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Anticipatory action for drought in the Sahel: an innovation for drought risk management or a buzzword?

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Anticipatory action is an approach that combines early warning information with flexible, pre-positioned funds to trigger actions that mitigate the impact of predictable shocks on the most vulnerable people. Historically, drought is the climatic hazard that led to the highest and most severe humanitarian impacts in the Sahel. This region, according to climate projections, will be one of the most deeply affected by climate change in future years, leading to considerable changes to societies, economies, as well as impacting rural communities. While this negative projection may lead to further increases in humanitarian consequences, recent experiences from integrating anticipatory action for drought into humanitarian practice hold positive prospects. This article will review current experiences on anticipatory action for drought in the Sahel and shed light on whether this approach has brought innovation in local disaster risk management. Through the review of recent initiatives in Burkina Faso, Chad and Niger, this paper highlights key advancements as well as gaps and challenges pertaining to key components of anticipatory action and disaster risk management, namely: (1) data, risk analysis and early warning; (2) funding; (3) preparedness and community engagement; (4) learning, coordination and partnership; (5) policies and institutional frameworks. Even in challenging environments like in the Sahel, anticipatory action for drought can become an integral component of standard disaster risk management and financing strategies. However, this process will require more robust evidence about which ingredients of anticipatory action approaches lead to the desired result.

KEYWORDS

drought, anticipatory action, Sahel, humanitarian, hazard, funding

Introduction

In recent years, the Sahel region has witnessed an alarming increase in humanitarian needs and deterioration of food security. The current situation is mostly due to the combined effect of increased conflict and displacement, alongside the impacts of the food prices and climatic shocks such as flood and drought. In August 2023, the UN Office for the Coordination of Humanitarian

Affairs (OCHA, 2023) indicated that across eight countries¹ in the Sahel around 34.5 million people were in need of urgent humanitarian assistance. 48 percent (16.7 million people) were severely food insecure thereby requiring food assistance and emergency livelihood support. The humanitarian community appealed for 4.6 billion dollars but as of August 2023 only 29 percent of that amount had been funded. The Sahel is one of the regions that has endured one of the sharpest deteriorations of the humanitarian situation in recent years.

While in recent times conflict and displacement are the primary factors leading to humanitarian needs in the Sahel, if we look at the history of the region, drought remains the climatic hazard having led to the highest and most severe humanitarian impacts. This is mostly related to the fact that the Sahel remains predominantly rural and relying on rainfed agriculture. As data from UN Food and Agriculture Organization (FAO, 2023) highlights, agriculture is the sector absorbing the highest share of drought impacts on the economy, societies, and human well-being. The rural nature of the region and its high dependence on rain-fed agriculture increase the exposure of people to this risk, leading to greater humanitarian consequences when drought materializes. An analysis of data from the emergency database (EM-DAT, 2023) reveals that in the Sahel countries approximately 125 million people in total have been affected by drought between 1970 and 2022 (average of 2.5 Million people/year).

Climate projections indicate that the Sahel will be one of the areas of the globe to be most harshly affected by climate change in the future, leading to considerable changes to societies, economies, as well as deeply impacting rural communities. Data presented by the Sahel and West Africa Club (SWAC/OECD, 2021) also indicates that Sahelian countries shall double their population in the space of the next generation (20–25 years). While the region shall experience a considerable urbanization trend, large shares of the population will continue to rely on agriculture for their food and income.

While prospects for the Sahel present challenges like frequent hazards and unpredictable climate, alongside decreasing humanitarian funding, recent humanitarian practices on anticipatory action (AA) offer hope. These innovative practices, which combine climate forecasts, pre-agreed funding, and locally led early action may enable fast-growing Sahelian societies and their active youth to proactively manage drought risks. In fact, they allow at-risk communities to receive funding and support much earlier, thereby providing enough time for the application of preparedness, prevention and mitigation measures for drought. This study will review current experiences on AA for drought in the region and shed light on whether this approach shall support innovation in drought's risk management in the Sahel.

Droughts in the Sahel: what is the key issue from a humanitarian stand-point?

The agro-climatic area named Sahel, extending from Senegal on the West to Sudan in the East, is characterized by a single rainy season and annual rainfall amounts ranging from 200 to 400 mm.

The Sahel experienced a severe drying trend between the 1950s and 1980s. Recent studies showed that, particularly since the 2000s, overall seasonal rainfall amounts increased, but precipitation was distributed over fewer days (Osgood et al., 2023). This increasingly erratic nature of rainfall poses numerous challenges to farmers in the Sahel, who need to choose the right time for planting, or the right type of seeds depending on expected rainfall amounts. This is to avoid that a long dry spell, or a limited amount of rainfall, may undermine the growth of their crops on which their entire family relies. Currently, more than 80% of the population relies on agriculture to survive (SWAC/OECD, 2021) in the Sahel. Most people are agro-pastoralists that practice either small-scale subsistence rain-fed farming activities and rearing of small herds of livestock relying on freely available pasture and water.

Each year, the lives of these rural communities depend strongly on the amount of rain received during the rainy season, alongside how moisture is distributed across time and space. A bad rainy season can quickly translate into a reduced access to food, as well as income to afford basic services such as health and education. While latest analysis from the FAO (2023) indicates that the agricultural sector absorbs over 65 percent of the economic impacts of droughts, drought can have multi-sectoral consequences. It can lead to the temporary displacement or migration of affected rural households, thereby increasing the competition amongst communities for access to natural resources. At the same time, reduced availability of water can also lead to severe health consequences or increase the risk of specific diseases, affecting the wellbeing of vulnerable communities [United Nations Environment Program (UNEP), 2011].

The latest IPCC Assessment Report (IPCC, 2023) highlights a projected increase in meteorological droughts in West Africa, as well as increases in heavy precipitation and pluvial flooding for the Northern parts of the Sahel. According to a recent report by OECD (2022), yields are projected to drop by around 11 percent by 2050. Overall, climate analysis and projections converge on pointing to the fact that the Sahel region shall be one suffering from sharpest climate variations due to climate change (SWAC/OECD, 2021).

Filling critical gaps in local drought risk management

AA is an approach that combines early warning information with flexible, pre-positioned funds to trigger actions that mitigate the impact of predictable shocks on the most vulnerable people.

The goal is to act before the hazard's impact materializes, focusing on lifesaving, dignity-preserving interventions such as distributing drought-tolerant crop varieties, providing animal feed and health support and making cash distributions prior to the shock to support vulnerable households, thus enhancing resilience and mitigating disaster effects (FAO, 2022).

AA initiatives across the globe often integrate five key ingredients, which are also pertaining to existing disaster risk management framework and methodologies. Namely, we can highlight: (i) accurate and timely data to generate early warning and define clear triggers for anticipatory action (Šakić Trogrlić et al., 2022); (ii) flexible and prepositioned funding to ensure timely resource availability; (iii) timely implementation thanks to operational preparedness as well as community engagement; (iv) learning, coordination and partnership;

¹ From West to the East: Senegal, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Cameroon, and Chad.

and (v) policies and institutional frameworks that lay the foundation for effective AA by providing guidance and structures (Ruckstuhl, 2023).

In fact, AA should be seen as an integral component of disaster risk management, not as a stand-alone approach that can be applied to any context. By embedding AA into the disaster risk management cycle, humanitarian efforts become more proactive, cost-effective, and efficient (ASEAN, 2022) (Figure 1).

The slow-onset nature of droughts provides humanitarian actors with multiple windows of opportunity to act early before a specific vulnerable group or their livelihood is affected by this hazard. In fact, drought's impacts on rural communities can span over an entire year or longer, often depending on the seasonality of livelihoods and economic activities that are carried out. Therefore, several humanitarian partners are adopting phased approaches for anticipating and averting the consequences of drought on people. For instance, the phased approach recommended by FAO (2022) identifies the different timings at which drought may affect the most vulnerable groups, and what actions hold the potential to avert these consequences at different stages of the seasonal calendar.

Thanks to the joint efforts of various humanitarian partners such as FAO, OCHA, the Red Cross Red Crescent Movement, the Start Network and the UN World Food Programme (WFP), several Sahel countries have seen the advent of numerous AA initiatives for drought since 2018. As of 2023, several countries have started or completed initiatives on AA for drought, in particular in Niger, Burkina Faso, Cameroon, Chad and Senegal.

Is AA adding value to five key components of drought risk management in the Sahel?

In recent years, following a thorough process of close collaboration between United Nations agencies and national early warning systems and meteorological institutions, the Sahel region has produced three

inter-agency AA frameworks (OCHA, 2022)—or AA plans—for drought in Burkina Faso, Chad and Niger. These plans provide clear guidance on the risk analysis and the areas and communities targeted. Moreover, they steer how and when the AA funding from the UN Central Emergency Response Fund is going to be released for implementation of pre-agreed early actions by the UN agencies participating in the framework. The plan of Niger activated in August 2022 for the first time, while the other two plans have not yet been activated.

Considering the five key elements of AA previously mentioned, it is important to evaluate how these initiatives related to drought in the Sahel are promoting innovation in disaster risk management:

- 1) *Data, early warning, and triggers for action:* The plans present a clear framework of indicators and research-based triggers for activating funding alongside the crisis timeline that is adapted and designed according to the local seasonality and timing of impacts of drought. Hence, the plans provide the first model on how different publicly available indicators can be used in a programmatic framework for drought, also showcasing clear risk thresholds. The plans also aim to strengthen drought early warning provided to at-risk communities. These three AA initiatives in the region have strongly benefited from the collaboration between Sahelian institutions and regional and global climate and data centers, such as the International Research Institute for Climate and Society of the Columbia University (IRI) and the OCHA Centre for Humanitarian Data. These technical collaborations occurred in the elaboration of the three inter-agency AA plans were able to fill certain analytical gaps, leveraging on the numerous sources of data for anticipatory action at national level as well as building on national datasets and indicators to define clear triggers for anticipatory action on drought. However, timely early warnings issued through these triggers and reaching last-mile users such as communities at risk would still prove challenging. This is mostly due to the continued weakening of the decentralized

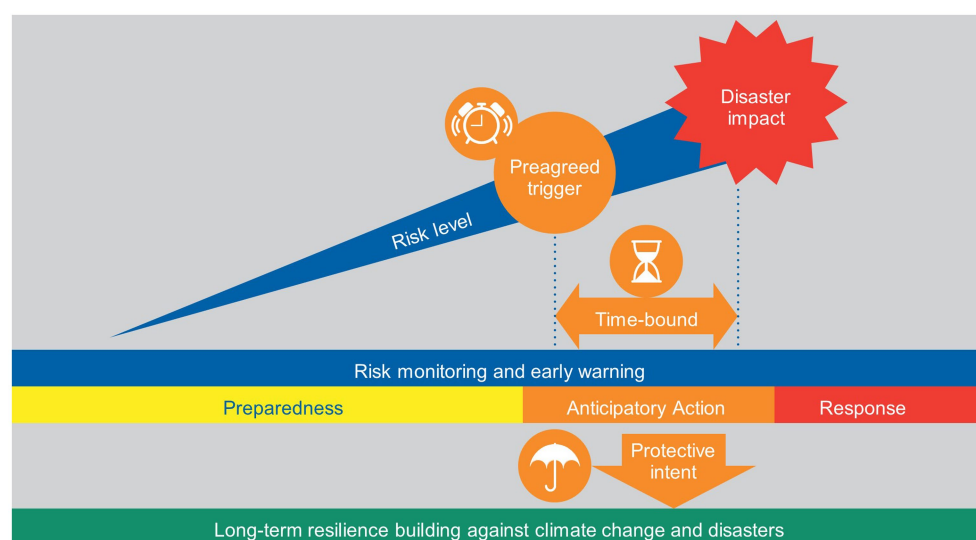


FIGURE 1

Locating anticipatory action within the disaster risk management cycle. Source: ASEAN (2022).

extension and alert systems of governments. In the Sahel there have been significant advancements in predicting climatic shocks and in the development of new forecast data, yet these resources are often not easily accessible or exploitable publicly in a timely manner.

- 2) *Funding for anticipatory action*: Historically, humanitarian funds for responding to drought emergencies in the Sahel have often been disbursed mostly after a declaration of drought emergency, and often months after the end of the rainy season that generally runs between May and October. For instance, during the technical sessions of the inter-agency working groups, it was highlighted that in recent years the earliest disbursements of humanitarian funds for drought were carried out in November or December. This meant that funding was disbursed too late for preventing or mitigating drought impact on rain-fed or irrigated crops, or even livestock. The application of triggers informed by climate forecasts or satellite-derived indicators on vegetation conditions in these three plans have considerably pushed forward the point in time at which actors can access funding, ranging from three up to more than nine months earlier. For instance, in the three plans the triggering of AA funds can already occur in the first trimester of the year, well in advance of the Sahel rainy season. While the latest available funding windows occur between July and September. This can make critical differences in safeguarding people's livelihoods and food security, while at the same time reducing the costs for emergency response since they tend to be much higher than for any type of preparedness initiative (IFRC, 2019). However, the level of funding allocated to AA is not yet to the scale capable of determining a systemic change or managing a large-scale drought in a country, and it is mostly provided through humanitarian financing mechanisms.
- 3) *Effective AA through operational preparedness and community engagement*: Lessons from OCHA's (Chaves-Gonzalez et al., 2022) pilot initiatives on AA highlight how preparatory measures and operations for acting early often require considerable time and investments. These preparatory activities are often difficult to finance. The early action protocols promoted by the Red Cross Red Crescent Movement, which foresee the possibility to also fund preparedness interventions, are a good practice which is not very widely applied mostly due to stringent donor's requirements. Most of the AA initiatives have included community engagement in the design of AA interventions. However, the three inter-agency plans on AA are established at national level and did not entail a thorough integration of representatives of civil society, national NGOs but also representatives of the communities at risk. This reduces the local ownership on these plans as well as the required levels for engagement of the communities at risk.
- 4) *Learning, coordination and partnership*: The joint collaboration between humanitarian practitioners and technical national institutions entailed in the development of these plans has considerably increased shared learning and coordination on drought risk management. As a matter of fact, the elaboration of these inter-agency AA plans was the result of a collaborative effort lasted between one to two years and entailing regular and

frequent technical discussions organized through the established national working groups. These groups integrated humanitarian actors, the national early warning systems units and the meteorological agencies. Moving forward, stronger coordination and joint learning would be needed among all actors involved. Generating more robust evidence about AA is one of the most important factors currently standing in the way of AA at scale.

- 5) *Policies and institutional frameworks*: These three initiatives were spearheaded by humanitarian actors but designed in close collaboration with government partners. In this sense, they contributed to strengthening the capacities required for national leadership on this issue in the near future. For instance, the Government of Niger through its national meteorological institute as well as the food security early warning system has strongly participated to the development of the plan. The recognition of the increasing interest for AA initiatives is illustrated by the integration of AA into the 2021–2025 Strategy for Food and Nutrition Security included in the Plan of Action (High Commission of Initiative 3N, 2021) of the nationally owned initiative “Nigerien feeding Nigerien.” These promising advancements at national level can be an opportunity to be exploited at regional level, since the Sahel presents a particular institutional context with harmonized food crisis management, which can facilitate the integration and scaling of AA. For this reason, the Permanent Interstate Committee for Drought Control in the Sahel (CILSS), FAO and WFP have launched a regional task force on AA for food security, aiming to upscale current experiences and support institutionalization and policy uptake.

Discussion

Overall, it should be highlighted that AA initiatives for drought are still relatively new to humanitarian practice as well as drought crisis management in the Sahel. However, the initial results have shown that they can add value to the five aforementioned components of disaster risk management. Furthermore, recent studies indicate that the Sahel region is amongst the most suitable for testing drought AA, in light of the increased predictability and skills of available forecast tools (Lala et al., 2022).

The initial short-comings or limitations encountered in the first few years of operational AA projects outlined in the section above can indicate pathways for future research, collaboration as well as joint practice for future initiatives:

- AA initiatives for drought risk should be strongly linked to pre-existing and functioning last-mile early warning systems as well as preparedness mechanisms for timely action. This can pose a challenge in terms of programming, but also on how to fund these longer-term interventions which may determine the efficacy of AA initiatives.
- AA needs to be fostered through an integrated approach that brings together humanitarian and development assistance, actors in peacebuilding and climate action, with strong commitment

from governments, civil society organizations, the private sector and communities. The Sahel region has several complementary risk management initiatives such as sovereign parametric insurance that are tailored to the needs of governments, social safety nets as well as other emergency preparedness mechanisms. These instruments should be seen as a continuum and acting in synergy, potentially integrating AA in a package of blended finance that can support populations at risk through different means.

- At the same time, the AA approach allows actors to reach more people, with less money. For example, FAO estimates that households can gain up to USD 7 in profits and avoided losses for every USD 1 invested (FAO, 2023). Evidence generated by WFP also confirms that AA not only saves a significant amount of money in the immediate response (up to \$34 per dollar invested over a 20-year period)—but that it also reduces long-term recovery needs and costs. There is still limited evidence from the Sahel region, and this should be a priority for joint research.
- Taking into account that the management and response to hazards takes place at the local level, it should be a priority to strengthen community engagement and the active participation of local actors and civil society in the definition of all phases of AA initiatives, including the crucial one of early warning (Coughlan de Perez et al., 2022).

In light of the projected outlook for the region, which raises prospects for a riskier future in a region poised to go through profound demographic and socio-economic transformations, approaches like AA should be institutionalized and integrated into a holistic package of funding and operational tools to act early for risks such as drought. The preliminary lessons derived from ongoing AA initiatives indicate that these approaches have the potential to innovate concrete components of drought risk management. However, particularly their scale and uptake need to be strengthened to complement other forward-looking instruments and anticipate the impact of predictable disasters.

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Data availability statement

Publicly available datasets were analyzed in this study. This data can be found at: www.emdat.be.

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