



# Early Warning - Early Action

## Summary of the e-discussion



Horn of Africa: Drought water point in semi-arid land –  
Copyright: SDC



Bangladesh: Flooding of the Jamuna River,  
Copyright: Sirajganj@WFP



Winter Dzud in Mongolia,  
Copyright: B.Anhtuyaa for news.mn

Prepared by the backstopping mandate to the SDC DRR Network

April 2022

## Introduction

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Shifting focus from traditional humanitarian response to anticipatory action holds great potential for avoiding loss of lives and livelihoods from geophysical or weather and climate-related disasters. Moving from response to protecting people ahead of shocks, and relying on pre-agreed plans and finance, is a faster, more dignified, and presumably more cost-effective approach to disasters and crises. However, scientifically robust evidence is still lacking. **Anticipatory action approaches are gaining increasing traction** with donors, humanitarian agencies, and risk managers, for providing critical support to communities before hazards turn into disasters.

The **aim of the e-discussion** hosted by the [SDC DRR Network](#) was to offer to the participants (DRR Network members and non-members) a learning, reflection and networking opportunity on how to make use of Early Warning – Early Action (EW-EA) approaches, also referred to anticipatory action (AA). The discussions included the following aspects:

- Learn more about the topic and get linked to relevant know-how, experiences and peers.
- Express participant's thinking and ideas about pushing the topic further in their sphere of influence.
- Understand the elements needed for effective anticipatory action, with good practices, and challenges

The e-discussion which took place from **19 January to 8 February 2022** was supported by three SDC thematic leaders - Benjamin Fischer, Ali Neumann and Mila Lomarda - and focused on the following topics:

**Week 1:** Sharing of experiences, stories and insights to define and outline the topic

- What is EW-EA and how do you put it into practice?
- Which are the core elements, promises and stumbling stones?

**Week 2:** Exploring the topic's scope

- Financing: what funding mechanisms are in place and how do we learn from them?
- Delivery: which anticipatory action is most appropriate in which risk context?
- Last mile: how can we assure that the EW-EA system reaches the relevant actors to have effective anticipatory action?

**Week 3:** Drawing conclusion on the topic's novelty and selling points

- When do we need EW-EA (AA) in a strict sense, as opposed to the usual [DRM measures](#) insurance and social protection schemes? And what can we "leave" to the usual DRM measures?
- How to build and manage trust, when we face uncertainty and false alerts, and when forecasters, intermediary organizations and beneficiaries do not really speak the same language?

**Weekly summaries** are available on the [Shareweb](#) and all original contributions can be viewed [here](#) (access reserved for DRR Network members only).

The e-discussion was complemented by an **online live event** on 1st of February (20 participants in the morning session, 35 in the afternoon). The peer-to-peer event provided the opportunity to network and to deepen the discussion on additional topics related to EW-EA. A summary of the live event is available [here](#).

97 people registered to the e-discussion from a **broad range of institutions** (SDC/FDFA (29%), NGOs (21%), IFRC and Red Cross (18%), UN agencies (WFP, UNDRR, WMO), Private Sector (8%), Research (7%), National meteorological services (8%), and others (3%). We had a mix of experts and newcomers to the topic, who represented 31 countries. The highest number was based in Switzerland. 13 people participated actively by sharing posts.

## Conceptualising Early Warning – Early Action

The concept of early action, also known as Early Warning (EW) - Early Action (EA), anticipatory action (AA) or forecast-based action (FbA), puts more emphasis on the action by humanitarian actors but similar to Early Warning Systems (EWS) **aims at protecting people and their assets before a disaster strike based on early warning or forecasts.**

EW-EA mechanisms place considerable emphasis on **decision-making protocols**, so actors know what to do based on a forecast; on **planning** and on **financing ex ante** early actions. EW-EA initiatives are diverse, with very different approaches to the timing of decisions and actions, and to the types of forecast, monitoring data and delivery mechanisms used. EW-EA systems (or “Early Action Protocols”, EAP) are part of DRR and preparedness and can be integrated with social security and/or insurance systems where these exist. While there is a large belief that EW-EA is more cost-effective than traditional humanitarian response, there is a need for more rigorous cost-benefit analysis which could then in turn help promoting ex ante investment in disaster risk reduction.

Wilkinson et al. 2018<sup>1</sup> distinguishes the following typology for EW-EA:

- **Forecasting and decision-making:** it involves a range of forecasts, indicators and decision-making mechanisms, from automated triggers to forecast-informed decision-making.
- **Timing and planning early actions:** EW-EA mechanisms are designed to trigger and inform action across multiple timescales before a disaster occurs, ranging from several days (for a cyclone) to several months (in advance of an acute drought).
- **Financing:** EW-EA action programmes have applied a variety of financing tools, including dedicated funds, specific windows in emergency response funds, insurance, and direct links to regular resource allocation processes.
- **Delivery:** EW-EA mechanisms can be deployed through a range of delivery channels, including community-based emergency preparedness processes and social protection systems.

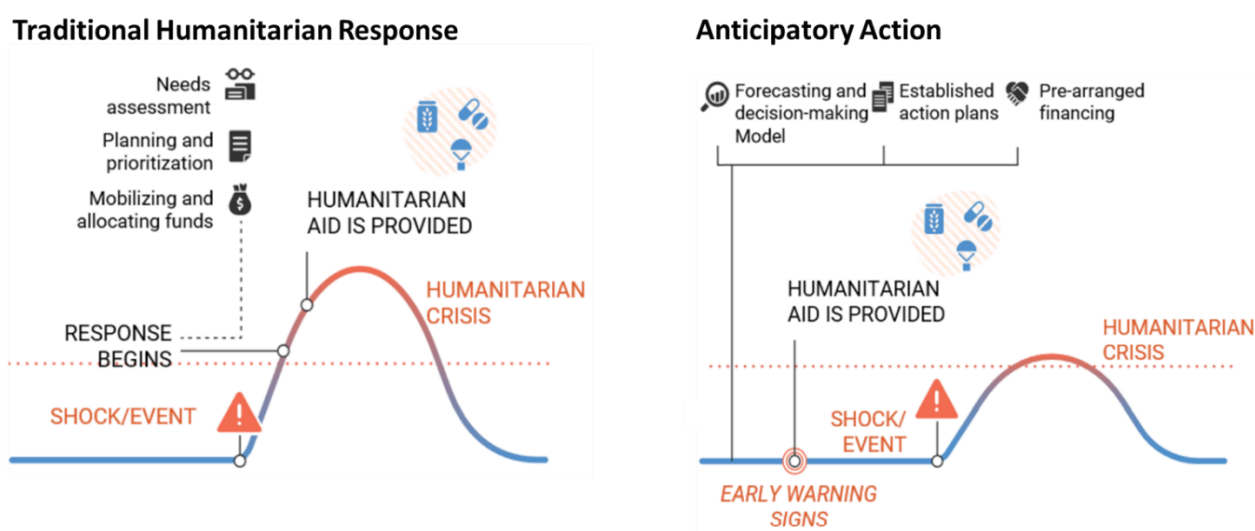


Figure 1: Traditional humanitarian response versus Anticipatory Action (Source: WFP<sup>2</sup>)

## How to put EW-EA into practice? Stumbling stones?

Anticipatory actions depend on what type of threat/hazard they address, the context in which they are carried out (areas at risk, population at risk, biodiversity at risk), the available prediction time and experience, what capacities/resources are available, and the kind of action/contingency plans as well as protocols in place. A list of **typical actions for different types of hazards** can be found in WFP's [The Evidence Base on Anticipatory Action](#) (see p. 26, Table 2).

**Understanding hazards and their potential impact** is central to promoting early action. During the e-discussion we were able to collect a broad range of examples for different hazard types such as

<sup>1</sup> <https://cdn.odi.org/media/documents/12104.pdf>

<sup>2</sup> <https://docs.wfp.org/api/documents/9b40f1a0b67441d4855d02f0ec126657/download/>

floods, droughts, cold waves, cyclones, volcanic eruptions (ashfall), tsunami hazards and landslides (examples are provided in the [weekly recaps](#)), and we also discussed on alert systems for rapid onset disasters, as in the case of Earthquake Risk in Latin America. Depending on the hazard types and other factors a tailor-made EW-EA system is needed complementing existing DRR measures. The EW-EA system can range from several days (for a cyclone, example from Indonesia) to several months (in advance of an acute drought, example in Mongolia).

Putting EW-EA into practice requires a **collaborative engagement of a broad range of stakeholders** to understand risks, and vulnerabilities, including government agencies such as hydrometeorological services and geological surveys, DRR agencies, donors, scientists/academia, and, finally, the communities.

Ultimately, anticipatory action must be applied where it can have the highest positive impact, including in protracted crises. It should be integrated as a standard component of the humanitarian programme cycle, alongside concerted efforts to support uptake by national governments, with nationally owned approaches embedded in national and local adaptation and disaster risk management policies, laws and processes. Although there is ample evidence that anticipatory action works, it appears to be still quite difficult for organisations to sell the case. It is hoped that the evidence and experience from this exchange will help to move ahead on this and get to a more “as anticipatory as possible and as reactive as necessary” attitude.

Some major stumbling stones for setting up an effective EW-EA mechanism are:

- **Forecasting and decision making:** lack of data (weather forecasts, vulnerability, and exposure data), quality of data, forecasting skills and capacities to generate and interpret data (e.g. national hydro-met agencies), and establishment of triggers.
- **Planning / establishing early action:** lack of capacity development, awareness raising campaigns, buy-in and communication at different levels (e.g. understanding perception of risks, understanding of EW-EA mechanisms).
- **Financing:** investment in well-functioning EW-EA is lower compared to disaster response, but the need for financing is not as evident (visible) as during a humanitarian crisis. How can robust financing mechanisms be developed?
- **Lack of trust** related to EW-EA / triggers due to false alarms and misses to trigger EA mechanism.

### What funding mechanisms are in place?

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EW-EA mechanisms recognise the importance of being able to **deploy funding and other resources in a predictable and reliable way**. For every organisation, state or individual, the financial resources are obviously limited in front of the so many existing needs and opportunities. **Cost-benefit figures** are therefore key when making the case for EW-EA as a “clever and sustainable option”. When considering funds for EW-EA data from IFRC assume that around 50% has to be in place up front for “readiness and pre-positioning”. The remaining funds are required to cover costs when an EW-EA is triggered. Experience by IFRC shows that EW-EA requires financing to be more flexible and coordinated to be able to reallocate funding in case an event was not triggered.

During the discussion mainly “big funds” examples have been shared, as well as insurance schemes operationalizing risk transfer as viable funding mechanisms and linkages to social security schemes.

The [IFRC's forecast-based action](#) is an attractive entry point for learning about financing mechanisms, as are the [Start Network Fund](#) (providing funds to NGOs for anticipation) as well as those that [WFP](#), [FAO](#) and [OCHA](#) are working on.

Beyond this, a range of specific experiences and evidence regarding sustainable financing mechanisms and insurance schemes have been shared. Here we name just a few: the [CERF](#) (UN Central Emergency Response Fund) is running several AA pilots showing very positive results about to be scaled up; the [CREWS Initiative](#) collects funds from various donors for projects related to Climate Risk Early Warnings Systems (not strictly EW-EA) in Least Developed Countries and Small Island Developing States (implementing partners: WMO, UNDRR and World Bank/GFDRR); the [African Risk Capacity \(ARC\)](#) provides member states with capacity building services and access to early warning, contingency planning, and risk pooling and transfer facilities; and the [Remote sensing-based Information and Insurance for Crops in Emerging economies \(RIICE\)](#) project operating in India, Vietnam and Cambodia.

## Delivery and last mile

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How can we assure that the EW-EA system reaches the relevant actors to have effective anticipatory action in place? Effective "last mile" impact requires that the information reaches everyone and has considered the needs, capacities, constraints and priorities of both men and women through all components of the system. Marginalized populations (such as women, children, elderly and disabled) are often those most overlooked, and require special attention.

The aim of the "last mile" is to reach the end-users in terms of preparing EW-EA activities, but also in terms of making sure the end-users are actors on their own responsibility, aware of alarm triggers, ready, willing and able to act, etc. We can see very different approaches for the "last mile" according to the risk context. **Approaches to reach the "last mile"** will very much depend on the type of hazard and risk encountered. In an Earthquake Early Warning, individuals need to be trained to act by themselves in a matter of seconds, once an alarm is triggered.

Some systems target the population broadly (e.g. Earthquake Early Warning (EEW), where the individuals have to act essentially by themselves), whereas others (e.g. cash transfer protocols) provide concrete means for the most vulnerable, but need each beneficiary to be identified beforehand. In-between we have EA by intermediary actors, like for purchasing and prepositioning supplies (e.g. DREF by IFRC). These actors will then - one way or another - find and serve those in need.

To make sure that the EW-EA system reaches the last mile (i.e. be effective on the level of the targeted population/communities) we must have good **baselines**, especially for the most prevalent disaster impacts on the target communities, triggers and beneficiaries. Besides the need for baselines, a key principle is **monitoring, evaluation and learning** (from exercises and actual interventions) to ensure that the anticipatory actions are inclusive, effective, and timely. Early actions will only be good if we can show that they led to the intended outcomes: we need to learn and adjust.

## Drawing conclusions

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Setting up an EW-EA system is part of DRR and preparedness and may be integrated with social security and/or insurance systems where these exist. EW-EA has as its goal to protect peoples' lives and assets, and hence it makes sense for it to be considered as an **additional activity to enhance disaster resilience**, as stated by the [policy brief](#) for donor governments by the anticipatory action Task Force (AATF) May 2021.

There is a growing body of evidence pointing towards the positive impact of anticipatory action. Yet, the evidence base is still rather small as initiatives that explicitly link forecasts to predetermined actions and financing are relatively new in the humanitarian sector. However, efforts to **improve evaluation methodologies** for EW-EA (AA) are underway - see for example "[The evidence base on Anticipatory Action, WFP report 2020](#)".

**Trust** is a key pillar in EW-EA, but often gets hampered through a series of back-to-back false alarms or non-adequate pre-disposed action or misses soon after the set-up of an EW-EA system. An EW-EA system is highly contextual and related not only to forecast skill and preparedness actions, but determined by specifics of program design, implementation, stakeholder buy-in and communication – and readiness by the target population to take action in due time. Dialogues (speaking and listening) and awareness raising campaigns usually help to build trust, establish proximity (the smallest possible distance between the one issuing a warning and the one deciding on action), readiness to analyse false warnings, strengthen collaboration, etc.

## Outlook and next steps

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The three weeks' e-discussion provided the opportunity to discuss the topic of EW-EA within the SDC DRR network, building on the [EW-EA Newsletter](#) of July 2021. As the topic is very complex and rather new, we were only able to scratch the surface. Other follow up events and activities are envisaged and will draw to the possible extent on the needs expressed by participants to further continue exchange on the topic, elaborate case studies, support regional exchange, develop/share tools/handbooks, and organize webinars.

This said, much is currently also developed by actors that are more directly involved in Anticipatory Action, and we wish to refer to resources available on their websites. Please check [here](#) for a list of relevant resources.

Key elements / topics raised during the discussion and the online event to be taken forward during future exchanges organized by the SDC DRR Network are:

- **How to overcome stumbling stones** related to forecasting and decision-making, planning early action, financing, and lack of trust. How can we assure better collaboration between all actors before, during and after an event?
- What should be the **role of national and local governments**, given the limitations they often face, and to what extent can the EW-EA systems be institutionalized? To what extent can other stakeholders (e.g. multi-lateral institutions, donors, NGOs, academia, private sector) contribute?
- What is the **role of the different donor agencies** for harmonizing the different efforts? Donor agencies have a key role to play in encouraging the collaborations and policies that are needed to make anticipatory action an integral part of disaster management and preparedness plans.
- How can we **scale up** the successful pilots in EW-EA?

### **Contributors to the e-discussion**

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In alphabetical order, organisations represented by the participants of the e-discussion:

Caritas, CBM, Climate Centre, GEOTEST, Helvetas, ICIMOD, IFRC, Meteo Swiss, Practical Action, SDC, SECO, SED-ETHZ, Swiss Steering Committee on Intervention in Natural Hazards LAINAT, Red Cross, UNALM Peru, WMO.