



SOUTHERN AFRICA REGIONAL ANTICIPATORY ACTION WORKING GROUP

Represented by United Nations World Food Programme Southern Africa

El Niño related droughts that disrupt agriculture across multiple countries

Second only to the earth–sun relationship that drives seasons, the El Niño Southern Oscillation (ENSO) causes characteristic patterns of rainfall and temperature that vary the global climate. ENSO occurs in irregular 2-to-7-year cycles, with three phases: El Niño, La Niña, neutral. El Niño phases in Southern Africa are associated with drought, where precipitation is significantly below normal recorded levels causing serious imbalances in the water cycle [1]. This has consequences for food security, water security and sanitation, air and water quality, and the transmission of disease. Widespread crop failure and diminished crop yields have occurred from recent El Niño related drought conditions in Southern Africa (ending in 1992, 1998, 2007, 2016, 2024; Figure 1). **An estimated 70 per cent of the population in Southern Africa are dependent on agriculture for subsistence.** The effects of drought have led to increased food insecurity and malnutrition, famines and displacement, disrupted education and healthcare services, and increased spread of disease and conflict, intensifying economic hardships in Southern Africa [2,3].

Thankfully, advances in modelling techniques, data assimilation (the combination of theory and observations), and computational power now allow ENSO events to be more reliably forecast months in advance, opening the way for anticipatory action to reduce the potential for disaster [4].

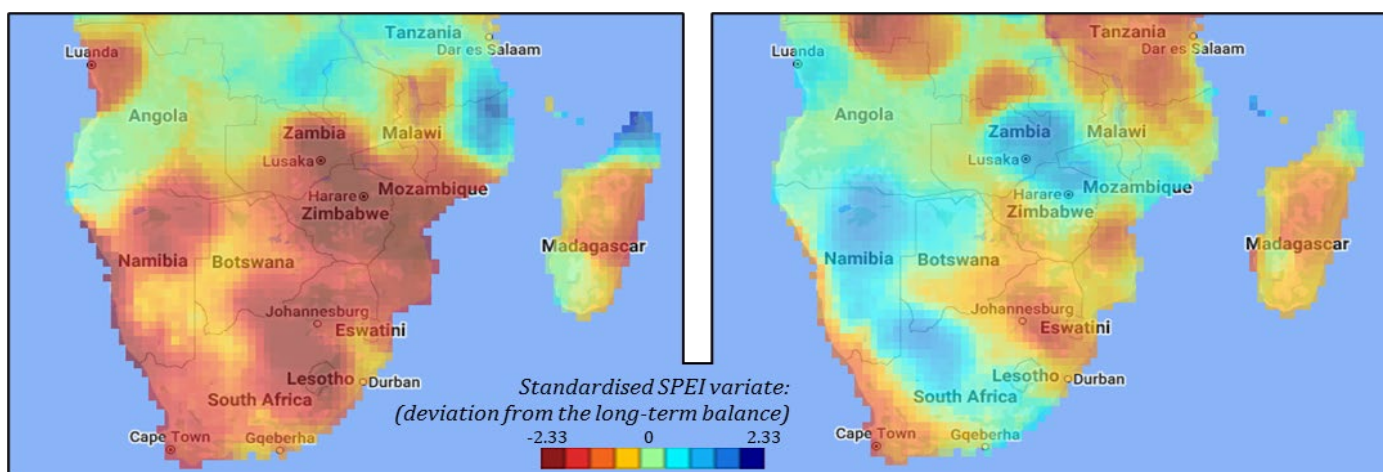


Figure 1: Southern Africa El Niño rainfall deficit in 2015-2016 (left), compared to weak-to-moderate La Niña rainfall surplus in 2011-2012 (right), characterised by the Global Standardized Precipitation-Evapotranspiration Index (SPEI) database (SPEIbase) at the 24-month timescale [5].

THE INTERVENTION: Anticipating impacts and acting early

Despite seasonal forecasts of impending El Niño drought events in Southern Africa, humanitarian relief actions to reduce the impact have previously concentrated on the post-crisis response period, providing relief only *after* the impacts have transpired. In 2019, the United Nations World Food Programme, Food and Agriculture Organization (FAO), and International Federation of Red Cross and Red Crescent Societies (IFRC) founded the Regional Anticipatory Action Working Group (RAAWG) to strengthen inter-agency efforts towards regional Anticipatory Action for climate shocks in Southern Africa. Anticipatory Action is

designed to reduce the humanitarian impacts of a forecast hazard and is implemented *before* the most acute impacts of an event are felt. **When a pre-defined trigger threshold for drought impact is forecast**, the RAAWG works closely with local government and stakeholders to implement **Anticipatory Actions** such as **early warning messages, cash transfers, the provision of drought-resistant seeds, agricultural training, and improving water sources**. These interventions prevent vulnerable populations from sliding into food insecurity and malnutrition. Anticipatory Actions have been activated by the World Food Programme (WFP) in Zimbabwe in September 2021, Madagascar in September 2022, and in Lesotho, Madagascar, Mozambique, and Zimbabwe in September 2023.

COUNTERFACTUAL: World Food Programme Anticipatory Action: 2015-2016 vs 2023-2024

The 2015–2016 El Niño event caused the worst drought in 35 years for much of Southern Africa. With food stocks already low following a previous below-average season it resulted in catastrophic food and water insecurity for millions of people. An estimated 40 million people were affected (18% of the Southern Africa total), with 23 million requiring urgent humanitarian assistance, and 634,000 livestock killed [6]. The 2023-2024 El Niño event, with one of the driest Februaries in Southern Africa in over 40 years, has caused widespread crop failure and food shortages, displacement, and the proliferation of disease [2]. With harvesting ongoing at the time of writing, the full impacts of the event have not been realised.

With this counterfactual, we are considering the impact that the World Food Programme has had on disaster management processes that control humanitarian relief in Southern Africa.

In 2015-2016, humanitarian relief was provided post-impact as part of a declaration of emergency, once the scale of the disaster became clear. By contrast, the World Food Programme (WFP) activated Anticipatory Action for Lesotho, Madagascar, Mozambique, and Zimbabwe in September 2023, months ahead of when peak impacts were forecast (Figure 2). FAO further activated their plans in Madagascar, Malawi, and Zimbabwe, while IFRC implemented Anticipatory Action in Zimbabwe.

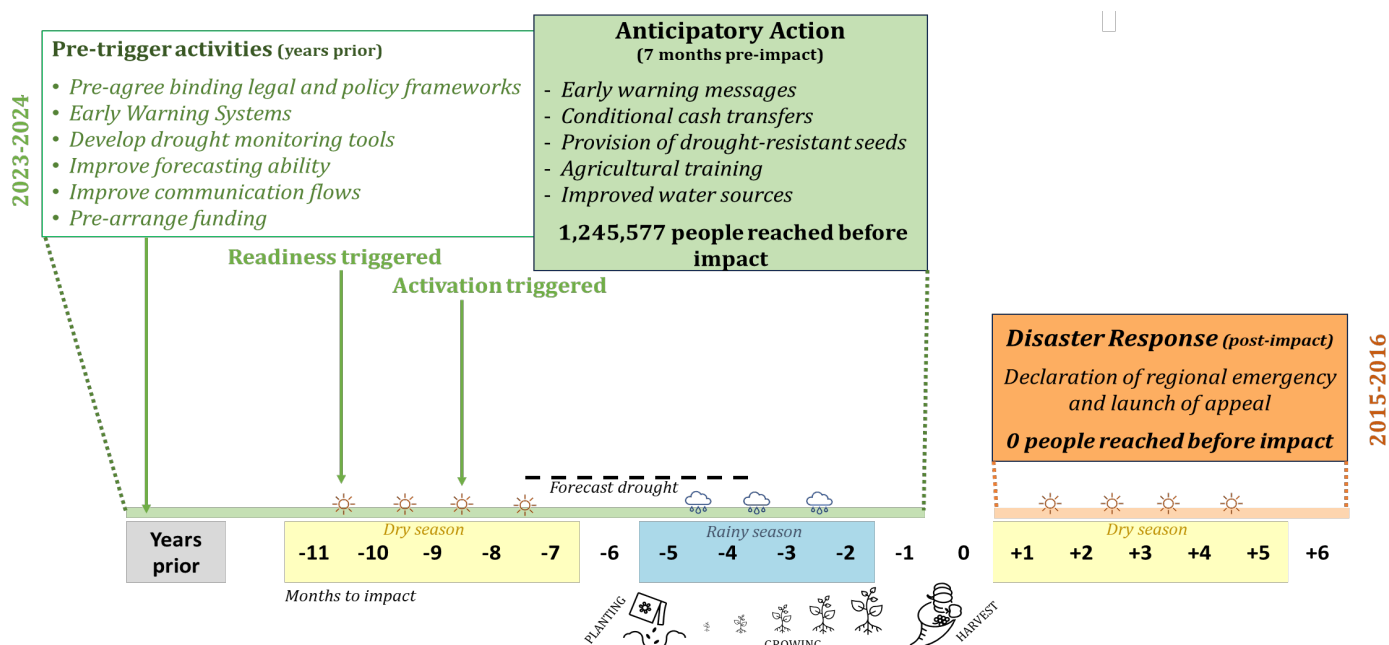


Figure 2: Comparison of systems and processes in place to reduce drought impacts for the 2015-2016 and 2023-2024 El Niño drought seasons. The values reflect only the actions of the World Food Program in the RAAWG.

RAAWG-supported activations ahead of the 2023-2024 forecast impacts represent the largest funding of anticipatory assistance in Southern Africa, and the largest number of parallel activations in a region to date. WFP provided 230,561 people with anticipatory cash transfers, provision of drought-resistant seeds, agricultural training, and improved water sources, and 1,245,577 with early warning messages (see [here](#)).

Over US\$14 million of anticipatory finance was unlocked. While pre-arranged Anticipatory Action financing is rapidly released upon a forecast trigger, it requires months and years of building the required systems and boosting operational readiness for effective anticipatory action implementation [8]. Such Anticipatory Action systems are built within local and national government risk management frameworks, so that systems remain locally-led and sustainable.

Comparing the 2015-2016 post-impact response effort with the pre-impact 2023-2024 Anticipatory Action (Figure 2) highlights the **transformational impact that the collective RAAWG interventions have had on drought management and risk reduction processes in Southern Africa**. The full benefit of the intervention in averting disaster for the 2023-2024 event is not yet known, but a previous smaller-scale effort (62,211 people supported) by the WFP in Madagascar in 2022-2023 was positively assessed. Beneficiaries reported a better understanding of climate information, improved access to nutritional food, increased food security, a higher resilience capacity score (a function of the perceived effect of shocks on livelihoods/incomes) and a lower proportion of people spending >75% of their expenses on food [7]. A return-on-investment study conducted by FAO in 2021 indicated that for every US\$ invested in anticipatory action, households saved up to US\$7 in averted losses in Madagascar.

WHAT NEXT?

A full counterfactual analysis of the benefit of carrying out Anticipatory Action for the 2023-2024 El Niño drought is underway, to be concluded in June 2024. Interviews, focus group discussions, and direct comparison between the forecast and realised status of beneficiaries post-impact will be used to quantitatively evaluate the benefit of Anticipatory Action in averting disaster. This will include calculating the return on investment for forecast based financing and a full cost-benefit analysis of the intervention. Analyses such as these provide an evidence base for how Anticipatory Actions can help avert disaster.

Moving forward, and with continued support to institutionalise Anticipatory Action over the next years, RAAWG will continue to review and revise their approach based on lessons learnt; this may include refining the trigger model, adjusting activity lead-times and readiness windows, assessing the forecast skill, and further strengthening the capacities of national stakeholders and communities [8]. The RAAWG will share lessons learned in regional level co-ordination at the Southern Africa El Niño Anticipation After Action Review (ENAAAR) hosted by RAAWG and the Southern African Development Community in July 2024 so that global, joint anticipatory action efforts can be boosted, and more disasters can be averted.

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