SPARC
Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises

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REPORT

ANTICIPATORY ACTION IN ADVANCE OF 'WICKED CRISES'

Insights from a real-time study of people's lives in Somalia **2020–2022**

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EXECUTIVE SUMMARY

Key messages

- It is much more difficult than would be hoped to find viable anticipatory action that people could have taken to mitigate the developing crisis in Somalia in advance. There were rational reasons why people didn't take actions which may seem to have been good ideas to outsiders with hindsight.

- The main constraint was the lack of alternative strategies made available by the local economy. Investing in supporting such opportunities over longer timeframes will create opportunities for people to find their own anticipatory action, and (but only secondarily) more opportunities for agencies to offer assistance for anticipatory action.

- As each rainy season approached, people were planning for reasonable rains, even though there were seasonal forecasts indicating a likelihood of poor rains. Our interviewees' information networks were well developed but ensuring that reliable and trusted seasonal weather forecasting is integrated into their planning will be a prerequisite for supporting their anticipatory action.

- The crisis took a wide variety of trajectories in different places, and people's livelihoods followed a myriad of paths through it. Support for a wide variety of strategies or programming cannot best be organised and managed as a single anticipatory action instrument with a single funding mechanism and one common trigger in the context of 'wicked crises'.

Introduction: Anticipatory action and 'wicked crises'

Governments and aid agencies have had promising results with anticipatory action, i.e. support offered when a crisis is predicted but before it develops. These experiences have been in straightforward crises, where trajectories are predictable, the scale of the crisis is limited, and where technical solutions are reasonably well identified. Anticipatory action is increasingly being promoted in what could be called 'wicked crises', such as that occurring in the Horn of Africa in 2020–2022. In addition to being protracted, more severe and on a wider geographical scale, such crises are also much more complex.[1] Analysing how crisis-affected people take their own anticipatory action seemed to offer a way to understand how support can best be offered as crises threaten, and what are the windows of opportunity for doing so.

In 2020, the Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) research programme used the advance warnings of a possible drought in Somalia to set up a panel of farmers and pastoralists in three study sites in Somaliland, Puntland and the

1 We use the term 'wicked crisis' in the sense of the class of problems that have been called 'wicked'. Wicked problems are unique; different stakeholders have different frames for understanding the problem; they have no clear trajectory or obvious end point. They change over time, as do the possibilities for addressing them. Opportunities to learn by trial and error (a fundamental method of problem-solving) are also limited, because every attempt counts significantly (e.g. in the aid context, in lives actually lost or saved). There is no absolute solution to a wicked problem, nor a definitive menu of solution options.

Middle Shabelle Region in southern Somalia. Participants were interviewed in four rounds, up to early 2022, when they explained their livelihoods, what they were expecting to happen and what they were doing to prepare for the future. This study is not an analysis of any anticipatory projects implemented in Somalia and, to our knowledge, none of the interviewees was receiving assistance from any anticipatory action aid projects during the interview period.

The crisis, which may not have reached its peak as this report is being finalised in early 2023, has been caused by a succession of shocks, which are well documented elsewhere. Parts of Somalia have been affected to different degrees by plagues of locusts from 2019; economic disruption has been caused by COVID-19; repeated seasons of below average rains have occurred between the second (October, November, December or OND) 2020 rains and the second 2022 rains (i.e. five seasons); and there has been repeated flooding. All these events have occurred in a country that has suffered protracted conflict and insecurity. Seasonal forecasts were available predicting a likelihood of below average rains each time, although different meteorological models produced different forecasts for the first (March, April, May or MAM) rainy seasons.

Identifying actions and decision-making

Identifying people's own anticipatory actions proved harder than expected for several reasons. Because they live with perpetual uncertainty, people's livelihood planning took the form of constant improvisation, not a scripted performance that is replaced with a 'plan B' in the event of a shock warning. Few had been expecting poor rains before each season. Rather than reacting to a shock warning, they were thinking more in terms of longer-term adaptations, including to a clearly changing climate. Where there were clearer and more certain shock warnings, e.g. to floods and locusts, people did what they could, acting collectively and individually, and investing resources in setting up their early warning communication systems and responses.

Men and women often acted together in collective action, and male and female informants broadly shared the same livelihood priorities in the face of crisis. Almost invariably, men and women both indicated that there was collaboration between them in livelihood decision-making.

Constraints to anticipatory action

The main constraint to taking anticipatory actions was the dearth of alternative opportunities. Participants have been forced to adapt their livelihoods to the frequent shocks that are the norm, so that all alternatives are a part of their normal 'livelihood performance'. Neither the interviewees themselves nor a group of experts convened at roundtables in 2022 could identify much that they could have done differently, even with hindsight. Where it seems to an outsider that there might have been options, e.g. earlier decisions to sell or migrate with livestock, they were not blocked by constraints that a government or aid agency could easily unblock. Without the benefit of hindsight, people refrained from those options for clearly identifiable reasons.

Specifically regarding failed rains, the other main constraint to mitigating crisis in advance was that most informants were expecting reasonably good rains with each season, despite meteorological seasonal forecasts indicating that this was not likely. This information was not reaching people and not being integrated into their planning and decision-making. There

were some conflicts between predictions generated by different models specifically for the first (MAM) rains, but science seems to be moving rapidly in this area and there are hopes for new consensus. These discrepancies do not seem to have been a reason for the widespread lack of awareness of seasonal forecasts. People had established and maintained very efficient social networks for sharing information, including forward-looking information. This, combined with the clear evidence of their adaptability and social organisation, suggests that there is a high potential for supporting people to take anticipatory actions, if they can be engaged with forecasts and in discussions of their implications. However, the constraint that there are few opportunities to mitigate protracted drought will remain.

February 2022, Baidoa, Somalia. Fadumo Maxamed Ahmed feeds the dregs of her morning tea leaves to her last surviving camel, after fleeing home due to the drought. © Mercy Corps.

It is extremely positive that anticipatory action is getting more attention, but there is a potentially worrying narrative that it could have played a significant role in mitigating a crisis in Somalia in 2020–2022, had there only been adequate funding. There are three implications behind such a claim: there are clearly identified ways of using anticipatory action funds that have a high probability of achieving significant impact at scale and with known windows of opportunity; anticipatory action (thinking and funding) is adequately integrated into the disaster risk management architecture, so that it can be used most appropriately; it could be possible to recruit and manage resources for anticipatory action on the scale required to make a significant contribution to mitigating crisis of the scale and complexity of Somalia 2020–2022. Each of these implications is doubtful.

Currently, anticipatory action is managed generically within the humanitarian sector. It is generic in two ways. The interventions used are broadly the same across a wide range of crises in different places and countries; and it is treated *sui generis*, where everything labelled as anticipatory action is managed as if it were a part of the same thing, all part of one plan, one funding pot, one timetable, one trigger, one management/reporting framework, and even a single overall evaluation. The corollary is that resources for anticipatory action are planned and managed separately from other interventions that are dealing with the same issues in the same sectors. This does not match how the people affected by crisis plan their lives. They think holistically about short-term and longer-term adaptations.

Linking anticipatory action with investments in climate change adaptation and resilience

Resources available for anticipatory action within a major crisis will always be tiny compared to the scale of the problems. The more that anticipatory action is planned in each sector together with investments for adaptation, which will create opportunities for people to take anticipatory action, the more forward-looking thinking can be used to leverage impact.

1 INTRODUCTION

Background

Interest in anticipatory action (sometimes called early-warning-early-action, forecast-based action or livelihood protection) is gaining momentum in the humanitarian sector. Anticipatory action means acting on the expectation that a crisis is coming. Assistance can often be offered before a shock arrives, for example based on the prediction of a cyclone, flood or heatwave. Where a crisis takes time to develop after an initial shock, there can be time to take anticipatory action even after a shock has hit but before its impacts are fully felt.[2]

So far, the range of anticipatory options used by governments and aid agencies has been limited. A few projects have been designed in relation to the specific nature of the shock, e.g. the need to ensure that farmers have drought-tolerant seeds before a predicted poor rainy season, or enough fodder for their animals to survive an expected drought or a harsh winter (see Start Network, 2018 and 2019; FAO, 2018 and 2019). Particularly in the livelihood domain, many anticipatory action projects have consisted of cash transfers, often accompanied by additional measures.[3] Because cash allows people to set their own priorities, agencies rely on anticipatory cash transfers even where they are not sure what action different people might be able to take in advance of a crisis. The intervention is justified mainly on a (very plausible) assumption that it is better to intervene earlier than later.

But anticipatory action is not necessarily undertaken at the right time just because it arrives before a crisis. For example, help for livestock keepers to market their animals in a drought might be too late if the livestock market has already collapsed, even if a humanitarian crisis has not yet developed; or it could be too early, if delivered before herders were ready to think about selling their animals. Livelihood support needs to match the livelihood calendar, specifically people's different livelihood calendars as a crisis is developing (what we call the crisis calendar, see Box 1).

Although a lot of attention has been given by the humanitarian sector to understanding how people cope during crises, less attention has been given to the timing of their strategies, and to the rationale behind people's own anticipatory strategies earlier in the crisis trajectory. Deeper understanding of these could help make support more effective for two reasons: a) agencies could potentially time their support more effectively; and b) they could move beyond generic anticipatory projects to tackle specific constraints felt locally within the window of opportunity.

2 Our use of the term anticipatory action is not universal. Some restrict the term to action taken before a shock. See Box 1.
3 For a summary of cash-based anticipatory interventions, see: British Red Cross (n.d.).

BOX 1: A NOTE ON TERMINOLOGY

This paper does not seek to enter a debate about the meaning of terms, but to avoid misunderstandings. An explanation of how the following terms are used in the paper is set out below.

Drought: No specific technical definition is used or advocated. The context will make it clear whether the meaning is specifically about the lack of rainfall, or whether it refers to the impact of any lack of rainfall, e.g. drying up of vegetation (for which high temperatures could also be a contributory cause). Interviews asked people to describe the challenges they were facing in their own terms. Questions were not posed specifically about drought.

Anticipatory action: This refers to actions taken in advance to mitigate a predicted crisis, including actions taken by the people threatened by crisis and those taken by external agencies (government, service providers, aid agencies, etc.). Many humanitarian agencies use the term only to refer to actions taken by supporting agencies. Some further restrict the term to actions taken before a shock (e.g. REAP, 2022), but this paper includes both actions taken before a shock (or 'forecast-based action') and actions taken between a shock arising and a crisis developing, as crises are often the result of several shocks.

Forecasts and projections: For the sake of clarity, we distinguish between predictions of shocks (e.g. droughts and floods), for which the term 'forecast' is reserved; and predictions of the likely severity of their impacts, which are called 'projections' in this report.

Crisis calendar: This is how the seasonal calendar plays out in a specific crisis, rather than its normal or average pattern. It includes rainfall, the timetable of cropping or herding during the crisis, the timetable of people's other coping strategies, changes in prices or terms of trade, etc.

Humanitarian calendar or timeline: This is not used to refer to the timetable of response, but rather to the trajectory of the crisis itself regarding the parameters that are the usual concern of humanitarian action, i.e. how malnutrition, food security, displacement, water availability, etc. change with the months and seasons. In discussions around anticipatory action and its triggers, it has often been related to Integrated Food Security Phase Classification (IPC) categorisation (IPC, n.d.).

Agencies: The term includes all formal institutions or organisations outside people's own communities that have some role or interest in supporting people threatened by crisis. It includes various government ministries or departments, state institutions, national non-governmental organisations (NGOs) and aid agencies.

Wicked crises: This paper borrows the notion of a 'wicked' problem to describe crises like those occurring in Somalia as 'wicked crises' (See Rittel and Webber, 1973). The 2020–2022 crisis was not simply a drought, but also a protracted political crisis, where aid resources were a part of the political landscape. Wicked crises have been defined as crises with the following characteristics. They are unique; different stakeholders have different frames for understanding the problem; and they have no clear trajectory or obvious end point. They change over time, as do the possibilities for addressing them. Opportunities to learn by trial and error are also limited, because every attempt counts significantly (e.g. in the aid context, in lives actually lost or saved). There is no absolute solution to a wicked problem, nor a definitive menu of solution options.

The short OND[4] (or 'deyr') 2020 rains were poor in some parts of the Horn of Africa, and by the end of 2020 some forecasts were predicting that the next long MAM rains in 2021 would also be poor (SPARC, 2021).[5] The pastoral and agro-pastoral livelihood systems in the drylands have developed to withstand a poor rainy season. Two rainy seasons, particularly on the back of COVID-19 and locusts, could cause more difficulties. By the end of 2020, then, there was a possibility that many would suffer hardship in Somalia, even if the duration and severity of the current drought could not then be imagined. This offered an opportunity to learn in real time about what farmers and pastoralists knew and thought about the threat of crisis, and what steps they took as a result.

Objectives of the research

Anticipatory action from external assistance is usually intended to help people take their own actions to mitigate an approaching crisis, so they will be better able to support themselves through it. To identify what kinds of support would be useful, and when it would be needed, agencies need to understand the following.

- As shocks approach and as crises develop, what do the people who will be affected know and believe about what is predicted to happen? What alternative courses of action do they see as being available to them?
- What are their objectives at different times, given what they know about the predicted shock or crisis, or what they think they know?
- What would they like to be able to do to avoid or mitigate problems?
- What are their constraints to taking action? How and when could these constraints be removed?

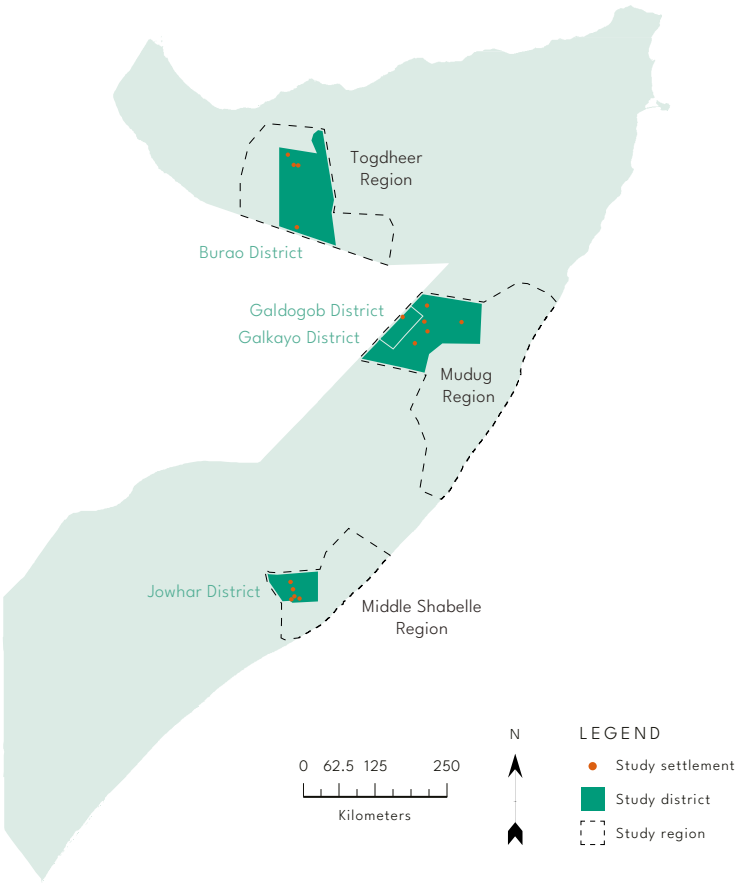
The SPARC team set out to examine these questions in three study sites covering Somaliland, Puntland and the Shabelle state of Somalia (see Figure 1). Although answers to the questions in the specific areas studied above would only be directly applicable there, our purpose was to investigate a question of wider relevance. In theory, it seemed likely that assistance could be more effective if it was: a) designed for the specific constraints faced by people in a particular place; and b) scheduled according to the calendar of opportunities and constraints, rather than to a humanitarian calendar (see Box 1 above). However, this was an untested hope. Could a more detailed understanding of how people face crises really lead to such a step-change in how anticipatory action could be designed and scheduled? Would it be feasible to expect agencies to gather this information in the timeframe needed? It was hoped that SPARC's study in Somalia would provide some evidence towards answering these questions.

4 Rainy seasons are often denoted by the initials of the months of the usual season. OND is the October-November-December season and MAM denotes the March-April-May season. The actual timing of the seasons varies somewhat across Somalia. The OND season may begin in September in some places, or the MAM season may extend into June, but for simplicity the same designation is used across the country.

5 Not all forecasts indicated a likelihood of below average rains, e.g. the Intergovernmental Authority on Development (IGAD) Climate Prediction and Applications Centre (ICPAC) forecast predicted a likelihood of average rain for much of Somalia and above average rain for parts of Somaliland and southern Somalia (ICPAC, 2021). See section 2 for more discussion of the various forecasts over the period. The possibility of below average rains is mentioned here only in relation to the interest of the research team in setting up the study.

It was further hoped that the evidence of how people managed their own lives through a crisis would enable us to throw some light on how anticipatory assistance could be best thought about, planned and organised in complex crises like that developing in Somalia in 2020.

FIGURE 1: MAP OF STUDY SITES



Source: Authors' map, using administrative boundaries from GADM version 2.8; and settlements from UNSOS (2016) accessed via *spatial.faoswalim.org*

Methodology of SPARC's investigation of anticipatory action

This report draws on a number of research strands.

1. The foundation of the research was a four-round series of interviews conducted between February 2021 and March 2022, with a panel including pastoralists and agro-pastoralists, crop farmers and people engaged in small-scale businesses in rural areas or small market centres. A total of 120 people were interviewed at least once, 85 people more than once and 21 people were interviewed four times. Informants lived in Jowhar district in Somalia's Middle Shabelle region, in Galkayo North in Mudug region, and in Burao in the Togdheer region of Somaliland.[6] A brief description of the interviews and study sites is included in

6 During the period of interviews, some respondents moved from Galkayo to Galdogob districts, which is why study locations in Galdogob are highlighted in Figure 1. However, the majority of respondents remained in, or tied to, Galkayo study locations. Therefore, Galkayo, Burao and Jowhar are the geographic focus for further analysis in the following chapters.

Annexes 1 and 2. Interviewees were not asked specifically to discuss drought. They were asked about their current livelihood strategies and objectives, what they were planning to do, what they were expecting from the future and what constraints they faced in taking alternative strategies. Round 4 also asked specifically about differences between men's and women's access to information, and their priorities and strategies in the face of crisis.

2. The picture of the unfolding situation was complemented by interviews with traders in livestock, agricultural produce and food commodities.

3. The analysis of people's livelihood trajectories was combined with other learning emerging from the Somalia crisis. This covered the broader picture of early warning and response mechanisms, humanitarian needs and response, and the use of anticipatory action in Somalia and the region more broadly. Apart from secondary literature (as cited throughout the report), two roundtables were organised with experts involved in generating this body of learning. The aims were to share lessons and grapple with questions on what hindsight could tell us about the potential role of anticipatory support in Somalia and its organisation. The research team participated in other roundtables and events focusing on anticipatory action in the region and globally.

Because of the speed with which the panels had to be established to track a crisis in real time, and given the logistical difficulties involved for researchers from outside the country, the SPARC team had to be opportunistic in selecting study sites in areas with different rural livelihoods. The team therefore used informant panels which had already been set up in 2020 to understand the unfolding impacts of COVID-19 (Levine et al., 2021a).

The panels offered a wide diversity of situations, but they were not meant to be 'representative' of Somalia as a whole. It was not possible to know in advance which parts of Somalia (if any) would be worst hit by drought and, as discussed below, there were significant differences between the sites. Insecure areas were not included, although these may have been the worst hit by the 2020–2022 crisis. In each study area, the panel tried to ensure a degree of diversity in gender, age, livelihood type and socioeconomic status, rather than attempting to be representative.

None of the panellists reported being the recipient of assistance from any anticipatory projects. This was fortunate, as the intention was to understand people's own journeys through the crisis, and not the impact of assistance projects.

It was initially planned to end the research in late 2021, in the expectation that the crisis would then be past its peak. The primary interviewing was extended until 2022 because of the continuation of the drought. It was subsequently decided not to further delay putting this analysis in the public domain, despite the crisis not ending at the time of writing.

The roundtable discussions were delayed until mid-2022 because of the continuation of the crisis. Participants included experts working on drawing lessons from studies of the use of anticipatory action, agencies that had implemented anticipatory action projects in Somalia and the Horn of Africa, agencies working on longer-term interventions in Somalia, and meteorological agencies.

2 SOMALIA CRISIS TIMELINE 2020–2022

Context

Somalia's current crisis is among the most severe experienced in several decades. Most of the country is currently experiencing the longest period of failed consecutive rainy seasons since the start of satellite record-keeping in the 1980s (FEWS NET, 2021a).

Drought is only part of the story, though. Over the past three years, the three study areas were hit by additional shocks. A detailed analysis of these shocks is beyond the scope of this paper, as is an assessment of the contribution each has played in the crisis in different parts of the country. Here we set out a broad sketch to provide the necessary context for analysing anticipatory actions.

Locusts

Problems began in 2019 and, after OND 2020, new locust swarms hit the northern part of Somalia (including Mudug region, Puntland and Somaliland) most severely (United Nations, 2020). Aerial spraying was conducted in some areas, but these control measures were hampered in the first half of 2020 by lockdowns and restrictions on travel due to COVID-19.[7]

Our informants, particularly in Mudug region, spoke of three different ways in which the locust plague affected them. Firstly, the locusts destroyed harvests and ravaged vegetation in the rangeland. Secondly, many blamed the aerial spraying for the death of livestock, which they reported had occurred only in areas that were sprayed.[8] Thirdly, people were forced to stay close to their fields to try to scare the locusts away, sometimes losing other work opportunities as a result (Levine et al., 2021b).

The locust infestation declined progressively from the second half of 2020 onwards, but was only declared over in early 2022 (FSNWG, 2021; FAO, n.d.a).[9]

COVID-19

Officially, there have been only 27,324 cases of COVID-19 in Somalia with just 1,361 deaths attributed directly to the disease.[10] The indirect impacts have been much more severe through a variety of causal mechanisms (Levine et al., 2021a, 2021b; Weingärtner et al., 2022). The global pandemic delayed measures to control locusts; while restrictions on travel led to Saudi Arabia cancelling the annual Hajj pilgrimage in 2020 and 2021, closing off one of Somalia's most important livestock export markets.

7 The destruction by locust swarms of crops and pastures in central Somalia, Puntland and Somaliland is described in World Bank (2020) and FSNWG (2020 and 2021).
8 It was beyond the scope of this study to investigate the likelihood of any links between spraying and livestock mortality.
9 Full details of the prevalence and nature of locust presence in Somalia from month to month can be found at FAO (n.d.b).
10 As of 10 March 2023, when John Hopkins Coronavirus Resource Centre stopped collecting data (John Hopkins, n.d.), accessed March 2023.

The livestock market proved reasonably resilient in 2020, partly because livestock were in good condition after favourable MAM 2020 rains (SPARC, 2021). However, by 2021 livestock prices were lower than usual (Levine et al., 2021b; Weingärtner et al., 2022) and different trading arrangements in new export markets meant that animals often had to be sold on credit rather than for cash.[11] Many chose to sell fewer animals, hoping for prices to recover quickly. The subsequent drought meant that this did not happen, and many more animals have probably been lost as a result.

Public health restrictions caused other economic disruptions and our informants spoke about a dramatic reduction in remittances from the Somali diaspora (especially in Europe and North America).[12] Money from remittances had been an engine of economic activity, including construction in urban areas, which has provided casual and seasonal labour opportunities that have been an important coping mechanism for many.

Floods

Somalia regularly suffers from flooding, either from rainfall locally, particularly in the MAM season, or from rain falling in the Ethiopian highlands, which leads to riverine flooding downstream. Flooding can thus occur during the main rainy seasons and in the dry season from July until around mid-September. Riverine flooding has become much worse in recent years in Lower Juba and Lower Shabelle regions.

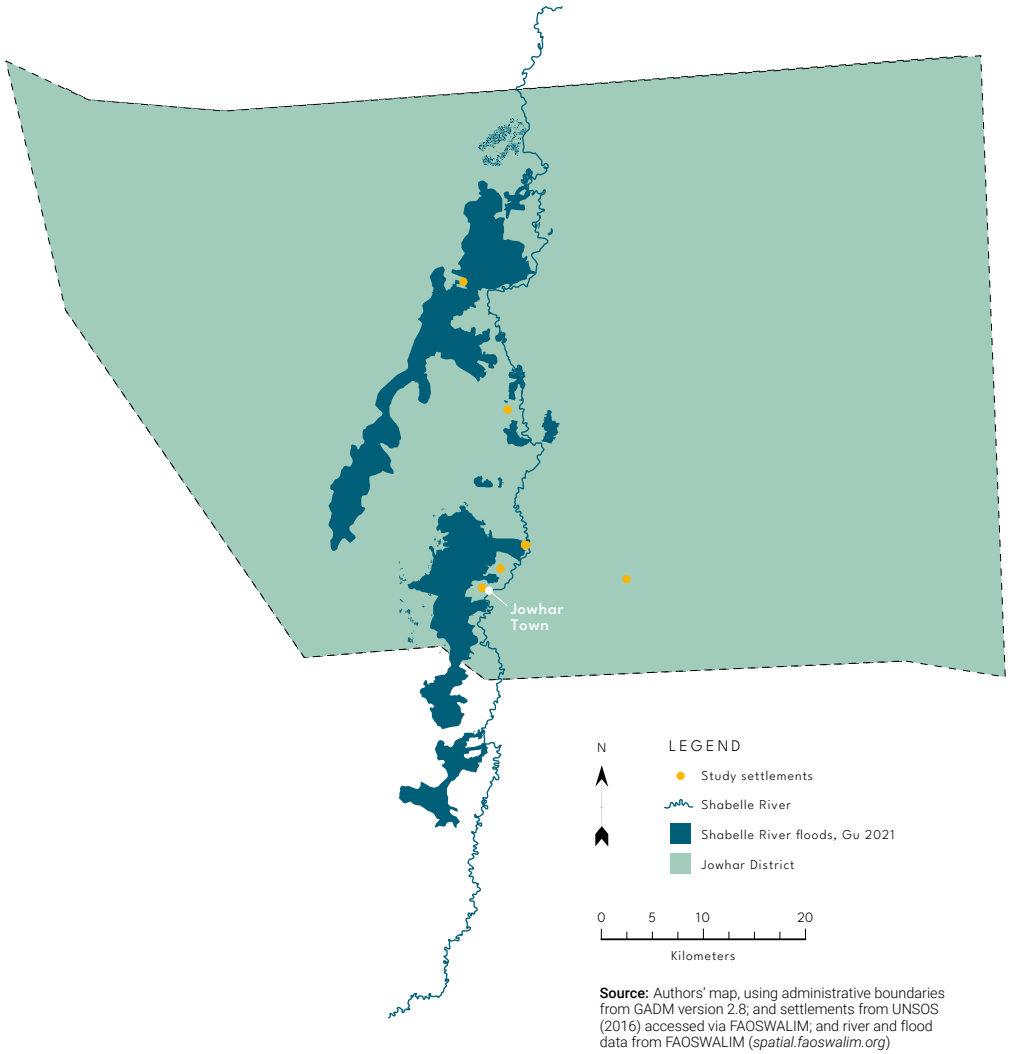
Serious flooding has occurred every year since 2018, but 2020 was particularly detrimental. Between 2020 and 2022, repeated waves of flooding were estimated to have affected around 1.6 million people (EM-DAT, n.d.). Of our three study sites, Jowhar was worst affected by floods (Figure 2). Informants reported floods in OND 2020, followed by much more serious flooding in MAM 2021, which lasted through the following dry season in some areas until exacerbated again by OND rains. Some farmers were only able to plant crops in November 2021 as the waters subsided.

As ever, the problem is not simply about weather events. Interviewees spoke of the disrepair of structures built to manage river flow during the Barre regime. The increase in flooding on the Shabelle river is also partly attributed to increased silting on the riverbed (UNEP-DHI, 2022). The local governance regime also plays a role. "The flooding is worsened by illegal openings on the river embankments (made to create outlets for irrigation water during the dry season). Water coming out of the river through these openings during high river flows cause havoc to the adjacent land" (FAO, 2023).

11 As mentioned in Weingärtner et al. (2022), some price monitoring sources reported that livestock prices remained normal in parts of Somalia, e.g. FEWS NET (2021b). However, panel informants for this study consistently reported the problems of low livestock prices. Livestock prices are much harder to compare than those of commodities such as grain, since prices can vary enormously depending on the animal's body condition and other factors.

12 Official figures for remittances do not show the expected reduction to Somalia; instead, some have indicated an increase in remittances, e.g. Ratha et al. (2021). This is believed to be a problem of measurement because the closure of borders caused more funds to be transferred through official channels. Studies that captured both formal and informal remittance flows at household level confirm our own findings in reporting a decrease in remittances. Ratha et al. (2021) reported that surveys in several countries showed decreases in remittances for a large percentage of households, even while officially recorded remittances increased. Kotikula et al. (2021) found decreases in the frequency of remittances and the amounts to Somalia from the start of the COVID-19 outbreak. Similarly, IOM (2020) estimated that remittances declined by around 60% as a direct result of the pandemic.

FIGURE 2: EXTENT OF RIVERINE FLOODING IN JOWHAR DISTRICT FOLLOWING MAM 2021, AND SITES OF SPARC STUDY AREAS



Source: Authors' map, using administrative boundaries from GADM version 2.8; and settlements from UNSOS (2016) accessed via FAOSWALIM; and river and flood data from FAOSWALIM (*spatial.faoswalim.org*)

Drought

Rain failure has not affected the whole country equally. As of February 2023, some areas have faced poor rains in five successive seasons; this is unparalleled since record-keeping began. Broadly, the north of Somalia, including Puntland and Somaliland (including Burao and Galkayo, two of the study sites for this research) received better OND rains in 2020, whereas rains in much of the south of the country (including Jowhar, the third study site) were below average. Below average rains were more widespread in 2021 and in MAM 2022. Many parts of the country, particularly the south, had below average rains again in OND 2022. Figures 3, 4 and 5 show the differences between the rainfall in each season in the three study sites. The rains have been below average in Jowhar in every season since OND 2019, except for MAM 2021, and there are no comparable sequences of below average rains in the past 20 years. Rainfall volumes are not the only dimension of drought. High temperatures (in 2019 and 2020) and poorly distributed rainfall have exacerbated the problem.

Conflict

Conflict and insecurity affect parts of Somalia in different ways. Economic activity has been depressed, especially in the most insecure areas, increasing vulnerability across much of the population. Access to some places has been difficult for international agencies, especially in the south, which is the most drought-affected area. Traders have usually been able to negotiate access, but insecurity has disrupted trade and increased prices significantly in some areas. Conflict has often been very localised.

FIGURE 3: MONTHLY RAINFALL IN BURAO 2013–2022 (IN MM) COMPARED WITH THE 30-YEAR AVERAGE

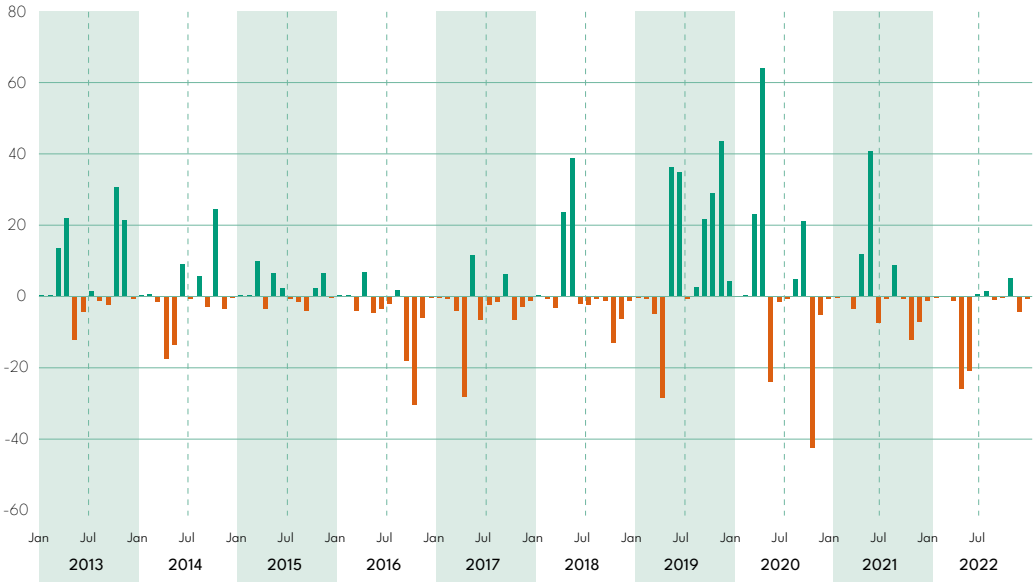


FIGURE 4: MONTHLY RAINFALL IN GALKAYO 2013–2022 (IN MM) COMPARED WITH THE 30-YEAR AVERAGE

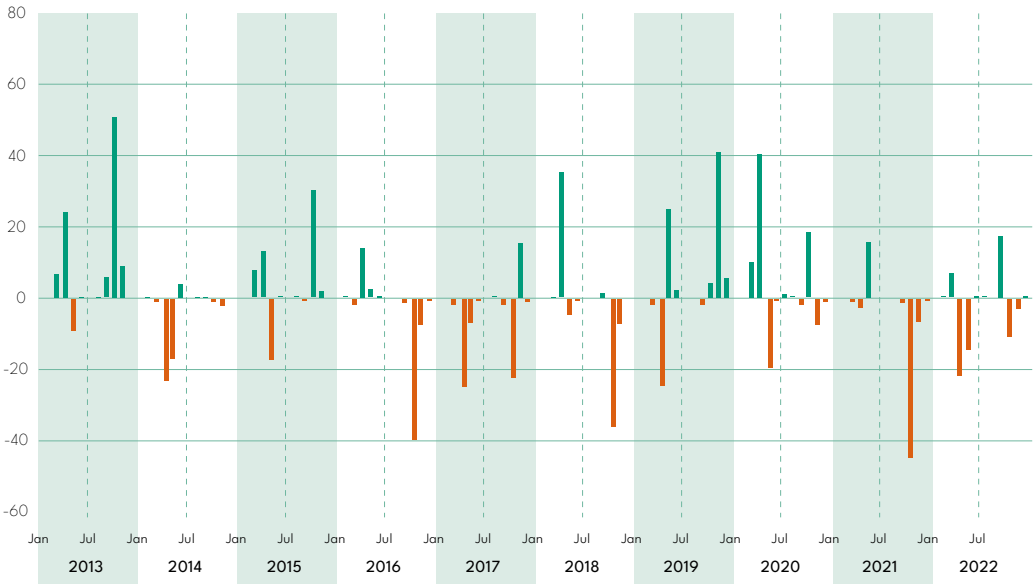
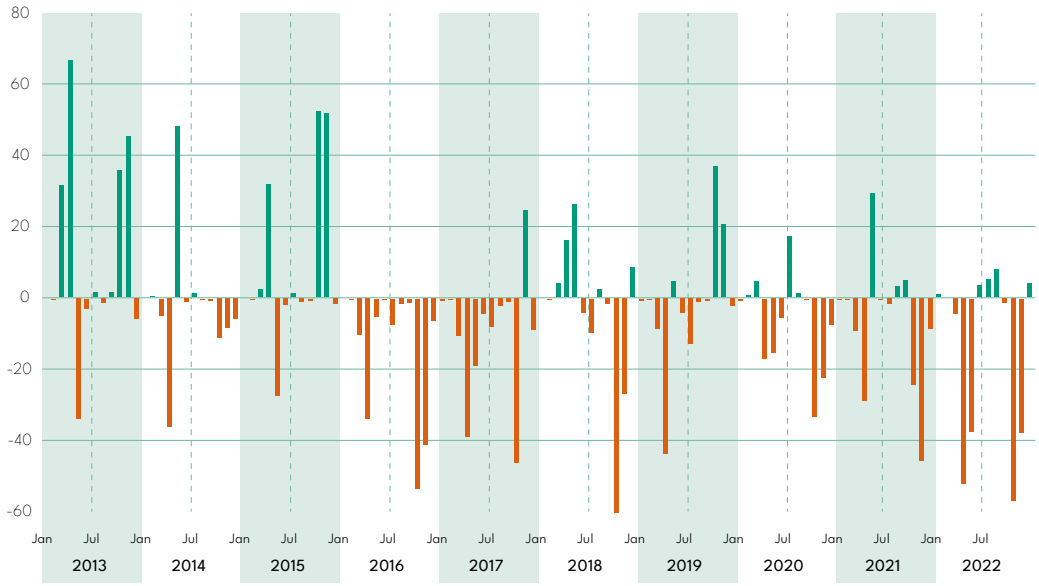


FIGURE 5: MONTHLY RAINFALL IN JOWHAR 2013–2022 (IN MM) COMPARED WITH THE 30-YEAR AVERAGE



Source for Figures 3, 4 and 5: Authors' calculations based on data from Climate Hazards Center University of California Santa Barbara and World Food Programme (https://data.humdata.org/dataset/som-rainfall-indicators-dekad-admin2), version updated 3 February 2023.

The timeline of the combined shocks in Somalia, 2019–2022

The Centre for Humanitarian Change (CHC, 2022) describes in some detail the performance of each rainy season across the Horn of Africa. Using this analysis, together with the findings of our primary research and other sources (as cited), gives us the following overview of the 2020–2022 period in Somalia (Figure 6).

OND 2019

- Seasonal rainfall was average and well distributed across the country (OCHA, 2020).
- Locusts affected crops in parts of Somalia, including in all three study sites.

MAM 2020

- Locusts continued to affect crops, causing harvest failures, especially in Burao.
- The indirect impacts of COVID-19 were a serious problem across the whole country.
- Rains were below average in the south of the country.
- Flooding affected the Shabelle river (Jowhar).

OND 2020

- Below average rainfall, with drought conditions in some parts.
- Severe riverine flooding in Jowhar.
- Impacts of COVID-19 continued to be felt; locusts in some areas.

MAM 2021

- Rains began late and were below average in most of the country. The Government of Somalia declared a national emergency at the end of April.
- Severe flooding in some riverine areas.
- Impacts of COVID-19 continued to be felt.

OND 2021

- Serious drought threatening much of the country. The rains were again below average across most of the country. Parts of Somaliland had heavier rains early in the season but ending early. Temperatures across the country were higher than average, adding drought stress.
- Livestock migration into least drought-affected areas (e.g. in Somaliland) increased stress on the rangeland (SWALIM, 2022). Parts of the central and southern region were classed as in severe drought by early 2022.
- Flooding on the Shabelle river in August to October, but water levels then fell sharply.
- Food prices were high in many parts of the country.

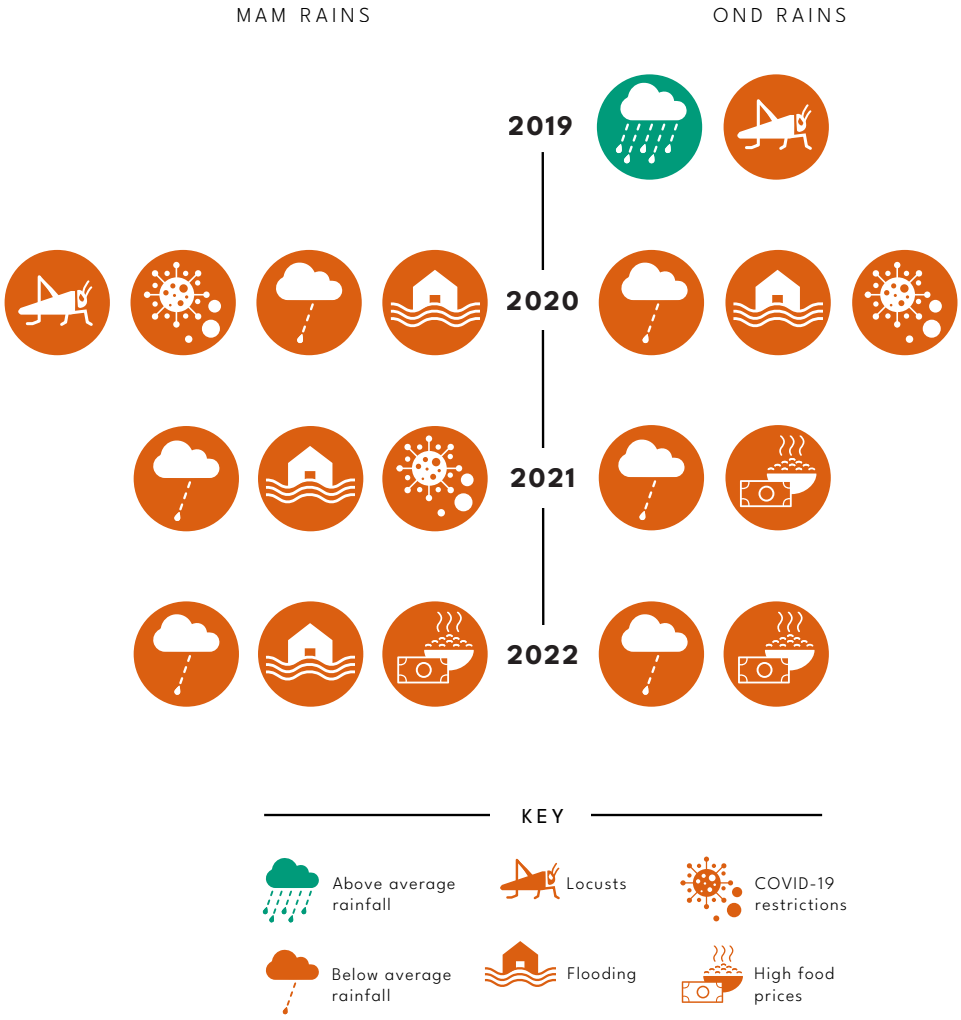
MAM 2022

- The rains were poor across the country. The drought was extremely serious.
- Sudden, but short-lived, flooding in May in the Shabelle river.
- Very high food prices across the country.

OND 2022

- Rains were again poor across much of the country.
- Very high food prices across the country.

FIGURE 6: CRISIS TIMELINE



Source: Authors' figure, based on CHC (2022), OCHA (2020), FAO (n.d.a), SWALIM (2021 and 2022).

Note: This figure is a simple visualisation of major shocks occurring across Somalia between 2019 and 2022. Not all parts of Somalia were affected (to the same extent) by each of these shocks.

The humanitarian timeline

There is no simple way to present a humanitarian timeline for Somalia in 2020–2022 for several reasons. Apart from the myriad regional differences already described, shocks affect people differently and in different timeframes. This depends on their livelihood strategies; within that strategy, on their economic status; and on their other resources, including their social capital, which is very much linked to clan and status.[13]

13 Maxwell and Majid's (2016) analysis of the role played by clan and social relations in the 2011–2012 crisis is indispensable reading.

There is no single way to measure livelihood stress or suffering. Some people are forced to migrate; some sell assets and/or incur debt to maintain food consumption; others reduce consumption. The following broad sketch is presented only for the purpose of providing a context for an illustrative analysis of anticipatory action. This section should not be read as a summary of the humanitarian calendar in Somalia 2020–2022. The picture is based on both primary data from interviews and secondary data from the sources cited.

The Food Security and Nutrition Analysis Unit (FSNAU) dashboard (FSNAU, n.d.) gives a time series chart using the number of parameters measured which were in alarm phase at any one time. This should not be used as a quantitative assessment of the changing severity of a crisis, but it does offer an easy visual impression of the differences in the situation across the country over the period. The graphs for the three study sites are presented in Figures 7, 8 and 9.

The year 2020 was a difficult one in **Burao**, but the relatively normal rainfall in MAM 2020 meant that the situation for many was not too serious until shortly before the onset of OND 2021, i.e. after a dry season following two poor rainy seasons. The situation then deteriorated rapidly and became similar to that of 2017.

Galkayo also suffered less throughout 2020 than many other parts of Somalia. Serious difficulties began with the failure of MAM 2021, since when there has been a progressive decline in conditions with repeated poor rains. Conditions deteriorated much more gradually in 2021–2022 than in 2017, and have been critical only since the beginning of 2022.

In **Jowhar**, there has also been a gradual but continuous deterioration in the situation since MAM 2020. Some respite was offered even by below average rains in OND 2020 and MAM 2021, but the overall downward trend continued. The situation has probably been worse for most people throughout 2021–2022 compared with 2016–2017.

FIGURE 7: TRENDS IN NUMBER OF INDICATORS IN ALARM PHASE, BURAO

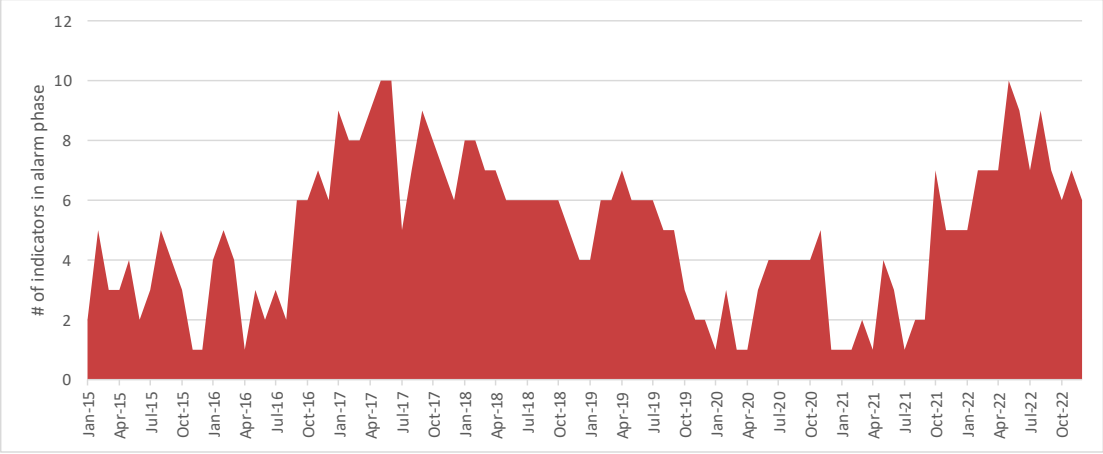


FIGURE 8: TRENDS IN NUMBER OF INDICATORS IN ALARM PHASE, GALKAYO

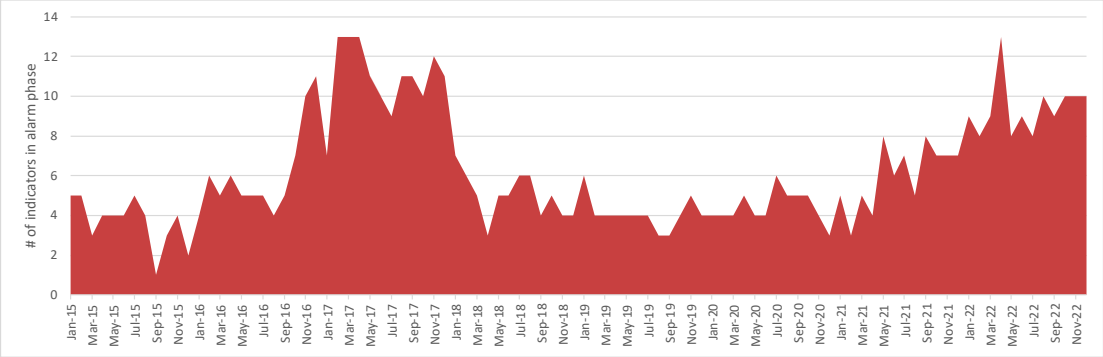
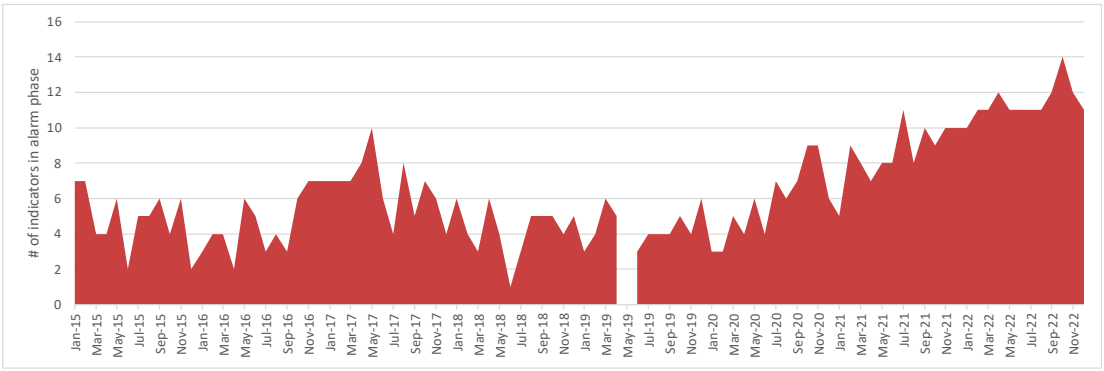


FIGURE 9: TRENDS IN NUMBER OF INDICATORS IN ALARM PHASE, JOWHAR



Source for Figures 7, 8 and 9: FSNAU Early Warning Early Action Dashboard (https://dashboard.fsnau.org/)

For livestock keepers, one of the key parameters is the relationship between the price of livestock (which they sell for income) and grain (which they buy as a staple food). Figures 10, 11 and 12 show a progressive decline of these terms of trade from the beginning of the COVID-19 pandemic in April 2020. Prices recovered a little in MAM 2021, but with hindsight this can be seen as a short respite in a longer-term decline, with terms of trade reaching just 20% of their 2020 peak by April 2022.

FIGURE 10: TERMS OF TRADE BETWEEN LIVESTOCK AND GRAIN (KG SORGHUM PURCHASED FOR THE SALE OF ONE GOAT) IN BURAO, 2009–2011 AND 2020–2022

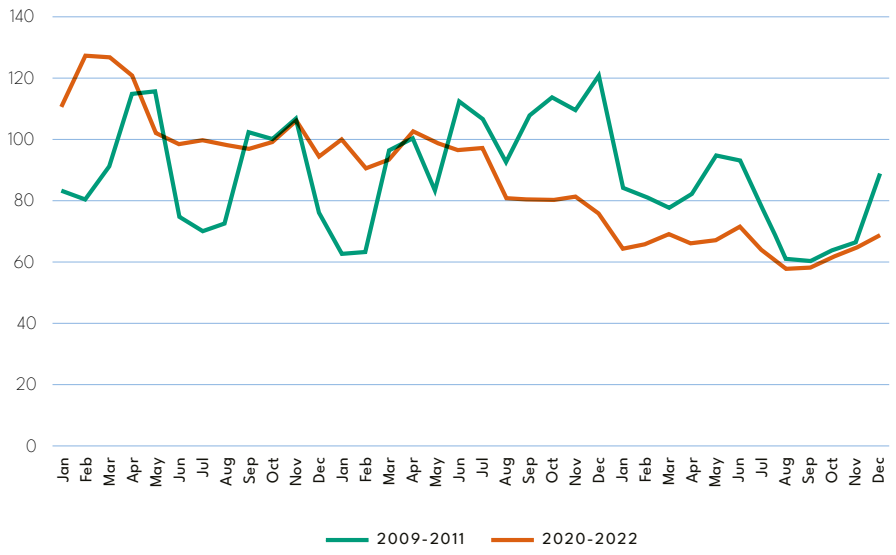


FIGURE 11: TERMS OF TRADE BETWEEN LIVESTOCK AND GRAIN (KG SORGHUM PURCHASED FOR THE SALE OF ONE GOAT) IN GALKAYO, 2009–2011 AND 2020–2022

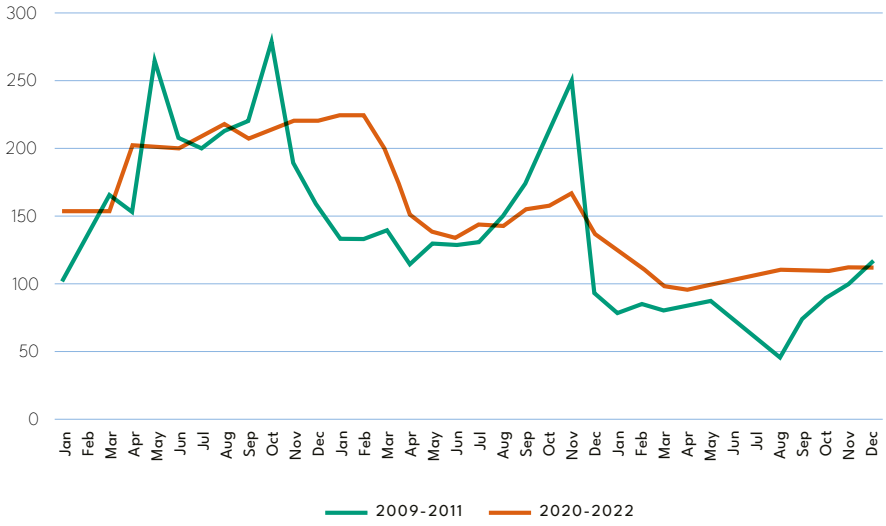
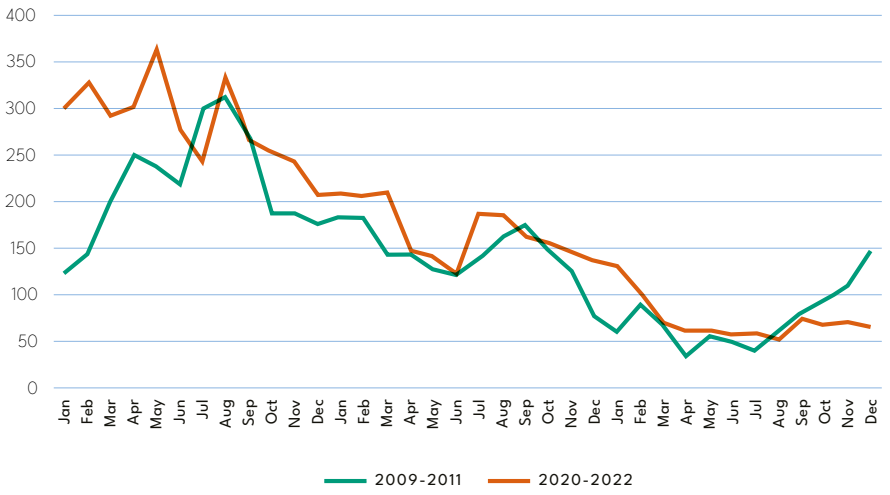


FIGURE 12: TERMS OF TRADE BETWEEN LIVESTOCK AND GRAIN (KG SORGHUM PURCHASED FOR THE SALE OF ONE GOAT) IN JOWHAR, 2009–2011 AND 2020–2022



Source for Figures 10, 11 and 12: Authors' calculations, replicating Figure 1 from Majid et al. (2022) for the three study districts, using data from the FSNAU Integrated Database System (https://fsnau.org/ids/index.php).

The decline has been greater in 2020–2022 than in 2009–2011, but much more gradual. This illustrates a problem with frequently asked questions about the speed of response to drought in 2021/2 compared with that in 2016/7 or 2010/11. Such comparisons are more difficult than they appear when it is impossible to calibrate a date when a crisis began – because each crisis is different and has several different causes. This limits the usefulness of previous crises as a guide to identifying windows of opportunity for anticipatory action in the midst of current crises. Uncertainty is the norm in countries such as Somalia. This is particularly an issue for funding mechanisms for anticipatory action that work from pre-determined triggers set by a humanitarian, rather than livelihood, calendar. This is discussed further in Chapter 4.

Timeline of early warning and forecasts

The Centre for Humanitarian Change (CHC, 2022) conducted a thorough analysis of the warnings provided over the period 2020–2022 for the Horn of Africa as a whole. The following paragraphs summarise this analysis in sufficient detail for the purposes of this report, i.e. to illustrate an analysis of potential anticipatory action, but not to evaluate the timeliness of response nor the performance of any individual early warning agency.

- In **June 2020**, following below average MAM 2020 in parts of the country, both FSNAU and the Famine Early Warning Systems Network (FEWS NET) projections indicated a worsening food security and nutrition situation for the latter half of the year and into the following year (from October 2020 to January 2021). They also revealed significant differences across the country, indicating which areas in particular would be likely to experience increases in food insecurity.

- In **August 2020**, FEWS NET published a regional Food Security Alert, highlighting the fact that forecasts showed below average rainfall as the most likely scenario for OND 2020, and that below average rainfall was also a possibility for MAM 2021 (FEWS NET, 2020).

- In **August and September 2020**, seasonal forecasts issued by the Intergovernmental Authority on Development (IGAD), National Oceanic and Atmospheric Administration (NOAA)/FEWS NET and the Anomaly Hotspots of Agricultural Production (ASAP) Platform pointed to the likelihood of a delayed and below average start of OND 2020.

- In **October 2020** FEWS NET and FSNAU warned of difficult food security conditions persisting until at least May 2021, especially in Puntland. This was due to a combination of factors, including the early end to OND 2020 rains, because rainfall was very erratic, and in southern and central parts of the country well below average; and due to the continuing effects of COVID-19, locusts and localised flooding (FEWS NET and FSNAU, 2021).

- In **December 2020**, some seasonal forecasts predicted a below average MAM 2021, though confidence levels were low at the time (across the region, seasonal forecasts for MAM rains have a much lower skill level than OND seasonal forecasts). However, the IGAD Climate Prediction and Applications Centre (ICPAC) forecasts, the ones relied most on by many governments and others in the region, were not indicating likely anomalies in rainfall.

- By **January 2021**, NOAA/United States Geological Survey (USGS) forecasts concluded that increased risk of La Niña/Indian Ocean Dipole would drive below average rainfall during MAM 2021. This informed IPC/FSNAU and FEWS NET projections of worsening food security and nutrition in large parts of Somalia. However, ICPAC uses different weather models and disagreed, showing an equal chance of below average, average and above average MAM 2021 rainfall.[14]

- In **April 2021**, a delayed MAM season led FEWS NET to update its projected food security maps for the worse. Heavy rains in late April and early May initially eased concerns, but updated NOAA/FEWS NET and IGAD rainfall forecasts during the season indicated that the rainfall would probably remain below average and end early. Given these forecasts, FSNAU and the Food Security and Nutrition Working Group (FSNWG) issued alerts based on their projections of expected impacts on households.

- The **June to September 2021** dry season was forecast to be hotter than normal in Somalia, leading to expectations of deteriorating rangeland and livestock conditions.

- In **September 2021**, seasonal forecasts indicated below average rainfall and hotter than normal conditions for OND 2021 Deyr (FSNAU, ASAP, FEWS NET).

Three things stand out from the review of forecasts. Firstly, there are well-recognised limitations with seasonal forecasts for MAM seasons in the region. There were significant disagreements between different models, most notably between the forecasts on which FEWS NET based its food security projections, provided by the Climate Hazards Center of the University of California, and those produced by ICPAC (see further discussion in Box 2). Secondly, despite the uncertainties, there were warnings before each rainy season about the likelihood of poor rains. Weather forecasting had the potential to be broadly helpful. Some

14 For a discussion of the different forecasting approaches used, see Box 4 in CHC (2022).

longer-range seasonal forecasts also proved accurate. Finally, forecasts were being used to provide projections about the likely implications for people, and warnings were being provided about the likely deterioration of conditions, in particular food security.

BOX 2: A NOTE ON WEATHER FORECASTS

The technical difficulties of making reliable forecasts for MAM seasons in East Africa are well recognised (e.g. Weingärtner et al., 2019, Chapter 4). Recent differences have emerged more starkly between different models, which seem to be due to climate change. Models that only use more recent data (i.e. since climate change became a more significant factor) may have been more accurate during this most recent crisis. A technical discussion of weather forecasting is beyond the scope of this paper, but it is important to note that these differences are being studied collaboratively by a number of meteorological institutions, and that emerging findings represent new scientific understanding. See Funk et al. (2023) for more details; this paper was co-authored by experts from several institutions, including the University of California and ICPAC.

The analysis above contains good news and bad news for the possibility of anticipatory support for people threatened by crisis. On the positive side, the progression of the crisis has been gradual (compared for example with 2017) – probably more gradual than was expected – and warnings were being given along the way. This gave more time to aid actors for the design and delivery of effective anticipatory interventions as the crisis progressed, and for donors to find funds. However, differences between the MAM forecasts generated by different models made it more difficult to react to forecasts that were predicting below average rains. Another difficulty is that the crisis did not develop in a uniform way across the country. There were huge differences in the challenges faced in different areas, and not only in the rainfall. This adds to the complication of designing interventions, and systems for triggering interventions, at the national level.

3 THE ANTICIPATORY ACTIONS OF THE PEOPLE AFFECTED BY CRISIS

One of the main objectives of this study was to find out how people threatened by crisis were responding to the developing situation and to understand the constraints facing them in better preparing for and mitigating any crisis. As discussed in the introduction, we had hoped to identify specific constraints at certain points in the calendar that would offer openings for new anticipatory programming. However, identifying potential anticipatory actions, for affected people or for external agencies, proved more challenging than expected. Hope was quickly dashed that these could be identified simply by interviewees describing some clear and logical mitigation measures that they were either undertaking or considering, or which they were prevented from undertaking by some constraint.[15] Very few of the actions that informants described undertaking in the face of crisis could be categorised easily as anticipatory action. In fact, people rarely spoke in terms of reacting to forecasts of shocks at all.

At least three difficulties arose in identifying people's anticipatory actions. Firstly, there is a tempting model to guide thinking about identifying people's anticipatory actions by first looking at their normal set of activities on a livelihood calendar (their 'plan A'), and then establishing how they change it (their 'plan B') in the light of a forecast shock. However, things are not always uncertain and unpredictable. In one sense, every day demands a new adaptation to what is happening. The idea of 'agriculture as performance' was created a generation ago to describe the ways in which smallholder farmers in West Africa respond each day to multiple uncertainties, from the availability of labour if someone gets sick to unpredictable rainfall, and it is no less applicable to farmers and pastoralists in Somalia today (Richards, 1985). This performance is not random or unplanned, but neither is it fully scripted. Where every farmer and pastoralist is constantly improvising, looking for specific actions that depart from that script does not quite work. As one participant in the SPARC roundtable on anticipatory action put it, "I come from Marsabit, anticipatory action is just a part of how we live."

Secondly, interviewees rarely linked what they were doing with any specific forecasts, whether from formal meteorological offices or from local ('customary') weather forecasting. (This is discussed further in the next chapter). For our interviewees, forecasts, predictions and worries are simply part of the overall uncertainty in response to which the whole of life is a performance. Rather than relying on formal forecasts, interviewees described making decisions about their livelihoods in relation either to existing conditions (such as pasture drying up) or to longer-term trends (Levine et al., 2021b; Weingärtner et al., 2022). Interviewees were seeking to adapt to rains they could not trust or to floods that were becoming more regular, rather than to the forecast of a particular drought or flood event. Their actions could thus be classed in aid-speak as 'adaptation' rather than anticipatory action. The point here is

15 Interviewers asked respondents about what they were doing (and why) and about what they wished they were able to do (and why they couldn't do it).

to challenge, not to reinforce, the bureaucratic distinction between adaptation and coping/anticipatory action, because that distinction does not help us understand how people live.

A deeper difficulty in understanding from people how they are interpreting future threats was discussed in our earlier paper (Levine et al., 2021b) but needs more careful attention here. Almost all interviewees insisted that forecasts are impossible, because 'the future belongs to God'. If it is not just impossible to know the future, but presumptuous and a challenge to God to imagine one can, then it might appear that anticipatory action can never be possible in Somalia because it is in contradiction to a Somali world view. The idea that Somalis, or pastoralists in particular, are fatalistic because of their religion is a common one, and it appears to be validated by people's own testimonies. A closer reading of people's lives in the face of uncertainty provides a simple refutation of the argument though, as described in detail below.

Acting in anticipation of locust infestations and flooding

The locust plague had much in common with the other shocks of 2019–2022. There was a degree of predictability and understanding about the mechanisms behind their spread, but it was impossible to have any certainty about where or how badly they would strike. Like COVID-19, floods and droughts, when locusts did strike, they quickly overwhelmed people's ability to cope or to defend themselves against the plague.

Nonetheless, people were not passive in the face of the threat. Villagers tried to keep locusts off their crops through a combination of banging pots and setting fires to create smoke (Weingärtner et al., 2022). They set up groups on WhatsApp to make sure that everyone was warned when locusts were approaching, which made it possible for farmers to go into town to look for daily work opportunities, knowing that they would be warned in good time if locusts were close. They invested in spraying equipment, although this was of limited effectiveness because it was impossible to spray at a sufficient scale. Farmers were then looking to invest more in greenhouses and netting, which offered some protection to crops. Other farmers reduced their investment in farming in MAM 2021, because they feared that any investment would simply be lost. (In fact, locusts did not return that season.)

These responses exhibit the same characteristics and range as aid agencies' anticipatory action. Scaring away locusts when they arrive is reactive, not anticipatory. But it is anticipatory to set up a communication system in advance to ensure that people can go about their work and be warned in time to respond to a sudden attack. This is proof enough on its own that farmers are not fatalistic: the future may belong to God, but people look ahead and take whatever preparations they can for problems that they can anticipate. Spraying was reactive but buying spraying equipment in advance ('pre-positioning' in aid-speak) is clearly an anticipatory investment. Abandoning farming for a season for fear of losing all investment to locusts may sound defeatist, but it is an example of farmers using their judgement to reinvest their time in ventures that are more likely to succeed given the prevailing threat context.

These are examples of engaging with early warning, pre-positioning supplies and reducing risk exposure. Farmers' reactions to flood warnings had many of the same characteristics. People in villages in Jowhar along the Shabelle river usually knew with some certainty some days before flood waters hit them because they received warnings by phone from relatives or friends upstream in Ethiopia. These communication networks were deliberately maintained.

Local community organisation was again a strong feature of preparations for floods. Flood defence only makes sense as collective action since dykes cannot be created field by field. Communities had ways to organise the collection of money for sandbags and the supply of labour, often with women involved in mobilisation and preparing food for the mainly male labour force (Levine et al., 2021b).

As a result of fear of floods, some individual farmers also reduced investments away from farming, since the time invested in crops lost to floods would be a significant opportunity cost. This risk avoidance was not a strategy that could be used in the timeframe (i.e. a few days) of reliable forecasts but was an example of farmers looking ahead for risk-reduction strategies. As with the case of locusts, their fears were not always realised, and some farmers missed out on potential harvests as a result of choosing not to farm in 2021. This is a salutary reminder that anticipatory actions are chosen in a climate of uncertainty. With hindsight we often identify actions that could or should have been undertaken, but there are also cases where anticipatory actions were taken by interviewees, but which turned out to be the wrong guess. In an inherently uncertain context, the wisdom of anticipatory actions can never be judged only by their actual impact. A wider assessment has to be made about the wisdom of the decision-making process without hindsight, with an acceptance that sometimes a decision is well made, but still unfortunate. The same challenge applies to supporting longer-term adaptations to climate change, though it may need the hindsight of the coming decades to reveal which changes were positive and which were mal-adaptations.

The challenges of acting in anticipation of drought

Anticipatory actions in the face of drought are much harder to identify than those taken in response to flood threats. We believe that there are two related reasons for this.

The first has already been mentioned. Because 'pastoralism as performance' means a constant adjustment to plans as a rainy season progresses, drought response is more an extension of normal patterns, perhaps including adjustments that are harder to make, but not clearly distinguishable as different in kind, an obvious 'plan B'. Floods, by contrast, tend to stand out from what is normal; as a result, the responses to floods and to flood warnings are also more obvious.

Secondly, there were differences in the kinds of measures that could be taken against different shocks. There were clearly understood technical measures that people could take in response to warnings about riverine flooding, e.g. reinforcing flood defences or moving to higher ground. Finding responses to drought was much harder for pastoralists and farmers. Livelihoods in the arid lands are already well adapted to the shocks that have long been the norm, such as mobility with livestock, developing and maintaining social capital, and livelihood diversification, often achieved through the migration of some family members. Where all possible adaptations are in common use, there are few additional options remaining when a particularly bad year is forecast.

Although droughts have by far the longest lead time for preparation, actual anticipatory actions taken against this threat were the hardest to see clearly. Some interviewees mentioned in passing that they were buying in fodder for their animals while it was available, or before prices went up too much, but without in any way speaking of this as out-of-the-ordinary anticipatory action. This was seen as part of their normal performance, given the state of the rangeland.

A boy herds donkeys next to an IDP camp among the scrub brush outside Baidoa in February 2022. © Mercy Corps.

Others reported castrating males before MAM 2021 to prevent pregnancies in the herd in harsh conditions, which would also threaten the lives of the breeding females. It was clear from the interviews, though, that these were conducted in response to the prevailing conditions and not to a weather forecast. But it is nonetheless a forward-looking measure to prevent future mortality in the herd.

Few potential anticipatory actions were identified by informants even in retrospect. One or two mentioned that they wished they had stockpiled more fodder and food before the prices rose. Only a few interviewees said they regretted not having sold off more animals much earlier. To an outsider, this would perhaps be the most obvious drought mitigation strategy together with migration (discussed in Box 3). The reluctance of pastoralists to sell early has often been criticised, but the rationality of delays was possible to understand, and is discussed in more detail in Box 4.

No real options for anticipatory action for drought regarding crop farming were advanced by our interviewees. It is hard to see what farmers could have done in a season with very inadequate rainfall or with massive and prolonged flooding, even with a 100% certain seasonal forecast, except to refrain from farming altogether and to invest their time in other economic opportunities, had these been available.

The SPARC expert roundtables discussed the identification of potential anticipatory action and support for both farmers and pastoralists. None of the participants, who were drawn from a wide range of specialisms and organisations,[16] and all with long experience of working in the region, could offer any answers to the question: with the benefit of hindsight, what anticipatory action could feasibly have been implemented at scale that would have made a significant difference to the crisis?

16 These included governmental bodies, United Nations organisations, research institutes, the Red Cross/Red Crescent movement and NGOs.

BOX 3: HELPING PASTORALISTS TO MIGRATE AT THE RIGHT TIME

Jaamac (not his real name), a livestock owner in Galkayo, described the OND rains in 2020 as poor, and by the end of the following dry season in March 2021, herders in his area were already facing difficult conditions with elevated livestock mortality. Jaamac had to sell a camel to buy fodder in town and was worrying that if the approaching MAM rains were poor, he would be faced with a long and expensive migration with his animals.

When Jaamac was interviewed again in July 2021, the greening of the rangeland had provided him with some respite, but he knew that the rains were too poor for the pasture to last much longer. The condition of his livestock had improved but they were much thinner than they should have been for that time of the year.

When we spoke with him again in mid-October 2021, the OND rains had been delayed. As the dry season intensified, he was torn between waiting for pasture to be replenished by the expected OND rains and moving away with his cattle, whose body condition was steadily deteriorating. In October, he finally decided he had to move them to find grazing land. He borrowed money to finance the journey, but many animals died on the way. He was left with a severely depleted herd and debts from the journey. This was in late 2021, before the drought had reached its worst.

At first sight this appears to be an obvious case for anticipatory assistance. From the perspective of November 2021, the delayed migration in October 2021 had contributed to the family's economic difficulties. Had he moved his animals earlier when their body condition was better, more would have survived the rigours of the journey. It is tempting to argue that relatively small cash grants could have financed earlier migration, saving him thousands of dollars of lost assets.

This, though, rests on an assumption that the delay in migration was due to limited capital, and that cash could have unblocked the constraint. There is no evidence that this was the case. Jaamac was not restricted financially in moving during the dry season; his delay was only in the failed rainy season. When he decided to move, he was able to borrow the necessary money. He gave no suggestion that he had difficulties in finding that money or that this was a cause of the delay. To understand his 'inaction' during September, we should change our perspective from mid-October 2021 (when we spoke to him for the third time) to that of September 2021.

Moving had both costs (not only financial) and the risk of further and unknown costs. How many animals would survive the journey? Would it be possible to find good pasture and water? If the rains came when expected, then the costs and the risks might have been incurred for nothing. Balanced against this are the risks of staying put. When would the OND rains arrive? How quickly would the animals' condition deteriorate? The longer the decision is delayed, the higher the risks of moving become, as animals progressively become less capable of withstanding the move, making it harder to change strategy. On the other hand, the risks of staying also become higher, as the animals are less and less able to survive until the OND rains arrive. The herder is balancing a high-stakes trade-off between two unknowns. The financial cost of transport was not the determining factor in his decision and was the one known factor in a sea of uncertainty.

Had the OND rains arrived by October, Jaamac would probably have made the right decision to delay his move. With hindsight, he probably got it wrong. Even with hindsight, though, we cannot be sure; who knows what would have happened to the herd had he moved earlier?

BOX 4: CONSIDERING FODDER STOCKPILING AND LIVESTOCK SALE

In Burao in Somaliland, the drought began later than in Galkayo. The 2020 OND rains were not too bad, but by the end of the dry season in February 2021, herders faced more difficult conditions with low milk production, animals that had lost weight, and the price of water rising.

To some extent this was normal for the season. But the economic downturn caused by COVID-19 and, to a lesser extent locusts, was also evident. Livestock prices were low because of low demand. *Khat* normally provided a secondary income for many, but demand was down. Other businesses were also struggling in the economic downturn. Many herders took their animals further than normal because of the shortage of water and pasture; others, like Cige (not his real name), were having to buy fodder and water on credit, since they had no income coming in.

The 2021 MAM rains brought some relief, even though they came late and were poor. The market for small livestock improved and some – but not all – reservoirs filled up, so that water no longer needed to be purchased. When we spoke to Cige again in early July 2021, things seemed better. The camels were producing milk and there was no need to buy fodder or water. On the other hand, the goats were getting sick with goat plague (*peste des petits ruminants* or PPR), and pastoralists had run short of money over the previous year, depressing trade since no one could continue to offer credit indefinitely.

In mid-October 2021, Cige was still waiting for the delayed OND rains to begin, and he was expecting heavy rains in November. Milk production was down, and the price of cattle and camels was low, discouraging sales. He was trying to stockpile fodder, but there was little supply in the market and he regretted trying to buy it too late. He was preparing to migrate with his animals in November if the rains did not start soon.

When we spoke again in early March 2022, the OND rains had failed and the following MAM rains were already delayed. The crisis had developed: water had to be trucked and was very expensive; no pasture was available; his animals were getting thinner by the day; and he was seeking support from friends and family.

Is this simply the story of a man who failed to anticipate what was coming? It may seem so. In October 2021, he regretted that he had started to buy in fodder too late, and in March 2022 he was wishing that he had sold off more animals when there was still a market. But that is the judgement of hindsight. A retrospective analysis suggests that the dry season before OND 2021 might have been his only window of opportunity to undertake some anticipatory actions to face a possible OND rain failure. Once the dry season became extended, it was already too late. There was no more fodder to buy and livestock were in poor condition for sale.

Would a cash grant have enabled him to buy more fodder in July 2021? At that time, money was not circulating. He was owed money, and he owed money in return. Any additional cash would simply have been absorbed into those other relationships and could not have been earmarked for preparing for a drought that was, at that stage, not seen as the most urgent threat. His preoccupations were instead with the goat disease and ineffectiveness of the drugs he was buying, and with the loss of his normal income from *khat* trading. Even if he took the threat of failed OND 2021 rains seriously, what could he have done differently? He could not easily raise money from livestock sales because demand and prices were so low. He said later

that he wished he had sold more animals, but at the time he *had wanted* to sell animals to pay off his debts. It was not reluctance to sell, but the state of the market that caused him not to sell. He had also wanted to buy more fodder, but supply was the limiting factor. Even if he had bought fodder a little earlier, it would have made little difference. There was no possibility of him buying enough fodder to withstand the continuation of the drought and lack of pasture. Fodder production was not an option; he had been planning to grow it in OND 2021, but the rains were insufficient.

What then could he realistically have done differently? He summed up the options available to herders like himself. "It's quite simple, you just have to choose between building up your savings or having some provision in the store so you can get through the difficult time; or else you migrate with the livestock to a better place with pasture and water; or you ask someone to lend you money or you ask for help from relatives. That's all you can do." Of this list, only migration could be called an anticipatory strategy. The downturn in the economy ruled out the possibility of building up a sufficient buffer to ride out the crisis. Migration is a limited option when a drought is widespread, as in 2021/2. It is no easier to see how anticipatory assistance could have significantly expanded his range of options or when it would best have been offered.

Limitations in people's own anticipatory actions

Despite some attempts by people to mitigate a crisis they saw getting more and more serious, they were severely constrained in different ways.

The first and most obvious constraint was the scale of the problems compared with individual resources. Those trying to spray against the locust swarms were well aware of this, as were those farmers busy trying to reinforce flood defences on the Shabelle river. They knew the river had to be managed at a much larger scale and their hope was for investment for the rehabilitation of the old structures that used to control flooding, rather than small projects from aid agencies for flood defences at a local level. As discussed in Levine et al. (2021b) and Weingärtner et al. (2022), investments in river management should be a structural response to periodic floods, and they cannot be made rapidly in response to a specific flood warning.

Even where interviewees retrospectively identified anticipatory actions in March 2022 (above), it is far from certain that any of their strategies would have made much difference, with the possible exception of herd reduction or liquidation.[17] The duration of the drought – about to enter its sixth failed rains as this report is written – was too long for fodder stockpiles to keep animals alive, even if fodder were only used for selected breeding animals. Even if livestock keepers could afford to buy fodder, sufficient volume was not available. This is not a market failure: the pastoral system evolved precisely because the conditions in the region are not conducive to raising livestock in fixed places or through fodder cultivation and zero grazing. That is not a viable strategy in normal years, let alone in droughts.

17 The research intention was to return to the interviewees during recovery after the drought, to assess the success of their strategies and what might have worked. Sadly, the drought has gone on for so long that this is still not possible.

It should be clear that our analysis is not about the possibility of small-scale aid projects offering early relief to a pastoralist such as Cige in the story above. Our research did not examine any actual anticipatory aid projects, and none of our informants was a recipient of anticipatory assistance. It was not the aim of this research to judge the success or otherwise of any actual programming. Our question is about a possible strategic response, one that can work at scale. Several suggestions could bring some relief to a limited number of beneficiaries. Fodder distribution, or distribution of supplements (concentrate, mineral licks) have been popular in the region during the past two decades. But these quickly fail the test for feasibility at scale. In the past, these have had some success in short-term droughts but have not been successful in protracted droughts in the region, because the projects could not be maintained for long enough, even with a very small number of animals supported (Levine et al., 2019). An illustrative calculation in Annex 3 suggests that several thousand tonnes of fodder would be needed every day to help keep breeding animals alive.

Even with hindsight, neither farmers nor pastoralists could see how they could have avoided the crisis. Their options were very limited. One of the hopes of this research was to identify additional options but this has proved difficult. As discussed above, if livelihood systems in Somalia have already adapted as well as possible to the difficult conditions, and if all current economic possibilities have already been incorporated into normal livelihood performance, what further measures does this leave that can be taken easily? Such a perspective draws attention to the importance of long-term investments to create new economic options. Short-term anticipatory action to support access to such opportunities is likely to depend on first making them available.

The third and final barrier to taking anticipatory actions is that most of our interviewees were not expecting the drought to persist as long as it has. In each interviewing round, most interviewees expressed hope that the next rainy season was going to be good, despite the majority of meteorological models creating seasonal forecasts that indicated a likelihood of poor or failed rains. All coping strategies, including anticipatory ones, carry an opportunity cost. If they did not, they would be part of the normal set of livelihood activities. Because the livelihood systems are running at the very edge of maximum adaptation, any new strategy will tend to have high opportunity costs, as illustrated by the examples of migration and herd liquidation, or choosing not to farm. The combination of a highly adapted livelihood structure and a general lack of other economic opportunities means that a very high degree of faith in forecasts is needed to take on board the costs of new anticipatory action. This very high threshold may explain in part the common reaction among interviewees that there is nothing that anyone can do and that the future is too uncertain.

4 THE POTENTIAL AND LIMITATIONS FOR AID-ASSISTED ANTICIPATORY ACTION IN SOMALIA IN 2020–2022

The timeline of humanitarian anticipatory action

This section starts with a brief review of how anticipatory action has been used by humanitarian agencies in Somalia since 2020. It is drawn primarily from Gettliffe (2021), Abdelmoula (2022) and CHC (2022). It is provided to give a broad contextual understanding of how anticipatory action is currently working, but it does not attempt to be comprehensive in its treatment of anticipatory action projects. It is not based on any reviews of the impacts of any actual anticipatory action projects.

The two largest operational aid mechanisms for anticipatory action in Somalia are the Central Emergency Response Fund (CERF) drought anticipatory action framework (OCHA, n.d.) and the World Bank Early Response Facility (ERF). The World Bank has an envelope in its 'Crisis Response Window' and an additional facility that allows the reallocation of development programming in anticipation of a shock (Farr et al., 2022). However, the World Bank pay-out mechanisms have not been designed with rapid anticipatory response in mind and, in Somalia, they have sometimes struggled to be timely (Gettliffe, 2021). They also struggle to keep envelopes topped up for additional crises when budgets agreed over a multi-year timeframe are spent, e.g. on scaling up cash transfers in response to the locust crisis in 2020.

CERF disbursements rely on IPC food insecurity projections to trigger the release of funds, partly in hope of ensuring alignment with the World Bank ERF.[18] The CERF anticipatory action trigger threshold was first reached in June 2020 in response to COVID-19, locust infestation and flooding (Gettliffe, 2021), and then again in April 2021 due to the drought (Abdelmoula, 2022) (Figure 13).[19] Two lessons are illustrated by the use of triggers by CERF and the World Bank. Firstly, most planning for triggers and anticipatory systems in the Horn of Africa has focused, naturally, on threats of drought. When less expected shocks arrive, such as pandemics and locusts, analyses of the food security (and other) implications may have to be re-run from scratch. This shows the need to maintain expertise on scenario projections and

18 The CERF Somalia anticipatory action mechanism was triggered when the projected population in IPC phase 3 or higher exceeded 20% and either a) this population was projected to increase by a further 5%, or b) the projected population at IPC 4 or higher exceeded 2.5% (OCHA, n.d.). For a more detailed discussion of the rationale of trigger selection and lessons learned from its activation in 2020, see Gettliffe (2021).

19 In addition, and sometimes in parallel to these activities, funding was made available and activities implemented to respond to the crisis as it evolved. For a more comprehensive overview of humanitarian anticipatory action and response, see OCHA (2022) and CHC (2022).

food security forecasting, and to be cautious on the limits of automated triggers that are tied to predetermined parameters and thresholds. Pre-planning and pre-agreements are important for reducing time lost in discussions and attempts to harmonise processes across agencies, but they need to be combined with in-built flexibility in analyses.

Secondly, despite the intention, delays in World Bank processes meant that CERF and the World Bank did not in fact work together. This illustrates the need for caution when viewing triggers in isolation from the response systems in which they are a part. Triggers should be set so they result in action at the right time. This means that a realistic estimate of the time taken for internal processes should be incorporated into the calculation for setting the timing of the triggers. If two mechanisms are intended to result in action at the same time, but the internal speed of those two mechanisms is different, then they would need to use different triggers to achieve response at the same time. This logic may sound obvious, but current triggers for anticipatory response funding mechanisms in the region have not been set with reference to the predicted timing of actual response on the ground. (In this instance, of course, the main problem to be addressed was the slowness of the World Bank internal processes.)

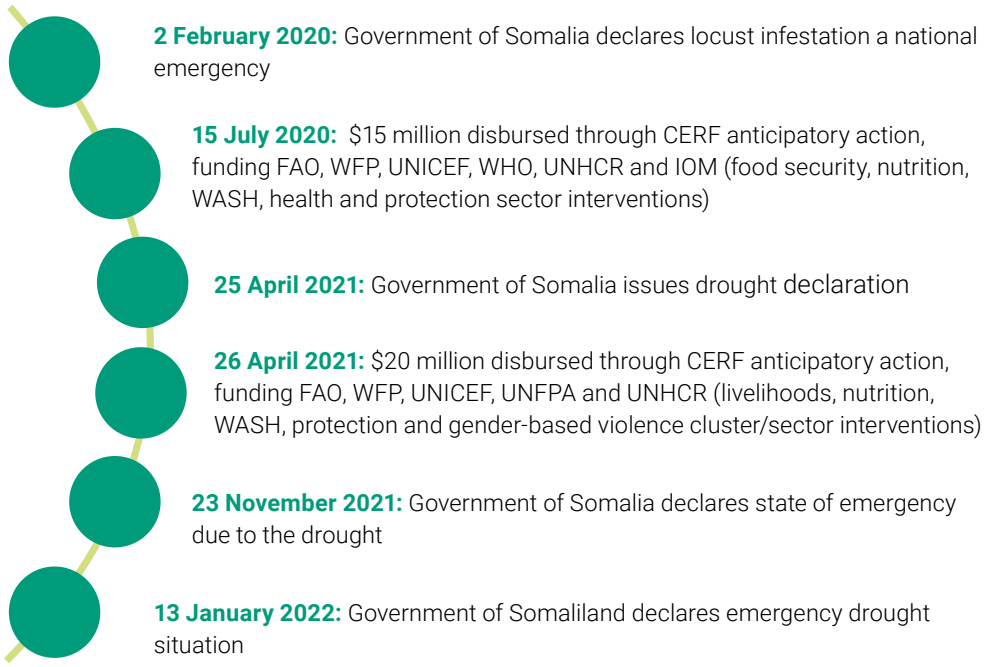
It has been argued that funding for anticipatory action may be used to continue existing programming or for regular humanitarian response, rather than being genuinely anticipatory in nature (Gettliffe, 2021; CHC, 2022). This is not noted as a criticism of any programmes implemented, but to raise a more general difficulty facing agencies that were highly motivated to intervene in anticipation: there was no obvious set of activities that could feasibly be implemented that matched the rationale of anticipatory interventions.

Few agencies work purely on emergency response in Somalia, and many organisations had contingency funds or crisis modifiers in place attached to their longer-term programmes. These funds were often small, though, and released mostly for actual response rather than to prevent problems (CHC, 2022).[20] They offered the possibility to change the nature or degree of support being offered by reference to very different kinds of criteria or triggers. The Norwegian Refugee Council Building Resilient Communities in Somalia (BRCiS) crisis modifier, for instance, was triggered on the basis of a real-time community-based monitoring and early warning system (BRCiS, 2021). Whether or not these funds were used differently or better than others was not the topic of this study, but the example illustrates a more general point. The long-term (or 'developmental') presence of aid agencies offers possibilities for establishing more flexible decision-making mechanisms to respond to local conditions, with interventions tailored specifically to local situations. This kind of response is difficult to plan at the national level or within a purely humanitarian bureaucracy.

Community-based institutions such as local and religious leadership, families, communities, business networks, the diaspora and local NGOs were important actors in responding as the crisis worsened through the direct provision of relief and by mobilising resources collectively. They were also reported to be much faster to act than humanitarian organisations or the government, as in previous crises (CHC, 2022). However, their support appears to have been given only for relief in response to actual need, rather than based on projection. The distinction between response and anticipation is perhaps not so clear cut, though, outside the formal aid system.

20 See CERF (2022) for a list of projects funded with CERF anticipatory action funds.

FIGURE 13: GOVERNMENT EMERGENCY DECLARATIONS AND CERF ANTICIPATORY ACTION TRIGGERS



Sources: World Bank (2020); Gettliffe (2021); Abdelmoula (2022); Hiiraan Online (2021); Somaliland Chronicle (2022); OCHA (2022); CHC (2022).

Note: FAO = Food and Agriculture Organization of the United Nations; WFP = World Food Programme; UNICEF = United Nations Children's Fund; WHO = World Health Organization; UNHCR = United Nations High Commissioner for Refugees; IOM = International Organization for Migration; WASH = water, sanitation and hygiene; UNFPA = United Nations Population Fund.

Challenges to humanitarian anticipatory action

The study of how people manage their lives through a crisis has produced several insights into the constraints facing agencies when seeking to use anticipatory programmes to support people through crises, such as the drought that started in Somalia in 2020.

First and foremost, as discussed in the previous section, people lacked alternative economic opportunities. This both inhibited their ability to make larger livelihood adaptations and reduced their options for action in anticipation of an immediate problem.

Secondly, the areas currently suffering from the worst food insecurity (FEWS NET and FSNAU, 2022; Majid et al., 2022) include those most difficult to access by aid agencies due to continued insecurity. These are not necessarily areas that are prioritised for anticipatory action, if only because the level of risk that would be acceptable for life-saving response may be too high for many agencies in relation to anticipatory action.

Thirdly, the level of resources available for anticipatory action, competing with several full-blown crises globally for donor attention, was not on the same scale as the level of intervention needed to mitigate such a severe and protracted crisis.

Finally, some key informants raised deeper worries about the politics of aid in Somalia and the nature of the humanitarian economy it has created and maintains. These worries relate to how aid resources as a whole – not merely those for anticipatory action – interact with politics in Somalia. Such questions lie beyond the scope of this paper to discuss.

Facilitating rather than doing: Provision of information and advice

Previous sections describe how pastoralists and farmers were generally unaware of the likelihood that each coming rainy season would fail. This is not to suggest that forecast information would have been a simple panacea. Some forecasts were unreliable, particularly for the MAM season (Chapter 2). It is also unclear how much trust would have been put in the forecasts, had they been more widely disseminated. And even with perfect information about the future, people's options remained severely limited by the state of their local economies, as already discussed. It is doubtful that better weather forecast information could have helped people take action to significantly reduce the impacts of a crisis caused by the failure of five or six successive rainy seasons.

Most droughts in the Horn of Africa, though, are less severe. Had the rains failed only for one or two seasons, more information could have helped pastoralists and farmers make more informed choices. As explained in Chapter 3, very few people knew of the forecasts of poor rains, and most people expressed a confident hope that each successive rainy season would be good. If people's own agency is taken seriously, then the most important anticipatory action that could be undertaken by external agencies could well be ensuring that everyone has access to the best seasonal forecasts available, in forms that they understand and trust, so they can take the best anticipatory actions for themselves. Our interviews offer some insights in relation to this challenge.

Many of our informants used traditional or 'indigenous' knowledge for their weather forecasts, often (but not always) relying on the elders. Others had less faith in the traditional knowledge system. The signs used to predict the rains fall into two very different groups. Some are indicators of the current weather situation (winds, temperature, humidity) that is usually associated with the onset of rains.

We …observe changes in the wind, the behaviours of certain birds and other wild animals that in one way or the other give us a hint on what to expect.

The wind named 'dabayl gudub' is a sign of rain; the wind 'musareen' is a sign of the dry season.

When the leaves on the trees become green and beautiful, this is a sign that the rains are near.

When the goats are running around with a lot of energy… when the camels also become excited and start rutting…the rains are coming.

These kinds of natural indicators, even when accurate, have limitations. As observations of current conditions, they do not offer a forecast about a coming season; even if they can indicate the onset of rains, they can indicate little about its intensity or quality. Farmers and pastoralists need a seasonal forecast more than they need a prediction about the day on

which a rainy season will start. The accuracy of forecasts may also be in doubt due to climate change, just as meteorological scientists are questioning whether climate change means they need to adapt their models (see Box 2). Links between wind direction, temperature and rainfall, which have been established over many years, may hold less and less true.

A variety of other inputs used in forecasting have a less scientific basis, as the following quotations from our interviews illustrate.

If this [MAM] Gu season is short and rains are little, then in eight Gu seasons' time, it will be the same. If this coming dry spell is harsh, then in eight years' time, it will be the same.

If there is no star by the moon, it won't rain this year.

During the winter if the 'star of war' aligns with the moon on the night of 18th in a cloudy sky, it will rain.

If the dirir star is sighted close to the moon on the 18th night of Todob in a cloudy sky, it will rain.[21]

The timing of the appearance of stars is determined by the solar calendar. Using the position of stars in the sky is thus a hidden reliance on rains beginning according to same calendar each year. Other inputs included the study of animal entrails.

Traditional or indigenous weather forecasting among pastoral communities in East Africa has been a topic of some research. Most studies have concluded that there is a need to integrate traditional knowledge into weather forecasting and drought early warning systems.[22] From what we have been told about indigenous weather forecasting, there is little reason to accept this conclusion. Even the scientific elements of the forecasting system cannot give any information relevant to a seasonal forecast, let alone the study of animal entrails or astrology.

The motivation for wanting to bring together the traditional and scientific knowledge worlds is clear. The available scientific weather forecasts have not proved sufficient so far, in particular for rural populations. A 2019 study by IGAD documented some of the limitations of these forecasts (ACREI/ICPAC, 2019), and found that the forecasts were not location-specific enough to be useful to farmers or pastoralists, who did not understand them well and therefore did not trust them.

21 Additionally, some said that rains were determined by the appearance of the *dabaqalooc* star; others by the *lixada* star; and another by the *laxkor* star.

22 See, for example, Mahoo et al. (2015), Ayal (2017), Muthiani et al. (2013), Radeny et al. (2019). Guye et al. (2022) argued that pastoralists in southern Ethiopia have "*time-tested* weather forecasting experience of using astrological, intestinal, plant and animal body language indicators" (emphasis added). However, predictions can be tested only by checking them against later observations. A belief is not validated by the persistence of its acceptance.

Three sets of barriers thus need to be overcome if people are to be given the information they need for decision-making. First is the technical challenge of producing accurate and reliable forecasts. Meteorologists are constantly working to improve their modelling and the skill level of the forecasts, and they have made significant progress in recent years. This is discussed above.

A second challenge is to make sure more people can access these forecasts, since most people we spoke to in Somalia had not been aware of seasonal forecasts (see Chapter 3 and further discussion in Weingärtner et al. [2022]). Our research found that the main constraint was not general access to information. Enough people in the different communities had smartphones and the ability to use them to access relevant information, while those without access were almost invariably well linked into networks where information was flowing locally. Currently, people were not actively looking for such forecasts.

The third challenge is that people will not look for forecasts they do not understand or believe, or those they think are unreliable. Neither will they look for forecasts if they do not know how they will interpret and use them. There is also the cultural challenge in which scientific forecasts compete with indigenous forecasting, which they believe fulfils the same function.[23]

The current knowledge networks provide an opportunity that can be harnessed, but this is not simply a task of plugging a ready-made message into an existing information network. The cultural filter lens presents a distinctive barrier to knowledge about the future, summed up in the refrain 'only God can know the future'. Chapter 3 shows why it is a fallacy to believe that pastoralists, farmers and traders are not constantly thinking about and planning for the future, so the barrier seems to be cultural, not religious. Further evidence for this is that indigenous forecasts co-exist reasonably well with the same reticence about prediction.[24]

The challenge then is not to ignore the cultural ways of seeing the world, and potential rejection of the idea of a seasonal forecast, but rather to embrace them. The degree of doubt inherent to all weather forecasts can be a strength, rather than a weakness in this regard; the forecast is not a prescription about what will happen, but rather the best of use of human (and, according to many, God-given) intelligence to examine what is happening now and to see what is most likely to happen next.

The search for culturally acceptable frameworks for expressing forecasts, co-created in dialogue with those who can spread the message, is not a new idea. Initiatives have already been implemented in the region with some success (see for instance the practical examples presented in Carter et al. [2019]). There is a potentially fruitful area of engagement for humanitarian agencies that are usually working directly with communities in long-term relationships. This is because they can move beyond providing information to providing spaces for people to come together to discuss forecasts, including the implications and limitations.

23 In fact, as discussed, many of the indigenous forecasts talk about the timing of the onset of the season. A scientific forecast about the quality of the rainy season could possibly coexist with these forecasts.

24 Though a small number of interviewees did express reticence about the elders' predictions on the grounds that 'the future belongs only to God'.

5 WHAT DOES GENDERED ANTICIPATORY ACTION LOOK LIKE?

Somalia is perceived as having a conservative, religious society, where roles are divided on gender lines and where men predominantly control resources. Earlier rounds of interviews failed to reveal any strong openings for a gender analysis of anticipatory action, and so the final round set aside time to deal with this explicitly, asking both men and women about their priorities and how they felt they might differ from those of their husbands or wives. Our interviewees expressed few differences in terms of their priorities for coping strategies relative to their spouses. The consistency of response from men and women was striking. Differences by gender varied less than expected on three dimensions: communication, voice, and perspectives and priorities.

Communication and information

Information-sharing was strong within both pastoral communities and farming villages, and was illustrated by examples of collective action against flooding and locusts (see above). A degree of information-sharing about the location of pasture and water has probably been essential to the survival of the pastoral system.

The study also looked at the uptake of seasonal weather forecast information from outside the community (internal weather forecasting is discussed above). Although our sampling was not designed to be representative and so cannot be used to draw quantitative conclusions, most of the men we spoke to owned and used smartphones. They sourced their information predominantly from personal contacts and according to their literacy level, using phone and text messages extensively, and sometimes also apps such as WhatsApp or Facebook. None of the informants spoke of browsing the web more widely.

Many women had phones, some owning smartphones. Gender norms were not a direct barrier for women to access information (with the caveat that the sample of women able to engage with external interviewers may not be representative of the female population). Where women did not own a phone or a smartphone, or couldn't read, they borrowed from or were helped by their husbands or daughters. Gender norms were possibly an indirect barrier to information in that women's literacy levels were lower than those of the men.

Voice

Most interviewees, both men and women, described some degree of joint decision-making on livelihood matters, although of course there were distinct domains where men and women tended to take decisions separately on a day-to-day basis. A degree of consultation between men and women, if not equality of voice, was taken for granted by both men and women informants. The informal ways in which they revealed this left little doubt that the replies

were genuine and the women did have a voice in their households. For example, the wife of a man who worked collecting stones for construction commented on the fall in demand for construction raw materials post-COVID with the comment: "I don't know, but I think I'll suggest to my husband that he should look for different work for the moment". How people naturally use 'I' or 'we' is, we believe, often a more reliable guide to intra-household relationships than just the formal declaration that consultations take place between husband and wife.

Interviewers for this study asked about livelihood activities and decision-making at the household level. It should not, of course, be concluded that women have adequate voice in communal decision-making, or in all non-livelihood spheres of decision-making. It is also necessary to make the caveat that our findings are based on interviews with specific people. Although the research teams aimed to ensure diversity among interviewees, it is possible that those who were easier to access, both men and women, had a greater voice within their household and outside.

Perspectives and priorities

There were no systematic differences in the choices made by women and men to protect their livelihoods and the kinds of investments in anticipatory actions they would prefer. Despite pressing men and women to talk about how their choices might differ from those of their spouses, we were repeatedly faced with a general lack of comprehension about the question. Only one (male) informant stood out as an exception in insisting that, unlike men, women do not think of the future.

If the evidence from our restricted informant households was confirmed more widely, this might offer the chance for more nuanced approaches to anticipatory action programming. Where members of households share priorities around the household economy to a high degree, there may be useful approaches that involve women in decision-making rather than thinking in terms of the distinct targeting of women.

6 ANTICIPATORY ACTION WITHIN A BROADER SUPPORT SYSTEM

The recognition that anticipatory action should be seen within the context of the humanitarian-development nexus is not new. It was stressed recently in a presentation at a workshop on 'Anticipating Food Crises' organised by the Food and Agriculture Organization of the United Nations (FAO) and World Food Programme (WFP) in November 2022.[25] A nexus approach to anticipatory action does not mean that it should sit in a 'nexus silo' rather than in a humanitarian silo, nor that it should sit in several silos at the same time. It means having a long-term strategy to address the challenges of poverty and vulnerability, which also addresses how short-term interventions will be called upon during periodic crises. Forward thinking, flexibility and adaptation, and anticipatory action would underpin such a strategy.

The foregoing analysis suggests that there are three reasons why anticipatory action is best thought about as a broad nexus approach rather than as a sub-set of distinct humanitarian action: a) timeframes; b) scale of resources; and c) relations with communities.

Timeframes

The earlier briefing notes from this research project stressed the extent to which the people interviewed in Somalia were trying to respond to a changing climate (e.g. the increase in frequency of droughts) rather than simply responding to a weather event, i.e. a single poor rainy season or flood (see Levine et al., 2021b; Weingärtner et al., 2022; see also Chapter 3). Trying to distinguish between the two was a difficult, and possibly irrelevant, exercise. Broader adaptation, whether that is labelled as resilience-building, disaster risk reduction or climate change adaptation, usually takes place on a very different timescale to that of anticipatory action. Where longer-term efforts are already underway to improve systems, e.g. river management, water infrastructure or livestock markets, it becomes easier to react quickly following the warning of a specific impending shock.

We hope that the main focus of attention on anticipatory action in the humanitarian community is moving away from the design of processes – finance mechanisms and triggers for discrete action – and turning towards the content of interventions. Attention to the design and establishment of discrete finance systems inevitably leads to thinking about anticipatory action both generically (i.e. thinking collectively about whatever might be funded by the mechanism) and separately from other processes and support systems that are going on outside the mechanism. Questions about what to do and how best to help people facing crisis encourage a focus of attention on the context, the challenges being faced, the structures and systems (markets, public services, etc.) that people depend on, and how to support them.

25 The workshop was held in Rome in November 2022. The nexus came to the fore most notably in the presentation by Hugh MacLeman of WFP, entitled 'Why and how is anticipatory action relevant to operationalize the humanitarian-development-peace (HDP) nexus in the face of current food insecurity trends?'.

Ultimately, it is the structures and systems that are responsible for supporting resilience and longer-term adaptation that need to be supported in making more and better anticipatory responses.

Supporting people's anticipatory actions and supporting their adaptation are not mutually exclusive; on the contrary, anticipatory action depends on adaptation. The previous chapters showed how people's anticipatory actions were severely constrained because there were so few opportunities available to them. Creating additional opportunities is an integral part of resilience-building or climate change adaptation; when needed, anticipatory action can then help people to take advantage of those opportunities. That can be most effective when both are part of a coherent and collaborative long-term strategy of support. Such a strategy might include a wide range of issues, including improving livestock health services, access to financial services, participatory rangeland management, an overall strategy for livestock feeding in droughts, river management and flood control, or the development of cropping systems adapted to more frequent droughts and/or floods; with an infrastructure to provide inputs and to market produce. Each one of these would require a long-term strategy that would include how best to offer support in anticipation of a crisis, and then in response to a crisis having developed. One participant in the SPARC roundtable complained about the current silos of responsibilities by arguing: "Humanitarians are saying 'we should be saving lives'. Development actors are saying 'we should be doing development with a long-term view'. What about development actors saying 'we should be doing development, but also with a short term view to helping save lives'?"

Scale of resources

CERF made available $20 million in Somalia in 2021 for anticipatory action, out of a total appeal of just over $1 billion (and total funding of $850 million) (OCHA, 2021). Humanitarian resources for anticipatory action will always be a small percentage of such an appeal. Far more resources are available from non-humanitarian sources, including government/state budgets and the donors of development and social protection. The World Bank alone made an average of $1 billion available for anticipatory action to each of 150 countries to mitigate or prevent economic crises from COVID-19 (see Box 5). Such global funds often do not reach fragile and conflict-affected countries such as Somalia.[26] Humanitarian agencies may have a greater impact on crisis-threatened populations if they can help these resources to be targeted at the countries that need them most, and ensure they are used most appropriately to avert or mitigate crises.

Relations with communities

The analysis in Chapter 4 shows the difficulty of identifying windows of opportunity for supporting people by relying on the kind of macro data available to early warning and central decision-makers. Established relations with communities offer other ways for agencies to understand such opportunities by including an understanding of what people are thinking and planning locally. Almost all humanitarian agencies in Somalia are running longer-term programmes, which gives them the needed long-term relationships.

26 See, for example, Quevedo and Cao (2022) on the challenges for conflict-affected countries in accessing global climate funds.

Many of the challenges around anticipatory action derive from the organisation of totally different kinds of interventions (which may have nothing in common beyond their anticipatory purpose) into distinct funding mechanisms, almost as if anticipatory action were a distinct sub-sector. Some of these challenges dissolve once specific anticipatory actions are grounded in a longer-term presence on the ground, where anticipatory action consists of flexibility and adaptation to changing circumstances, rather being organised around a central anticipatory action mechanism at national level. Locally grounded action does not have to rely on a standard trigger that defines a right time to act, without reference to the interventions planned. Actors at the local level can be encouraged to be forward-looking and to identify upcoming windows of opportunity to support people. Diverse situations with diverse crisis calendars across the country will then no longer present the same challenge. In addition, endless arguments about when action counts as anticipatory will then become irrelevant. Attention can remain solely on the real question: what needs doing, when and how.

BOX 5: THE RESPONSE TO COVID-19: ANTICIPATORY ACTION WITHOUT THE LABEL

The COVID-19 pandemic brought about what is almost certainly both the most global and the greatest anticipatory response to crisis that the world has ever seen. Within six weeks of the declaration of a global pandemic (11 March 2020), over 150 countries had introduced measures to mitigate its economic impacts, supported by the World Bank, which alone made over $150 billion available in grants and loans to what it calls 'developing countries' (World Bank, 2021). Although the label 'anticipatory action' has not been used to describe this global response, measures were taken in anticipation of economic hardship caused by lockdowns and other public health measures, not in reaction to it.

The anticipatory response to COVID-19 was almost certainly influenced by the fact that the first countries to which COVID-19 spread from China were rich nations (Italy, UK, USA), which were able to take rapid social protection measures at scale. Their own experiences probably influenced their behaviour as donors and served as both a warning and an example to other countries.

It is likely that the direct experience of crisis on the part of the richer nations will fade over time, but nonetheless COVID-19 offers a hopeful lesson for the future. When the world is focused on a crisis, it can act at speed and at scale through national structures – and in anticipation.

7 CONCLUSIONS

This study set out to identify how best to support pastoralists and farmers before a food security crisis became fully developed in three different parts of Somalia. Additionally, we wanted to find out the best time and window of opportunity for any support strategies that we could identify.

That objective proved difficult. In part, this was because the crisis that we set out to follow in 2020 lasted much longer and was far more severe than could have been anticipated at the time. Earlier in the crisis, it may have appeared that there were opportunities to tide people over until the next rains, but those opportunities could turn illusory – but only with hindsight – as the next rains, and then the next, also failed.

Mis-anticipation and mal-adaptation

All actors, including people facing crisis as agents of their own lives and external agencies, have to work without hindsight. Our study was based on the assumption that hindsight would teach us lessons that would be applicable to the future and that could be applied without the need for hindsight. But the first lesson to be drawn related directly to the impossibility of predicting how serious and prolonged the drought would be. Studying people's attempts to cope showed that in the face of uncertainty, some of their actions inevitably proved to be mal-adaptive in the longer term, or what we could call 'mis-anticipatory' in the shorter term.

It is equally inevitable that the efforts of outside agencies to support people's anticipatory actions will sometimes support them into mal-adaptation and mis-anticipation. This is not a reason for inaction or paralysis. It is a reason why the current focus on learning within the anticipatory action community is so important; it emphasises the need for support to be accompanied by the constant monitoring of how interventions are playing out; and it reinforces the need for a high degree of flexibility in those efforts, so that as soon as mis-anticipation and mal-adaptation are picked up, they can be corrected. It is also a reason why any failure of individual anticipatory initiatives should be judged in a wider context; not all efforts should be expected to succeed.

Investing in long-term adaptation and resilience

Farmers and pastoralists were far from passive in the face of difficulties. However, their local economies limited their opportunities and production options. Their main preoccupation was to change this structural lack of options. They were looking for ways to adapt to an increasingly difficult economic landscape where climate change is leading to more frequent and intense floods and droughts, rather than just seeking to anticipate and cope with one particular weather event.

This reinforces the need for much greater investments in long-term climate change adaptation and resilience. Anticipatory assistance will be far more effective, and there will be far more opportunities to support people's anticipatory actions when local economies offer more opportunities for people to mitigate the risks they face. Longer-term strategies for achieving this need to directly address the fact that crises are highly likely to occur along the way, and

development or resilience strategies have to build opportunities for anticipatory action into the overall strategy. Experts on crises, including on anticipatory action, have an important role to play in developing such strategies. The scale of investment needed should not be underestimated, however; it is orders of magnitude greater than that available through current anticipatory action or resilience programming.

A limited role in crisis management

When we analysed how people saw their futures developing, and the decision-making behind their responses, we generally failed to identify clearly any specific constraints to better responses on their part that could have been alleviated by anticipatory assistance. Where opportunities did appear to be identifiable with hindsight, there were reasons why famers or pastoralists would not have taken them up at the time. These reasons were not necessarily subject to change from assistance, so that even if resources had been provided, it is far from certain that those resources would have been used for the identified anticipatory strategies.

The Somalia crisis that began in 2020 presents a very different context from that of more straightforward and predictable crises where anticipatory action continues to show promise. Until there is a fundamental change in the economic opportunities and infrastructure available in Somalia, anticipatory action is likely to play a limited role in crisis management. Earlier direct provision of material assistance obviously relieves suffering and brings benefits for those directly targeted. However it has yet to be shown that there is additional benefit in using the same resources in an anticipatory way.[27] It is also unclear whether any of the projects piloted offer a feasible strategy at scale. In 'wicked crises' where uncertainty is permanent, it may be more important to think in terms of building up capacities to manage uncertainty, rather than trying to provide people with a route through uncertainty.

Trustworthy information sources

Most farmers and pastoralists interviewed were expecting each successive rainy season to be good, even though some seasonal forecasts were indicating each time that this was unlikely. In a drought of the severity of 2020–2022, they might not have had many options, even had they known what was coming. But in crises that are less protracted, and where droughts are not compounded by so many other serious shocks, many people would be able to make better informed decisions if they had – and could trust – better seasonal forecasts. The way in which they understand, value, talk about and share information about the future, though, all took place through a cultural lens – as it does in every society, in every place and every time.

The most important anticipatory action that could be offered by support agencies may well be to allow individuals and families to choose their own best anticipatory actions by facilitating the sharing and discussion of information in ways that will reach people and that they will trust. There are technical challenges, especially for MAM rains, in drawing up forecasts where the skill level is high enough to be useful and to ensure that different models do not produce conflicting forecasts. It is hoped that current efforts by experts will very soon advance a new scientific consensus to resolve these deep challenges.

27 A presentation of preliminary analysis from the (forthcoming) impact assessment of CERF anticipatory interventions by Tufts University was able to show the benefits of assistance received but was not able to compare earlier or later use of aid resources.

Merely making weather forecast information available may not be enough and providers of forecasts will need to engage with the local knowledge systems. Experience is rapidly being built up in this field. If the cultural dimensions of knowledge can be engaged explicitly (including a religious perspective on knowledge about the future and the perceived accuracy of traditional forecasts compared with scientific ones), then there is hope that the efficient communication networks in Somali society will help people to make better informed decisions about the future.

Anticipatory action as a broader way of thinking

Each interviewee had their own trajectory through the crisis, facing different challenges and different degrees of need at different times. Some of the reasons for the diversity of experience were due to regional discrepancies in the shocks (including locusts, droughts and floods). Differences between places were marked, even within a locality (i.e. a study site). If it becomes possible in the future to identify ways of supporting people to take anticipatory actions, it is very likely that the windows of opportunity for different interventions will be equally diverse. Many recent efforts to establish anticipatory action funds have tried to establish a set of parameters with thresholds that define a single trigger for releasing funds nationally and for all intervention types. The study of people's livelihood trajectories through the crisis starting in Somalia in 2020 does not suggest that this will be an appropriate way either of managing resources for anticipatory action or of planning for anticipatory action in the context of crises such as this one.

Some of the rhetoric and optimism around the potential of anticipatory strategies to mitigate crises, such as the current one in Somalia, appears to suggest that anticipatory action could play a significant role in preventing crises and even famines, if only sufficient resources were made available.[28] This paper is much more cautious, and argues that effective ways of using anticipatory action, specifically in such wicked crises, have yet to be found. What opportunities there were for using anticipatory action across the region would probably have closed by mid-2021, according to CHC (2022). However, it is never too late to be thinking and planning ahead. Some life-saving relief operations take considerable time to organise and implement; for example those in insecure areas and where access needs to be negotiated with non-state armed actors. Anticipatory action funding modalities have put a welcome spotlight on the need for planning based on scenario-building and forward-looking decision-making. These are needed right across the spectrum from disaster risk management to crisis response. Most aid agencies do not use the term 'anticipatory action' to include forward-looking planning when a crisis is already well developed, but observing the conversations taking place inside the humanitarian sector as the crisis developed, it was clear that the forward-looking thinking anticipatory action experts can bring to a response needed strengthening in the wider humanitarian response arena and within development support. This may turn out to be an important role for anticipatory action specialists. Anticipatory action is far more than a funding mechanism.

28 For example, Farr et al. (2022) talks of the need for investing in resilience in advance, but still focuses on the lack of political will for funding anticipatory action as a significant problem in the Somalia crisis.

Learning from experiences

Much of the work on anticipatory action in the Horn of Africa has been accompanied by learning efforts. Several studies have been conducted, looking at both processes and impacts.[29] Our study, which looked at the lives of people who were not receiving anticipatory assistance, is a complementary part of a wide learning effort. These learning efforts are important. This paper argues that the challenge of understanding how and when to use anticipatory action in wicked crises is much greater than may be appreciated. That challenge is not simply in finding the resources; it is very hard to know how resources can best be used as a wicked crisis gets worse. The more that challenge is acknowledged, the greater the hope that collective and collaborative learning by many agencies will lead to more effective strategies in the future.

29 This body of learning included work by the Centre for Disaster Protection (supporting UN-OCHA learning) and the Centre for Humanitarian Change, which have been cited. Unpublished but forthcoming work by Tufts University has also been mentioned. Save the Children and Jameel Observatory are also conducting research on anticipatory action in the region and United Nations implementing agencies such as WFP and FAO have been learning from their own experiences.

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ANNEX 1: DESCRIPTION OF STUDY SITES

Jowhar

Jowhar is the capital of the state of Hirshabelle and the administrative headquarters of the Middle Shabelle region. It is located approximately 90 kilometres north of Mogadishu. Jowhar is strategically significant due to its location. It connects Mogadishu to the rest of the country's central regions via the national highway. During Italian colonialism in the 19th century, Jowhar was developed as an agricultural centre where novel farming techniques were tested, and dams, roads, schools, hospitals and other facilities were constructed.

Agriculture is the predominant livelihood in Jowhar and is defined by the Shabelle river. There is an extensive network of irrigation for agricultural development to the east, with rice production in the flood-prone west. In most of Jowhar district, agriculture is practised year-round, with common crops including corn, beans, rice, sesame, onions and sorghum.

Jowhar district is susceptible to flooding from rainfall, making accessibility and transportation difficult, with many using boats to reach Jowhar town. It is also susceptible to riverine flooding from heavy rains falling in the Ethiopian highlands. Weak river embankments and exposed riverbanks aggravate the situation.

In recent years, floods have repeatedly wreaked havoc on agricultural lands, causing damage to both crops and the infrastructure that supports livelihoods. Many families have to seek alternatives, including informal work in big cities such as Mogadishu as construction labourers (men) or domestic workers (women).

The town of Jowhar has a livestock market. Cattle are exported through Bosso port, accessed via Belet Weyne, the strategic town that connects the country's southern and central regions around 250 kilometres away. Some cattle are also sold via the port of Mogadishu, while others are shipped via the port of Bosasso in Puntland. The route through Jowhar is a key supply line connecting Mogadishu to the central region of Somalia and Somaliland to the north. The route passes through territory controlled by al-Shabab, which imposes charges on animals being transported along this section of the road.

Burao

Burao is the capital of the Toghdeer region, one of the most fertile rain-fed agricultural and pastoralist districts in Somaliland. Burao district has a population of just over 750,000. Burao is located within the Hawd pastoral livelihood zone, often known as the 'forestland' livelihood zone, where the cattle industry is the primary driver of economic activity. Burao city is home to the largest livestock market in the country. Since the early 20th century, Toghdeer region has been one of the most prosperous agro-pastoralist regions in Somaliland.

The Burao trade route is connected to the Berbera corridor and serves as a market for animals sourced from the surrounding areas. Additionally, it acts as both a hub and a trade route for livestock that comes from the Somali region of Ethiopia.

Burao serves as a hub for the transportation of livestock on the way to the ports of Berbera and Bosasso. Key pastoral livelihood zones such as Hawd, Sool Plateau, Nugaal valley, and the Adun in the northeast and central regions, rely on Burao as a reference market. Cattle destined for export through Bosasso port are supplied through the Beled Weyne district, which connects the country's southern and central regions.

Galkayo

Galkayo is the hub of the Mudug region in central Somalia. Authority over portions of the city are contested between Galmudug state, which controls the northern sections, and Puntland, which controls the southern section.[30] It is situated around 700 kilometres north of Mogadishu along the main road connecting northern and southern Somalia.

The area is classed as semi-arid, and the town was created in this location mostly due to the presence of shallow groundwater, which serves as the primary source of water for the bulk of the Galkayo population. The surrounding livelihood zones of Galkayo are pastoral, with sheep, goats and camels being the predominant animals.

The city is a significant regional hub for trade between southern and central Somalia, the Somali region of Ethiopia, and Bossaso port. It has an important strategic location as a commercial and logistical hub in the heart of three of Somalia's most important seaport cities, Bossaso, Berbera and Mogadishu. Galkayo's economy is inextricably linked to the trade of live animals and livestock products from Bossaso port and the import through the port of food and other goods from the Arabian Gulf. There are extensive business links between Galkayo and the neighbouring pastoral districts. Rural villages trade imported foods and non-food household goods with urban people for milk, meat, ghee, live animals, skins, firewood and charcoal.

Galkayo is particularly important for the export of sheep and goats from the Somali region of Ethiopia and parts of southern Somalia. This market serves as a transit point for most of the livestock that is transported through the seaports of Berbera and Bossaso.

As is common elsewhere in Somalia, many pastoralists in Galkayo live in towns and cities. This allows them to send their children to school and gives them the opportunity to earn extra income by running other businesses in addition to taking care of their livestock in rural areas – a lifestyle known locally as "*Laba gardaaq*" (literally, 'two guards').

30 Galmudug was established as a state in 2006, and its authority claims southern Galkayo as its capital. The administration views the state as a federal division of Somalia and does not seek independence. The state consists of portions of Galgadud and Mudug region.

ANNEX 2: INTERVIEWS PER STUDY SITE

Location	February / March 2021		June / July 2021		October / November 2021		March / April 2022		Total
	Women	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**	**Men**	
Burao (Togdheer Region, Somaliland)	4	9	4	9	12	18	10	20	**86**
Galkayo (Mudug Region, Puntland)	2	11	3	10	8	22	7	23	**86**
Jowhar (Middle Shabelle Region, South West State)	2	11	5	7	15	14	12	19	**85**
Total	**8**	**31**	**12**	**26**	**35**	**54**	**29**	**62**	**257**

Over the four rounds, we interviewed 120 individuals across the three districts of Burao, Galkayo and Jowhar. Out of these, there are 21 people with whom we spoke in each round, so four times in total. Ten people were interviewed three times, 54 people twice, and 35 people once. In addition, we conducted interviews with 10 people in Afmadow and 13 people in Balcad during the first round in early 2021. However, these interviews were discontinued for the remaining rounds, due to the logistical challenges of spreading interviews over a wider range of locations.

ANNEX 3: 'WHAT WOULD IT TAKE?' THE SCALE OF THE CHALLENGE IN USING FODDER PROVISION AS A DROUGHT COPING STRATEGY

To assess the feasibility of a strategy of responding to drought through fodder distribution, some estimation of the scale of the challenge is needed. A very rough calculation can give an idea at least as to the order of magnitude of what would be required.

Estimates about the number of livestock in Somalia vary. IGAD used figures from the Ministry of National Planning, which estimated that in 2013 there were 5 million head of cattle, 8 million camels and close to 50 million small ruminants (Too et al., 2015). Government of Somalia figures that are available online at the time of writing this report are lower at a little over 4.5 million cattle, 6 million camels and 28 million small ruminants (Government of Somalia, n.d.).

Taking the most conservative estimates (Government of Somalia, n.d.), and combining these by using Tropical Livestock Units, that is equivalent to around 12 million head of cattle.[31] Assuming that the intention is only to keep breeding females alive, that could be around 6 million cattle equivalents. If we reduce the ambition to keeping alive only half the breeding females, that is 3 million cattle equivalents.

Assuming animals eat 1.5% of their bodyweight each day, and assuming that feeding support would offer only half their feed requirements, the fodder requirement for distribution would be around 5,000–6,000 tonnes every day. This assumes national coverage. Where a drought affects only part of a country, volumes will be proportionately lower.

Over the course of a drought lasting two years, over 4 million tonnes of fodder would be required. Because of transport costs, this would have to be produced nationally or in neighbouring countries, at a time when they are all suffering from drought.

Such a strategy would rely on a further assumption that water is available for livestock.

Anticipatory action funds would only be expected to finance such assistance at the onset of a drought, but if the goal is to keep animals alive through a drought, and if the marketing opportunities are very poor, then the strategy might rely on an assumption that fodder

31 This calculation uses camel = 1 TLU, one head of cattle = 0.7 TLU, goats and sheep = 0.1 TLU (following Wilson, 2003). Other conversions are also used, but since the calculation here is illustrative and very approximate only, the exact conversion methodology is not important.

distribution can be maintained for as long as needed. Otherwise animals simply risk dying a little later, as has happened in some previous fodder distributions.

Other strategic uses of fodder are possible, e.g. short-term distribution of high-nutrient feed for fattening animals for sale or to maintain milk production. These might require much smaller overall quantities but might require larger daily amounts for a shorter period of time. The purpose here is not to conclude what strategy is or is not viable in different crises, but to illustrate a challenge. To be viable as a strategic response at a national scale, the feasibility of sourcing, purchasing and transporting the required volumes of feed to animals in places where there is adequate water has first to be established.

This challenge relates to the use of fodder as a strategic response, i.e. as a way of managing a crisis. It does not relate to the use of micro-projects that aim to help just a few hundred herders. These may have significant benefits for the recipients but are insignificant as part of a general drought management strategy where millions of livestock keepers are affected.

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Cover: Word cloud from interview transcripts of all interview rounds (2020–2022) in Burao, Jowhar and Galkayo (excluding pronouns, prepositions and generic terms).

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