



**ANTICIPATORY ACTION**

# **Building Systems to Anticipate Drought in Southern Africa**



**World Food  
Programme**

SAVING  
LIVES  
CHANGING  
LIVES

A regional impact assessment of the country  
capacity strengthening interventions for drought  
anticipatory action

**June 2023**



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# 1. FOREWORD

This case study looks at the evolution in national capacities and systems for anticipating drought in Madagascar, Mozambique, and Zimbabwe. It outlines key results from the first phase (2019-2022) of the Multi-country programme on scaling-up anticipatory action for food security (MCP-AA4FS Phase I), funded by the regional Norwegian Agency for Development Cooperation (NORAD), to reduce the impact of drought on food security and livelihoods. This programme was implemented by the World Food Programme (WFP) and its partners.

This cross-comparative analysis extracts common trends, salient best practices, and lessons learned in the past three years of NORAD funding. In so doing, it contributes to the growing literature on Anticipatory Action and provides more data on how international non-governmental organizations (INGOs) can **support governments to sustainably institutionalize anticipatory action in their own disaster risk management systems and frameworks**.

## What is Anticipatory Action?

Anticipatory Action (AA) is defined as **acting before predicted hazards** affect lives and livelihoods **to prevent or reduce humanitarian impacts**. This requires **pre-agreed plans**, reliable **early warning** information, and the rapid release of **pre-arranged financing** when a forecast **trigger** has been reached. AA thus bridges the gap between longer-

term disaster preparedness, life-saving emergency response, and recovery and resilience efforts.

## The World Food Programme's Anticipatory Action Programme for Drought

In 2019, WFP began implementing a regional programme funded through NORAD to reduce the impact of drought on the food security and livelihoods in Madagascar, Mozambique, and Zimbabwe. It comprised both direct delivery of AA and capacity strengthening of government counterparts' ability and systems to deliver AA ahead of a drought. The first phase of this project ended in June 2023.

After three years of project implementation, significant advances have been made in national forecasting capacities, early warning systems, developing Anticipatory Action Plans (AAPs), defining linkages to social protection systems, and establishing and strengthening national communities of practice for anticipatory action. This regional case study presents the results of the first phase at systems level, looking at the impact of WFP's interventions on the ability of governments to implement AA for drought.

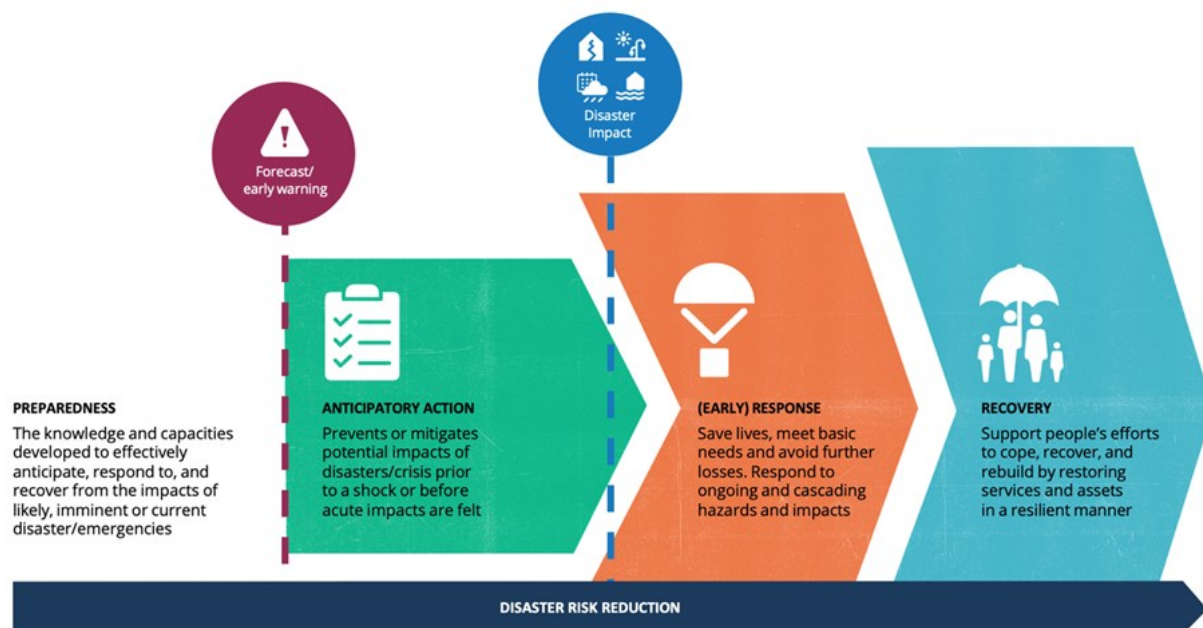


Figure 1: Anticipatory action bridging a gap within the disaster risk management cycle

WFP has been scaling up anticipatory action in the Southern Africa region with financial support from the Government of Norway (through NORAD), the International Fund for Agricultural Development (IFAD), the Green Climate Fund (GCF), the European Union (EU) Pro-Resilience Action project (PRO-ACT) and European Civil Protection and Humanitarian Aid Operations (ECHO), the United Kingdom Foreign, Commonwealth and Development Office (FCDO) Adaptation Fund, and the United Nations Central Emergency Response Fund (CERF).

Country capacity strengthening (or “capacity strengthening”) is an endogenous process in which external agencies support nationally owned change initiatives. For the Multi-country programme on scaling-up anticipatory action for food security, funded by NORAD, WFP worked with diverse partners and national stakeholders<sup>1</sup>, strengthening national capacities and systems for anticipating and mitigating the impact of drought on communities and livelihoods.

### What does success look like?

The objective of country capacity strengthening for AA is to enable national and local actors to act decisively,

sustainably and at scale in anticipation of extreme climate events. Successful country capacity strengthening ultimately means that these actors can draw on requisite systems, processes, resources, and information to deliver anticipatory action every time the prevailing hazard conditions command an activation (WFP, 2022). Achieving readiness for reliable anticipatory action typically requires capacity in four critical dimensions: policy, finance, science, and implementation (WFP, 2022).

All of these four dimensions are interdependent, and each can be divided into more specific abilities required to deliver AA. For AA to be operational, an early warning system needs to connect providers of scientific information to decision makers. Pre-arranged budgets must be approved within policy frameworks, and set up with a trigger-system that rapidly disburses funds for implementation.

In December 2022, WFP and the Red Cross Climate Centre developed a framework that maps out these different prerequisites for AA, so that national and international stakeholders can measure progress in AA-specific capacities and systems. This was also the framework used in each of the countries in this study.

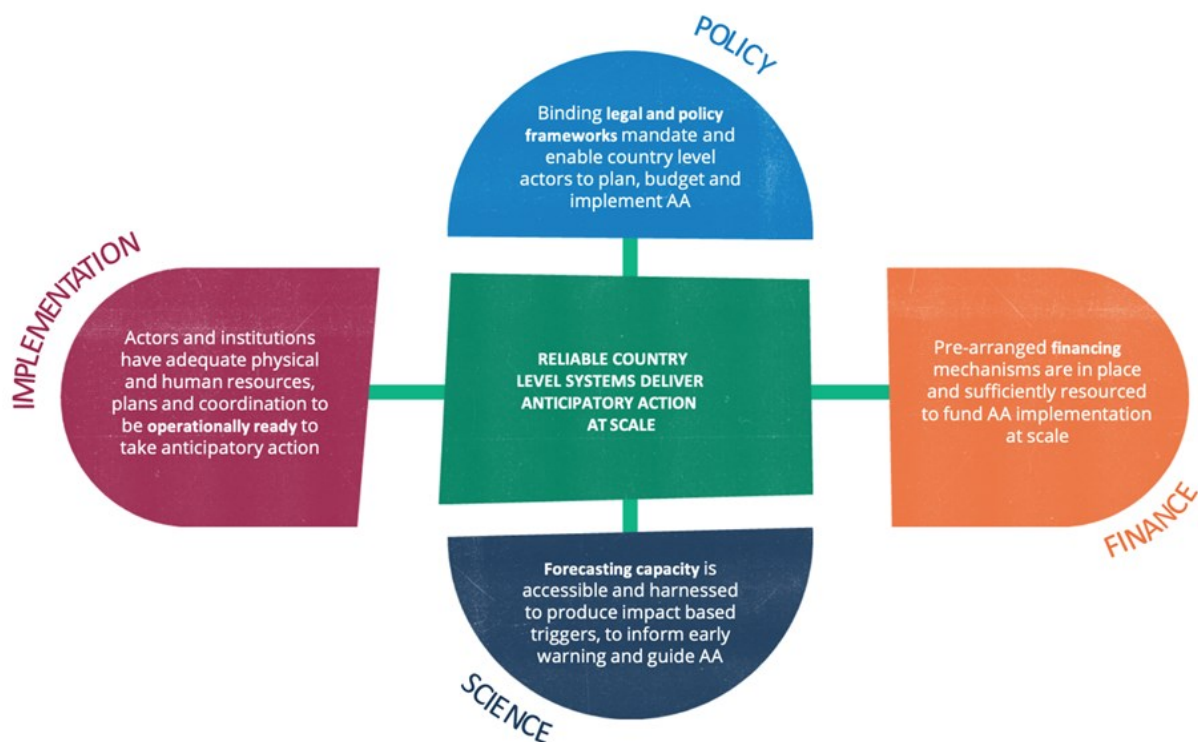


Figure 2: Main capacity outcomes required to achieve successful institutionalization of AA

<sup>1</sup> Embracing a “whole of society” approach, WFP works with governmental and non-governmental actors that operate at different geographical and administrative levels (national, subregional, and community level).





## 2. CONTEXT

### 2.1. Drought as a driver of food insecurity in Southern Africa

In Southern Africa, **an alarming 50.5 million people were predicted to be acutely food insecure between January and March 2022** (WFP, 2022). The major drivers of this include climate change and associated weather extremes, leading to reduced crop performance, loss of livelihoods and the adoption of negative coping strategies.

Among the many shocks experienced by different countries, **drought is a common risk** in the region. Drought is a period of unusually persistent dry weather that continues long enough to cause serious problems such as crop damage and/or water supply shortages<sup>2</sup>.

Scientific evidence shows that the frequency, duration, and severity of drought is increasing due to climate change and anthropogenic activities (Chiang et al, 2021). Over 100 droughts have been recorded in the Southern African region in the past 60 years, causing over 100,000 fatalities and US\$8.8 billion in economic losses (WFP, 2022).<sup>3</sup>

By creating massive production deficits, droughts can catalyse famines and displacement, and exacerbate conflict (Tárraga Habas et al, 2022; von Uekull et al, 2016). Given their disastrous impacts on human security and food security, there is consensus in the scientific and humanitarian communities that droughts need to be addressed in global policy agendas (Lieber et al, 2022).

<sup>2</sup> <https://gpm.nasa.gov/resources/faq/what-drought-and-what-causes-it#:~:text=Droughts%20are%20caused%20by%20low,factors%20that%20contribute%20to%20drought.>  
<sup>3</sup> (Sources: \*WFP, 2022 \*\*WFP, 2021 \*\*\*1964-2021 emergency events database, EM-DAT 2022).

## 2.2. New opportunities for drought disaster-risk management

A decade ago, state-led efforts to reduce the impact of drought were mostly reactive, seeking to redress communities after the effects of drought on livelihoods were visible ([Vogel et al., 2009](#)). In sub-Saharan countries, drought planning was hampered by a lack of integrated drought monitoring tools and insufficient information flows within and between levels of government, leading to inadequate early warning systems (EWSs) ([Tadesse et al., 2008](#)).

However, improvements in technology bring new opportunities to address these gaps. For instance, advances in satellites and remote sensing have enabled forecasting of the probability of drought over larger spatial and temporal scales than was previously possible ([West et al., 2019](#)). This is especially important in Southern African countries, which have limited resources for constructing and maintaining site-based weather stations. Furthermore, political commitment is clear within the member-states of the Southern African Development Community (SADC), who signed the Sendai Framework for Disaster Risk Reduction 2015-2030 and recently, in 2022, the Maputo

Declaration on the Commitment by SADC to enhance Early Warning and Early Action in the Region.

However, leveraging this new technology into proactive Disaster Risk Management (DRM) is not evident. Anticipatory Action (AA) provides a clear way forward thanks to Anticipatory Action Plans (AAPs) that connect improved seasonal and weather forecasts to operational programmes and pre-arranged finance, enabling humanitarian actors to deliver assistance before shocks occur.

AA is distinct from preparedness as it hinges on a trigger model ([Coughlan de Perez et al., 2014](#), cited in [Chaves-Gonzalez et al., 2022](#)), in which pre-agreed plans are activated as soon as hazards reach a certain trigger threshold. Pre-agreed financing, which is also automatically released if the threshold is reached, is another element that differentiates anticipatory action to traditional contingency planning. This enables Disaster Risk Management (DRM) actors to anticipate the peak impacts of shocks and quickly act ahead to minimize impact and build resilience ([Chaves-Gonzalez et al., 2022](#)).

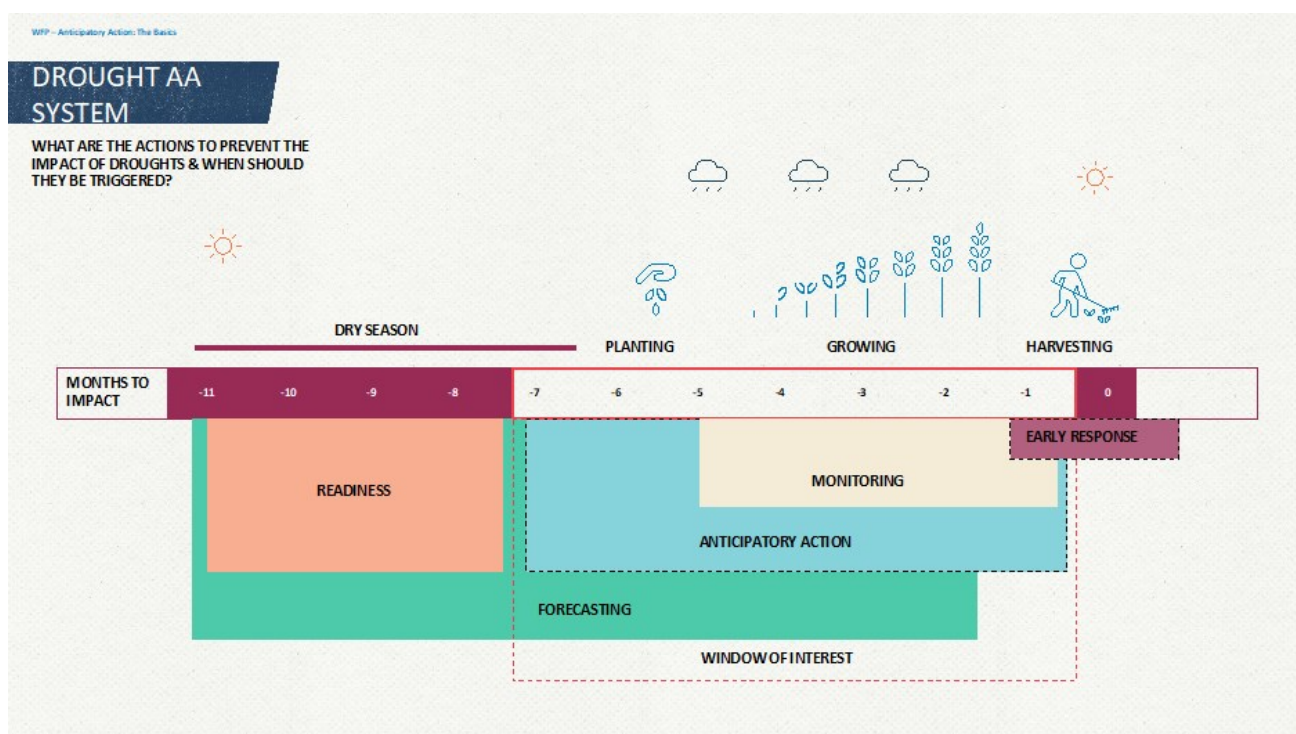


Figure 3: Drought AA system timeline (WFP, 2021)

### 2.3. Barriers to the institutionalization of drought anticipatory action

Beyond the fact that AA is a relatively new area of work in Southern Africa, a paper published in 2019 by the United Nations Disaster Risk Reduction Office (UNDRR, [2019](#)) identified six global trends that represented barriers to proactive responses for slow-onset hazards. These were:

- 1. Early warning technologies do not necessarily secure proactive response to slow-onset disasters due to political and practical obstacles in the way of timely action
- 2. Generic all-hazards DRR strategies, while best practice in the context of sudden-onset disasters, are generally inappropriate for the management of slow-onset disasters
- 3. Slow-onset disasters often fall outside the mandate of specialized disaster management agencies

- 4. The geographically dispersed nature of slow-onset disaster impacts reduces their perceived severity and political salience
- 5. The concept of disaster is often equated with sudden-onset disasters
- 6. The vast majority of disaster research and theory revolves around sudden-onset disasters, generally the largest and most destructive historical events

To complement this analysis, we circulated a questionnaire to key informants in Madagascar, Mozambique, and Zimbabwe (*n*=43). Respondents included government stakeholders in DRM institutions at national and central levels, WFP officers, humanitarian partners, and national non-governmental organizations (NGOs).

#### 6. What would you say was the biggest **challenge at the time** for institutionalising and scaling up Anticipatory Action for drought?

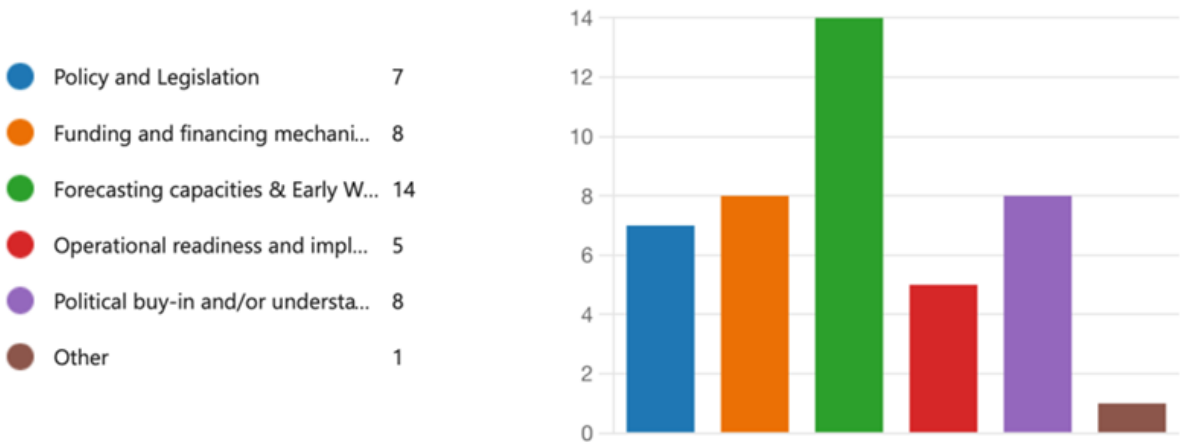


Figure 4: survey answers, challenges to the institutionalization and scaling up of AA for drought in Southern Africa in 2019 (*n*=43)



According to survey respondents, the biggest barrier to institutionalizing AA in 2019 was “forecasting capacities and early warning systems” (30 percent of overall answers). This relates to gaps in drought data (both historical and real-time)<sup>4</sup> that prevented the accurate forecasting of drought trends. Southern African countries tend to lack the resources needed to put in place and/or maintain weather observations stations, leading to incomplete or insufficiently granular data. There are also different types of droughts based on their expected impacts (meteorological, hydrological and agricultural), each of which can be followed by different indicators, which further complicates drought monitoring.

Following forecasting, challenges are relatively equally distributed among funding and financing mechanisms (17 percent), political buy-in and understanding (17 percent) and policy and legislation (15 percent). Operational readiness and implementation capacities are relatively

lower, reflecting the existing operational systems in place for drought response in the region – albeit none which take pre-emptive approaches.

Finally, most key informants (both governmental and non-governmental) consider AA as to be a novel approach. This is a worldwide trend: the global uptake of AA and forecast-based financing approaches has been slow, despite their foundations in the 2005-2015 Hyogo Framework of Action, the Sendai Framework for Disaster Risk Reduction 2015-2030 (RAAWG, 2021), the commitment to EWS in the Paris Agreement, and, more recently, in the global Early Warning for All Initiative (EW4ALL) and the COP27 ‘Loss and Damage’ agenda.

### 3. EVOLUTION OF FORECASTING CAPACITIES FOR DROUGHT ANTICIPATORY ACTION

*“Everybody was conflating the larger drought issue with the regular lean season... this is a very common problem that you will see with drought, it is complex, it is quiet in terms of its onset, it doesn't have a discreet end or start. That makes it really problematic. When do you begin to look at it? When do you not? When it is it a humanitarian issue? When is it not? Who is responsible?” (KII, WFP Mozambique)*

According to the United Nations Environment Programme (UNEP, 2018), effective warning systems require drought monitoring using appropriate drought indicators, meteorological data and forecasts, a warning signal, institutional cooperation and data sharing arrangements. In 2019, national hydro-meteorological services (NHMSs) in the region had moderate capacity for drought AA according to our survey<sup>5</sup>. In 2023 most of our respondents agree that all the studied NHMSs are able to produce drought forecasts, triggers and early warnings (see Figure 6).

Indeed, the advent of remote sensing technology, Geographic Information Systems (GIS) and numerical modelling have made it possible for meteorologists to better monitor droughts at local level. Remote sensing helps to fill gaps in data caused by insufficient or outdated hydro-meteorological stations (Nhamo et al, 2019).

Through the Multi-country programme on scaling-up anticipatory action for food security, a key pillar of WFP's support was supporting NHMSs to access these new technologies to provide scientifically credible forecasts of drought conditions. WFP also supported the NHMSs to develop trigger models based on these data. The overall goal is to enable NMHSs to provide timely early warning messages<sup>6</sup> to decision makers at national, subnational and community levels, so that they can implement pre-agreed anticipatory action plans ahead of the shock if thresholds are met.

In Zimbabwe, for example, when the trigger for drought was reached in 2021, district authorities and cooperating partners drilled boreholes<sup>7</sup> to sustain access to water for household and livestock use and disseminated simple climate information by SMS to farmers (WFP, 2022).

4 Both historical data and real-time data are needed to understand the location, timing and severity and past shocks, while real-time data help to monitor the evolution of different indicators against these past trends (Chaves-Gonzalez et al, 2022).

5 It should be noted that, before 2019, each NHMS had pre-existing collaborations with partners on climate hazard forecasting and use of remote sensing technology. These partners include the World Meteorological Organization (WMO), the Start Network, the International Research Institute for Climate and Society (IRI), the International Federation of Red Cross and Red Crescent Societies (IFRC), and the Gesellschaft für Internationale Zusammenarbeit (GIZ).

6 Drought early warning is the provision of timely and effective information, through identified institutions that allow individuals exposed to a drought hazard to act and reduce its impact and prepare for effective responses (Wilhite and Svoboda, 2000, cited in Nhamo, 2019).

7 Water boreholes (also known as water wells) are deep, narrow wells that tap into naturally occurring underground water.

*"Fertilizer can only be applied when we are likely to have enough rain. So, if you apply fertilizer and the rains do not come, it will bend the crop. Such information was not given to the farmers previously. Through this [AA] programme, it managed to cover such information gaps, so that the farmers could save their crops." (KII, World Vision, Zimbabwe)*

WFP invested financial resources, developed partnerships, and conducted technical training for NHMS staff, directly through in-house capacity in Mozambique and Zimbabwe, and/or by brokering partnerships with scientific institutes (with the International Research Institute (IRI) of Columbia University in Madagascar, and the Universities of Reading and Eduardo Mondlane in Mozambique).

**Examples of capacities** that have been strengthened across all three countries include:

#### Greater data availability, access and storage

The more data are available on past occurrences of drought in a region, the finer the predictive forecast will be. WFP supported NHMSs to increase their historical data through data-saving activities, for instance by digitizing "12 years of station data that were sitting on paper" in

Zimbabwe, which will enable the Meteorological Service Department (MSD) to go back "40 years into station data through analytical work and blend them with satellite data". A similar effort enabled Mozambique's *Instituto Nacional de Meteorologia* (INAM) to rescue and mobilize 40 years' worth of station data.

WFP is also supporting Madagascar's *Direction Générale de la Météorologie* (DGM) to increase its observation network by acquiring new weather stations to be installed in the Grand Sud, which is currently "a desert for observation of drought" despite being the country's most drought-affected region (Key informant interview (KII), DGM Madagascar).

*"Madagascar has been publishing bulletins based on SADC's tools since 2005. But they didn't always include risk analysis. Now our monthly bulletin includes it systematically, particularly for drought and floods risks. Our tools and methods have improved, and the quality and precision [of bulletins] have increased." (KII, DGM, Madagascar)*

#### Increased capacity to forecast drought at seasonal and sub-seasonal level<sup>8</sup>

Using newly available data, NHMS' are now better able to produce drought forecasts. Through tailored training modules, WFP trained NHMS staff on how to transform data into timely, useful information products for decision makers. Each module was designed to fill specific gaps within local NHMSs' contexts. Common training includes the use of drought remote sensing (data from satellites) to complete gaps in weather-station data. NHMS staff were

trained on blending both sources of data to produce more accurate seasonal forecasts of drought.

As a result, NHMSs across the region are now able to generate suitable forecasts and other climate information products which extract the impact of climate hazards on crops. The products have also improved in terms of timeliness, timescales, forecast skill and granularity.

*"[T]he consultants hired by the WFP brought methodology on how to combine data from our stations, which we have few of, and satellite data. So, we are now generating very high quality products thanks to this methodology of combining satellite data and ground data (...) Not only does it help this activity [AA], it also helps the other activities that need this kind of information." (KII, INAM, Mozambique)*

<sup>8</sup> Seasonal forecasts predict weather anomalies within intervals of multiple months (for instance, a drought being likely to happen during the October-November- December interval), whereas sub-seasonal forecasts predict less far into the future (at single month or weekly intervals).

*"Our product is in high demand: people appreciate the climate forecasts over 7 months. And with WFP and IRI, we strengthened our ability to conduct sub-seasonal forecasting" (KII, DGM Madagascar)*

Increased capacity to develop a **trigger system** based on reliable data and monitor trigger thresholds

Establishing the trigger models can be one of the trickier parts of AA, as the triggers will define the lead time for an activation. Forecast skill (the accuracy/probability of the forecast meeting the reality) tends to come at the expense of lead times ([Chaves-Gonzalez et al, 2022](#)).

In each pilot district, WFP and partners supported the NHMSs and DRM institutions to develop a trigger system for activation based on forecast drought risks (low, moderate, severe). This was an iterative process, with conversations on trigger thresholds and selection of feasible AAs being held concomitantly (KII, WFP Mozambique).

Increased **ownership** of the scientific aspect of drought DRM and **ability to provide technical advice and generate consensus** on drought DRM

In all the countries, NHMSs were empowered as scientific advisors to present their findings to policy-makers and implementers; their information products could be used as objective sources, which is critical in emergency contexts where resources are already scarce. When drought climate analysis are produced and communicated to governmental agencies by national NHMSs, rather than NGOs, this boosts ownership and acceptance. This also reflects WFP's ability to adapt and build on existing capacities, systems and ways -of-working, rather than creating parallel systems. This ensure capacity-gains are sustainably retained by national actors.

*"In Zimbabwe, normally the president declares a drought. So, you don't just start off by saying we're anticipating a drought. You say, 'our rains are lower than expected and we want to curb the effects of that'. All of us in the room will probably have the same understanding, but it's important to use the right words at the right time." (KII WFP Zimbabwe)*







## 4. POLICY AND LEGISLATION

Slow-onset hazards such as drought have less political salience than fast-onset hazards (DeLeo 2016; Staupe-Delgado 2019b): as a result, they tend to be less included in national DRM policies and contingency plans, and attract less funding. Hence, legislation plays a fundamental role by creating an enabling environment for DRM institutions to devote time and resources to AA (Risk-informed Early Action Partnership (REAP), 2022).

In 2019, while each country had a different policy framework in place for drought contingency planning, the following statements were applicable to all three:

- Disaster-risk management strategies were more often reactive than proactive.
- Drought was included in DRM strategies less often than fast-onset hazards.

In Madagascar and Mozambique, WFP built on opportune interventions, including from other partners, to push for policy revisions. Madagascar and Mozambique have strengthened their DRM policy environment by;

- Integrating proactive DRM, making mitigation approaches of climate hazards a requirement when

conditions demand it (as opposed to purely reactive approaches);

- Establishing clear mandates, roles and responsibilities for multi-hazard AA, and explicitly including drought as one of the hazards to be considered (as opposed to just fast-onset hazards);
- Mentioning accountability and participation mechanisms to ensure that at-risk populations are involved in defining and evaluating AA.

In Zimbabwe, there was less momentum for policy revision, so WFP focused on improving forecasting and operational capacities in the first phase. This will hopefully provide the evidence and political buy in needed to catalyse revision of Zimbabwe's DRM policies in the longer term.

<sup>9</sup> Addendum: after finalization of this case-study, the workshop was held in May 2023. It was led by the BNGRC and included a consortium of INGOs.

## 4.1. Madagascar: an umbrella framework for anticipatory action at national scale

In Madagascar, there was no national strategy for AA before 2019. While an institutional framework was in place to respond to drought, in reality coordination and clarity of mandates remained a challenge (REAP, 2022). WFP actively worked with national DRM institutes to push for proactive, multi-hazard DRM strategies that included drought.

Advocacy is a multi-sectoral effort, and WFP coordinated with key members of the national TWG – including the Start Network, the United Nations Food and Agriculture Organization (FAO), GIZ and the IFRC – to coordinate INGO advocacy on drought AA.

Following multiple workshops and training on AA to increase awareness and understanding, the Government of Madagascar adopted a multi-stakeholder national AA framework, which was reviewed by the TWG and signed by the Bureau National pour la Gestion des Risques et des Catastrophes (BNGRC, the national DRM institution) in October 2022. The framework provides a strategic and practical framework for Malagasy institutions to deliver anticipatory actions. It clarifies roles, coordination, and implementation processes as well as the required budgetary programming, and plays a key role in enshrining AA into national DRM policies.

## 4.2. Mozambique: integrating anticipatory action into national social protection policies and systems

In Mozambique, much of the policy work was initially led by other partners of the *Instituto Nacional de Gestão e Redução do Riscos de Desastre* (INGD - the national DRM institution), such as the World Bank and the African Development Bank. These partners supported INGD to revise its DRM and social protection policies, which led to Mozambique adopting a new law on DRM and DRR in 2020 (Law 10/2020), repealing previous Law 15/2014 and providing a sound entry point for anticipatory action.

This marked a watershed point for the government to focus on prevention and mitigation of the possible effects of AA (KII, INGD Mozambique); providing a more proactive

framework for DRM and explicitly mentioning drought, as WFP had recommended to INGD. WFP also successfully advocated for the addition of a specific mention for the involvement of affected populations. WFP has strongly supported the integration of anticipatory action in national funding mechanisms (See Box 2).

To further institutionalize AA in Mozambique, WFP has worked with the National Institution for Social Action and the Ministry of Gender, Children and Social Action to integrate Anticipatory Action Plans (AAPs) for drought into shock-responsive social safety nets (WFP, 2022). WFP allocated more than 60 percent of the AAPs to be disbursed through social safety nets as cash-based transfers. This not only opens new opportunities to scale up AA to larger target groups, but also enhances the preparedness and shock-adaptiveness of national social protection systems.

## 4.3. The Zimbabwe approach: policy as a second phase of support

Zimbabwe does not yet have a comprehensive national policy for that would allow proactive DRM, as the latest relevant policy document is the Civil Protection Act of 1989, the revision of which has been stagnant in recent years (ActionAid, 2022).

“Our biggest challenge for AA is policy currently. In some instances, the policy makers don’t understand the importance of the forecast issue and how it can be used” (KII, MSD Zimbabwe).

“Zimbabwe is currently working on its DRM framework. The Community of Practice gave inputs into that framework. If a policy is in place that clearly defines where AA is and how we can strategize around forecast-based-financing, I think we can go a long way.” (KII WHH, Zimbabwe)

Given the project timeline, WFP focused on increasing the forecasting capacities of the MSD and the operational capacities of the Ministry of Agriculture (AGRITEX) and Department of Civil Protection (DCP) (see next section for details). As a result, WFP successfully activated AA for drought in June 2021 in collaboration with the government<sup>10</sup>. An after-action review has been held, and the evidence from this programme will be used to provide momentum to the policy revision process.

<sup>10</sup> For more information see this factsheet: [“A System to Anticipate and Address the Impacts of Drought in Zimbabwe”](#).

## 5. IMPLEMENTATION CAPACITIES AND OPERATIONAL READINESS

The “implementation” dimension relates to the operational capacities and prerequisites that need to be met for DRM actors at national, regional and community level to effectively implement AA: logistical and human resources, operating protocols, communities of practice, etc.

When WFP began the Multi-country programme on scaling-up anticipatory action for food security (MCP-AA4FS Phase I) in 2019-2020, operational frameworks were already in place for DRM. All countries had suffered from the 2015/2016 El Niño drought, the worst in the region in a century (FAO, 2016, quoted in Nhamo et al 2019). Each country had varying degrees of maturity for operational drought *response* (anticipation was still a new concept). Communities of practice began to emerge around AA following El Niño.

In Zimbabwe, WFP has worked on AA since 2015, under the FoodSECure initiative. The Zimbabwe Red Cross Society has been developing an early action protocol for drought since 2019, with support from the Danish Red Cross, the Finnish Red Cross and the Climate Centre. In Zimbabwe, the DCP and AGRITEX were well decentralized and operational at district and sub-district (ward level), with AGRITEX ward agents providing the crucial last-mile link to communities and DCP authorities coordinating relevant actions.

In Madagascar, FAO, the Start Network and WHH had been working with the government to implement multi-hazard early warning since 2017. However, despite a well-structured policy framework, in practice implementation remained difficult, and restricted by issues of coordination, funding and limited decentralized capacities (REAP, 2022).

In Mozambique, drought contingency planning was comparatively more institutionalized, as the government already had a dedicated division for the development of arid and semi-arid zones (DARIDAS). The director of DARIDAS became a “champion” for AA for drought and pushed for the establishment of a drought EWS TWG.

The operational capacity and readiness for AA for drought has increased across all three countries, albeit to varying degrees. The common effects observed in each country that can be partly credited to WFP’s capacity strengthening work are:

- Stronger capacity of DRM institutions to establish AAPs at national, regional and/or district level
- Stronger coordination and leadership capacity of DRM institutions AA, thanks to national communities of practice and/or TWGs.



10 For more information see this factsheet: [“A System to Anticipate and Address the Impacts of Drought in Zimbabwe”](#).



## 5.1. Establishing the Anticipatory Action Plans: the “bible” for anticipatory action

*“I would say that the validation of the manual for anticipatory action was the biggest milestone, because it is the bible for AA. All institutions who want to do AA now have to align with this manual and the methodology, and WFP really helped to institutionalize this.” (KII Mozambique, Gruppo di Volontariato Civile)*

Across all countries, key informants from the government highlight the importance of WFP’s support for developing and institutionalizing AAPs. It should be mentioned that other agencies such as FAO, Start Network and the IFRC had been working on Early Action Plans and increasing the capacities of civil society actors, doing much of the groundwork.

However, key informants credit WFP specifically for improvements in governmental understanding. Typically, they emphasize the importance of government officials (staff from DRM institutions and NHMSs) being closely involved in the development of AAP plans, and a productive “learning by doing” approach from WFP.

A best practice that transpires from all countries is how WFP strived to put DRM institutions in the driving seat of the development of AAPs (KII WFP Zimbabwe, KII WFP Madagascar, KII WFP Mozambique). WFP supported this appropriation by organizing workshops and training to ensure that national stakeholders understood the practicalities of how trigger models were designed and how AAPs were established, and the importance of pre-agreed financing. Government officials are now able to use risk and climate analyses produced jointly by the NHMSs to assess which AAs are more relevant for each location; and devise new AAs if needed (KII, INGD Mozambique, WFP Zimbabwe).

Zimbabwe presents interesting “bottom-up” results as operational readiness levels increased more rapidly at

district level than at national level. While issues of fragmentation and inadequate coordination remain at national level, pilot districts were able to successfully activate in 2021 and test the rolling out of their AAPs, which were implemented within targets of timeliness, beneficiary selection, and community acceptance. Madagascar also had a later activation in 2022, the results of which are yet to be published, but informants from the BNGRC highlighted the difficulty of implementing AA in the Grand Sud, where many humanitarian interventions are already taking place (KII, BNGRC).

A lesson learned here is that operational readiness is an iterative process which requires frequent testing. Simulations (practice activations of AAPs) could provide key learnings to check that triggers, action plans and coordination work well and are integrated with other types of assistance. While Mozambican DRM institutions considered their triggers and AAP technically sound, they typically displayed less confidence in their AAPs than informants from Zimbabwe.

*“We need to move to the implementation phase where we can test that indeed people understand what AA needs. So far, from the conversations we have at the meetings we have, we’re still not getting the point in terms of difference between anticipatory action and early response... Maybe I’m too demanding, but I would feel good if we could activate it, because we are combining the trigger system with the early warning system. So it’s in between.” (KII, Mozambique, INAM)*

## 5.2. Zoom on Zimbabwe: consulting communities during the design of AA programmes

In Zimbabwe, WFP maximized the inclusion and participation of affected communities by conducting a [study](#) on the feasibility of including indigenous knowledge systems into drought EWS. WFP also supported the district authorities to organize consultations with community leaders and representatives for selecting AAs. As a result of these consultations, anticipatory actions were selected based on community needs and priorities, as well as

operational feasibility. Each consultation was recorded and added as an annexe to the AAP document, along with relevant community information for future use.

Putting affected populations at the heart of AA programme design increased ownership and acceptance of AA at local level, and overall effectiveness (KII, Zimbabwe DCP). WFP shared its standard operating procedure for community consultations with the national community of practice, which then inspired other AA implementers to do the same (KII, WHH).

### BOX 1: HOW WFP CONSULTED COMMUNITIES FOR THE SELECTION OF DROUGHT AA IN ZIMBABWE

“After the NORAD funding in 2020, one of the first steps of the projects was to support government partners to produce a **repository of anticipatory actions**. The most important aspect is **involving the communities** to validate the anticipatory actions, to say “in this community, when we experience a drought, this action is the one that would address the impact”.

So to select anticipatory actions, at both **district and community level** we organise, not a formal workshop, more **of a gathering of community leaders and representatives**, including **women**. Then the community can choose from the repository. We do not prescribe anticipatory actions; the community can also suggest additional ones that they need.

These consultations are documented, we have **detailed minutes** that act as **primary data sources** and include information on the community. For instance the type of water sources are different from community to community, in some you cannot drill a borehole, they have different set-up options where water is taken from the water-bed, and we use that information to provide water in our AA protocol. Some of the nitty gritty might not be in the umbrella Standard Anticipatory Action Plan (AAP) for all ten districts, but we can visit the consultation documents to find those details when needed.” (KII, WFP)

## 5.3. Strengthened communities of practice through WFP participation

Across all the KII conducted in each country, the theme most cited as a “best practice” has been “coordination”. This can relate to WFP’s practices of proactively sharing AA methodologies, tools and training within multisectoral communities of practice.

In all countries, WFP directly contributed to the establishment of national TWGs for AA, either by request from the government (in Mozambique) or to localize INGO-led platforms (in Zimbabwe). WFP also held training events and workshops on AA for members of TWGs, thereby

enhancing the overall knowledge and skills of members of the AA sector. A best practice is to integrate technical AA discussions and working groups into existing national fora, such as DRM platforms or committees.

Common challenges that remain for operational readiness are human and logistical resources, which are tied to funding and economic challenges. In Mozambique, one way in which WFP sought to increase human resources was by seconding a national AA specialist who works 80 percent with the INGD and 20 percent with WFP. Not only does this increase local capacities for AA, it also facilitates coordination. The secondment created a solid channel of collaboration between WFP and national institutions for drought.

# 6. FUNDING MECHANISMS

Ex-ante funding instruments are one of the pillars – alongside triggers and AAPs – that guarantee the delivery of humanitarian assistance in the short window between a forecast and the expected peak of a drought ([Anticipation Hub, 2023](#)).

Whereas forecasting capacities were seen as the biggest challenge in 2019 (Figure 5), in 2023 they have largely been surpassed by funding and financing mechanisms, according to both key informant data and questionnaire data (Figure 5 below).

## 8. What is the biggest challenge today for institutionalising and scaling up Anticipatory Action for drought?

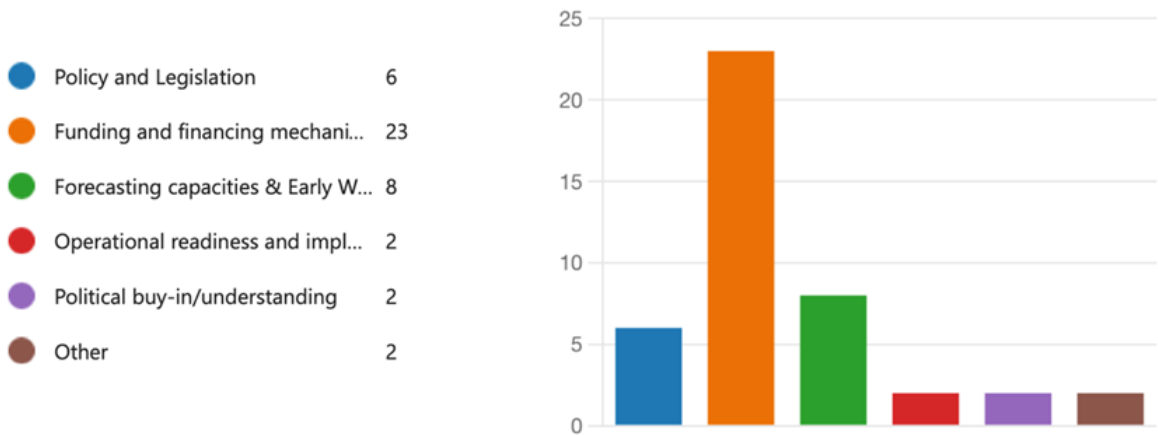


Figure 5: survey responses, challenges to the institutionalization and scaling up of AA for drought in the Southern African region in 2023

According to this figure, funding and financing mechanisms (in orange) now are the biggest challenge, standing at 48 percent compared to 17 percent in 2019.

This does not mean that funding is more difficult to access than in 2019. Rather, it indicates that other areas of challenge have been addressed because of WFP and other partners’ work on AA for drought (Figure 6). This is notably visible for forecasting capacities, which decreased as a challenge – or in other terms, improved as a capacity – by 13 percentage points over the past four years

Limited funding is a trend shared by all humanitarian interventions, but even more so for AA. Despite a more visible humanitarian presence at the COP26 climate talks in Glasgow and the 2022 G7 Foreign Ministers’ Statement on Strengthening Anticipatory Action in Humanitarian Assistance, less than 1 percent of humanitarian funding currently goes to AA (Alexander, 2022) – ironically, considering the potential it has for reducing ex-poste disaster-response costs. As of 2023, AA continues to be implemented at small scale due to lack of funding, despite its increased visibility following successful activations. According to Willitts-King et al ([2021](#)), despite “an

acceptance that considering risk-based approaches is appropriate within humanitarian crises and focusing only on need is insufficient”, anticipatory action programmes “are still at the stage of early promise rather than large-scale implementation (...). Where they do exist, initiatives are siloed and fragmented with little sharing of lessons.” This, of course, limits the sustainability and scale of these programmes.

In Madagascar and Zimbabwe, the funds available for AAPs are channelled through WFP budgets and financial systems. Mozambique stands out as an example of strengthening financial capacities for AA, as WFP has opted to channel funds through national systems instead to increase their flexibility (See Box 2 for more detailed information). In contexts where infrastructure and institutional partnerships are favourable, channelling funds through national channels opens door for synergies between AA and social protection safety nets, which WFP is currently exploring in Mozambique.



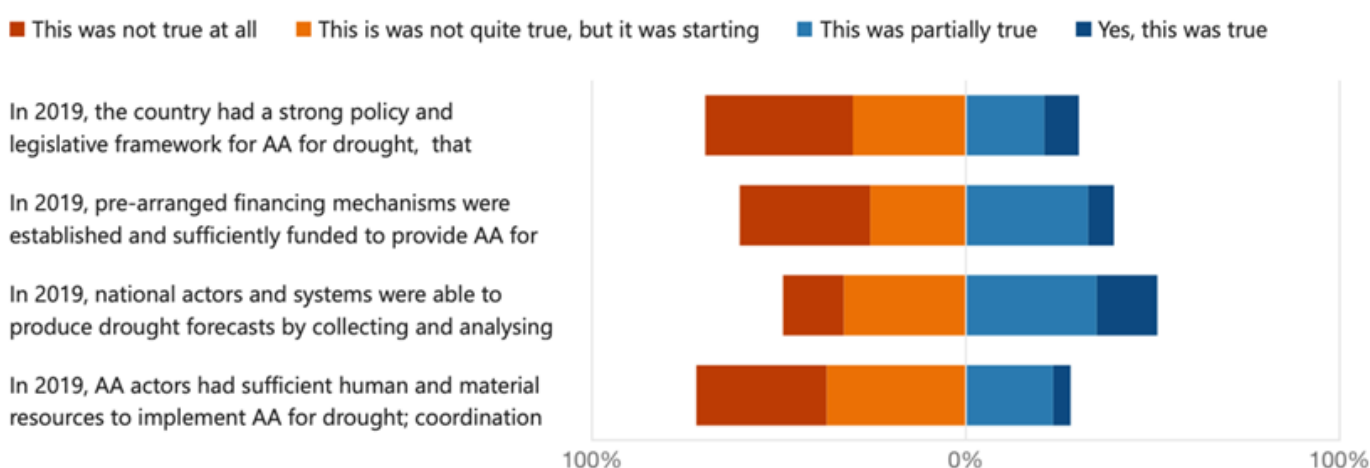
## BOX 2: STRENGTHENING NATIONAL FINANCING MECHANISMS FOR AA, AN EXAMPLE FROM MOZAMBIQUE

To sustainably embed anticipatory action in national funding mechanisms, WFP has supported INGD at various levels:

- WFP supported INGD to elaborate the National Financial Protection Plan, which was adopted in June 2022. This plan explicitly references the need for anticipatory finance as a part of contingency financing.
- This catalysed the revision of the disaster management fund (FGD) manual, which will be adapted to include an AA financing window. Currently, the manual only allows funds to be unblocked after a disaster occurs. With WFP support, INGD is pushing for its revision to the Ministry of Economy and Finance.
- Because these are long-term processes, WFP and the INGD have opened an INGD-owned project bank account where AA funds from partners can be pre-allocated. The bank account is connected to a trigger system: thus, if triggers are reached before the manual for the FGD is revised, the INGD will still be able to use this bank account to rapidly implement AA.

## 7. CROSS-CUTTING BEST PRACTICES AND LESSONS LEARNED

In the past three years, there has been an increase in the institutionalization of AA for drought in Madagascar, Mozambique, and Zimbabwe, as seen in Figure 6 below:



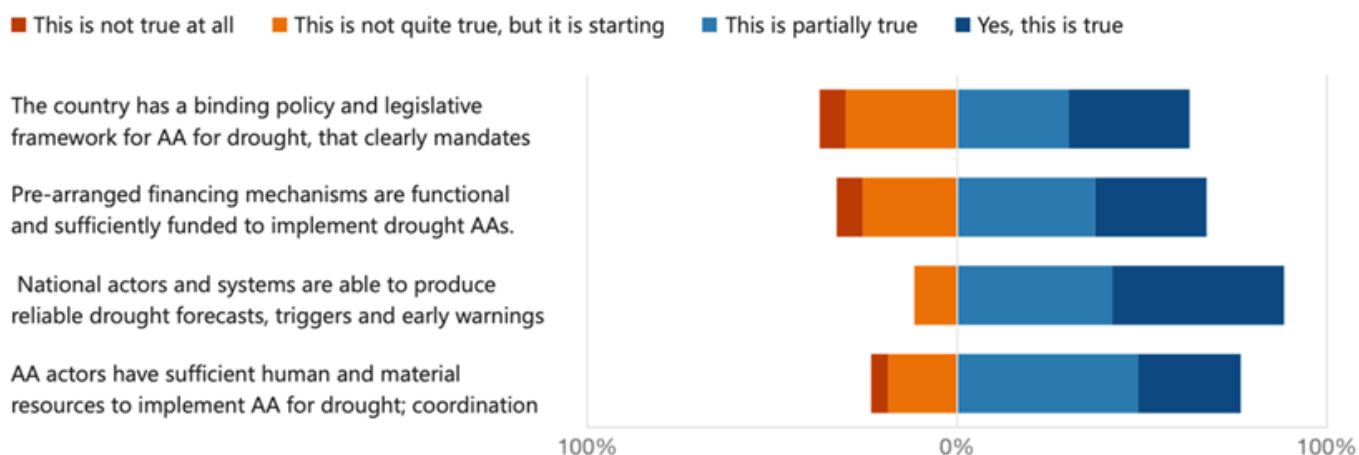


Figure 6: survey responses, challenges to the institutionalization and scaling up of AA for drought in the Southern African region in 2023

Forecasting capacities have seen the most change, with the largest number of respondents estimating that “national actors and systems are able to produce reliable drought forecasts, triggers and early warnings”. Across the board, WFP’s work with NHMS’ seems to have the most impact at system level, particularly in countries where WFP’s RAM team were enabled to support NHMSs over longer periods of time. As a result, Mozambique’s and Zimbabwe’s NHMSs

are now producing high-quality climate information products. While Zimbabwe still requires support on sub-seasonal forecasting, Mozambique’s INAM is at a stage where it could soon become a provider of climate information services to the private and INGO sectors. This would diversify their income streams, and exposure to a competitive market could potentially strengthen the quality of INAM’s services.

*“This type of work does not take six months to one year: you need to engage with these institutions. You don’t change things overnight; institutions have to be coaxed... I haven’t seen a meteorological service in the region with this solid capacity. They all produce reporting bulletins with various degree of sophistication in some way or another, but nothing like what the Mozambican and Zimbabwe MET services are trying to achieve.” (KII WFP HQ)*

Table 1: Analysis of most common co-occurring themes in key informant data for all countries (MaxQDA)

Code System	positive impact	milestone	best practice	challenges	Opportunities	lessons learnt
POLICY						
Learning						
SCIENCE						
Triggers						
Forecasts						
Early Warning						
FINANCE						
IMPLEMENTATION						
participatory approach						
Coordination						
Assets						
People						
Ownership						
Communication						

This table shows the most co-occurring themes and codes in key informant interviews conducted in Madagascar, Mozambique, and Zimbabwe (n=32). The first column represents the code system<sup>11</sup>. Subsequent columns are the common themes of each interview. The larger and redder a dot, the more frequent the correlation between the code and the theme.

According to this table, the most common themes described as “WFP **best practices**” were:

- WFP’s support to technical **coordination** of stakeholders through establishing or strengthening communities of practice/national TWGs and coordination for direct delivery of AA. This was facilitated by WFP’s operational footprint in these countries.
- WFP’s enabling of the **ownership** of the processes and results by national stakeholders (with WFP in a backstopping role, providing technical support and facilitation).<sup>12</sup>
- WFP’s **communication** efforts with all partners and stakeholders, including civil society, INGOs, and particularly **with communities** in Zimbabwe (see Box 1).

From the second column (**positive impact**), the most frequently mentioned positive change in capacities for drought AA were improvements in **science** capacities (purple codes) and implementation capacities (yellow codes). In the past three years, the capacity of NHMSs to monitor climate events in real time and forecast the impact of potential hazards has increased. Specifically, WFP supported NHMSs to increase their ability to:

- Observe real-time drought data captured by their weather stations on the ground
- Handle and process data internally through weather stations
- Leverage satellite data streams to complement gaps in weather station data
- Use both sources to generate state-of-the-art accurate rainfall and temperature information, including seasonal (and, in some countries, sub-seasonal) forecasts (the primary scientific prerequisite for anticipatory action to be operational).

Operationally, the ability for DRM institutions to programme and implement anticipatory action has also increased. This can notably be attributed to:

- WFP’s support to DRM institutions to establish drought AAPs and trigger models
- WFP’s investments into national communities of practice for AA (sharing of methodologies, training, reviewing AA tools and processes)
- The opportunity, in some countries, to test their AAPs with activations and to extract operational lessons learned.
- The work of other partners engaged in similar AA initiatives, implementing pilot programmes and strengthening national civil societies for AA.

The overwhelming remaining challenge is **finance**, and the need for donors and host governments to commit to anticipatory action in order to achieve sustainable scaling up. WFP can play an important advocacy role here, bringing evidence and clear messages on the potential of AA for vulnerable people.

The last column also shows **lessons learned**<sup>14</sup>. Here, the most frequently occurring code is overwhelmingly “triggers”. Fragmented trigger models limit operationalization and ownership, as evidenced in Madagascar and Zimbabwe. In Mozambique, the trigger model was untested and therefore it remains to be seen if it is truly operational. Addressing these issues, either through multilateral workshops or simulations, could improve the capacities of actors and performance of related systems.

<sup>11</sup> Codes were attributed to segments of text using thematic networks analysis, see Attride-Stirling 2001.

<sup>12</sup> Stronger partnerships with national/local NHMSs were noted as a key lesson learned for the future by OCHA in 2022.

<sup>13</sup> See for instance: <https://www.sciencedirect.com/science/article/pii/S2212096323000025> ; <https://startnetwork.org/funds/global-start-fund/start-fund-anticipation>

<sup>14</sup> For a more extensive piece on lessons for anticipatory action, we recommend: <https://www.frontiersin.org/articles/10.3389/fclim.2022.932336/full>



## 8. CONCLUSION: OPPORTUNITIES AND RECOMMENDATIONS MOVING FORWARD

9. In which of the following areas would you say there is the most **opportunity today** for institutionalising and scaling up Anticipatory Action for drought?

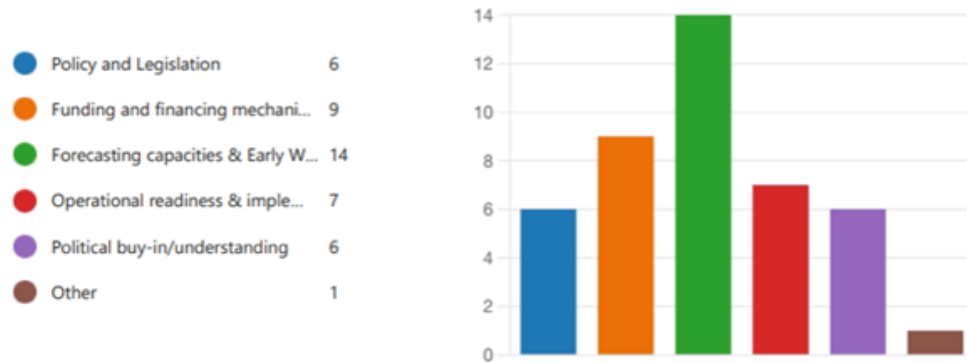


Figure 7: Areas of opportunities for further institutionalization of anticipatory action for drought

Below are some programmatic aspects that we recommend be considered to ensure AA capacities are not only strengthened, but also appropriated and retained durably by national stakeholders.

### Coordination and integration, particularly on trigger models and EWS

Trigger models and EWS are iterative processes, and OCHA recommends “a phased approach in which signals are evaluated over time and tied to time-specific activities” (OCHA, 2022). That being said, investing in climate science technical translators (that can translate forecasts into practical decision making) would help address the issue of “terminology clashes” (OCHA, 2022), a key factor of fragmentation.

WFP is already supporting this at national and regional level through its contribution to communities of practice and multi-agency collaboration. Establishing umbrella national frameworks and regional roadmaps for AA has also greatly improved harmonization (KIIs, DCP Zimbabwe, INGD Mozambique).

As of 2023, WFP is implementing the European Commission Humanitarian Aid Office (ECHO)-funded Joint Programme on Strengthened Early Warning and Anticipatory Action in Southern Africa (2023-2025) with FAO and IFRC. Centred around four key programmatic pillars (forecasting/trigger development, anticipatory actions, financing and advocacy), this project has enhanced multi-stakeholder coordination towards more effective

and scaled up AA in southern Africa as its core objective (for example, by establishing a TWG for common trigger development across the southern Africa region). In its co-hosting role of the Regional Anticipatory Action Working Group (RAAWG), WFP is working alongside FAO, IFRC and the wider community of practice to align existing trigger models.

### South-South exchanges and partnerships

With its regional presence and relationship to the SADC secretariat, WFP is well-placed to connect national stakeholders within the region and facilitate South-South transfers of skills and knowledge. This could be done by connecting national meteorological centres: key informants from all NHMSs expressed the desire to learn from other NHMSs in the region, particularly on forecast methods and drought/multi-hazard EWSs.

WFP also has an extensive partner network of global scientific reference centres (such as IRI and the Red Cross Red Crescent Climate Centre), that it can leverage to connect climate science to humanitarian programming and support NHMSs and DRM institutions in doing the same. Regional centres such as the South African Weather Services and the SADC Climate Services Centre are also actors that WFP could partner with to localize expertise within the region (RAAWG, 2021).

## Expanding anticipatory action into early warning and social protection programmes and systems

When AA is aligned with or channelled through social protection, it can help to address the climate risks affecting the most vulnerable populations in a timely, sustainable, and cost-effective manner (WFP, 2022). WFP is currently supporting the governments of Lesotho, Mozambique and Zimbabwe to create feasible linkages between AA systems building and adaptive social protection, with the objective of channeling anticipatory assistance through national social protection systems. Ways of possible integration include leveraging elements of the social protection system architecture (e.g., social registries, delivery systems), scaling, flexing or tweaking existing social assistance programmes to reach at-risk populations ahead of predictable extreme events.

Since June 2022, WFP has also expanded the scope of AA in Mozambique to design conflict-sensitive anticipatory actions in the northern provinces of Cabo Delgado and Nampula. This presents a prime learning opportunity for AA practitioners but also conflict and migration agencies as well as research centres currently working on forecasting displacement movements.

As of 2023, WFP is expanding its AA programmes beyond the previous drought focus to sudden-onset hazards cyclones and floods, with Mozambique paving the way. In upcoming years, Madagascar, Malawi, Tanzania and Zimbabwe will follow with expansions into multi-hazard AA systems building.

## Evidence and advocacy

A common trend of this study was the lack of funds as well as limited political buy in outside of NHMSs and central DRM institutions. More advocacy and evidence<sup>4</sup> is needed to make AA more comprehensible and manageable for national stakeholders (REAP, 2022), but also to convince donors to scale up from pilot programmes and embrace a system-wide forecast-informed approach to humanitarian programming. WFP has further committed to strengthening AA evidence and advocacy building (for example, through supporting robust after-action review processes for activations, such as the Madagascar activation in 2022 with the disbursement of USD 1.2 million of anticipatory finance – the biggest drought AA activation in the region to date) and to global and regional dialogue platforms (such as the Southern Africa Dialogue Platform and the Africa Dialogue Platform).

## What's next:

At global scale, WFP's will continue to adopt a two-speed approach to AA by (1) strengthening government capacities and systems to develop and implement AA at scale and sustainably; and (2) delivering AA at scale while institutionalizing the approach within humanitarian systems, including WFP's own emergency preparedness and response systems.

In Southern Africa, WFP and host governments have designed the second five-year Phase II of the MCP-AA4FS Programme funded by NORAD (2023-2028) to capitalize on the Phase I's results and momentum. In addition to continuing work in Madagascar, Mozambique and Zimbabwe, WFP will initiate AA capacity strengthening with the governments of Malawi and Tanzania. Phase II will focus on a multi-hazard expansion of AA systems, increasing linkages with social protection and other climate and disaster risk financing instruments such as macro insurance, and boosting the localization of AA programming and the scaling up of AA direct delivery.

Other initiatives include an ECHO-funded programme<sup>15</sup> that will be jointly implemented by WFP, FAO and IFRC until 2025 in Zimbabwe and Mozambique. By the end of the programme, both host governments will have their own national AA Frameworks that act as coordination umbrellas for agency-specific AA mechanisms, which should greatly enhance national ownership and harmonization of AA processes. These two pilot countries will subsequently guide similar processes in further SADC member states.

As key implementing partner under the global Early Warning for All (EW4All) initiative, WFP will also support EW4All priority countries in the southern Africa region in reaching the ambitious targets of operationalizing all-inclusive EWSs that reach the last mile by 2027.

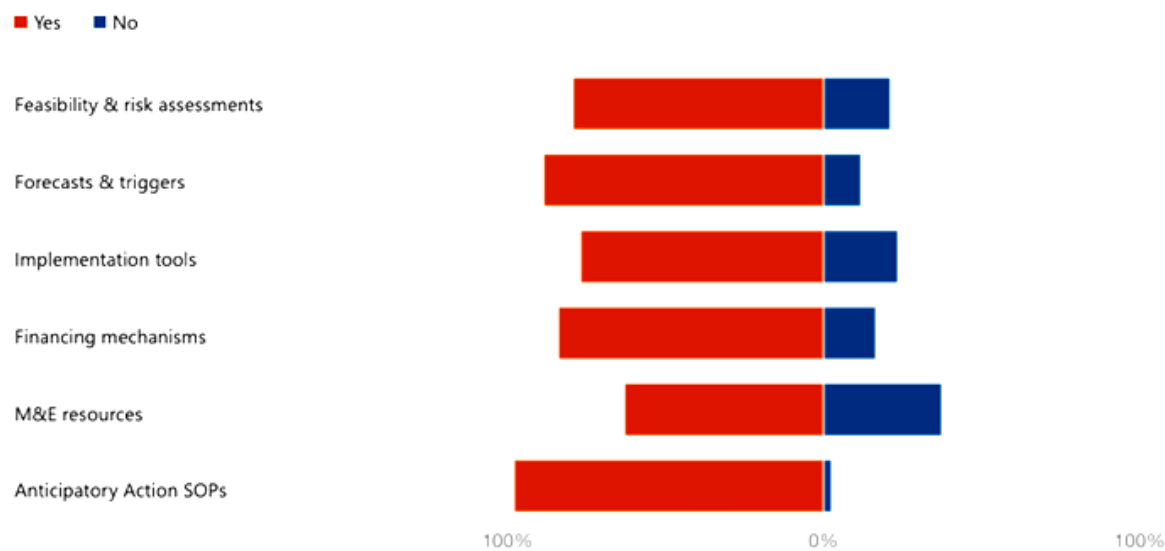
WFP is one of the Systemic Observations Financing Facility (SOFF) implementing entities, and supports countries to generate and exchange basic observational data (which are critical for improved weather forecasts and climate services). WFP is supporting in the governments of Mozambique and Zambia, and will likely onboard further countries in the near future.

<sup>15</sup> Joint Programme on Strengthened Early Warning and Anticipatory Action in Southern Africa.

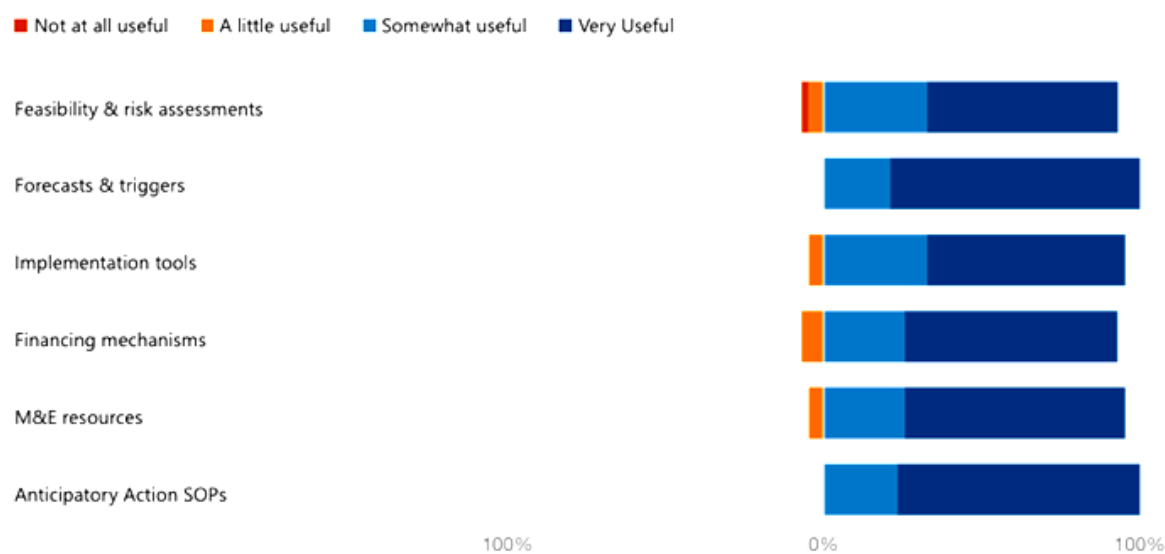
# Annexes

## Corporate Results Framework (CRF) Indicator G7: survey results

15. Are you **aware** of **WFP having provided support** to any of the following **tools** or processes?



16. To what extent do you find each of these tools **useful** for your work regarding the anticipatory action agenda?





# Scope and methodology

**Madagascar, Mozambique, Zimbabwe** are the subject of these studies, as they all benefitted from similar funding from NORAD at the end of 2019, which was used to deliver 1) anticipatory actions to vulnerable communities to protect them from the impact of drought; and 2) strengthen national capacities for anticipatory action for drought.

This research project looks at the success of the second objective, with the following research question: what has been the impact of WFP's capacity strengthening interventions on national capacities and systems for anticipatory action for drought?

**Methodology for analysis.** Key informant interviews were structured around research categories (milestones, impact, actors, challenges, best practices, lessons learned, opportunities) and answers were analysed using the thematic networks approach (Attride-Stirling, 2005). Using the MaxQDA software, the interviews were "coded" (sections of text were assigned worded tags, or "codes") into basic themes, which were then grouped into organizing themes and global themes were extracted.<sup>16</sup>

The basic themes that came out organically from the analysis aligned with WFP's latest framework of capacities for anticipatory action (jointly developed with the ICRC). The organizing themes tended to reflect the structure of the questionnaire and research categories. The global themes are the main findings of this research and can be summarized by the titles of each section.

**Limitations.** The findings of this case study are based chiefly on qualitative data analysis, as is often the case with complex process-oriented monitoring (Watson, 2012). Using the thematic networks approach seeks to reduce the amount of bias, but interpretative work remains an aspect of such research projects (Attride-Stirling, 2005). Quantitative data have been limited by the number of questionnaire respondents (43 total). Moreover, this case study focuses on AA for drought, when it could be argued that AA capacities for drought are transferrable to other hazards.

The author was commissioned to write these case-studies and has a salaried relationship to the World Food Programme. To mitigate bias, key informants were chiefly (81%) composed of partners (NGOs and INGOs) and government stakeholders, to appropriately capture their perception of the evolution of capacities.

**Contribution.** These case studies contribute to the intersection of literature between the evidence base for anticipatory action and the impact of capacity strengthening interventions. In this way, they also contribute to the overarching literature on how humanitarian and development work to achieve the Sustainable Development Goals. By addressing other aspects of capacity than the legislative one, they also complement REAP's existing case studies. For further detail, readers can consult the country-specific case-studies that goes in greater depth in the nuances of each context.

<sup>16</sup> These are "macro themes that summarize and make sense of clusters of lower-order themes abstracted from and supported by the data. Thus Global Themes tell us what the texts as a whole are about within the context of a given analysis. They are both a summary of the main themes and a revealing interpretation of the texts".

# Acronyms

AA	Anticipatory Action
AAP	Anticipatory Action Plan
AGRITEX	(Zimbabwe) Ministry of Agriculture
BNGRC	(Madagascar) Bureau National pour la Gestion des Risques et des Catastrophes
CERF	(United Nations) Central Emergency Response Fund
DARIDAS	(Mozambique) Division for the Development of Arid and Semi-arid Zones
DCP	(Zimbabwe) Department of Civil Protection
DGM	(Madagascar) Direction Générale de la Météorologie
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ECHO	European Civil Protection and Humanitarian Aid Operations
EU	European Union
EW4All	Early Warning for All
EWS	Early warning system
FAO	(United Nations) Food and Agriculture Organization
FCDO	(United Kingdom) Foreign, Commonwealth and Development Office
GCF	Green Climate Fund
GIS	Geographic Information System
GIZ	(German) Gesellschaft für Internationale Zusammenarbeit
HQ	Headquarters
IFAD	International Fund for Agricultural Development
IFRC	International Federation of Red Cross and Red Crescent Societies
INAM	(Mozambique) Instituto Nacional de Meteorologia
INGD	(Mozambique) Instituto Nacional de Gestão e Redução do Riscos de Desastre
INGO	International Non-Governmental Organization
IRI	International Research Institute for Climate and Society
KII	Key Informant Interview
MSD	(Zimbabwe) Meteorological Service Department
NGO	Non-Governmental Organization
NHMS	National Hydro-Meteorological Service
NORAD	Norwegian Agency for Development Cooperation
OCHA	(United Nations) Office for Humanitarian Affairs
PRO-ACT	Pro-Resilience Action project
RAAWG	Regional Anticipatory Action Working Group
RAM	Research, Analysis and Monitoring
REAP	Risk-informed Early Action Partnership
SADC	Southern African Development Community
SOFF	Systemic Observations Financing Facility
TWG	Technical Working Group
UNDRR	United Nations Disaster Risk Reduction Office
UNEP	United Nations Environment Programme
USD	United States Dollar
WFP	World Food Programme
WHH	Welt Hunger Hilfe
WMO	World Meteorological Organization

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