

CASE STUDY: CLIMATE INFORMATION SERVICES FOR HEALTH SYSTEMS STRENGTHENING PEPFAR's El Niño Response: Lessons from Food Security and HIV/AIDS Crisis Funding

USAID Climate Adaptation Support Activity

CASE OVERVIEW

Strong El Niño events can exacerbate vulnerabilities across the globe. In 2015-2016, El Niño had a devastating impact on Southern Africa's environment and human health. This case study describes the experience of the United States President's Emergency Plan For AIDS Relief (PEPFAR) and its El Niño response beginning in 2016. This response included a significant increase in funding to improve food security in HIV/AIDS programs and a one-time release of earmarked El Niño funding. It also fostered a groundbreaking collaboration with the World Food Programme (WFP). This case examines the relative benefit of the response as well as the potential for similar work to inform future programming.

El Niño is a climatic phenomenon characterized by increased sea surface temperatures in the Pacific Ocean and associated with significant changes in extreme weather and climate patterns globally. The 2015-16 El Niño led to the worst drought in 35 years in Southern Africa, with particularly severe consequences for lives and livelihoods. This resulted in high food insecurity across the region and posed significant challenges for vulnerable populations, including those living with HIV/AIDS. Food insecurity, which contributes to malnutrition, can reduce the effectiveness of antiretroviral therapy – and this was especially the case for treatments available at the time of the 2015-16 El Niño, which were more dependent on nutritional intake than today's treatment options.

Case Study by the Numbers

31.6 million people faced food insecurity driven by the 2015-2016 El Niño: The Southern Africa Food and Nutrition Security Working Group estimated this substantial increase in burden was driven directly by the impacts of El Niño-induced drought and poor harvests experienced in the 2014-15 period.¹

\$25 million spent: PEPFAR agreed to release these funds to WFP, a first example of inter-agency financing for an integrated food security and HIV/AIDS-focused response to El Niño.

349,099 additional people reached: WFP indicated it was able to better target people in need with PEPFAR support, including at-risk orphans and other vulnerable children, to treat and prevent malnutrition.

Food insecurity is also associated with higher HIV transmission rates, as individuals may engage in riskier sexual behaviors - including transactional sex- to secure essential food resources.² Addressing food insecurity was therefore a critical component of managing HIV transmission and symptoms during and following the 2015-16 El Niño. It was also important to prevent malnutrition to ensure good immune function, limit higher infection risk for other diseases, and enhance the overall effectiveness of HIV/AIDS programming.

This document was prepared by the **USAID Climate Adaptation Support Activity (CASA)**, which provides strategic support to USAID Missions, Bureaus, and Operating Units to advance effective adaptation mainstreaming and programming and to scale meaningful change. The content of this document does not necessarily reflect the view of USAID or the United States Government.

In response to the severe El Niño-induced drought in 2015-16, PEPFAR provided more than \$20 million to WFP to address the impacts of El Niño-related food insecurity for HIV-affected populations in five prioritized countries: Lesotho, Malawi, Mozambique, Eswatini (formerly Swaziland), and Zimbabwe. The grant enabled WFP to treat cases of severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) in people living with HIV. In total, the assistance reached about 349,099 people, including vulnerable children. The support also targeted entire households that had members with HIV/AIDS, so that individuals with the disease did not have to share their food. Funding and additional resources also led to the formation of the Southern African Development Community (SADC) El Niño Response Team and fostered improved collaboration through a dedicated Inter-Agency Task Team (IATT) for HIV in Emergencies (HIV-E). These groups did not leverage forecasted information systematically at the time of the onset of El Niño but emerged with the capacity to better manage the impacts and risks, raise awareness, improve support to vulnerable individuals in emergencies (including individuals with HIV/AIDS), and better prepare for future El Niño events.

The 2015-2016 El Niño and associated food security crisis in Southern Africa highlights several critical lessons on how to leverage climate information services to strengthen health systems and improve health outcomes. For instance, effective inter-agency collaboration was key to this

BACKGROUND

The El Niño Southern Oscillation is a climate phenomenon that affects weather conditions and drives climate impacts across the globe (See Box). In Southern Africa, El Niño is associated with higher temperatures and reduced rainfall. In the past, El Niño events in the region increased the probability of drought in the year following an El Niño by 120%.³ In 2015-16, the El Niño was among the strongest in recent history, contributing to the worst drought in 35 years. As a response, four out of the five prioritized countries - Eswatini, Lesotho, Malawi and Zimbabwe – declared a national drought emergency during this period.

El Niño had a devastating effect on agricultural production and, consequently, on food security, malnutrition, and health.³

El Niño Explained

El Niño is a recurring global climate phenomenon that forms a segment of the El Niño-Southern Oscillation (ENSO), which is responsible for periodic fluctuations in oceanic and atmospheric temperatures in the central and eastern Pacific. El Niño is one phase of ENSO marked by an increase in sea surface temperatures in the Pacific Ocean, leading to increased rainfall and tropical storms in some regions and drought in others. El Niño events can lead to greater predictability for natural disasters such as floods, droughts, storms, and wildfires. The impacts of these events include heightened risk of food insecurity and malnutrition, as well as increases in water- and vector-borne diseases. The indirect impacts of El Niño can also reduce access to healthcare services and the destruction of health infrastructure, further exacerbating its impact on human health outcomes.

intervention, allowing a multi-sectoral and unique response. This case further exemplifies how climate events can lead to complex humanitarian emergencies, intertwining issues of health, food security, nutrition and pre-existing health conditions like HIV/AIDS. In this context, understanding interconnected complexities and vulnerabilities is crucial to planning and executing effective support programs in the context of climate variability and change.

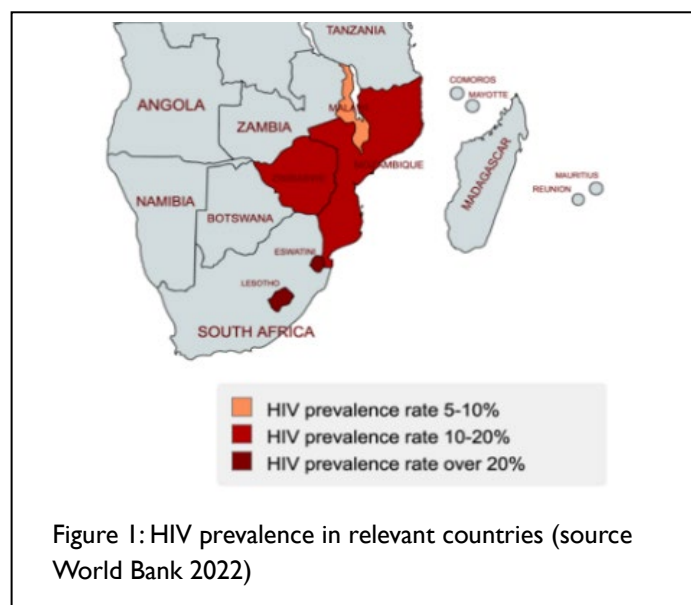


Figure 1: HIV prevalence in relevant countries (source World Bank 2022)

In Zimbabwe, Lesotho, and Eswatini, for example, planting was delayed, which impacted maize yields significantly. In Mozambique, heavy rains hit the north of the country following the drought, resulting in an increase in water-borne diseases.⁴

While countries across the region were already struggling to manage health-systems burdened by disproportionately high HIV rates, climate impacts intensified these challenges even further. In this sense, this case study provides an example of how climate variability can act as a risk multiplier for already-vulnerable populations.

In 2022, an estimated 20.4 million people in Eastern and Southern Africa were living with HIV, representing slightly more than half of the entire HIV-infected population worldwide.⁵ Lesotho and Eswatini currently have the highest HIV rates in the world, with approximately a quarter of their total populations infected (see Figure 1).⁶ In this context, climate impacts (such as those driven by El Niños) not only exacerbate the burden and cost of living with HIV, but can also help create conditions that increase the rate of transmission and lead to poorer treatment outcomes.⁷ In Lesotho, for example, HIV prevalence rose by 11% in rural females following an El Niño-linked drought in the growing seasons of 2014-2015 – likely due to an increase in riskier sexual behavior to combat food insecurity.⁸ Additional effects included an increase in migration and in abuse as well as higher school dropout rates as at-risk individuals and communities shift priorities towards meeting essential needs.

Food insecurity has devastating effects on broader health outcomes. Patients faced with food insecurity are more likely to miss clinic visits and are less likely to spend money on

food for themselves.^{9,10} Additionally, increased food prices mean that individuals have fewer available financial resources to spend on health.

Food insecurity also impacts treatment efficacy of people living with HIV/AIDS. This was especially the case for treatments available at the time of the 2015-16 El Niño event, which were more dependent on nutritional intake and involved more complicated regimens than today's treatment options. At that time, medication used for antiretroviral therapy was less effective when taken on an empty stomach. Despite improved medications and simplified regimens, nutrition remains an important factor in treatment efficacy as food insecurity weakens immune systems and increases vulnerability to other diseases. Malnutrition has been linked to higher mortality and morbidity rates in adults living with HIV/AIDS due to increased risk of various other diseases, such as anemia and parasitic intestinal infections.¹¹

To respond to the 2015-2016 El Niño, USAID and PEPFAR collaborated with regional and international partners – such as UNAIDS, the South African Development Community (SADC) and WFP – to provide surge assistance to affected people in the region. In 2016, PEPFAR provided a dedicated one-time grant of \$25 million to WFP to support five high-impacted countries in the region: Lesotho, Malawi, Mozambique, Eswatini, and Zimbabwe. The funding focused on supporting and improving health outcomes of individuals with HIV/AIDS in existing programs who were affected by El Niño-related drought and food insecurity.¹²

Primary Partners Engaged

Ministries of Health in the targeted countries helped to identify vulnerable populations living with HIV/AIDS.

PEPFAR provided \$25 million in dedicated financing for an integrated food security and HIV/AIDS-focused response to El Niño and participated in inter-agency planning and programmatic support.

WFP deployed the funds to provide critical food assistance to those impacted by HIV/AIDS in Southern Africa, ensuring nutritional and food support to most at-risk populations, including orphans and vulnerable children.

The Joint United Nations Program on HIV/AIDS (UNAIDS) played a key role in coordinating the response and offering strategic guidance.

The Southern African Development Community (SADC) El Niño Response Team coordinated the response in the region and was supported by various UN organizations.

Inter-Agency Task Team (IATT) for HIV in Emergencies (HIV-E) informed the response to effectively reach populations with HIV and was actively engaged in global advocacy efforts to drive additional attention to the situation.

APPROACH

The PEPFAR grant of \$25 million was dispersed to WFP in 2016-2017, as El Niño impacts were already being acutely felt. The initiative was driven by voices on the ground, with key champions including the USAID Health Officers in Country Missions, a Senior Nutrition Advisor in the Bureau for Global Health and Office of HIV/AIDS, and several U.S. Ambassadors who raised the alarm on the need for emergency food assistance targeting HIV/AIDS populations and collectively advocated for a unique disbursement of funds and regionally integrated response to address the unfolding crisis.

WFP was selected as the primary implementing partner due to its established supply chains and extensive expertise in managing humanitarian operations. Through existing HIV programs, the funding targeted adults, adolescents, and children (including orphans) living with HIV in the five countries. WFP also reached mothers and babies engaged in Prevention of Mother to Child Transmissions (PMTCT) programs. Nutrition assessment and screenings were provided to identify individuals at risk of or already suffering from malnutrition. The organization facilitated the treatment of SAM and MAM. WFP also provided counselling and support to help targeted populations understand the importance of nutrition in adhering to their treatment regimens. Recognizing that individual rations provided to HIV/AIDS patients were frequently shared among family members – impeding patient health outcomes – in Lesotho, WFP also trialed support to whole households that had at least one member living with HIV/AIDS.

To monitor the response, a set of indicators was introduced to account for the food and technical assistance provided. These included the amount of food commodities procured per country, the amount delivered to sites, the number of individuals nutritionally assessed (e.g., through height, body mass index, etc.), and the proportion that received targeted

supplementary food which typically consisted of high-energy and protein-rich biscuits, milk powder, oil, or sugar. The initiative to improve food security and nutrition marked a novel approach to PEPFAR's usual interventions, which traditionally have focused on HIV/AIDS prevention, testing, treatment, and care, including antiretroviral therapy, prevention of mother-to-child transmission, and targeted support for high-risk groups. Additionally, PEPFAR has collaborated with partners like the Global Fund and national governments to finance and implement HIV/AIDS services and support health systems strengthening more broadly. The El Niño-induced response also trialed new networked approaches to managing climate risks for humanitarian responses and improved health outcomes. For instance, the SADC Council of Ministers formed an El Niño Response Team, including a Logistics Coordination Centre. This response team was supported by various UN organizations, such as WFP, the Food and Agriculture Organization of the United Nations (FAO), the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the United Nations Children's Fund (UNICEF), and others. These partners collaborated on food and nutrition security analyses based on climate and vulnerability data, coordinated logistics, and managed information flow across actors. However, the analysis that followed revealed that forecast-based Climate Information Services (CIS) were often too short-term and too difficult to interpret for the actors involved.¹³

The crisis and surrounding advocacy supported by the PEPFAR grant also informed the work of the IIATT for HIV in Emergencies, which was founded by WFP and UNHCR in 2011 to address HIV in emergencies and ensure a coordinated and global response. During the 2015-16 El Niño crisis, IATT member organizations used the working group as a platform to better inform regional and global El Niño response.

"Humanitarian emergencies like drought are affecting millions of people each year and creating multiple layers of vulnerability—in the region most affected by AIDS, Southern Africa. This is too big of a scale and impact to ignore."

Michel Sidibé, Former Executive Director, UNAIDS

IMPACT

The unique and integrated financial support from PEPFAR enabled WFP to support approximately 349,099 malnourished and food-insecure people living with HIV/AIDS in five targeted countries following the 2015-16 El Niño.¹² The crisis also catalyzed the formation of effective networks and collaboration platforms, such as the strengthening of the IATT on HIV in Emergencies and the formation of the SADC El Niño Response Team. These initiatives enabled coordinated efforts and knowledge sharing among various organizations; they also played a role in the most recent 2023-2024 El Niño response.

For instance, leveraging the learnings from past El Niño responses, in September 2023, SADC brought together climate scientists across the region, aiming to improve the contribution of all the National Meteorological and Hydrological Services (NMHSs) for early warning and disaster preparedness.¹⁴ SADC also partnered with the USAID-funded Famine Early Warning System (FEWSNET) to issue a bulletin focused on El Niño risks for 2023-2024 and beyond.¹⁵

LESSONS LEARNED

Ensuring integrated responses for specific vulnerable groups in humanitarian disasters. Climate, nutrition, and health factors are closely intertwined, and climate often acts as a risk multiplier during humanitarian disasters, increasing the vulnerability of communities. Focusing on the specific needs of vulnerable groups is key to an integrated and more equitable response that improves health outcomes and strengthens health systems during acute crises.

Using existing channels to provide surge support can be efficient, but adapting channels and set-up is important. WFP used existing health programs to reach HIV patients in need and to sensitize them to increased climate risks. Making use of existing programs benefits responding to local context and needs which can lead to more effective and targeted interventions. However, implementing food assistance through health clinics sometimes led to challenges due to clinics' lack of systems for food procurement and the public's lack of awareness about the food assistance available at the clinics. Health

“This initiative marked a pioneering and singular effort, representing the first instance of PEPFAR mobilizing around \$25 million for emergency food relief. However, this raises an important question about ongoing support: how are these vulnerable populations being assisted now? While our efforts were crucial as a one-time emergency response, they also underscore the necessity of developing sustainable strategies for continued support.”

Tembeka Sonkwele, Project Management Specialist, Southern Africa Regional Health Office (RHO), USAID

WFP has further invested in its response and anticipatory action programs, leveraging climate information and trialing new initiatives like the provision of more drought-resilient seeds and cash payments to support HIV-affected populations, among others.¹⁶ However, despite groundbreaking collaborations and innovative approaches first taken in 2015, this groundbreaking case still represents a one-time release of earmarked El Niño funding by PEPFAR for a singular acute response to improve food security and HIV/AIDS programming.

infrastructure and systems need to be supported for expanded programming and patient and public awareness need to be part of efforts.

Importance of supporting whole households rather than individuals. Extending food assistance to entire households, rather than solely focusing on individuals affected by the disease (such as the case implemented in Lesotho) proved more successful than activities with a narrower focus. Individual rations provided to HIV/AIDS patients are frequently shared among family members, which can impede patient health outcomes.

Importance of moving from response to anticipatory action. Providing timely, accurate, and specific forecasts at different time scales is essential to enabling more effective responses and anticipatory action, especially in years with strong El Niño events. Humanitarian responders reported that 2015-16 El Niño forecasts were not sector-specific enough, according to a study that investigated the use of CIS

tools.¹³ Forecasted information was therefore not leveraged to anticipate greater needs, rather El Niño response teams and approaches were formed in response to an actively evolving crisis in 2015-16. Investing in and building effective climate and health early warning and response systems is therefore key to ensuring more effective and timely response.

Current funding streams often hinder inter-agency collaboration and integrated responses are the exception, not the norm. Inter-agency and multi-sectoral collaboration are key to adequately responding to multifaceted crises, especially those driven by climate impacts. The traditional programmatic earmarking of funds often hinders integrated collaboration and multi-sectoral planning for health systems strengthening. Greater flexibility of financing is needed to enable meaningful CIS for El Niño preparedness and response in the health sector and beyond.

The value of effective inter-agency collaboration and partnerships. Inter-agency coordination mechanisms, as well as national and regional ownership, are key components to a well-planned and informed response. Initiatives such as

“USAID is committed to fostering multi-sectoral collaboration as part of our inter-agency response. We aim to leverage the diverse assets across our agency to identify and implement win-win solutions (for example during the last El Niño with the collaboration between PEPFAR and WFP). However, we face significant constraints in reality. Our funding is predominantly earmarked, which severely limits our ability to engage in comprehensive multi-sectoral planning.”

Meghan Mattingly, Senior Regional Health Advisor,
USAID/Southern Africa Regional Health Office

IATT or the SADC El Niño task team need to be supported in El Niño and non-El Niño years. Mechanisms need to be in place to ensure they are well-positioned to ramp up the response to increased threats when they occur. Ongoing collaboration and sustained partnerships should also inform relevant and evolving priorities on the ground, including agenda setting around, for instance, improved healthcare platforms and universal healthcare that anticipates the growing burdens of climate impact.

KEY RESOURCES

- 1 [WORLD FOOD PROGRAMME: EL NIÑO: UNDERMINING RESILIENCE: EL NIÑO \(2016\): IMPLICATIONS OF EL NIÑO IN SOUTHERN AFRICA FROM A FOOD AND NUTRITION SECURITY PERSPECTIVE](#)
- 2 [WORLD HEALTH ORGANIZATION GLOBAL OVERVIEW \(2016\): EL NIÑO AND HEALTH](#)

Note: The collaborations detailed in this case study did not receive direct funding support from USAID and are featured here as an external best practice case study.

ENDNOTES

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