks regarding the development of affected impoverished populations. We argue that FbA approaches are an opportunity to intensify much needed collaboration between experts in those fields so as to avoid working in parallel or in silos.

This paper argues that relevant actors do not have to start from scratch. Instead, we describe challenges and critical questions about how to expand FbA to situations of conflict. Against this backdrop, we first present a framework developed on the basis of prior FbA experiences – including its key building blocks – and suggest that it can inform efforts to expand FbA to conflict situations so as to build on existing practices,

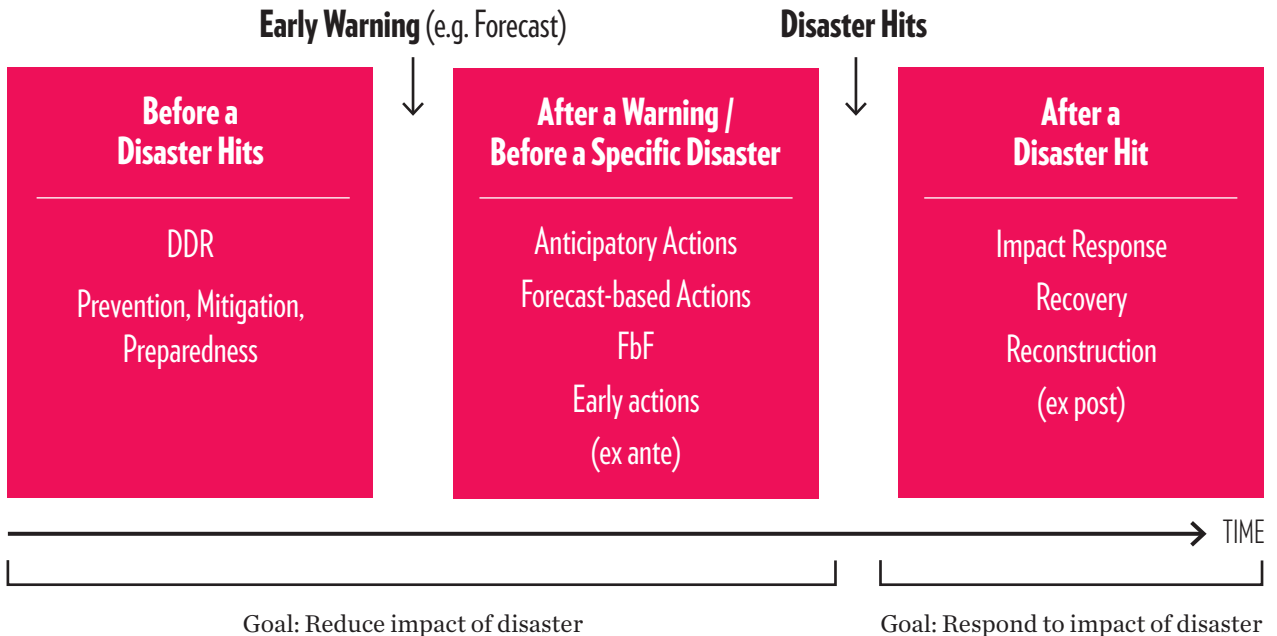
4 See the German government's answer to the brief inquiry of the Liberal Democratic Party in Germany (2020) on their “Forecast-based Financing” (FbF) commitments. FbF is sometimes used interchangeably with the term FbA but often refers specifically to the cooperation between the RCRC movement and the German Federal Foreign Office for designing and financing FbA.

5 More than two thirds of CERF allocations in 2018 went toward emergencies related to conflict and violence.

6 According to the World Bank, by 2030, countries facing fragility, conflict and violence will be home to 46 percent of the world's extreme poor. Poverty amplifies existing vulnerabilities and decreases the possibility that people can cope with a disaster.

knowledge and lessons. Based on this framework, we outline two distinct types for expanding FbA to situations of conflict: (1) through forecasts of hydro-meteorological hazards in conflict contexts, and (2) through forecasts of the conflict itself. We analyze both types using the aforementioned framework and provide examples of existing activities. Mapping out existing approaches, we propose research agendas for both types to encourage much needed conversations on this topic and recommend next steps to move the FbA agenda forward.

Figure 1: Timing of Types of Humanitarian Actions (authors' representation following Pichon, 2019 and Harris and Jaime, 2019)



Key Building Blocks for an FbA Framework

In developing FbA for hydro-meteorological hazards, five building blocks were necessary preconditions for humanitarian actors to effectively utilize FbA, and for FbA to function successfully. These building blocks form a useful framework for analyzing how the advances of FbA in anticipation of hydro-meteorological disasters could be applied to situations of conflict. These include:

- 1. Data/forecasts and decision-making:** availability of verified forecasts; ability to analyze and interpret data and validated models; understanding and decision-making based on risks information; move toward impact-based forecasting and predictive analytics;
- 2. Actions:** selected early actions and early planning; design of “Early Action Protocols” (EAP) and/or contingency plans with pre-agreed actions; understanding of which risks can be reduced and which early actions can improve responses; design and implementation of actions;

- 3. Funding and funding mechanisms:** availability of funding and financial mechanisms that (semi-)automatically trigger the release of funds for early action, including through long-term and stable partnerships with donors; innovative financing strategies; private sector partnerships, etc.;
- 4. Champions:** individual pioneering actors/early adapters in decisive positions and institutions (includes affected communities, donors, implementing actors, national hydro-meteorological services, disaster risk reduction agencies, scientists, coordinating actors, forecasters, and information management experts);
- 5. Delivery channels:** access for humanitarian actors, targeting and social protection systems; enhancement of delivery capacity is part of a longer-term investment in preparedness that is essential for early action.

In the following sections, we apply this framework of key building blocks to FbA in situations of conflict to determine how it can help actors expand FbA to these contexts.

Expanding Forecast-Based Action to Situations of Conflict

If FbA can help save lives and livelihoods when anticipated natural hazards strike in settings that are not affected by violent conflict, how many more people could be saved if FbA was also used to inform humanitarian responses to natural hazards in contexts affected by conflict – or in response to the impacts of conflict itself? This rationale is widely shared among the anticipatory action community.⁷ At the same time, many are hesitant to move forward with expanding FbA to conflict situations because of the political questions with which humanitarian actors are often confronted in these settings: conflict situations come with greater political risk than responses to natural hazards in peaceful environments. To help think through these additional challenges and what they mean for FbA, and to investigate possibilities for addressing them, we propose that it makes sense to examine the options for FbA in conflict situations along at least two different dimensions:

- 1. FbA based on forecasts of hydro-meteorological hazards in conflict situations** (to act early in anticipation of climate-related hazards situations of ongoing conflict); and
- 2. FbA based on forecasts of conflict** (to act early in anticipation of humanitarian impacts of violent conflict).

This basic distinction is determined by the different types of forecast that underpin and trigger early actions: while the first FbA type would aim to respond early to anticipated hydro-meteorological hazards in order to address the anticipated heightened needs of populations who are already affected by conflict, the second FbA type would aim at responding early to the anticipated impact of a forecasted outbreak of violence or deterioration of an ongoing conflict. In the first type, the agreed-upon actions triggered by the forecast would not directly respond to the needs arising from the conflict (e.g., medical needs caused by violence or preparing shelters for displacement triggered by fighting); instead, they would be rooted in the understanding that natural hazard-related disasters usually exacerbate the already heightened risks and needs of populations affected by conflict. Of course, the distinction between the two approaches may not always be clear-cut. In some situations, they may actually overlap or change quickly.⁸

7 This was a topic discussed during the [Humanitarian Networks and Partnerships Week 2020](#) in Geneva.

8 For example, in the case of [FAO in Colombia](#), indigenous host communities already affected by the Colombian conflict and migrant communities affected by the Venezuelan crisis were both on the receiving end of anticipatory action in relation to a hydro-meteorological trigger. However,

Violent conflict is a major driver of humanitarian crises, so both FbA types should be of interest to the humanitarian actors engaged or interested in applying FbA to improve humanitarian action. We expect that the growing interest in FbA in general will bring more actors on board and increase the urge for FbA in conflict contexts. We also hope that it will broaden the conversation about the complexities of and critical questions surrounding the use of FbA to anticipate conflict.

In the next section, we first outline the rationale behind both types in order to clarify the relevance and complexities of expanding FbA to conflict situations, and to embed it in an analysis of specific challenges and opportunities. Second, we take a closer look at the five key building blocks identified above, using the existing practices, knowledge and lessons learned as starting points that actors can draw on when seeking to expand FbA to situations of conflict. Third, we propose research questions to address the remaining knowledge gaps that should be filled. Finally, based on this information, we recommend next steps for moving the FbA agenda forward in an efficient and holistic way.

Table 1: An Overview of Two Types of FbA as Expanded to Situations of Conflict

Examples	Type 1	Type 2
Goal	Anticipate the impact of climate-related disasters in the context of violent conflict	Anticipate emerging or aggravating conflicts and perceive, prevent and reduce the impacts and suffering that emerge from conflict situations
Forecasts/data of ...	Hydro-meteorological and risk data: exposure; vulnerability; impact-based forecast	Indicators of deterioration and/or emergence of conflict and violence
Possible affected populations	Affected populations living in the conflict area; IDPs; refugees; host communities; migrants	Populations likely to become: internally displaced; refugees; host populations; injured by ongoing conflict/new waves of violence
Geographical location of action with regards to conflict setting	In the conflict-affected region itself; locations where IDPs, refugees, host communities, and migrants live	Not necessarily in conflict setting; also in areas where populations at risk are likely to be located due to imminent conflict/violence
Possible types of actions	Cash transfers; fodder for livestock; water purification tablets; materials to secure houses	Pre-positioning of food, medical and other supplies for displaced/injured people; cash transfers; creating safe shelters; establish channels for communication with different affected populations
Actors needed	Humanitarian and development actors working in conflict-affected contexts; peacebuilding actors; government institutions, including hydro-meteorological services, DRR agencies, risk information management experts, donors, etc.	Experts working on conflict prediction and crisis prevention (e.g., researchers); humanitarian and development actors; peacebuilding and peacekeeping actors; donors; key government agencies (when applicable); civil defense, welfare departments, etc.

this trigger was also linked to the influx of migrants arriving in Colombia since early 2018 and even before. This complex case demonstrates elements of both types of FbA in conflict settings. Especially the increasingly strong link between conflict and climate issues will complicate a clear-cut differentiation between the two approaches.

Type One: Forecast-Based Action for Hydro-Meteorological Hazards in Conflict Situations

What Is It?

Type 1 aims at **anticipating the impact of climate-related disasters in the context of violent conflict**. The goal is to act early to support affected people, including those living in the conflict area, IDPs, refugees, and migrants.

Since many conflicts are protracted and affect countries or regions that are also prone to natural hazards, acting ahead of a climate-related disaster represents a humanitarian imperative to save lives and protect affected people's livelihoods. However, while hazards often follow predictable patterns and can be forecasted, the levels of exposure and vulnerability of the affected populations vary.⁹ In the context of conflicts, the effects on exposure might remain the same in some cases, but the vulnerability of affected populations is often considerably higher. As a result, a climate-related hazard can have more dire consequences when coupled with conflict.

One challenge is that the fear of influencing an ongoing conflict through anticipatory actions often deters organizations from moving toward adopting FbA in conflict situations. However, many elements of the proposed framework are not directly influenced by a conflict situation, as we will argue below. In this chapter, we want to show that the potential impact of using hazard forecasts and risk analyses to trigger early actions aimed at reducing the humanitarian consequences of disasters may be even higher in conflict contexts than it is in situations without this additional level of human suffering. Conflict-affected populations are often exposed to and severely impacted by natural hazards; however, they are usually difficult to access and little is known about their perceptions and practices in relation to anticipatory action. Although some efforts have been made to implement early warning systems and, more recently FbA systems, little is known about their effectiveness and, more importantly, about the necessary preconditions for implementing conflict-sensitive anticipatory action systems.

Previous experiences with applying the framework for designing an FbA system in 'normal' times offer a wealth of guidance for actors starting FbA in conflict situations. In principle, the approach is the same in both contexts and based on

⁹ See for example the IPCC risk equation, where "risk" is calculated as a function of hazard, exposure and vulnerability.

similar types of data that trigger the respective early action. However, when applying these anticipatory mechanisms to a conflict setting, relevant actors must consider a host of other, context-specific factors, including: volatile and extreme vulnerability and exposure of conflict-affected populations; the role of other actors (including peacebuilders, armed forces, militias, and warlords); the instable, fragile and dynamic nature of politics, economic activities and infrastructure in these settings, and the volatile environment in general; and ethical, security and protection implications.

Examples that Reflect the Suggested Expansion of FbA

Concern Worldwide in Somalia

When the La Niña phenomenon was predicted in 2016, [Concern Worldwide](#) activated their anticipatory mechanism in Somalia. Affected populations were living in an already-fragile environment due to protracted conflict, political instability and previous disasters. Early actions included cash transfers and providing fodder for livestock to prolong the productivity of milk animals during drought season so as to ensure the nutritional supply of families and particularly children. The trigger system involved a ‘red-flagging approach’ that helped to identify areas most at risk and it combined analyses of climate data, vulnerability factors, disaster impact history, and satellite-based remote sensing data.

FAO in the Philippines

In the Philippines, the Food and Agriculture Organization has implemented “[early actions amidst conflict](#).” More concretely, in February 2018, FAO supported rice farmers in Mindanao, a region regularly hit by climate-induced hazards, who had to leave their land due to violence and displacement. Early actions by FAO allowed the farmers to adapt to the changing circumstances. The actions were triggered by drought indicators and included cash for work and support for alternative livelihoods instead of issuing protection for rice production. In this case, the system was set up in times of peace, but when the actions were triggered, violence and displacement had spiked in the affected area.

The five key building blocks that make effective FbA possible can be used as starting points to analyze the status quo as well as the existing research gaps for both types outlined above.

Filling the Gaps: What We Know and What We Need to Find Out

Data/Forecasts and Decision-Making

A sound understanding of the risks associated with developing an FbA system is essential in any context. However, in situations of conflict, a risk analysis process must also include additional elements, such as an understanding of the very specific vulnerabilities of people affected by conflict. Those groups usually include people living in the conflict zone, IDPs, refugees, and/or migrants. Data regarding mental health, landmines/ unexploded ordnance (UXO), power dynamics, and other conflict-related elements could all prove crucial for effective FbA.

When it comes to forecasting hydro-meteorological hazards, countries affected by conflict do not necessarily have sufficient capacities or the necessary investment

in hydro-meteorological services. A detailed analysis of the respective forecast capabilities, availability, and lead times will therefore be essential. A country’s weather and climate forecasting capacities (and impact-based forecasting in particular) are often partly linked to the government’s political will to invest in national hydro-meteorological services. To avoid dependency, which can be particularly dangerous in conflict-affected contexts, a suitable option might be to use the global forecast products applied in existing FbA systems in combination with available data on vulnerability and exposure. Current research application projects, such as the joint [NASA-International Research Institute project](#) to predict landslide risk ahead of the monsoon season in the Rohingya refugee camps in Bangladesh, are an example how decision-making processes for early action for populations displaced by conflicts can be enhanced. Exploring emerging investments in national hydro-meteorological services and the potential of forecasting in this context could be an asset for future FbA systems.¹⁰

Overall, decision-making processes for early action will depend on determining who is likely to be impacted by an event and under what circumstances. Indeed, considerations about “if” a hazard strikes should thus be accompanied by the questions “when”, “where”, and for “whom” the negative impacts on affected populations are likely to be most severe. For this, critical ethical and security considerations must be taken into account. Several research and application questions deal with the opportunities and limitations of using data for such decision-making process. These questions explore gaps in data access and quality as well as the use of predictive analysis and consensus-based decision-making. The left column of the table below shows aspects that actors can already draw on as they seek to expand FbA to situations of conflict relating to type one. The right column provides more examples of concrete research questions associated with this first key building block in order to further advance the approach.¹¹

What We Know	What We Need to Find Out
Data/Forecasts and Decision-Making	
<p>Building on the existing trigger methodologies and impact-based forecasting guidelines: The <i>FbF Manual 2020</i> and <i>The Future of Forecast: Impact-based Forecasting for Early Action</i> are starting points for building a robust trigger methodology.</p> <p>Weather and climate data/forecasts: If available at the national, regional and/or global level, these could be used as a part of impact-based forecast models.</p>	<p>How can we take the specific vulnerabilities of people affected by conflict (e.g., people living in the conflict zone, IDPs, refugees and/or migrants) into account?</p> <p>How can we make sure that data gathering is gender inclusive?</p> <p>To what extent does conflict affect the capacity of National Hydrological and Meteorological Services (NHMS) to conduct forecasts? Are forecasts verified in countries affected by conflict?</p>

10 For example, the Asia Regional Resilience to a Changing Climate (ARRCC) of the UK Met Office and the World Bank are significantly investing in NHMS capacities, modernization and an early warning system in Afghanistan and Pakistan.

11 The complete table including all five key building blocks can be found in the Annex.

Risk data might be more complex to obtain: In this case, a trigger methodology could still apply. However, massive gaps in data on climate and risk levels may contribute to serious challenges in developing predictive models.

Building on existing open source data bases: Resources such as [OpenStreetMap](#) and information from humanitarian data repositories such as Humanitarian Data Exchange ([HDX](#)) can help actors develop FbA approaches in conflict situations.

What are the available forecasting lead times? Can they be affected by the existing conflict/power dynamics? If so, how?

Is impact-based forecasting feasible in a conflict context? What is the role of innovation in developing impact-based forecasting in this context in order to close any data gaps?

Could publicly available and reliable maps and Geographic Information Systems (GIS) data be used in the context of violent conflict?

What are the ethical considerations of applying predictive analytics and artificial intelligence in this context?

How can we improve the use of Earth Observations to fill data gaps on historical disaster impacts and current observations?

What role can crowdsourcing data play in a conflict setting?

Could FbA triggers be influenced by conflict dynamics? How can this be avoided?

Actions

Early action to protect at-risk populations in conflict settings can be accomplished similarly to FbA in other (non-conflict) contexts. Action planning procedures should include a number of key steps. First, governmental and other institutional contingency plans should be analyzed to identify potential early actions pertaining to FbA that already exist. Second, it is necessary to create clarity about whether an action is intended to fully prevent a crisis – or whether its main objective is to mitigate the anticipated impact. Third, in determining the scale of the intervention, it is essential to consider an action's geographical range as well as the number of potential beneficiaries to verify if organizations can address all forecast needs. Fourth, regarding the practicality of actions, the required skills and thematic knowledge must be kept intact. Fifth, a critical component is the social acceptability of the proposed actions, which means that they should be co-developed with the potentially affected populations and take into account the respective social, cultural and religious context. Sixth, the stakeholders implementing FbA should have the necessary knowledge and logistical, administrative and financial capacity to establish an FbA system. Finally, planning for FbA must include access considerations to verify if the areas and people likely to be impacted can actually be reached in the lead time provided by the forecast.

Social acceptability and access in particular are relevant planning criteria that should be scrutinized when planning the FbA process in a conflict context. Further research is necessary to understand lessons learned from past responses and what extra criteria should be considered when selecting appropriate actions in these challenging contexts.

What Do We Know	What Do We Need to Find Out
Actions	
<p>Follow the same criteria as for FbA in other (non-conflict) contexts: Among others, these include: 1) consistency with government/other institutional contingency plans; 2) prevention/mitigation of impact and preparedness for response; 3) scale of intervention; 4) practicality; 5) social acceptability; 6) capacity to implement; and 7) access considerations.</p> <p>Build on the Theory of Change process that applies to determining actions in non-conflict contexts.</p>	<p>Given the volatility of affected people’s vulnerability and exposure in conflict contexts, how often should Early Action Protocols (EAP) and/or contingency plans be reviewed and updated?</p> <p>How can <i>Do No Harm</i> principles guide the selection process of early actions? What other conflict sensitivity measures should influence the design, planning and implementation processes of early actions?</p> <p>How can humanitarian actors ensure that all parts of the affected population (including the conflict parties) are involved in the planning and implementation processes of early actions?</p> <p>Do implementers, such as the RCRC national societies and national NGOs, actually have the capacity to act early in conflict contexts?</p>

Funding and Funding Mechanisms

The anticipatory financing mechanisms that have been established by humanitarian organizations like IFRC, FAO, the Start Network and, more recently, OCHA’s CERF have the flexibility to support the implementation of FbA for affected populations in conflict settings. At the same time, it is essential to identify and better understand other potential funding sources that could help reduce the expected humanitarian impacts on populations in conflict situations. Given the scale of these needs, the current amount of humanitarian funding – and more specifically of funding for FbA – will likely not be sufficient for effective early action. Therefore, a thorough analysis of how disaster risk financing instruments can play a role in this context is pivotal.

What We Know	What We Need to Find Out
Funding and Funding Mechanisms	
<p>Broaden existing approaches: Anticipatory funding mechanisms are quite flexible and could be used to support affected populations in conflict-settings. These funding mechanisms include: FbA by IFRC’s Disaster Relief Emergency Fund for early action (DREF); the Start Anticipation Window of Start Network; CERF’s anticipatory funding in the rapid response window; and FAO’s Early Action Fund.</p> <p>Humanitarian actors are exploring other disaster risk financing instruments to enable anticipatory action, and there may be opportunities to apply them in conflict settings.</p>	<p>What are the incentives and constraints for donors (including private donors) when it comes to investing in FbA in fragile contexts?</p> <p>What other disaster risk financing instruments could be used for early action in these contexts? What are the risks associated with using these? Which incentives would apply?</p> <p>Should discussions and dialogues about the triple nexus be used to advocate for FbA funding in conflict-affected areas? If so, how?</p>

Are governments of conflict-affected states considering anticipatory financing in their DRF strategies? Why or why not?

How can we ensure long-term/stable partnerships with donors?

What are the limitations and opportunities for climate change-related funding (e.g., through the [Green Climate Fund](#))?

Champions

In addition to the existing champions in the FbA community and other humanitarian and development actors in conflict-affected contexts, it is essential to also integrate peacebuilding and peacekeeping actors in the FbA process – not only for the sake of better risk analysis, but also for the identification and potential implementation of early actions. Therefore, the triple nexus approach could serve as an important avenue in this process: development, humanitarian and peacebuilding actors should join forces to effectively anticipate disasters while also avoiding jeopardizing development gains and peacebuilding efforts.

What Do We Know	What Do We Need to Find Out
Champions	
<p>Build on motivation: Humanitarian actors want to increase their positive impact and help save lives and livelihoods.</p> <p>Utilize the existing coordination mechanisms, such as the Early Action Task Force and partner initiatives like the Risk Informed Early Action Partnership (REAP).</p> <p>Integrate development actors investing in hydro-meteorological services.</p> <p>Leverage ambitions regarding the triple nexus.</p>	<p>How can we integrate the risk perceptions of those affected by conflicts to set up conflict-sensitive FbA systems?</p> <p>Can researchers find support to analyze early action in conflict-affected contexts?</p> <p>What is the role of humanitarian agencies with unique access to areas of intense conflict, such as the ICRC?</p> <p>In what ways can the triple nexus approach enable early action? What is the role of joint civil-military operations for early action?</p>

Delivery Channels

As in non-conflict FbA contexts, actors should identify the most appropriate targeting and delivery channels for utilizing the often short lead times so they can swiftly and effectively reach affected populations. In conflict contexts, social protection systems (if existing) could play a key role, which means more research is needed to identify their applicability. As a part of this process, it is essential to partner with actors who have access to isolated communities or places that are otherwise difficult to reach due to their geographical location or the specific conflict dynamics. In some cases, military

forces and organizations such as the ICRC and Médecins Sans Frontières might play a key role based on their potential access to information and areas at risk. Access in relation to the power dynamics between armed forces, militias and/or warlords is another critical factor to be considered, in case these factors limit humanitarian actors' capacity to reach at-risk populations.

What Do We Know	What Do We Need to Find Out
Delivery Channels	
<p>Use existing experiences in working with social protection systems.</p> <p>Draw on the experiences of DRR and post-disaster aid delivery for natural hazards in conflict areas and for conflict-affected populations: NGOs <u>tend to</u> stay in regions where they are already active (for example through poverty reduction efforts) and are largely aware of the needs of the populations.</p>	<p>Are there ways to implement FbA in areas where access may be controlled by armed forces, militias, warlords, or other armed actors? In the face of difficult access and insecurity conditions, what are potential alternatives for delivering early action?</p> <p>Could humanitarian organizations pre-negotiate access in the case of severe forecasts? How should the humanitarian principles be applied in such cases?</p> <p>How can lessons from delivering DRR in conflict settings facilitate the efficient application of FbA in these contexts?</p>

Type Two: Forecast-Based Action for Humanitarian Impacts of Conflict

What Is It?

Type 2 focuses on **FbA based on and triggered by forecasts of conflict**. FbA for responses to humanitarian needs caused by violent conflicts would aim to anticipate emerging or aggravating conflicts and to perceive, prevent and reduce the impacts and suffering that emerge from conflict situations.

Since conflict and violence are the main drivers behind globally escalating humanitarian needs, applying FbA to conflict situations could present an invaluable opportunity for saving more lives. However, applying anticipatory action to situations of conflict poses unique challenges, for two main reasons: First, the multi-dimensional nature of conflict prediction makes it difficult to forecast where conflict will emerge. Second, building on existing conflict prevention methods is challenging, as FbA does not have the same immediate goal as ‘traditional’ conflict prevention. For example, FbA in anticipation of hydro-meteorological disasters aims at mitigating the *impact* of a disaster (such as a flood), not the natural hazard itself. In contrast, ‘traditional’ conflict prevention measures focus on addressing or at least mitigating the root cause of human suffering itself. To address its main target, this second type of FbA should thus focus on anticipating the conflict and reducing its humanitarian impacts.

Conflict does not only cause suffering and subsequent needs in the conflict-affected area, but has a reverberating effect on the surrounding areas, as seen with forced migration due to conflict. Conflict predictions can be the basis for anticipatory actions aimed at mitigating the impact on those affected by violence and displacement. These affected populations can include migrants, IDPs or refugees fleeing from a conflict as well as their host populations. For example, actions to swiftly address the needs of displaced populations at their new location and in their host communities can be prepared even before the displacement takes place.

Researchers have been studying conflict prediction since the 1950s, but there have been many uphill battles. On a scientific level, the evidence used to predict violent conflict is often less concrete than for extreme weather events. In addition, humanitarian principles such as political neutrality and ethical considerations are more contested in cases of conflict prediction. The most frequent concern surrounding further action is that the immediate response to predicted conflict could be (too) political and thus counterproductive to humanitarian goals. This is why discussions about anticipating conflict not only address the sheer technical challenge of gathering and analyzing the large quantities of data necessary to accurately trigger anticipatory

systems – they also grapple with the political implications of a decision-making system based on conflict predictions.¹² In other words, some humanitarians fear that even if forecasts deliver reliable data, subsequent humanitarian actions could jeopardize core humanitarian principles such as neutrality or – even worse – actively fuel the conflict.

Existing information management systems, tools and approaches for predicting conflict and its impacts may be a useful starting point for FbA in conflict contexts, as long as the forecast data used to trigger the action is transparent. This concept is already being explored by some actors, presented below.

Examples that Reflect the Suggested Expansion of FbA

Start Network Kenya

In early 2017, the Start Network’s members in Kenya launched an anticipation alert for the potential surge of violence they anticipated as a result of the contested presidential elections. Instead of basing its decisions on previously agreed-upon triggers, the Start Fund uses judgements by experts from member organizations present in the respective project countries. In Kenya, Start used World Vision’s GECARR (“Good Enough Context Analysis for Rapid Response”) tool to define potential scenarios and recommendations for Start Network members. One of three scenarios identified through GECARR actually occurred and the anticipated impacts were addressed early. Drawing on the results of these scenarios, Start agencies submitted the anticipation alert with a geographic focus, and the Start Fund allocated £300,000 for the implementation of early actions. Such anticipatory actions, chosen by a local project selection committee, included peacebuilding activities combined with food distributions and the pre-positioning of key supplies.

In all stages of the alert cycle, flexibility was integral to supporting effective anticipatory activities. A subsequent case study found that the flexibility of Start members to receive funding early as well as implementing partners’ ability to regularly “update their analysis, and incorporate additional elements for their elections-related institutional security and contingency plans” enhanced the overall response. For example, in the most “explosive counties” where pre-election tensions had been particularly high, implementing partners were able to organize food distributions and peacebuilding activities, such as promoting messages of peace through local radio stations. At the same time, some of the funding was actually returned to the Start Fund since some of the anticipated violence did not come to pass. Most of the early actions built on existing humanitarian structures, such as OCHA convening and facilitating election preparedness work through preparedness election hubs.

In 2019, the Start Network’s anticipation project in Nigeria was set up following the predictions of electoral violence based on historical precedence and a GECARR completed by Start Network members. Activities included sensitizing communities apriidmorein the run-up to the election. Luckily, in this case, the predicted violence did not occur. While it is impossible to retrospectively trace all the direct and indirect factors affecting the degree of political violence, the Start Network concluded that the anticipatory activities were organized in the right communities.

12 For definitions of “forecast” and “prediction”, see [Hegre et al., 2017, 114](#). The terminology is not always used consistently. This study bases its definition on Hegre, Metternich and Nygård (2017, 114) who define forecasts as “predictions about unrealized outcomes given model estimates from realized data.”

Filling the Gaps: What We Know and What We Need to Find Out

Data/Forecasts and Decision-Making

Different sectors already widely use early warning systems to gather and analyze data on possible outbreaks or deteriorations of conflicts. In addition, conflict forecasting is a much-discussed topic in a variety of research areas, above all in peace and conflict studies.¹³ While humanitarian actors have always operated in situations of conflict, their responses have been based on actual events rather than forecasts. To effectively integrate conflict forecasts in anticipatory action, the humanitarian sector could learn from and collaborate with actors working to improve different conflict forecasting methods.

Existing early action methods draw on both quantitative and qualitative information. To forecast a conflict, both data on past events and estimates about the future is needed. Research institutions that provide forecasts on peace, conflict and violence include the Peace Research Institute Oslo (PRIO) and the Uppsala University's Department of Peace and Conflict Research, both of which focus on purely quantitative datasets. However, data is not always available and academic timeframes do not necessarily line up with the short lead times that are so common in the humanitarian system. Another example for the use of forecasting methods in conflict-affected contexts is the approach of "predictive peacekeeping", which uses data analyses to forecast the locations and timing of outbreaks of armed violence as well as to trigger early action by peacekeeping operations to mitigate the anticipated threats. The triangulation of information from internal humanitarian experts, individuals at the country and community levels (for example, through crowdsourcing information¹⁴) and local information from people in conflict-affected areas, has advanced in recent years to support monitoring and, when and where possible, short-term predictions of conflict or escalations of violence.

In the humanitarian sector, FAO, WFP, UNHCR, and the Start Network are all attempting to use FbA to get ahead of situations of conflict. Nevertheless, there is no common system to foster cooperation between these different approaches within the humanitarian sector or with other actors. Many donor governments rely on their own intelligence systems – and are left to their own devices when it comes to questions pertaining to the (non-)disclosure of sources as well as the underlying data and analyses. Still, the proliferation of systems and use of databases is staggering. At the same time, the growing willingness to use predictive analytics necessitates ethical considerations. Some examples that could inform efforts to expand FbA to incorporate conflict forecasts are presented below.

13 See for example: [Bressan et al., 2019](#); [Clauset & Wiegel, 2010](#); [Clauset, 2019](#); and [Hegre et al., 2017](#).

14 The [USHAHIDI](#) initiative, developed to monitor the escalation of potential electoral violence in Kenya in 2008, is a platform that uses crowdsourcing technology and helps organizations better collect, manage, visualize, and respond to data across various communication channels. Such information could be used for predictive analytics models that form the basis of prediction tools.

Research Institutions

ViEWS

The Violence Early-Warning System (ViEWS) is an open-source project [run by](#) Uppsala University's Department of Peace and Conflict Research. According to the [project's website](#), ViEWS provides early warnings for different forms of political violence through a rigorous, data-focused system that is publicly available to researchers and the international community. It uses a multidimensional approach, including specific statistical/machine learning methods, as well as other variables such as protest events, election dates, and predictors such as droughts or expected economic growth rates. The system predicts the probability of political violence on a national and subnational level three years into the future, and for three types of organized violence: state-based conflict; non-state conflict; and one-sided violence. For now, ViEWS mainly concentrates on African countries, with all models trained with data from African contexts.

Harvard Humanitarian Initiative

By analyzing high-resolution satellite imagery, the Harvard Humanitarian Initiative, supported by the Satellite Sentinel Project (SSP), [monitored border regions](#) of Sudan and South Sudan from 2010 to 2011 to detect security threats to civilians. The academic and research center was searching for signs of the amassing of troops and their movements, as well as any potential attacks on residential buildings. However, given that there was no agreed-upon framework of action, the researchers considered the risk of potentially influencing and advantaging armed actors through releasing the images as too high. The Harvard Humanitarian Initiative then launched the [Signal Program](#) in 2012 to monitor the human security of civilians during armed conflict through satellite imagery.

Governmental Bodies

PREVIEW

In early 2017, the [German Federal Foreign Office](#) launched PREVIEW, a tool that uses a dataset to analyze and visualize the political, economic and social situation in areas affected by conflict and violence. In 2020, it was officially [put into action](#). The project page emphasizes that PREVIEW does not aim to predict the future, but rather to generate an indicator-based prognosis to simplify decision-making processes. PREVIEW's dataset is based on publicly available data and is used, for example, to visualize current conflict situations in order to engage with decision-makers who may be working on early actions.

CEWARN

The Conflict Early Warning and Response Mechanism ([CEWARN](#)) was set up in 2002 by the Intergovernmental Authority on Development (IGAD), a regional organization with seven member states in the Horn of Africa. Its main objective is to prevent conflict in the member states. CEWARN focuses on sharing information regarding potentially violent conflicts in the IGAD region (by providing analyses building on regional, national and local data) as well as on timely dissemination of information (such as case scenarios and response options) to its member states. According to IGAD, a significant reduction in violent conflict can be attributed to this mechanism, particularly along the Kenya-Uganda and the Ethiopia-Kenya-Somalia borders.

International Organizations and NGOs

Start Fund (Start Network)

The Start Fund bases its funding decisions on data provided by local actors. Since 2017, seven anticipatory alerts for likely incidents of violence, conflict or displacement have led to early actions. These included displacement in Iraq, electoral violence in Nigeria, and forced refugee returns in Pakistan and Afghanistan, in addition to the Kenyan example described above. In each case, and in accordance with the Fund's principle, a member NGO's country office raised an alert, which was then examined by the Start Network's FOREWARN group. Thus, there is no common data pool that triggers actions, but rather a network of NGOs and partners on the ground who use their own methods and local expertise to anticipate crises. The actions following the approval of a funding allocation are not pre-defined but developed and suggested by the member organizations and decided upon by the Start Fund Committee. For example, as part of their data, the Start Network has started to use the [Global Chaos Map](#), which provides support through "data extraction and mapping tools that match natural resource security issues with violent social unrest events."

UNHCR

Knowing that forced displacement will likely become more common due to climate change, and assuming a link to situations of conflict, the UN Refugee Agency (UNHCR) has an interesting approach that utilizes big data. [According to the UNHCR Innovation Service](#), meteorological data and factors like food insecurity and violent conflict can be used to predict population movements. In 2017, UNHCR launched *Jetson*, a predictive analytics platform that uses supervised machine learning and trained models with an [open data handbook](#) to predict displacement and population movements. UNHCR receives the data for this platform from the organizations' country offices as well as meteorological institutions. Agreeing on and using these predictive factors may enable the organization to take action earlier. However, Jetson is still considered an “[on-going experiment](#).”

More Examples

Other examples for conflict forecasting systems include One Earth Future (OEF), a program that publishes [monthly forecasts](#) regarding military coups, as well as [ACLED](#), [ACAPS](#), [ICG](#), and the US Holocaust Memorial Museum, which has its own [Early Warning Project](#) that predicts the likelihood of mass atrocities.

One critical challenge for FbA in conflict contexts is that the interpretation of data as well as decision-making tools can be easily questioned and dismissed as either subjective or politically motivated. This holds true for tools using qualitative *and* quantitative data. To really support effective humanitarian action, predictions that trigger early actions must not only be scientifically valid, but also accepted by relevant stakeholders and key actors in the anticipated conflicts, including local governments and/or militias. In addition, the variety of approaches that trigger anticipatory action could present a major obstacle for coordination and cooperation in applying FbA to conflict contexts. The examples of decision-making using data collection and specific tools presented above underline the gap between early warning and early action: while the available information on decision-making is tremendous, it can be overwhelming and may even block actors from taking a step forward. The table below gives an overview of the findings presented above as well as a proposed research agenda.

What Do We Know	What Do We Need to Find Out
Data/Forecasts and Decision-Making	
Build on existing approaches: Prediction/forecasting of conflicts is a widely discussed topic in different research areas . Well-known trigger events, which include elections, currency changes, food insecurity, status changes for key actors (e.g., arrests, assassinations), military coups, capital flights, rapid changes in unemployment rates, etc., may help anticipate a conflict (Pichon, 2019 ; Start Fund, 2018).	How can we find data on: Who is most likely to be impacted by a conflict? Where do most people exposed to the conflict live? What are their particular vulnerabilities? How accurate are conflict forecasts?

<p>Build on data used by existing projects: Examples of relevant projects to examine include: the Start Fund (Anticipation Window, FOREWARN, using The Global Chaos Map); UNHCR (Jetson), PREVIEW (German Federal Foreign Office); ViEWS; CEWARN; the US Holocaust Memorial Museum (Early Warning Project); ACLED; ACAPS; and the International Crisis Group.</p>	<p>How well can various sources predict different types of conflict in specific situations?</p>
<p>Use crowdsourced information: To support monitoring and, if possible, the short-term prediction of conflict or an escalation of violence (e.g., the USHAHIDI initiative), make use of open-source information from various organizations.</p>	<p>How can we make sure that predictions are valid and accepted by the relevant stakeholders and key actors in anticipated conflicts, including local governments and/or militias?</p>
	<p>What is the lead time offered by the different conflict forecast services described above?</p>
	<p>How can historical data help feed into data systems that are currently developed? Are there information management platforms that allow for a greater understanding of risks factors?</p>
	<p>How could risk analytics from the private sector be employed to anticipate conflict?</p>

Actions

Early warning-based responses to conflict and the resulting anticipated needs cannot follow a one-size-fits-all approach. However, the overarching process of determining early actions to prevent, mitigate and prepare for conflict is comparable to that of acting ahead of anticipated climate-related hazards. Thus, actors can build on these existing selection processes.

A starting point should be to understand the potential risks faced by a population if there is a conflict. For example, forced displacement could be leading to mass migration, specific threats for segments of the population, destruction of livelihoods, and sexual and gender-based violence. A clear understanding of a conflict’s potential impacts on populations will allow for a selection of early actions that address those concerns. At the same time, the capacity of different actors and the community to implement those actions must be taken into consideration.

According to Pichon (2019), early actions in the face of anticipated conflicts may include pre-positioning supplies to cover the basic needs of displaced people, preparing cash transfers and vouchers for IDPs, creating safe spaces, or establishing preventive diplomacy and mediation channels that can be activated in cases of political crises and electoral violence. Further, humanitarian principles like *Do No Harm* must be specifically followed and systematically implemented in situations of conflict. Existing criteria for selecting anticipatory actions are presented in the table below. Depending on the circumstances surrounding a conflict, the early action planning process must clearly state how (unintended) negative consequences of or a deterioration of the situation as a result of anticipatory actions can be prevented. In other words, early actions must be conflict-sensitive and designed so that they do not aggravate existing tensions.

Further research should concentrate on how the existing FbA selection processes can be applied to the anticipation of conflict. While the procedures and criteria for choosing certain actions over others might remain the same, more information is needed on how to follow a Do No Harm approach and avoid a deterioration of the situation. Possible research questions that can guide such investigation are presented

in the right column.

What Do We Know	What Do We Need to Find Out
Actions	
<p>Some precedents for early actions already exist in the humanitarian system, but none of these qualify as FbA. A starting point should be to understand the risks faced by a population should a conflict arise (including possible violence).</p> <p>Some or all of the existing criteria to select early actions could be applied to FbA in conflict contexts. Among others, these include: 1) consistency with government/other institutional contingency plans; 2) prevention/mitigation of impact and preparedness of response; 3) scale of intervention; 4) practicality; 5) social acceptability; 6) capacity to implement; 7) access considerations.</p>	<p>How can existing frameworks for selecting FbA in climate-related hazards be applied to early actions in conflict contexts?</p> <p>Which actions are feasible in a complex context of violent conflict?</p> <p>How should one develop Early Action Protocols (EAP) and/or contingency plans for conflict-related humanitarian crises? Considering the volatility and exposure of conflict contexts, how often should early action processes be reviewed and updated?</p> <p>Does the timing of the implementation of actions align with the lead time provided by the underlying conflict forecasts?</p> <p>How can we ensure that early actions do not further fuel conflicts?</p> <p>What Do No Harm considerations must be in place and how can they be evaluated?</p> <p>How can implementing actors deal with skepticism or even push back regarding early actions?</p>

Funding and Funding Mechanisms

As the [Global Humanitarian Assistance Report 2019](#) stated, many disaster risk financing tools, particularly insurance, have focused on climate-related disasters. Risk financing for conflict and situations which can lead to displacement has remained limited. Nevertheless, according to the report, more actors are starting to include conflict-related issues into their humanitarian agendas. Some financing mechanism for actions addressing anticipated conflict impacts already exist or are currently being discussed, such as the Start Fund’s Crisis Anticipation Window or the IFRC’s Disaster Relief Emergency Fund (DREF). While the recent, pre-agreed funding through CERF’s rapid response funding window for anticipatory action allows for the anticipation of crises such as epidemics or droughts, the organization does not yet fund early action in relation to conflict impacts. On the side of governmental donors, the German Federal Foreign Office, one of the main FbA donors, has indicated interest in exploring FbA for conflict situations. Especially for forecast-based actions that cover anticipated displacement, dataset could be linked to existing triggers, funding and action across various FbA systems. For example, the German government could explore the

applicability of their PREVIEW tool to the humanitarian sector’s FbA approach to analyze the political, economic and social situations in areas affected by conflict.

The private sector can also play a crucial role in funding projects, for example through insurances, other risk financing instruments and innovative financing mechanisms. However, the role of private businesses has yet to be explored at scale, even for FbA in contexts without conflict. This also comes with its own set of trade-offs, and discussions will need to include ethical questions about possible partnerships. Other aspects that require research include the adaptability of existing financing mechanisms and intersectional collaboration with regard to funding access. More specific research questions are provided in the table below.

What Do We Know	What Do We Need to Find Out
Funding and Funding Mechanisms	
<p>Build on existing partnerships and funding mechanisms, such as the Start Fund’s Crisis Anticipation Window.</p>	<p>Could existing Disaster Risk Financing (DRF) tools be used based on predictive analytics mechanisms to anticipate conflict? If so, how?</p> <p>How can coordinating bodies create long-term/stable partnerships with donors? How can funding for flexible log frames be ensured in volatile conflict situations?</p> <p>How can implementing actors help empower local partners (i.e., through preparedness funds)?</p> <p>Should discussions concerning the triple nexus be leveraged to advocate for funding to anticipate conflict (e.g., to access more funding possibilities like DRF tools)? If so, how?</p> <p>How can donor countries deal with skepticism or even push-back concerning their funding?</p>

Champions

While various actors are showing interest in advancing the discourse on FbA and applying concrete actions to anticipating conflicts, there are still not enough committed individuals in decision-making and other positions of power to “champion” FbA for conflict contexts. Although there is still a long way to go before actors can apply FbA systems to effectively anticipate conflict, the political will is growing – including among major donors such as the German Federal Foreign Office, DFID and the World Bank. For example, the German Federal Foreign Office has shown interest in broadening the scope of hazards and crises addressed through FbA. The Start Fund is also funding FbA in situations of conflict (Start Fund, 2018; see above). The Early Action Focus Task Force (OCHA, IFRC, FAO, WFP, and the Start Network) continues to explore possibilities for future anticipatory action for responding to conflict impacts, particularly for situations of displacement. In addition, the ICRC has long been playing a crucial role in conflict prevention. Among other aspects, the ICRC’s mandate encourages and assists communities in developing and adopting early warning systems and contingency plans.

FbA in situations of conflict might also provide an opportunity for the triple nexus approach to bring together humanitarian, development and peacebuilding actors. New collaborations across organizations will be necessary in order to expand the FbA agenda. This requires research into the various roles of actors in these sectors and how the neutrality and safety of humanitarian actors can be ensured without jeopardizing the lives of affected people.

What Do We Know	What Do We Need to Find Out
Champions	
<p>Actions can largely be implemented by the same actors responsible for other types of FbA.</p>	<p>Would the neutral role of humanitarian actors be jeopardized by their engagement in the prediction of conflicts? What specific strategies should humanitarians adopt to avoid bias while still supporting communities likely to be impacted by conflict?</p> <p>How can we integrate the work of peacekeeping and peacebuilding actors as well as conflict analysts into the FbA process (including the analysis and development of contingency plans)?</p> <p>Who are the most important stakeholders and how can they cooperate efficiently and build on each other's comparative advantages?</p> <p>What is the role that private sector companies of all sizes can play in better anticipating conflict?</p>

Delivery Channels

Functioning delivery channels that allow access to conflict-affected populations are crucial and must be assessed and secured prior to a conflict outbreak. Since forecast-based actions in conflict situations do not necessarily take place in the conflict setting itself (for example, in the case of displacement), delivery channels should be assessed using the same methods as for existing FbA approaches. This should include actively engaging with as well as supporting and seeking the acceptance of local communities in building supply chains and ensuring safe delivery of aid to affected populations. Humanitarian actors should consider how the potential socio-political volatility of conflict situations may influence or restrict access and delivery channels, and plan for possible alternatives. In collaborating with other actors in the affected areas, they may reduce potential overlap in the respective areas of work. Where these exist, actors should consider making use of social protection systems and local conflict risk management processes.

What Do We Know	What Do We Need to Find Out
Delivery Channels	
<p>Delivery channels should be assessed using the same criteria that are applied in existing FbA approaches. The functioning of these channels depends on a variety of factors, including the geographical distance from a potential conflict setting.</p>	<p>How can actors prepare for access difficulties, especially in situations where socio-political volatility and changing dynamics can stifle access (e.g., in the form of access restrictions imposed by conflict parties)?</p> <p>Could existing social protection systems be used as delivery channels?</p> <p>Could community engagement in conflict risk management processes be used to reach affected people?</p>

Next Steps

Expanding FbA to conflict contexts has the potential to greatly enhance the efforts of humanitarian actors to save lives and livelihoods in acting early where impacts are most devastating. FbA is on the rise to make humanitarian action more effective in acting ahead of crises. As an anticipatory approach, FbA has already shown promise in a number of instances, including some projects focusing on conflict situations. Some actors engaged in anticipatory action have shown interest in expanding the scope of FbA to include situations of conflict, which could help save more lives and protect the livelihoods of conflict-affected populations whose vulnerability and exposure to risk and harm are especially severe. However, initial advances in FbA for conflict settings have largely stalled, in part because of a fear that the humanitarian reaction to predicted conflicts could be seen as (too) political or even run contrary to the core principles of humanitarian action. To break the deadlock, we found it useful to unpack these challenges and work through the FbA concept in more manageable portions. Based on our exploration, the following steps can help guide the FbA agenda forward.

First, the **framework of five key building blocks** that are based on experiences with existing FbA projects could enable humanitarian actors to approach specific early action methods and a larger analysis in a more tailored way. These building blocks are: data/forecasts and decision-making; actions; funding and funding mechanisms; actors; and delivery channels.

Second, by **differentiating between two new types of Forecast-based Action**, discussions about FbA in situations of conflict can be approached with greater precision. Type 1, FbA based on forecasts of hydro-meteorological hazards in conflict situations, aims at acting early in anticipation of climate-related hazards in situations of ongoing conflict. This type refers to the growing need to create systems that allow for the use of forecasts and risk analyses for climate-related hazards in order to protect populations already affected by conflict. Type 2, FbA based on forecasts of conflict, aims at acting early in anticipation humanitarian impacts of violent conflict. This second type depends on the capacity of different actors to predict conflict and to act early to prevent or minimize its anticipated impacts).

For both types of FbA, actors should **draw on existing knowledge and methods by applying the framework suggested in this paper** and allowing for more research. This paper suggests concrete research and application questions based on the FbA processes that already exist. Expanding FbA to situations of conflict would not mean starting from scratch, but moving forward will not be easy considering that there are several key building blocks. The development of existing FbA systems for hydro-meteorological hazards was a process that spanned several years. Even though the development of similar processes in the context of conflict can build on these theories and efforts, crafting a robust forecasting system for conflict situations will take additional work and time investments. We argue that the amount of available data and analyses as well as the growing number of committed champions could be harnessed to expand FbA to situations of conflict to reduce potential harm. As with any kind of FbA, this cannot be a stand-alone solution, but should be integrated in the overall disaster

risk management continuum, including disaster risk reduction, anticipatory action and disaster response. To do so, we recommend investing more resources into researching the questions outlined in the previous chapter and summarized in the Annex.

Donors should invest in researching how to connect various stakeholders from different sectors. As a first step, existing funding mechanisms should encourage flexibility for implementing partners to set up systems that enable actions based on hydro-meteorological forecasts in conflict-affected areas. Coordinating bodies and donors could collaborate to explore possibilities for joint funding for humanitarian, development, peace and environmental actors to collectively contribute to the development and/or enhancement of decision-making tools for conflict prediction.

Implementers must ensure that FbA in conflict settings is conflict-sensitive and reflect the principles of *Do No Harm*. Further, they should prioritize transparent communication of early action protocols and/or contingency plans. As learned from FbA for hydro-meteorological hazards, the participation of the community and local experts in the creation of the FbA systems in conflict situations is essential to ensure the actions are accepted and valued by the affected populations. In addition, involving local communities not only guarantees that actions follow the *Do No Harm* principle, but also ensures that FbA actively address people’s most pressing needs and potential disaster impacts.

Coordinating bodies should incentivize the piloting of FbA application in countries affected by conflict. In doing so, they should also conduct in-depth analyses on the amount of funding that is necessary for the launch of both FbA types, and to determine their feasibility. These bodies can use the triple nexus as an opportunity to bring together humanitarian, development and peacebuilding actors to exchange methods, approaches and lessons learned from existing FbA. For example, in the German Federal Foreign Office, desk officers from the humanitarian unit, the crisis prevention unit and the different country desks could come together to enhance their collaboration and information sharing on early action. Each of these actors has a comparative advantage in all of the key building blocks, which is linked to their prior experiences, specific skills and roles.

Researchers and forecasters should develop multi-disciplinary research on FbA in conflict contexts. To do so, they should use triangulated and mix methods, such as forecasting and foresight methods or quantitative or qualitative methods from local and international researchers. Further, to develop a joint knowledge base on FbA in situations of conflict, forecasters should seek to establish partnerships with implementing actors in different sectors. And, above all, they must ensure that their research is always in line with the humanitarian principles.

Annex

Type One: Forecast-Based Action for Hydro-Meteorological Hazards in Conflict Situations

What Do We Know	What Do We Need to Find Out
Data/Forecasts and Decision-Making	
<p>Building on the existing trigger methodologies and impact-based forecasting guidelines: The FbF Manual 2020 and The Future of Forecast: Impact-based Forecasting for Early Action are starting points for building a robust trigger methodology.</p> <p>Weather and climate data/forecasts: If available at the national, regional and/or global level, these could be used as a part of impact-based forecast models.</p> <p>Risk data might be more complex to obtain: In this case, a trigger methodology could still apply. However, massive gaps in data on climate and risk levels may contribute to serious challenges in developing predictive models.</p> <p>Building on existing open source data bases: Resources such as OpenStreetMap and information from humanitarian data repositories such as Humanitarian Data Exchange (HDX) can help actors develop FbA approaches in conflict situations.</p>	<p>How can we take the specific vulnerabilities of people affected by conflict (e.g., people living in the conflict zone, IDPs, refugees and/or migrants) into account? How can we make sure that data gathering is gender inclusive?</p> <p>To what extent does conflict affect the capacity of National Hydrological and Meteorological Services (NHMS) to conduct forecasts? Are forecasts verified in countries affected by conflict?</p> <p>What are the available forecasting lead times? Can they be affected by the existing conflict/power dynamics? If so, how?</p> <p>Is impact-based forecasting feasible in a conflict context? What is the role of innovation in developing impact-based forecasting in this context in order to close any data gaps?</p> <p>Could publicly available and reliable maps and Geographic Information Systems (GIS) data be used in the context of violent conflict?</p> <p>What are the ethical considerations of applying predictive analytics and artificial intelligence in this context?</p> <p>How can we improve the use of Earth Observations to fill data gaps on historical disaster impacts and current observations?</p> <p>What role can crowdsourcing data play in a conflict setting?</p> <p>Could FbA triggers be influenced by conflict dynamics? How can this be avoided?</p>

Actions

Follow the same criteria as for FbA in other (non-conflict) contexts: Among others, these include: 1) consistency with government/other institutional contingency plans; 2) prevention/mitigation of impact and preparedness for response; 3) scale of intervention; 4) practicality; 5) social acceptability; 6) capacity to implement; and 7) access considerations.

Build on the Theory of Change process that applies to determining actions in non-conflict contexts.

Given the volatility of affected people's vulnerability and exposure in conflict contexts, how often should Early Action Protocols (EAP) and/or contingency plans be reviewed and updated?

How can *Do No Harm* principles guide the selection process of early actions?

What other conflict sensitivity measures should influence the design, planning and implementation processes of early actions?

How can humanitarian actors ensure that all parts of the affected population (including the conflict parties) are involved in the planning and implementation processes of early actions?

Do implementers, such as the RCRC national societies and national NGOs, actually have the capacity to act early in conflict contexts?

Funding and Funding Mechanisms

Broaden existing approaches: Anticipatory funding mechanisms are quite flexible and could be used to support affected populations in conflict-settings. These funding mechanisms include: FbA by IFRC's Disaster Relief Emergency Fund for early action (DREF); the Start Anticipation Window of Start Network; CERF's anticipatory funding in the rapid response window; and FAO's Early Action Fund.

Humanitarian actors are exploring other disaster risk financing instruments to enable anticipatory action, and there may be opportunities to apply them in conflict settings.

What are the incentives and constraints for donors (including private donors) when it comes to investing in FbA in fragile contexts?

What other disaster risk financing instruments could be used for early action in these contexts? What are the risks associated with using these? Which incentives would apply?

Should discussions and dialogues about the triple nexus be used to advocate for FbA funding in conflict-affected areas? If so, how?

Are governments of conflict-affected states considering anticipatory financing in their DRF strategies? Why or why not?

How can we ensure long-term/stable partnerships with donors?

What are the limitations and opportunities for climate change-related funding (e.g., through the [Green Climate Fund](#))?

Champions

Build on motivation: Humanitarian actors want to increase their positive impact and help save lives and livelihoods.

Utilize the existing coordination mechanisms, such as the Early Action Task Force and partner initiatives like the Risk Informed Early Action Partnership (REAP).

Integrate development actors investing in hydro-meteorological services.

How can we integrate the risk perceptions of those affected by conflicts to set up conflict-sensitive FbA systems?

Can researchers find support to analyze early action in conflict-affected contexts?

What is the role of humanitarian agencies with unique access to areas of intense conflict, such as the ICRC?

Leverage ambitions regarding the triple nexus.	In what ways can the triple nexus approach enable early action? What is the role of joint civil-military operations for early action?
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Delivery Channels

<p>Use existing experiences in working with social protection systems.</p> <p>Draw on the experiences of DRR and post-disaster aid delivery for natural hazards in conflict areas and for conflict-affected populations: NGOs tend to stay in regions where they are already active (for example through poverty reduction efforts) and are largely aware of the needs of the populations.</p>	<p>Are there ways to implement FbA in areas where access may be controlled by armed forces, militias, warlords, or other armed actors? In the face of difficult access and insecurity conditions, what are potential alternatives for delivering early action?</p> <p>Could humanitarian organizations pre-negotiate access in the case of severe forecasts? How should the humanitarian principles be applied in such cases?</p> <p>How can lessons from delivering DRR in conflict settings facilitate the efficient application of FbA in these contexts?</p>
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Type Two: Forecast-Based Action for Humanitarian Impacts of Conflict

What Do We Know	What Do We Need to Find Out
Data/Forecasts and Decision-Making	
<p>Build on existing approaches: Prediction/forecasting of conflicts is a widely discussed topic in <u>different research areas</u>. Well-known trigger events, which include elections, currency changes, food insecurity, status changes for key actors (e.g., arrests, assassinations), military coups, capital flights, rapid changes in unemployment rates, etc., may help anticipate a conflict (<u>Pichon, 2019; Start Fund, 2018</u>).</p> <p>Build on data used by existing projects: Examples of relevant projects to examine include: the Start Fund (<u>Anticipation Window</u>, <u>FOREWARN</u>, using <u>The Global Chaos Map</u>); UNHCR (<u>Jetson</u>), <u>PREVIEW</u> (German Federal Foreign Office); <u>ViEWS</u>; <u>CEWARN</u>; the US Holocaust Memorial Museum (<u>Early Warning Project</u>); <u>ACLEd</u>; <u>ACAPS</u>; and the <u>International Crisis Group</u>.</p> <p>Use crowdsourced information: To support monitoring and, if possible, the short-term prediction of conflict or an escalation of violence (e.g., the <u>USHAHIDI</u> initiative), make use of open-source information from various organizations.</p>	<p>How can we find data on: Who is most likely to be impacted by a conflict? Where do most people exposed to the conflict live? What are their particular vulnerabilities?</p> <p>How accurate are conflict forecasts?</p> <p>How well can various sources predict different types of conflict in specific situations?</p> <p>How can we make sure that predictions are valid and accepted by the relevant stakeholders and key actors in anticipated conflicts, including local governments and/or militias?</p> <p>What is the lead time offered by the different conflict forecast services described above?</p> <p>How can historical data help feed into data systems that are currently developed? Are there information management platforms that allow for a greater understanding of risks factors?</p> <p>How could risk analytics from the private sector be employed to anticipate conflict?</p>

Actions

Some precedents for early actions already exist in the humanitarian system, but none of these qualify as FbA. A starting point should be to understand the risks faced by a population should a conflict arise (including possible violence).

Some or all of the existing criteria to select early actions could be applied to FbA in conflict contexts. Among others, these include: 1) consistency with government/other institutional contingency plans; 2) prevention/mitigation of impact and preparedness of response; 3) scale of intervention; 4) practicality; 5) social acceptability; 6) capacity to implement; 7) access considerations.

How can existing frameworks for selecting FbA in climate-related hazards be applied to early actions in conflict contexts?

Which actions are feasible in a complex context of violent conflict?

How should one develop Early Action Protocols (EAP) and/or contingency plans for conflict-related humanitarian crises? Considering the volatility and exposure of conflict contexts, how often should early action processes be reviewed and updated?

Does the timing of the implementation of actions align with the lead time provided by the underlying conflict forecasts?

How can we ensure that early actions do not further fuel conflicts?

What Do No Harm considerations must be in place and how can they be evaluated?

How can implementing actors deal with skepticism or even push back regarding early actions?

Funding and Funding Mechanisms

Build on existing partnerships and funding mechanisms, such as the Start Fund's Crisis Anticipation Window.

Could existing Disaster Risk Financing (DRF) tools be used based on predictive analytics mechanisms to anticipate conflict? If so, how?

How can coordinating bodies create long-term/stable partnerships with donors? How can funding for flexible log frames be ensured in volatile conflict situations?

How can implementing actors help empower local partners (i.e., through preparedness funds)?

Should discussions concerning the triple nexus be leveraged to advocate for funding to anticipate conflict (e.g., to access more funding possibilities like DRF tools)? If so, how?

How can donor countries deal with skepticism or even push-back concerning their funding?

Champions

Actions can largely be implemented by the same actors responsible for other types of FbA.

Would the neutral role of humanitarian actors be jeopardized by their engagement in the prediction of conflicts? What specific strategies should humanitarians adopt to avoid bias while still supporting communities likely to be impacted by conflict?

How can we integrate the work of peacekeeping and peacebuilding actors as well as conflict analysts into the FbA process (including the analysis and development of contingency plans)?

	<p>Who are the most important stakeholders and how can they cooperate efficiently and build on each other's comparative advantages?</p> <p>What is the role that private sector companies of all sizes can play in better anticipating conflict?</p>
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Delivery Channels

<p>Delivery channels should be assessed using the same criteria that are applied in existing FbA approaches. The functioning of these channels depends on a variety of factors, including the geographical distance from a potential conflict setting.</p>	<p>How can actors prepare for access difficulties, especially in situations where socio-political volatility and changing dynamics can stifle access (e.g., in the form of access restrictions imposed by conflict parties)?</p> <p>Could existing social protection systems be used as delivery channels?</p> <p>Could community engagement in conflict risk management processes be used to reach affected people?</p>
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