INNOVATING ANTICIPATORY ACTION

LESSONS FROM THE 2022 SOUTH SUDAN FLOODS

OCHA

Credits

Cover photo: A portrait of Nykuoth Gatdet Bol, 42, outside her shop. She was displaced by floods from Guit County and now lives in the Bentiu IDP site D. With cash assistance from CERF she started a business selling fish in Rubkona and Bentiu markets. She earns over 15,000SSP daily as profit, with which she is able to pay her children's school fees and meet her basic needs. Credit: OCHA/Sarah Waisna

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Innovating Anticipatory Action: Lessons from the 2022 South Sudan Floods

More reliable weather and vulnerability forecasting means there is more opportunity than in past decades to limit the humanitarian impact of certain shocks. Taking action in advance of a crisis, before either the shock or its peak impact, is known in the humanitarian sector as anticipatory action. In essence, anticipatory action makes acting the default when risks, not needs, increase.

A predictive model or forecast that can be used to trigger pre-agreed action plans and pre-arranged finance is at the heart of anticipatory action. Ideally, all these elements can be captured in a single framework document that serves as a 'rulebook' for how anticipatory action is supposed to work for a specific shock, in a specific context. But what happens when there is insufficient forecast data available, or the complex operating environment in the country requires more time to prepare and respond? Is it still possible for the humanitarian community to be anticipatory and for the UN Central Emergency Response Fund (CERF) to release funds ahead of an impending crisis?

This was the situation facing South Sudan in 2022. Through creative thinking and the decision to pilot a new approach, the UN Office for the Coordination of Humanitarian Affairs (OCHA) discovered the answer is yes.

As Joyce Msuya, Assistant Secretary-General for Humanitarian Affairs and Deputy Emergency Relief Coordinator concluded, "The takeaway is clear: anticipatory action works for climate-related shocks in South Sudan, but also elsewhere, including in Mozambique as I saw during my recent visit. Government-OCHA collaboration on early warning, combined with proactive community engagement, saved lives and resources. This cost-effective, flexible approach helps minimize suffering."

The challenge

At the beginning of 2022, communities across South Sudan were suffering from three years of unprecedented flooding. Floods had become a year-round struggle, exacerbating an already dire humanitarian situation, where more than two-thirds of the population (almost 9 million people) needed humanitarian assistance.[1] Ongoing conflict and instability in the country combined with the flooding resulted in people being forced to leave their homes time and time again.

In March 2022, OCHA explored the feasibility of developing an Anticipatory Action Framework to get ahead and mitigate the impact of severe floods. OCHA's Centre for Humanitarian Data explored the available data and forecasts that could be used to develop the trigger mechanism for a framework. However, the predictive strength of forecasts usually used to provide information on future large-scale flooding was limited for South Sudan.

Data: FAO, Natural Earth, UNGIS. The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

1 OCHA, South Sudan Humanitarian Response Plan, 2022.

The complex nature of the Sudd wetland's ecosystem meant that even where data was available and trends could be observed, there was no clear correlation with flooding. With no forecast available that could provide a trigger for time-bound actions, an Anticipatory Action Framework would not be viable.

There was another challenge. Even if the data was available, traditional flood models typically forecast only 1 or 2 weeks ahead. In a complex operating environment like South Sudan, this may not provide humanitarian actors and communities with enough time to prepare. Many supply routes were already submerged from the 2021 floods making prepositioning supplies difficult, time consuming, and fully dependent on air travel.

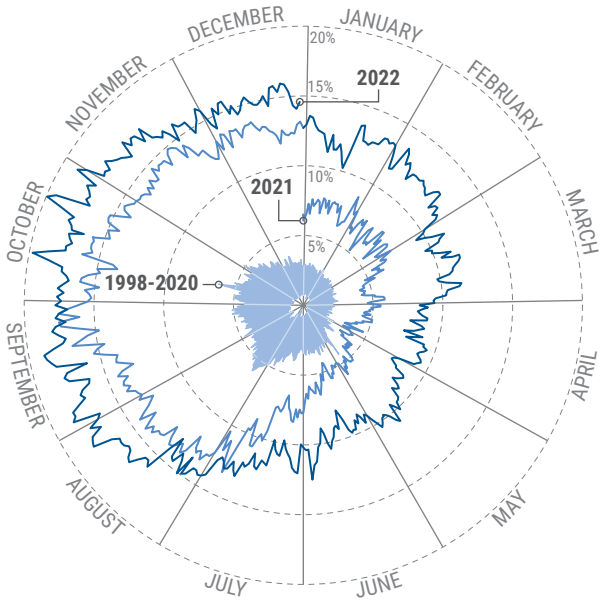
While the data infrastructure was inadequate to create a predictive model or forecast, the Centre's analysis confirmed there was enough information to indicate a significant flood was looming.

Typically, during the dry season, flood waters retreat into the Nile and other river basins, drying out the land and preparing for a new rainy season. However, the flood waters from 2021 never receded and remained above the highest levels observed in over 20 years. Any new rains expected for 2022's rainy season would turn an already dire situation disastorous.

As Seth Caldwell from OCHA's Centre for Humanitarian Data observed, "The water levels were beyond anything seen, and that was before the 2022 rainy season had begun."

In-country humanitarian and environmental experts agreed that even with a normal rainy season, there was extreme risk it would bring widespread floods beyond the levels seen in 2021 and likely at or beyond the scale of a 1 in 50-year event. Without intervention, such an event could lead to drastic levels of need for affected populations, many of whom were already experiencing an extreme lack of food and had exhausted all coping mechanisms.

Flooded area around the Sudd wetlands
in percentage (1998-2022)



South Sudan Sudd wetlands flood levels, January 1998 to April 2022, using AER Floodscan data.

In Unity State, the flooding was expected to put more than 320,000 people — over a third of whom were already displaced — at risk of further displacement, loss of livelihoods, disease outbreaks, food insecurity and psychological distress.

Over 125,000 people living in the Bentiu internally displaced persons (IDP) camp and in informal camps in Bentiu town were particularly vulnerable and at risk. Since 2021, the Bentiu area had been surrounded by floodwater creating an island, cut off from dry land and roads, protected by kilometers of hurriedly constructed dykes. Roads to bring relief items or evacuate people from flooded areas were inundated. With very limited opportunity for livelihoods and reduced access to aid, people were extremely food insecure — at times resorting to eating water lilies. Even a relatively small increase in the water level or a dike breach would have catastrophic impacts.

Not only was the Bentiu IDP camp at risk of being submerged, so was the site of Unity State's humanitarian operations. As an Inter-Cluster Coordination Group Member in Bentiu said, "If we get a quarter amount of the water that we currently have, we're all not going to be here."[2]

2 OCHA Mission Report to South Sudan, 2022.

The humanitarian community had merely a few weeks, perhaps months, to prepare before the rainy season began.

Flood extent, Bentiu town and IDP camp with airport strip in background (June 2022). Credit: OCHA/Rawad El Zir

The solution

OCHA saw an opportunity. Pilot a lighter and nimbler approach to anticipatory action, where CERF allocations can be provided earlier in countries with protracted crises based on a high likelihood of that country experiencing an additional shock that would compound existing humanitarian needs.

Consequently, CERF did not need to wait for the floods to destroy the homes and lives of people in Bentiu. Instead, CERF pulled the response forward by allocating US$15 million, complemented by an additional $4 million from the South Sudan Humanitarian Fund (SSHF) in May 2022, well ahead of the 2022 rainy season[3] and months sooner than had been the case in response to the 2020 and 2021 floods.

Alongside the funding, Sara Beysolow Nyanti, Resident and Humanitarian Coordinator in South Sudan, put in place decision-making as close to the people of Bentiu as possible. A high-level special task force was established with senior representatives in Bentiu to consult with communities on their priorities and to oversee operations. The placement of the task force in Bentiu along with a public project tracker specific to the anticipatory action projects, generated urgency, timely decisions and accountability.[4]

Ahead of the October 2022 floods, partners used the funds to construct and reinforce over 55 kilometers of dykes to protect vital access roads, homes and the airstrip. These dykes would prove to be critical, preventing 100,000 people from having to be evacuated and further displaced, even as IDP camps sank below water-level at the peak of the flooding.[5] A previously flooded road between Bentiu and Mayom junction was reopened, providing a key supply route that increased the volume of supplies and was estimated to be four times cheaper than having to fly in supplies. Protection of the airstrip allowed humanitarian operations to continue throughout the rainy season — a lifeline for the people of Bentiu.

Flood waters surrounding Bentiu camp, protected by dykes (October 2022). Credit: UNICEF/Dara Johnston

Early investments in latrines, water treatment sites, and cholera vaccine campaigns helped to avert a public health emergency, with the country able to

3 OCHA, CERF Press Release, 7 May 2022.

4 South Sudan, public project tracker.

5 E. Easton-Calabria, Acting in Advance of Flooding: Early Action in South Sudan, A Feinstein International Center Brief, 2023.

maintain a case fatality rate from cholera of less than 1 percent.[6]

Cash transfers to over 1,000 female-headed households, the majority of whom had at least one family member who was elderly or with a mobility impairment, enabled them to reinforce their shelters. Before the floods, at least 93 percent of households reported water entered their shelter when it rained. After making the investment in their shelters, this decreased to 42 percent in one camp and less than 12 percent in the other two camps at the height of the rainy season.[7]

The early allocation of CERF and SSHF funds was catalytic. It rang the alarm bell, mobilizing earlier funding from donors and action from humanitarian partners.[8]

"On the whole the money that came in helped quite a bit with mitigation for flooding... Other locations in the camp set up dike committees and trained people immediately. Materials were bought, and tools, and people were able to use the tools to reduce flooding in their sites."

– UNHCR informant[9]

Road recovery: dewatering in process after dike breach along the UNMISS-Rubkona Road 2022. Credit: IOM/Joshua Kanyara

6 OCHA, CERF Allocation Report on The Use of Funds and Achieved Results - South Sudan Rapid Response for Flood, 2022.

7 International Security Development Center, Impacts of Early Action Support on lives and livelihoods in South Sudan: The Life in Bentiu Study, 2023.

8 OCHA, CERF Allocation Report on The Use of Funds and Achieved Results - South Sudan Rapid Response for Flood, 2022.

9 E. Easton-Calabria, Acting in Advance of Flooding: Early Action in South Sudan, A Feinstein International Center Brief, 2023.

The take-away

This example from South Sudan demonstrates that in protracted crises and conflict settings, where forecasting data is often less reliable, it is still possible for the humanitarian community to take anticipatory action based on risk and vulnerability.

Anticipatory action may work best when there is a framework with a pre-agreed trigger for pre-arranged funding and activities. But sometimes there is not enough time, data, or access to develop such a framework. South Sudan shows this should not stop humanitarians from acting to mitigate the impact ahead of an expected shock. Anticipatory principles can be taken and adapted to context-appropriate programmes.

South Sudan also illustrates that continuous learning and improvement is a bedrock for innovation.

As of 2 January 2024, OCHA has facilitated collective anticipatory action pilots in 19 countries over three years, releasing some $90 million in funding.

"The pilots helped the humanitarian community to learn what works and what doesn't. They contributed to a mind shift in the humanitarian community, creating a higher level of understanding and acceptance for acting ahead of a predictable or forecasted shock. Senior leaders and donors trust the analysis provided by the Centre and the pilots have given them more confidence to make decisions and fund based on risk," said Lisa Doughten, Director of OCHA's Financing and Partnership Division.

OCHA continues to facilitate coordinated anticipatory action and has expanded its portfolio of pre-arranged funding to more than $100 million in 15 countries for storms, floods, droughts and cholera.

A man checks the water at a surface water treatment system (SWAT) water point for displaced people at Bentiu IDP site A in Bentiu town. The water point is run by IOM serves over 15,000 IDPs in the area. Credit: OCHA/Sarah Waisna

IOM team construct new dykes in Bentiu Jedit, Bentiu town in Rubkona Country. The construction work is funded by the Central Emergency Response Fund. Credit: OCHA/Sarah Waisna

CERF is also inviting applications for funding anticipatory action to get ahead of predictable humanitarian impacts of El-Niño-driven climate emergencies."With an overstretched global system, scaling up anticipatory action remains a top priority for OCHA. This involves advancing analysis on the approach and the related opportunity costs," said Joyce Msuya, Assistant Secretary-General for Humanitarian Affairs and Deputy Emergency Relief Coordinator.

OCHA's Centre for Humanitarian Data is also building on valuable lessons from South Sudan, expanding its work on risk analysis to support early action in other contexts.

To translate technical information into actionable information for humanitarians, the Centre is expanding its work on flood anticipatory action. In partnership with Google's Flood Forecasting Initiative, the Centre is piloting flood early warning across the Niger and Benue river systems to provide automatic alerts to decision makers when flood levels are forecasted or observed to rise.

By linking analysis to decision makers and funding — like the CERF and implementing partners — OCHA aims to continue to mobilize pre-arranged financing and resources for anticipatory or early action.

Overall, the humanitarian community considers the pilot in South Sudan a success, but with an acute awareness that anticipatory action by itself will never be enough.

By the end of the 2022 rainy season in South Sudan, several dykes had burst and homes that had been temporarily repaired were beginning to leak again. There is an urgent need for longer-term disaster risk reduction and development to support the people of South Sudan to endure these increasingly severe climatic events.

As observed by one humanitarian partner: "What we're doing is mitigating the worst humanitarian impact for people. But if we don't have a real climate adaptation programme, where we really look at infrastructure, roads, dykes, and longer-term areas to protect, like water systems reinforced, we will continue to have massive humanitarian consequences… Our action is meant to be limited in time, but here [in South Sudan] it is the only action taken."[10]

For the people in Bentiu, that action was critical.

10 E. Easton-Calabria, Acting in Advance of Flooding: Early Action in South Sudan, A Feinstein International Center Brief, 2023.