Integration of HIV and sexual and reproductive health and rights in El Niño responses

Comparing the El Niño drought response in Southern Africa for the 2015/2016 and 2023/2024 events.

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Executive summary

This report compares the impact of El Niño-induced climate events in Southern Africa during the 2015/2016 and 2023/2024 cycles, with a focused lens on HIV, sexual and reproductive health and rights (SRHR) and related vulnerabilities including gender-based violence (GBV), food insecurity and displacement. The analysis highlights how climate shocks intensified existing HIV and SRHR challenges, despite specific improvements and applied learnings between the two time periods.

Although the 2023/2024 El Niño event was climatically less severe than that of 2015/2016, its impact was more widespread, affecting 61 million people compared to 32 million previously. The report documents improvements in preparedness, including earlier risk communication and innovative service delivery models such as multi-month dispensing of antiretroviral therapy (ART) and mobile outreach clinics. These approaches contributed to improved retention in HIV care, especially in remote and drought-affected areas.

Despite these advances, the integration of HIV and SRHR into drought responses remained limited. Participants consistently reported a lack of clear guidance, inadequate resources and weak prioritization of HIV in humanitarian settings. Drought exposure was associated with an increase in HIV infection rates, alongside declines in HIV testing and increases in high-risk sexual behaviors, including transactional and intergenerational sex. Key populations—such as LGBTQ+ individuals, sex workers, and people who inject drugs—remained underserved in emergency planning and response.

The report also identifies gaps in addressing SRHR and GBV during climate-related emergencies. While there were examples of community health workers being trained as GBV monitors and increased emphasis on GBV in 2023/2024, referral and reporting systems remained underdeveloped. Community engagement improved, with examples of youth-led and community-driven actions, but their involvement was often too late in the planning cycle.

Key recommendations include:

- Systematic integration of HIV and SRHR into climate and disaster risk response plans.
- Tailored strategies for reaching key populations during emergencies.
- Strengthened community engagement, especially youth participation.
- Enhanced GBV prevention and response mechanisms.
- Investments in data systems that capture the intersections of HIV, SRHR and climate-related risks.

These findings and recommendations underscore the need for a comprehensive, integrated approach to drought and flood responses that address the complex interplay between HIV, climate change and humanitarian emergencies. Future preparedness and responses should prioritize building resilient systems, enhancing community engagement and ensuring targeted support for the most vulnerable populations affected by both HIV and climate-related crises.

Abbreviations

ART	antiretroviral therapy
CBO	community-based organization
CERF	Central Emergency Response Fund
CHW	community health worker
COWLHA	The Coalition of Women Living with HIV and AIDS – Malawi
CSO	civil society organization
FAO	Food and Agricultural Organization of the United Nations
FEWS NET	Famine Early Warning Systems Network
HIV	human immunodeficiency virus
GBV	gender-based violence
IDP	internally displaced persons
IOM	International Organization for Migration
LGBTQ+	lesbian, gay, bisexual, transgender, queer
MoH	Ministry of Health
NAPHAM	National Association for People Living with HIV/AIDS in Malawi
NGO	nongovernmental organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PEP	post-exposure prophylaxis
PEPFAR	United States President's Emergency Plan for AIDS Relief
PrEP	pre-exposure prophylaxis
PLHIV	people living with HIV
RIASCO	Regional Inter-Agency Standing Committee
SADC	Southern African Development Community
SRH	sexual and reproductive health
SRHR	sexual and reproductive health and rights
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
UNHCR	Office of the United Nations High Commissioner for Refugees
WASH	water, sanitation and hygiene
yofonat	Youth Forum for National Transformation
WFP	World Food Programme
WHO	World Health Organization

Contents

Introduction

Southern African countries[1] face a complex web of challenges, including both human-induced and natural disasters. Natural disasters such as droughts, floods, cyclones and extreme weather events intersect with trans-boundary and socioeconomic crises *(1)*. El Niño cycles in Southern Africa have particularly wide-reaching consequences across sectors.

The El Niño climate pattern occurs naturally, recurs every 2–7 years and typically lasts between 9 and 12 months *(2)*. While droughts in Southern Africa typically occur once in a decade, droughts that occur during the El Niño years are likely to be more severe *(3)*. These events lead to widespread loss of lives, livelihoods and assets, weakened food and nutrition security, fragile environments, increasing forced migration and vulnerabilities *(2)*. They also contribute to and exacerbating existing barriers to accessing essential services, waterborne disease outbreaks, and mental health impacts *(3)*.

The impacts of the El Niño climate events are further amplified when they happen in succession with little or no recovery time (e.g. droughts quickly followed by floods and then droughts again) *(6)*. Successive disasters not only reinforce structural vulnerabilities but also deplete communities' coping capacities (e.g. weakened health systems, reduced economic opportunities, depletions of food reserves, increased food insecurity, etc.), fostering dependency on external assistance and increasing competition for resources such as land and water *(1,11)*.These impacts are further compounded by chronic underfunding for comprehensive, integrated and multisectoral responses. The recurring cycle of floods and droughts poses challenges to health care systems and the HIV response, particularly in managing HIV across the care continuum for people at risk for HIV and for people living with HIV (PLHIV).

Southern Africa is home to one third of the new HIV infections in adults globally. Countries in Southern Africa that have declared a national emergency from the El Niño droughts are home to at least 10% of the population living with HIV *(9)*. The El Niño-induced climate impact amplifies risks and vulnerabilities for populations that are already vulnerable in a complex dynamic that spans across sectors and countries *(7)* particularly in developing ones, imposing substantial economic, environmental, and social pressures. This article presents a systematic review of drought occurrences in Sub-Saharan Africa (SSA. The interplay of HIV, SRHR, food insecurity and forced displacement and climate change, as seen in conceptual framework (Figure 1, below), have implications PLHIV.

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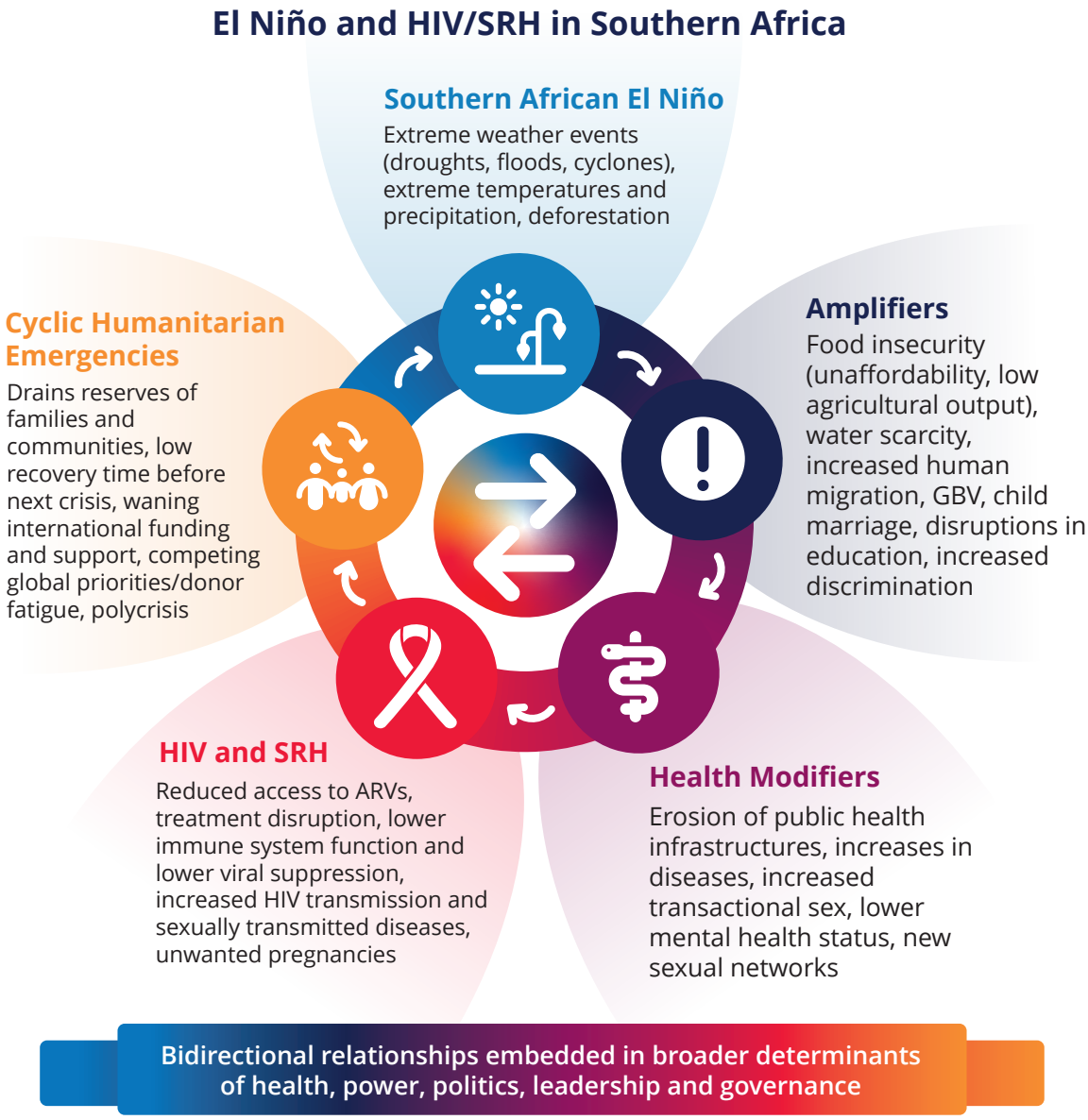
1 Southern Africa includes: Eswatini, Lesotho, Angola, Botswana, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Sao Tome and Principe, South Africa, Zambia and Zimbabwe (African Development Bank. (https://www.afdb.org/en/countries/southern-africa, accessed 27 September 2025)

Figure 1

Conceptual framework



Note: This conceptual framework has been adapted from UNDP, UNAIDS (23), Lieber, et al. (24) and Guinto, et al. (25).

Droughts and floods have impacts across the HIV care continuum from influencing the determinants of prevention, HIV transmission, to accessing to life-saving ART and services. In a high HIV prevalence rural settings in Africa, each exposure to drought is estimated to increase HIV infection rates by 11% *(10)*. This figure was derived from modelling and must be interpreted with caution. When the relationship between drought, poverty and HIV risk behaviours were explored in five African countries, drought was associated with increased poverty in rural areas and contributed to a complex multi-directional relationship with HIV risk behaviours *(11)*.

Concerning HIV testing, a study across 10 countries found that drought was associated with decreases in HIV testing and an increased likelihood of condomless, high-risk sex, with the strongest negative effects on testing observed among men, adolescents and urban dwellers in high HIV-prevalence countries *(12)*.

Concerning ART access and adherence, in Namibia in a post-flood context, 23% of people reported missing a dose of their ART and 87% of PLHIV reported a disruption in services *(3)*. In 11 countries in Africa, ART adherence during droughts is influenced by a complex intersection of several factors, including economic and livelihood challenges, comorbidities, food insecurity, human mobility and support systems, to name a few *(14)*. In Southern Africa specifically, drought was correlated with a higher mortality and an increased odds of unsuppressed viral loads among PLHIV on ART *(13) and altered behaviours, potentially affecting outcomes on antiretroviral therapy (ART).*

Disruptions in access to prevention and treatment for HIV, such as pre-exposure prophylaxis (PrEP), post-exposure prophylaxis (PEP), the prevention of vertical transmission of HIV, HIV testing and ART, coupled with increases in risky behaviour (e.g. transactional sex) could undermine significant gains that have been made to prevent and treat HIV in the past few decades, especially for women and girls.

Women and girls face unique challenges that increase their vulnerabilities for HIV during times of drought and include increased migration, early marriage, disruption of education, risky sexual behaviour and increased GBV *(9)*. Adolescent girls in Southern Africa have a higher HIV prevalence compared to their male counterparts as they are faced with challenges such as age-disparate relationships and unequal relational power dynamics embedded in social and cultural inequalities *(8)*.

Strong, interconnected relationships exist between gender-based violence (GBV), HIV and droughts or floods, which often reinforce one another increase vulnerabilities for girls and women. In Sub-Saharan Africa, women living in drought-impacted settings had higher risks of experiencing physical and sexual violence when compared to women not living in drought settings *(4)*. Additionally, fragile settings further amplify the risks and vulnerabilities associated with both HIV and GBV as gaps in the availability and accessibility of SRH, HIV and GBV services remain significant *(15)*. In areas with a high prevalence of HIV, GBV can elevate the likelihood of HIV transmission, hinder treatment access and adherence, lower immune systems and contribute to higher viral loads *(15)*. Integrating prevention and response to GBV and HIV into humanitarian responses provides an opportunity for coordinated planning, data sharing and integrated service delivery to reach those who need the support most *(15)*. Women and girls are disproportionately affected, facing increased risks of GBV and engaging in high-risk behaviours during climate-related emergencies, especially for those facing food insecurity *(4).*

El Niño events in the Southern African region have created food shortages from crop failures which have led to increasing food prices and decreased availability. As a result, there have been increases in food insecurity and malnourishment, forced displacement/increased mobility and interrupted access to health services, education and social services *(16)*. Food insecurity can stress gender roles and is associated with double the odds of reporting violence against women and girls *(17).*

For PLHIV, food insecurity can lead to disease progression, susceptibilities to other infections, lack of treatment adherence because medication cannot be taken on an empty stomach and loss of economic livelihoods *(9)*. This is particularly challenging in the context of forced displacement.

In refugee settings, ensuring PLHIV have access to integrated food and nutrition programming can help meet their nutritional needs, potentially improving treatment outcomes *(20)*. Optimal nutrition is important for HIV treatment to be most effective and for many conditions, such as cardiovascular disease, hypertension, stroke and diabetes mellitus, rates of which are increasing among PLHIV *(18)*.

Additionally, HIV prevalence has continuing consequences for malnutrition starting in childhood. HIV prevalence is a strong predictor of long-term chronic childhood malnutrition where a 10% reduction in HIV prevalence has been shown to lead to an 8% reduction in stunting *(19)*. Improving water sources, often compromised during droughts, by 10% could reduce stunting by 2% *(19)*.

El Niño related weather events such as droughts and floods can strain health systems with health worker migration, compromise supply chains and procurement systems and limit services for health facilities while there is a surge in health care needs *(21)*. El Niño's extreme weather (e.g. droughts, floods and cyclones) has a negative impact on access to health care in health systems that have already been compromised from repeat humanitarian emergencies *(22)*. Flooding is expected to increase displacement in Southern Africa where 18 million people are internally displaced, making access to health services even more challenging *(6)*. This unique nexus of vulnerabilities necessitates a multisectoral approach, especially to address the needs of women, girls and key populations who are most at-risk due to pre-existing inequalities.

Objectives

The El Niño comparison: Comparing the drought response in Southern Africa between 2015/2016 and the 2023/2024 project—commissioned jointly by UNAIDS, WFP and UNHCR—analysed and compared the impacts of the 2015/2016 and 2023/2024 El Niño events on HIV in Southern Africa within the broader context of SRHR, GBV, food insecurity and displacement.

This report highlights the far-reaching, intersectoral effects of El Niño-induced droughts and floods, emphasizing the urgent need for HIV-sensitive and integrated emergency preparedness and responses.

Without targeted action, El Niño threatens to reverse hard-won gains in the HIV response across the region. The study examines El Niño's impact on HIV-related vulnerabilities among forcibly displaced populations, PLHIV and HIV-affected households. It serves as a critical learning opportunity for the HIV in emergencies sector, particularly within the Regional Joint Team on AIDS framework where UNAIDS, WFP and UNHCR collaborate with other UN agencies to advocate for the integration of HIV considerations into emergency preparedness and response.

Humanitarian response plans often fail to address the complex linkages between HIV, food insecurity and forced displacement. By examining past El Niño responses, the study plans to identify gaps in coordination and collaboration, providing actionable insights to strengthen future interventions.

The findings will help organizations and national systems working on El Niño preparedness and response plans to make appropriate links to HIV in food security and nutrition assessments, ensuring that risks are mitigated and addressed. Furthermore, the results of this study will be valuable for advocacy with governments, development partners and donors, highlighting the importance of integrating HIV considerations in emergency responses to El Niño and similar climate-related events.

The report also documents lessons learned from these crises to develop recommendations for a more holistic and integrated approach to mitigating HIV risks during humanitarian emergencies. It outlines strategies for UN agencies, governments, donors and civil society to strengthen health systems, enhance social protection and prioritize the needs of the most affected populations. Additionally, it assesses whether lessons from the 2015/2016 response were applied in 2023/2024, also identifying barriers to their implementation.

The outcome of the study aims to:

- Inform and improve future HIV-sensitive emergency preparedness and responses.
- Strengthen coordination among stakeholders.
- Protect vulnerable populations from the compounded risks of HIV and climate-related disasters.

Scope

The geographical scope of the work included Southern Africa, with an emphasis on Lesotho, Malawi, Mozambique, Namibia, Zambia and Zimbabwe—countries chosen because they declared El Niño emergencies during the specified periods and have relatively high HIV prevalence. The study covers El Niño events from 2015/2016 and 2023/2024, focusing on droughts and floods, which were the most significant El Niño-influenced climactic changes affecting the target countries (Figure 2, pageFigure 2 6).

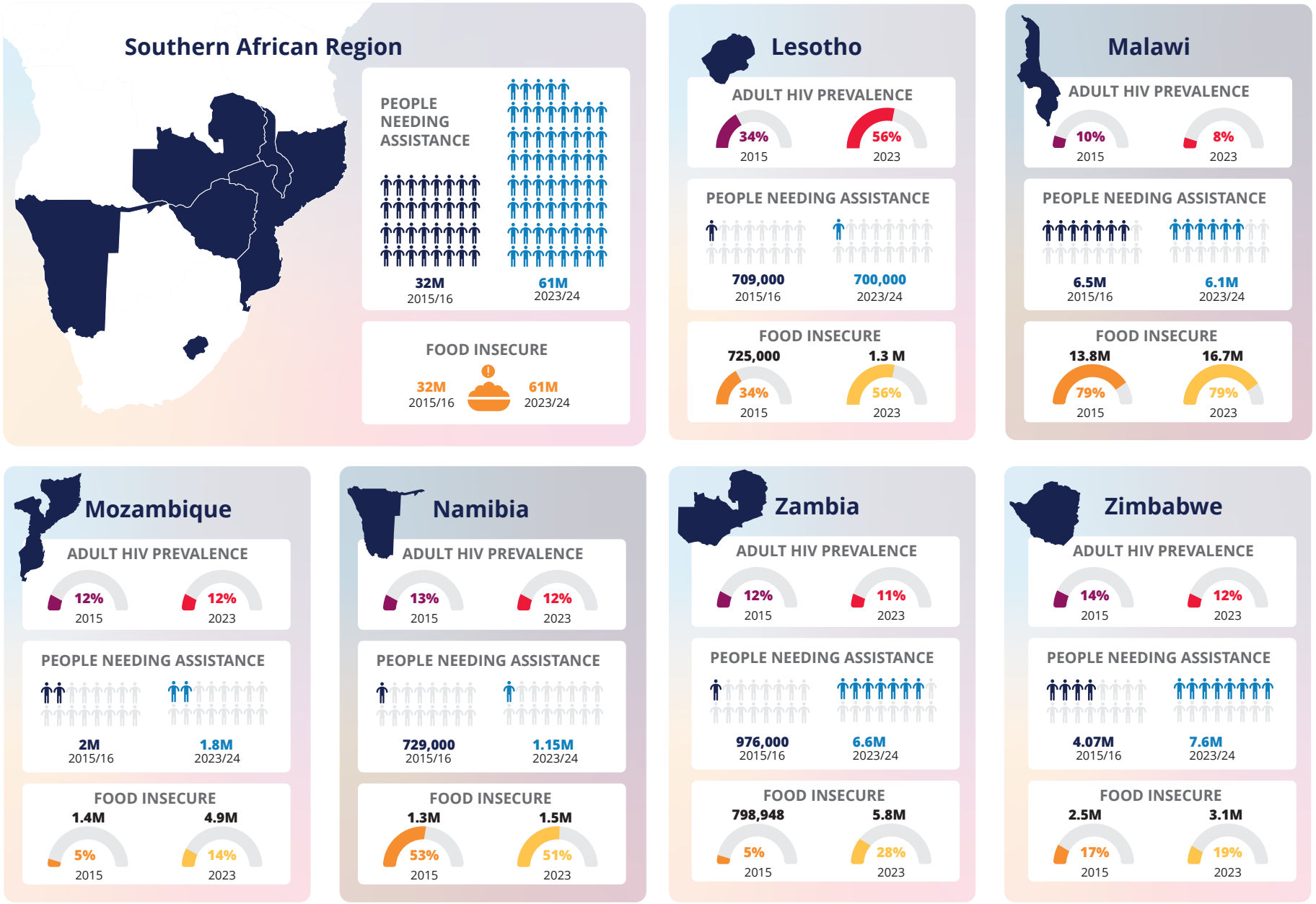
Methodology

Desk review

The desk review focused on grey literature (documents, reports, papers, etc.), with an emphasis on relevant UN agencies and partners, as well as Southern African organizations. A strategic literature review of evidence was conducted via Google Scholar and PubMed, using keywords to identify relevant evidence. Keywords can be found in the Appendix. A secondary analysis was conducted to understand the impact of the floods on the research question.

Figure 2

Adult HIV prevalence, numbers of people needing assistance and food insecurity in targeted countries



Data sources: WHO, FAO and SAD) Regional Humanitarian Appeals.

Technical consultations

Technical consultations were conducted to:

1. Identify further data sources, including documents.
2. Fill in any gaps identified in the information through the desk review. Participants were identified by the three commissioning agencies: UNAIDS, WFP and UNHCR and other key stakeholders and partners in the region to ensure that various sectors and perspectives are represented.

Participants were recruited via email using a snowball sampling technique. A standardized guide of open-ended questions tailored for each level was developed and guided each interview. The guide was not pilot tested.

A total of 27 people participated in technical consultations between 9 October and 5 December 2024. This included perspectives from the following levels: global (n=1), regional (n=7), country (n=6), a mixed group of country and community (n=10) and communities (n=3) as seen below in Table 1.

Table 1. Participants in the technical consultations (n=27)

Level	Organization/perspective
Regional	UNFPA
Regional	UNICEF
Regional	IOM/Consultant/Migration Health Programme Assistant
Regional	WFP
Global	UNAIDS
Regional	WFP/Regional Vulnerability Analysis and Mapping Officer for the Southern Africa office
Regional	OCHA
Country: Mozambique	WFP Mozambique/Head of Nutrition and HIV and HIV Officer
Country: Mozambique	UNHCR Mozambique/Assistant Public Health Officer
Country and community: Zimbabwe	UNHCR Zimbabwe, nine additional participants—including regional advisors, provincial managers, technical advisors, nurses and pharmacy technicians—from a clinic in a refugee setting
Country: Zambia	UNHCR Zambia/Public Health Associate
Country: Malawi	UNHCR Malawi/Associate Public Health Officer
Community: Malawi	COWLHA
Community: Malawi	NAPHAM
Community: Malawi	Youth leader/founder of youth-led organization: gender equality health (SRHR, mental health), youth empowerment and environment

The analysis included reviewing verbatim transcripts and notes for the interviews to identify new and emerging themes. Thematic coding was used based on a grounded theory approach. Data from the desk review and the technical consultations were triangulated.

Strengths and limitations

Strengths include this research being guided by three diverse and prominent organizations, UNAIDS, UNHCR and WFP who have a history of expertise in this topic. The diversity of documents reviewed and technical consultations undertaken are a strength to this study.

However, limitations exist. From those participating in the technical consultations, few participants were actively engaged in both the 2014/2015 and the 2023/2024 drought responses Those who did participate in both may have recall bias limiting, and potentially biasing, the information they could provide to compare the drought responses. Additionally, a lack of available evidence that included key populations and the El Niño response limited the knowledge of the impact and needs of these populations. A lack of data was identified for vertical transmission of HIV. Lastly, limited evidence was found on prevention of HIV when compared to treatment which may bias the findings.

The timeframe to assess evidence produced from the drought response in 2023/2024 may not be well aligned with the study period. Few resources have comprehensively synthesized the findings of the 2023/2024 response. Therefore, information from technical consultations were included to supplement information. Additionally, many countries included in this study underwent multiple concurrent overlapping stressors (e.g. Malawi with drought, cholera and floods and Mozambique with drought, floods and conflict) which could confound the findings related to the drought. Further research is needed that examines polycrisis models for resilience including the analysis of their impacts.

Lastly, engagement from community perspectives, especially the role of PLHIV as active contributors in the El Niño response, recognizing their agency and leadership in crisis settings was limited and warrants further investigation.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Findings

Comparison of the 2015/2016 and 2023/2024 drought responses in Southern Africa

Comparison of the El Niño events

The El Niño events of 2015/2016 and 2023/2024 in Southern Africa presented distinct challenges, with the latter having more widespread and severe impacts despite being climatically weaker.

The 2015/2016 El Niño was classified as very strong, described as the worst drought in Southern Africa in 35 years. In 2016, the combination of droughts and floods in the region left 40 million people in need of assistance *(26)*.

Since 2016, recurrent droughts, floods and cyclones have had a disproportionate impact on communities who are reliant on agricultural economies *(1)*. The drought impacted an estimated 32 million people in the region, with effects extending into 2017.

The period from October 2015 to February 2016 saw rainfall levels drop to less than 75% of the average in Mozambique, Zimbabwe, Namibia, Lesotho and reduced rainfall in Zambia and Malawi *(27)*. The drought's impact was particularly severe in certain areas, leading to above-average rates of moderate and acute malnutrition. Vulnerable groups with higher nutritional requirements, such as young children, pregnant and breastfeeding women and girls, the elderly and individuals living with tuberculosis and/or HIV/AIDS, were identified as being at the greatest risk *(27)*.

In November 2015, the Southern African Food and Nutrition Security Working Group reported that approximately 29 million people in the region faced food insecurity due to poor harvests in several countries, severely impacting maize yields. This led to a regional cereal deficit of 7.9 million metric tons.

By 2016, WFP projected that the drought would affect around 40 million rural residents and 9 million urban poor *(27)*. Recognizing the severity of the situation, the Southern African Development Community (SADC) officially declared a regional drought emergency on 26 July 2016 and launched a regional humanitarian appeal. This appeal requested US$ 2.4 billion for affected countries *(28)*.

In contrast, the 2023/2024 El Niño, while climatically weaker, affected more countries with greater intensity in Southern Africa and has been described as the worst to impact the region in the previous 40 years *(29)*. The 2023/2024 El Niño event was further complicated by the occurrence of both droughts and floods in the region. While some areas experienced severe drought conditions, others faced heavy rains and flooding, sometimes within the same country.

For example, floods in early 2024 in Malawi affected over 10 000 people in two districts, even as the country was grappling with drought impacts *(30)*. This dual threat of floods and droughts highlights the complex challenges posed by El Niño events in Southern Africa. Its impacts were exacerbated by factors such as climate change, deforestation, failed crops and economic constraints *(31)*. In 2024, communities' minimal food reserves were consumed prior to the next harvest season in 2025 *(29)*.

The SADC drought appeal reported that 61 million people needed assistance, a more than 50% increase from the 2016/2017 season. The humanitarian requirements have also escalated, with over US$ 5.5 billion needed (as of May 2024) to meet lifesaving and life-sustaining efforts. This comparison underscores how the 2023/2024 event, despite being less intense climatically, had more severe and widespread impacts, affecting a larger population and necessitating more extensive humanitarian assistance than its 2015/2016 predecessor *(28)*.

During 2023/2024, 56.8 million people in Southern Africa were estimated to be food insecure (26). Food insecurity in some countries was further exacerbated from a confluence of droughts, floods and rising food prices *(26)*. Additionally, disparities in development levels, systems of governance and infrastructure impacted a country's effectiveness to respond to the drought *(31)*.

Preparedness among governments and humanitarian actors

Concerning preparedness, the 2015/2016 El Niño drought response in Southern Africa revealed critical lessons that led to better preparedness for the 2023/2024 drought response. In 2015/2016, despite warnings of the impending El Niño drought, the severity of its impact was underestimated in many areas, exposing gaps in predictive capabilities and preparedness *(27, 32)*. This was also discussed in several of the technical consultations. For example, a participant representing PLHIV in Malawi described the drought in 2015/2016 as a surprise and reported that the government's lack of preparedness thwarted efforts to reach the people and areas affected.

Few organizations engaged in monitoring and evaluating their preparedness activities or used forecasts to help communities prepare and respond *(33)*. The 2015/2016 response revealed the need for adaptation readiness, which involved assessing the national institutional capacities of early warning, planning, response, beneficiary targeting and logistics to adapt to climatic changes *(27)* and their consequences. This included expediting the development of regional and national level drought response plans and strengthening capacities to effectively implement and coordinate appropriate actions.

The 2015/2016 response demonstrated that, while regional and national forums like the Southern Africa Regional Climate Outlook Forum were crucial, there was a need for stronger local governance and better translation of global weather forecasts into actionable local information *(27)*.

Early warning systems did not translate into early action taken by affected communities, humanitarian responders and political decision-makers *(34)*. Early warnings in local languages were needed to facilitate their uptake at the community level *(35)*. The experience also highlighted the importance of moving from a reactive response to anticipatory action, with humanitarian responders noting that 2015/2016 El Niño forecasts were not sector-specific enough *(36)*. Improved climate forecasting and its timely

dissemination to local communities was a lesson identified to facilitate stakeholders making informed decisions to mitigate drought impacts *(32)*.

The 2023/2024 El Niño response in Southern Africa was described in the literature and through technical consultations to have made significant improvements with respect to preparedness. A key success was the development of a phased plan for El Niño preparedness and response, which encompasses anticipatory actions, emergency response and resilience building *(6, 37, 38)*. This comprehensive approach aimed to assist regional institutions and governments in preparing for and responding to El Niño events more effectively including a systematic approach to the drought.

Leveraging experiences from past El Niño responses, SADC took proactive steps to enhance preparedness. In September 2023, SADC convened climate scientists from across the region to improve the contribution of National Meteorological and Hydrological Services for early warning and disaster preparedness. Additionally, SADC partnered with the USAID-funded FEWS NET, established in 1985, to issue bulletins focused on El Niño risks for 2023/2024 and beyond, demonstrating an improved approach to risk communication and early warning *(6)*. The establishment of coordinated networks described above, focused on early warning systems and response initiatives has been a crucial development in regional preparedness.

Despite these improvements, challenges in preparedness persist based on the findings from the literature as well as the technical consultations. While progress in preparedness has been notable, the response capacity remains insufficient in the face of the scale of the crisis.

The Food and Agricultural Organization of the United Nations (FAO) has emphasized the need to disseminate early warnings and agricultural advisories more widely to ensure farmers are aware of appropriate risk management options to minimize crop, livestock and other livelihood losses *(2)*. Timely and accurate delivery of warning messages did not reach all affected communities, particularly in remote areas *(4)*. An immediate scale-up is urgently required, combining emergency preparedness with medium-term interventions to meet the needs of the most vulnerable and mitigate the impact of drought and future shocks on their lives *(5)*.

Recommendations for improving preparedness include enhancing local capacities to respond to warnings, integrating scientific data with traditional knowledge to improve forecast accuracy and relevance and ensuring sustainable funding for preparedness initiatives. There is also a need for a continuous improvement in the accuracy of weather forecasts and their integration into planning processes *(4)*. A need for shock-responsive social protection plans and systems would improve aspects of preparedness *(31)*. Integrating disaster risk reduction with development planning has the potential to enhance resilience against future climatic events *(39)*. There is a need to strengthen capacities of institutions in coordinating early warning, vulnerability assessments and national response plans for governments, bilateral and multilateral agencies to prevent procurement delays and to target beneficiaries *(35)*.

Lessons from previous responses emphasized the need for adaptive programming to address the varied impacts of El Niño, including both floods and droughts. FAO recommended developing a systematic approach for adaptive programming, including scenario-based analysis of risk factors and agreements with resource partners for programming flexibility *(32)*. This approach allows for the redirection of funds and modification of activities in response to evolving crises, safeguarding development gains. Anticipatory action approaches to disaster risk management should be multisectoral and include several climate-related hazards (e.g. droughts, floods, cyclones) *(26)*.

Coordination between governments and humanitarian organizations

When comparing the 2015/2016 and the 2023/2024 drought responses, many participants from the technical consultations and sources in the literature highlighted improvements in coordination between governments and humanitarian organizations during the 2023/2024 response. The presence of the RIASCO high-level forum, under OCHA since 2016, to address operational and strategic issues related to humanitarian assistance was described as strengthening the region's preparedness and response coordination infrastructure. Regionally, OCHA's role in coordinating the preparedness and planning between partners helped identify the capacities and stock needed during the drought response. This was also described as helping countries identify gaps in their response and to know when and how to scale up their responses. A good working relationship between SADC, OCHA and local partners was described as a success of a timely and effective drought response.

Humanitarian country teams that included international cooperating partners through the country's UN Resident Coordinator's office improved the delivery of disaster management support in country. A participant described how understanding the needs on the ground were supported by strong coordination at the UN level and the presence of a climate crisis coordinator who worked with resilience coordinators to bring insights from drought-impacted regions of countries. Technical support by UN agencies facilitated the quick and joint preparation of the drought appeal. Since the appeal was interagency focused, it confirmed government needs during the drought response and enhanced coordination between governments and humanitarian organizations.

Additionally, some participants of the technical consultations described how flexibilities that were made to foster work within complex working environments improved coordination and joint work across sectors by reducing reporting loads during the drought.

Several recommendations suggest that successful approaches occur where science- and policy-guided strategies overlap with local stakeholder-led identification of weaknesses and opportunities, and where proactive drought management is understood and dealt with as a key component of long-term resilience building *(27)*.

At the country level, improved coordination helped maximize the efficiency of resources and ensure the needs of the most vulnerable were prioritized.

For example, in Zimbabwe, participants from UNHCR had monthly coordination meetings using a team-based approach to prevent overlapping activities and misuse of resources. A multisectoral team integrated HIV, SRH services and care for those impacted by GBV. HIV integration with the government through districts provided staff training, HIV services and equipment (e.g. CD4 machine) and specialized youth services for the refugee populations. Youth programming in the camps used peers to dispel misconceptions, encourage HIV and STI testing and family planning in youth friendly corners.

Many participants of the technical consultations described that they were able to build upon experiences from the 2015/2016 drought to be more proactive. However, even in countries with relatively high government capacities, implementation delays and coordination challenges hampered effective responses *(27)*. The findings highlighted the importance of establishing clear roles and communication channels among all stakeholders to avoid duplication of efforts and to ensure that resources are used optimally *(35)*.

In Malawi, districts were described as in an important position to know the needs and threats to communities and their ability to liaise with multiple partners. However, lack of funding and support often meant that they were inactive until funding arrived. Participants called for quicker funding and support to districts to support the drought response. A youth participant described how the districts had an environmental response department, but it was often not well funded, or the funding was delayed and only available for a short time. Districts were described by several participants as being critical for preparedness in high drought risk regions.

Improved multisectoral collaboration regionally, nationally and locally

A key lesson from the 2015/2016 response included the importance of multisectoral collaboration, with many participants describing successes around multisectoral collaboration during the El Niño drought response in 2023/2024. The drought response was described as most effective when there was multisectoral coordination involving health, agriculture, water resources and economic planning sectors to address the drought comprehensively *(35)*.

Regionally, during emergency times, multisectoral collaboration was described as being well coordinated but less so during non-emergency times or during the preparedness phase.

Declaring the drought as an emergency was described in both the literature and by participants as facilitating and accelerating a multisectoral response by allowing actors to prioritize and move funding to the drought response *(40)*. For example, in Mozambique, the delay in the president's declaration of El Niño as an emergency was reported as delaying the response.

Facilitators to multisectoral collaboration included funding, joint appeals and policies (e.g. the UNHCR Age, Gender and Diversity Policy). Technical working groups across sectors conducted assessments and identified gaps and challenges by region to improve the understanding of how communities can best respond to the drought. Regional bodies like SADC played an important role in coordinating multisectoral actors and implementing the drought response with governments.

While SADC played a crucial role in coordinating the regional response, some participants noted that administrative processes and resource constraints occasionally presented challenges in facilitating rapid cross-sectoral action in the region. Leveraging strong regional mechanisms could strengthen integrated HIV and drought responses. Beyond immediate humanitarian needs there is a need for longer-term actions to address vulnerabilities and build resilience.

Nationally, successes and challenges with multisectoral responses were noted, especially with the engagement across sectors. For example, in Mozambique, partners were channelled through the Ministry of Health (MoH) which was described as facilitating the response to ensure it was well coordinated and to avoid duplication of efforts. The MoH was simultaneously coordinating a drought response that included the prevention of GBV, the provision of HIV care and providing SRH services in coordination with the education sectors, social protection and the national institutes that manage weather crisis.

However, at the national level the verticalization of the drought response was described as hindering multisectoral collaboration. For example, in Zimbabwe, each department had its own response and several participants described how in other countries many actors were responding within their own

programming, reinforcing the verticalization. Some technical consultation participants felt that this was because the 2023/2024 response was more muted due to lack of funding and competing global priorities compared to the 2015/2016 response.

Additionally, the role of nongovernmental organizations (NGO) and civic actors providing assistance when governmental responses were inadequate by involving multiple stakeholders underscore the necessity for improved drought risk governance and the development of robust, adaptable response strategies that can be mobilized promptly to mitigate the impacts of drought *(41)*. A greater focus on risk-informed development programmes by governments that build resilience is critical *(21)*. Advocacy should be undertaken for governments to take ownership of the emergency and fund or fundraise for national contingency plan budgets *(34)*.

At the local level, several successes and challenges in multisectoral collaboration were identified. In Malawi, one participant representing PLHIV described the success of a multisectoral toll-free number that was linked to the government and civil society organizations (CSO). Community members could call to report and seek support for GBV, managing ART side effects or request more ART and could find information related to SRH services. They were then either referred to the appropriate health worker, organization or police to assist them.

However, other participants described challenges to the multisectoral response locally. For example, a participant in Malawi felt that CSOs, governments and private sector actors focused their support on communities nearest to them instead of prioritizing communities with the greatest need. This was described as creating inequities in the response. A youth participant described how the ministries were working in isolation and recommended more interministerial coordination during the drought response, especially between the ministries of youth, gender and environment. Subnational actors (e.g. districts) were described as being in a unique position to provide context-specific multisectoral strategies that could result in holistic, targeted approaches supported by both scientific and local knowledge *(27)*.

WFP/Gabriela Vivacqua

Integrated HIV models during the drought response

The need to have HIV integrated into responses or the provision of integrated packages of care were often described as key lessons during the 2015/2016 drought response *(34)*. However, with a few exceptions noted, this did not appear to translate into programming during the 2023/2024 response.

Several lessons were identified for HIV integration from participants of the technical consultations. The successes from the 2015/2016 El Niño response included the integration of HIV into the food security and nutrition vulnerability assessments that gave projections on impacts of the drought on HIV-affected people and communities.

Assessments prior to the drought onset showed the potential impact on households with HIV being as high as 50% of households in some contexts and that access to ART and that retention in care will be compromised. This ensured the prioritization of food and nutrition support for PLHIV, including their households and facilitated integration.

Decentralization and bottom-up approaches were described as facilitators to HIV integration during the drought response in 2015/2016.

In Zimbabwe, HIV outreaches were conducted in communities and included providing supplies for viral load testing. In coordination across sectors with district development coordinators, households that are vulnerable to food insecurity and include PLHIV were identified and provided livelihood projects and food supplementation. In this context, district development coordinators played a critical role in working with various partners to identify challenges, gaps and to mobilize funding in their districts. Community actors were described as having a better reach to identify those with HIV and those who are at risk since they are present during emergencies. They are well equipped to provide services if provided with security.

In Mozambique, a lesson from the 2015/2016 drought response included that there was limited or late integration of HIV into the emergency response structures *(59)*. A participant highlighted that a success of the 2023/2024 response was that HIV was integrated into the response, including installing an MoH focal point for HIV in emergencies. Additionally, the HIV strategy had specific language for HIV in humanitarian settings, the technical capacity and experience with integrated HIV provision existed and HIV was prioritized in the humanitarian response.

However, many challenges to HIV integration were identified and focused on the broader structures in place for the humanitarian response and the health system level challenges.

Broadly, despite feeling that HIV integration should be an essential part of the response, many participants felt that there was a lack of sufficient guidance, resources, awareness and prioritization of HIV in humanitarian or emergency responses.

One participant highlighted the need for consensus on to what extent a humanitarian appeal should include objectives related to HIV. While HIV was described as being integrated into the health cluster in some settings, a lack of guidance on what is expected regarding HIV for other clusters was often discussed. This was especially true for UN agencies and one participant recommended more knowledge on leveraging the cluster capacity with governments and partners to identify, plan and respond to the needs of PLHIV in a structured way.

Participants spoke of outdated documents (e.g. the IASC Guidelines for Addressing HIV in Humanitarian Settings, 2010) and a lack of evidence, as described below.

The current model for HIV integration was often described as weak and difficult to implement across sectors. Some felt the focus of the flash appeal was on protection, food security, nutrition and water, sanitation and hygiene (WASH) and that this shifted the focus from health, especially HIV and SRHR. To further this, some participants spoke of how HIV was not prioritized over what were considered other lifesaving interventions (e.g. food aid, drought-resistant agricultural practices, etc.).

Some participants spoke of a lack of momentum and funding for the 2023/2024 response due to competing global priorities (e.g. war). Many spoke of the lack of policies and tools to prioritize HIV.

For example, in Zambia the national strategies that existed for responding to El Niño did not integrate the needs of PLHIV. In Mozambique, HIV assessment tools focus only on service delivery indicators and not on determinants such as food security, and are too comprehensive for settings with limited capacities. This was described as limiting the generation and use of quick evidence to mobilize resources for HIV.

A WFP manager described how funding had decreased by 50% for HIV which was a barrier to HIV integration in the drought response.

Lastly, some participants described a lack of flexibility in donor-funded projects to integrate HIV into the response (e.g. HIV was not mandated in the project and therefore could not be included).

Many successes and challenges for HIV integration were identified from community-level participants during the 2023/2024 response. Successes included peer- or community-led initiatives to expand or continue access to ART during the drought. For example, in Malawi the National AIDS Commission facilitated peer HIV networks to support PLHIV and volunteers to conduct assessments and engage people in refugee or internally displaced persons (IDP) camps and communities around HIV. Another success was the involvement of PLHIV. The National AIDS Commission also provided data on HIV integration via peer HIV networks and ensured that the drought response was targeting the most vulnerable PLHIV. They also actively engaged CSOs and faith-based organizations across sectors (e.g. health and agriculture), engaged the private sector and guided WASH initiatives, keeping the interest of PLHIV at the forefront. Models of care that included providing six months of ART supply and the provision of ART through mobile clinics were described as improving retention in care, especially for those in remote areas.

However, challenges were reported concerning the integration of HIV into the 2023/2024 drought response in communities. The most widely discussed challenges were related to stockouts for ART and family planning commodities.

Additionally, one participant felt that PLHIV were not adequately engaged in drought planning and response and this hindered HIV integration. They described the need for more community awareness around HIV to combat stigma.

Lastly, a youth participant recommended more awareness and understanding on the use of PrEP and PEP as effective and available tools to prevent HIV during droughts.

Health systems and continuity of HIV care during the drought

During the 2015/2016 response, health facilities were unable to continue routine service delivery and health systems were limited in their ability to absorb additional caseloads *(34)*. Several participants reported that when clinics ceased operations, it became difficult to connect PLHIV to facilities for ART and other essential services. This challenge was compounded by supply chain disruptions and the reliance on paper-based record systems in clinics, leading to clinics rescreening patients during the drought.

However, in the 2023/2024 response, electronic facility data allowed PLHIV to be traced, providing real-time knowledge of when they last received ART. This facilitated access to ARV even if patients did not have identification with them.

During the 2023/2024 drought response, several participants reported that health services were disrupted, especially for family planning, PrEP and PEP. This was described as increasing risks related to pregnancy, including maternal mortality. Challenges for mothers were often described related to women delivering at home and not being adequately connected to health services thereafter. This was especially impactful for the prevention of mother-to-child transmission of HIV, some participants noting an increase in babies testing positive for HIV once they did connect with the health system.

Integration of HIV and nutrition and food security

In the 2015/2016 drought response, several lessons came from a unique collaboration between PEPFAR and WFP.

The drought exposed the vulnerability of food systems and the high risk of malnutrition in affected areas, emphasizing the need for more robust food security strategies and nutritional support in anticipation of similar events *(27)*. With additional resources and support from PEPFAR, the SADC El Niño Response Team was formed and it improved prioritizing HIV in the response for HIV in emergencies.

Although forecasted information was inadequately leveraged at the beginning of the El Niño event, this collaboration facilitated the integration of HIV in the response. It was described as improving capacities to manage impacts and risks, raise awareness, improve support to PLHIV in emergencies and prepare for future El Niño events *(36)*.

The PEPFAR project strengthened linkages with the policy environment for nutrition for HIV and did so through the use of existing government structures *(40)*. Cooperating partners with technical expertise in HIV and nutrition (e.g. WFP and UNICEF) with funding provided by USAID, were facilitators to the integration with clear roles and responsibilities, which was described as making the response more effective *(40)*. Countries where vulnerability assessments included nutrition, HIV and gender were better able to use evidence to inform the design and planning in programming *(40)*.

At the community and facility levels, through the PEPFAR–WFP collaboration that was implemented in partnership with governments, food distribution days included early childhood development screening, HIV testing and counselling, education for malaria and activities and agricultural education and seed distribution *(40)*.

The PEPFAR–WFP collaboration strengthened nutrition assessment, provided support to malnourished children, PLHIV/tuberculosis, pregnant and lactating woman and adolescents *(18)*. By targeting beneficiaries because of their malnutrition status rather than HIV status, the programme was more equitable and highlighted the need for HIV-sensitive programming.

However, since many health facilities had adopted a multi-month drug supply for ART for stable patients while nutrition supplementation was provided monthly, this increased the workload for health care workers and could have contributed to lost to follow-up for nutritional support. This programme also highlighted the importance of supplementing nutrition support with household food rations, especially for PLHIV, as food sharing could compromise their effectiveness *(40)*. Integrating nutritional assessments and counselling at the clinic level was challenging for staff because of increased workload and lack of equipment in all areas of the clinics, leading to inconsistent monitoring *(40)*.

Other examples of integrated care models for HIV and nutrition included:

- Scaling-up of food and nutrition interventions for households vulnerable to HIV and PLHIV *(21)*.
- Providing testing and linkages to care for HIV for children with severe acute malnutrition and moderate acute malnutrition.
- Providing HIV treatment in nutrition centres *(34)*.

UNICEF facilitated the integration of nutrition and HIV services by HIV testing of children in nutrition treatment centres and linking children to care, training CHWs to assess food security, advocating for the integration of food supplementation for PLHIV on ART and for mothers, children and adolescent girls *(9)*.

During the 2023/2024 response, the lessons from the drought response for HIV integration highlighted the critical need to incorporate HIV considerations into climate-related health strategies. Specifically, the response to drought conditions in regions heavily affected by HIV should include targeted support for PLHIV, ensuring they have continuous access to ART and other necessary health services during droughts. A key lesson was integrating HIV education and awareness programmes into broader climate adaptation measures, ensuring that communities are informed about both the impacts of climate change and the specific risks and challenges faced by PLHIV *(3)*.

Participants described many successful models for integrating HIV and nutrition from the 2023/2024 response. Models described included providing food distribution within health care facilities in Zimbabwe to ensure continued access to ART and specialized nutritional products for PLHIV. In Malawi, HIV screening was integrated into nutritional rehabilitation programmes and, since many mothers were delivering at home, this facilitated the identification of children who were HIV positive. Participants also described successes around HIV service integration in maternal, newborn and child health clinics and mobile clinics. All these models were described as providing a continuum of care.

Although the 2023/2024 response in Malawi did not have special nutritional support for PLHIV compared to 2015/2016, this was described by one participant as equitable. However, another participant reported that many PLHIV were food insecure despite CSOs providing training for communities to be self-sufficient in producing food. This was described as affecting ART adherence and many had difficulties with taking ART on an empty stomach.

Participants described the need for support for implementing training and education on diversifying food choices for PLHIV. The drought was reported to have changed the purchasing power for communities, which impacted their food security. A youth participant reported that the government had been providing nutritional supplementation and nutrition workshops during the drought response and this was reported as successful.

Challenges identified for PLHIV included needing food to take ART and therefore delaying or skipping doses until they could access food. Additionally, PLHIV are unable to participate in livelihood activities and are not connected or knowledgeable on where to find a health facility when travelling in search of affordable food sources; this was described as leading to poor ART adherence.

Integration of gender and food security

From the 2015/2016 response, an innovative gender transformative programme called *Her Harvest, Our Future* integrated gender and food security through a combination of models for financial inclusion, nutrition and climate-resilient agriculture *(42)*. It focused on climate-resilient agriculture, community-based adaptation and risk management for women and a farmer field business school for women, providing a model for successful integration of gender and food security.

As a lesson from the 2015/2016 response, CARE described models of gender equality and women's empowerment that protected communities *(42)*. The three strategies that were cost-effective and sustainable for women's empowerment included:

- Engaging men and boys in dialogues and awareness raising for gender equity.
- Promoting social analysis and gender dialogues in communities to create an environment that challenged traditional gender roles.
- Savings-led financial inclusion for women to strengthen food security, solidarity and empower women to improve gender relations.

From the 2023/2024 response, many participants highlighted successes in integrating gender and nutritional needs during the drought response. Interview participants also highlighted a drought vulnerability index and joint working groups with FAO, WFP and UNICEF as successes to ensuring food and nutrition security. Focusing on upstream factors with other sectors such as the Ministry of Agriculture, ensured people had seeds, planted winter maize and supported people with reduced cost food in the worst drought-impacted communities.

The prevention of GBV is prioritized but is an ongoing concern

A key lesson highlighted in CARE's position paper following the 2015/2016 drought response was the critical importance of integrating GBV prevention throughout all phases of humanitarian action, including preparedness, response and recovery. They took proactive steps to prevent sexual exploitation and abuse by addressing the underlying causes of vulnerability including gender inequality. Integrating gender into every stage of a response is essential *(42)*.

During the 2023/2024 drought response in Zambia, a successful approach to addressing GBV involved decentralized services. CHWs, trained as GBV monitors, effectively identified and supported at-risk girls and women, empowering them through local interventions. Food security committees facilitated understanding of power dynamics between men and women in communities to ensure that food distribution does not cause or exacerbate power dynamics.

Many participants spoke of initiatives to empower women at risk of GBV to have their own livelihoods, especially during times of drought. One participant described efforts to mainstream mental health and psychosocial support, GBV and protection. They provided capacity-building training to all partners on protection issues, GBV, mental health and psychosocial support and prevention of sexual abuse and social protection. This was described as facilitating the identification of those at risk or experiencing GBV and included a referral kit and first aid psychosocial kit. This ensured all partners are capable to

assist and know the pathways for protection, including referrals to the police or other institutes and that provide psychosocial support. For PLHIV, partners have been trained to ensure adequate care and follow up.

A participant noted that in Malawi, addressing GBV received higher priority during the 2023/2024 drought response compared to the 2015/2016 response. They observed increased efforts by numerous organizations and the government to encourage community vigilance in identifying and responding to GBV cases.

Additionally, improved active engagement of CSOs in GBV prevention and response efforts were noted. This was especially true for GBV associated with food distribution. Community policing volunteers (i.e. community members who volunteered to liaise between monitored GBV cases in the communities) linked community members to needed resources, including the police.

However, several participants identified a need for strengthening reporting and referral structures in communities and to raise awareness with local leaders, police and districts. GBV was described as not adequately reported in communities and exacerbated during the drought. The community victim support units lack resources, and fear of the police and stigmatization deter some community members from reporting GBV, highlighting the critical importance of supporting community-based reporting structures. Providing telephones and financial support to community members throughout the GBV referral chain (e.g. from communities to police to clinics to safe houses) was a strategy that could facilitate coordination and referrals.


WFP/Gabriela Vivacqua

Key populations and vulnerable populations

Little information was available on key populations such as LGBTQ+ individuals, men who have sex with men, people in prisons, people who use drugs, people with disabilities and sex workers.

Some participants of technical consultations felt stigma and discrimination prevented people from self-identifying and therefore they were unable to know the needs of this community during the drought. For key populations, specifically sex workers and LGBQT+ people, within refugee and IDP settings, stigma and fear of harm was described as preventing their integration. Sex workers and people who identified as LGBQT+ in IDP and refugee settings were often described as taken to a separate physical place where they are protected and provided with HIV services including PrEP.

Learnings from the 2015/2016 drought response included the need for increased stakeholder participations of people at high risk in health emergency risk assessment, planning and health services. This included pregnant and lactating women, neonates, infants, children, adolescents, older people, people with disabilities, PLHIV and people with less access to health services *(34)*. This did not appear to translate into changes in the 2023/2024 response and therefore needs to be prioritized to identify the unique needs of key populations.

IDPs and refugees

From the 2023/2024 El Niño response, the combination of food insecurity, water scarcity and economic hardships caused by El Niño makes communities more vulnerable to displacement. Families facing extreme challenges due to the impact of El Niño are most often compelled to leave their homes in search of assistance, better living conditions or better economic opportunities challenging health service delivery *(30)*. Although, displacement and mobility are documented, challenges remain in understanding El Niño-related mobility.

Data on El Niño-related displacement and mobility is a gap throughout the region *(28)*. In Mozambique and Namibia, population movements have been identified related to drought and the degradation of land, including migration across national borders *(28)*. Despite gaps in data, several successes for refugee populations were identified.

Successes of the El Niño response for refugees included mainstreamed or integrated service delivery models. For example, in Mozambique, a UNHCR manager described how all services were available at a one-stop integrated care centre in the Maratane refugee settlement. At this care centre, providers assessed vulnerability, provided youth friendly reproductive health services, access to HIV testing and counselling and STI treatment.

Providers also identified people at risk of GBV, including sexual violence and rape, and provided support. Those impacted by GBV were removed to a safe house until they were able to return to their communities. A facilitator to this model in Mozambique is that refugees were integrated into the health system and had equal access when compared to nationals. In this model, health services were described as mainstreamed with protection.

Similarly, in Malawi, a UNHCR manager described successes of bringing all HIV activities to the primary health care clinic within the refugee camp. This not only provided access to treatment within the camp or settlements but also facilitated community sensitization and relationships with community-based health workers.

In Malawi, a success described for IDPs was that when there was a disaster, health workers would know the locations where IDPs were within their catchment and bring health services to them, including a

6 month supply of ART for stable patients and contraceptives, if they were in stock. Another success described by a participant was that health workers are working with IDPs to ensure there is support after cases of GBV, especially providing PEP after cases of rape.

In Zimbabwe and Mozambique, livelihood projects and youth empowerment were successes described to prevent risky behaviour. In Mozambique, multisectoral life skills and livelihood programmes for refugee youths are provided. Social cohesion groups encourage integration and interactions between refugee and host communities where they share basic social services, education and recreation.

In Zimbabwe, multisectoral projects and markets to educate and empower youths to create livelihoods decreased risk of exploitation, especially during periods of extreme weather events. WFP provided food baskets and livelihood opportunities that generate additional income for households to minimize negative coping mechanisms, which was described as a success.

Health care provision for refugee and IDP populations face numerous challenges across various domains. Access to health care remains a primary concern with IDPs experiencing shortages or complete lack of health services, disrupted supply chains and limited access to WASH facilities, leading to high cholera cases in some areas. In Mozambique, for instance, IDPs largely rely on rare mobile health clinics provided by IOM. Resource constraints further exacerbate these issues with funding shortages (exemplified by a 50% cut in UNHCR funding in Mozambique from 2023 to 2024), high medication prices and poor storage conditions for medications all impeding effective health care delivery.

Systemic issues compound these challenges. Sudden influxes of IDPs require time for needs assessment and funding acquisition, while the integration of refugees and IDPs into already vulnerable health systems strains limited resources, leading to shortages of essential medications and supplies. Social and cultural barriers, particularly stigma and lack of awareness, hinder care provision for vulnerable groups such as those affected by GBV, PLHIV, LGBTQ+ individuals and pregnant women. This results in delayed care-seeking behaviour, as observed among PLHIV experiencing GBV in Malawi.

Specific populations face unique challenges. IDPs struggle with a lack of government guidance on safe settlement areas, difficulties in finding safe livelihoods and increased risk of exploitation due to unfamiliarity with new environments. Maternal and child health is also adversely affected, with low rates of facility-based deliveries and postnatal follow up among refugee and IDP women, resulting in increased maternal mortality and HIV prevalence in children under 5 years old. Additionally, SRH services for IDPs are often lacking, with shortages of sanitary pads and high incidences of GBV reported.

Despite these challenges, some successes and interventions have been noted. Health workers have provided mobile services, including ART, to IDP locations.

Recommendations included more coordination and collaboration across sectors and key players.

In Zimbabwe, a need for greater coordination across sectors including NGOs, international NGOs, UN agencies, ministries and partners, was identified.

In Mozambique, more collaboration and coordination within emergency settings for refugees was recommended, with targeted operations hindering the implementation of previous preparation plans. Coordinated field visits across agencies to understand health challenges were discussed as needed. Considerations for IDPs included sustainable interventions that focus on preparedness and integration in the early stages of emergencies rather than being responsive and empower IDPs to be self-sufficient.

Youth

Youth played a pivotal role as respondents in the 2023/2024 drought response. A participant representing the youth perspective in Malawi described how 70% of new HIV infections in the country were occurring in young people. They pointed to a lack of awareness, limited availability of services and disruptions in access to condoms, PrEP and PEP as major contributing factors.

A key success in HIV integration for youth is that the government is partnering with NGOs and youth-led organizations to raise awareness on the need to prevent HIV and unintended pregnancies and to increase the uptake of HIV services. Youth-led organizations have developed innovative tools to engage youth, including a card game that raises HIV awareness. The cards have questions and come with a guide that provides the answers to encourage youth to have evidence-based conversations about HIV, pregnancy, available health services and SRHR. A similar board game was also developed, with the goal of adapting it into a mobile application. These games were distributed through youth hubs and were leveraged during the drought response.

One programme to highlight is from the Frontline AIDS report, *HIV and the climate crisis: Safeguarding health in a changing world. A Frontline AIDS evidence brief*. The Zvandiri programme which "provides a differentiated service delivery approach to HIV testing, treatment, care and support for children, adolescents and young people (aged 0-24 years) in Zimbabwe. It combines HIV, mental health and protection services to improve young people's HIV outcomes and quality of life. Zvandiri is primarily delivered by trained and mentored peer counsellors called Community Adolescent Treatment Supporters (CATS) and Young Mentor Mothers (YMMs). CATS and YMMs are young people living with HIV, aged 18–24 who work in health facilities. They work alongside healthcare professionals to manage their own caseloads of young people living with HIV, providing information, counselling, monitoring and support through home visits, clinic sessions, support groups and mHealth initiatives." The government of Zimbabwe has since adopted and scaled the CATS model.

Another youth-focused intervention is a platform called Youth+ Global that engages youth in HIV prevention and awareness through workshops. A challenge reported to youth engagement in the 2023/2024 response was that youth had improvements in SRHR but when the drought response was over, there was no sustainability planned for youth. Youth described not being engaged in the drought response programme design, which was described as decreasing the utilization of the information provided, especially related to SRHR.

A youth participant suggested that youth should be engaged in community response and preparedness strategies and that the drought response needs more accountability to youth. Despite youth providing input, they feel it is often not incorporated into plans and programming.

Mental health among young men during the drought was described as deteriorating, resulting in suicide due to pressures of increasing responsibilities. A platform called Men Engage Malawi encourages men to seek peer support with other men and raises awareness about GBV.

Others described how mental health will become a great contributor to deaths in the future, especially exacerbated by climate change and recommended that governments prioritize working with youth grassroots organizations in remote settings as funding for those organizations can lead to sustainable results and support youth in communities.


WFP/Victor Moyo

Women and children

Evidence from 2015/2016 on El Niño-related droughts and flooding highlighted several key areas for protection and unmet humanitarian needs for women and children *(34)*. These are often compounded by distress, GBV and family separation. Additionally, health facilities often close when there are water shortages, which can result in HIV treatment disruption. The provision of nutritional support and ART to pregnant women with HIV through mobile clinics could support continued treatment *(43)*. One programme from PEPFAR/WFP was able to provide nutritional assistance to mothers and babies through the prevention of mother-to-child transmissions (PMTCT) programmes *(36)*.

Regionally, GBV has been identified as a driver of HIV in women. Disruptions in education for children, early marriage and increasing population movement in search of food, water and cash, leave children further vulnerable to arrests, detention and trafficking *(58)*.

Gaps exist in the monitoring of El Niño-related risks to children. One strategy to mitigate the impact of drought and flood-related diseases is to train teachers and schools in prevention and response of outbreaks (e.g. cholera and typhoid). Students have formed disaster risk reduction clubs where their concerns can be addressed and potential negative consequences of climate events can be mitigated.

Despite these learnings and gaps, little improvement was identified in child protection during the 2023/2024 response. One participant spoke of a situation during the drought crisis where children became heads of households while the parents searched for food, water or employment, sometimes crossing national boundaries. This was discussed as leaving children exposed to multiple vulnerabilities and more data are needed to analyse the impact of this and advocate for the children.

Linkages between social protection and disaster management systems

Between the 2015/2016 and 2023/2024 El Niño events, cash-based transfers and other social protection strategies have been used, building upon key lessons from prior experiences. In contexts where the markets are functioning optimally, cash affords beneficiaries autonomy to purchase their immediate needs in a dignified manner.

The 2015/2016 drought response highlighted significant gaps in national social protection systems, which were often not adequately equipped to expand rapidly in response to emergencies. Cash-based humanitarian responses were frequently uncoordinated with national social protection working groups, leading to parallel and fragmented efforts.

In Zimbabwe, a critical challenge identified was the need for better coordination between social protection actors and health services, particularly for food-insecure populations and PLHIV. A study found that 43% of 18 000 surveyed participants were food insecure, with only 20% having access to social services. There was a notable association between access to social support and viral load suppression in PLHIV.

One strategy identified by UNICEF during the 2015/2016 response was the use of top-up cash transfers for adolescent girls to encourage school attendance and reduce their vulnerability to HIV transmission *(43)*. Cash-based transfers provided immediate assistance at the community level and were described as an effective tool for reducing stigma and supporting PLHIV *(40)*. However, these transfers were often not systematically integrated into national social protection systems, with coordination occurring outside existing national platforms. Governments and partners need to establish shock-responsive social protection systems to ensure standardized and harmonized benefit levels and align emergency cash responses with government-led initiatives *(34)*.

In contrast, the 2023/2024 response does not provide clear evidence of modifications to cash-based transfer strategies. However, FAO prioritized the provision of unconditional cash, cash-plus-seeds programmes and cash-for-work initiatives linked to small-scale irrigation, water harvesting and soil conservation efforts *(6)*.

One notable success in this period was the provision of cash grants to vulnerable populations most affected by El Niño, including individuals with disabilities, children at risk, unaccompanied minors, people with chronic conditions, GBV survivors and women and adolescents at risk. Despite these efforts, participants highlighted the ongoing need for social protection schemes that explicitly incorporate HIV-related support. The evolution of cash-based transfers suggests an increasing focus on integrating emergency responses with broader social protection mechanisms, but gaps remain in systematic coordination and targeted support for vulnerable groups, especially for PLHIV.

Supply chains and procurements for ART during the drought response

The 2015/2016 response revealed several key lessons for procurement and supply chains. While organizations like WFP have a history of bulk distribution, transportation logistics for smaller sized commodities were more challenging, leading to complicated logistics.

When distributing food products for PLHIV on ART, WFP was unable to align with current food distribution networks, especially when integrating food assistance into health care clinics due to lack of systems in clinics for food procurement and storage. As a result, the uptake of the programme was impacted by

lack of public awareness that food assistance was available at clinics *(36)*. Poor flow of information between national authorities and transport operators resulted in insufficient quantities of food being imported *(35)*.

The response highlighted the importance of adapting existing channels for surge support, as demonstrated by WFP's use of health programmes to reach HIV patients with food. However, this approach also revealed the need to strengthen health infrastructure and systems for expanded programming and improve public awareness about available food assistance *(14)*.

International procurement posed challenges related to commodity shelf life and expiry dates, emphasizing the need for improved supply chain management skills at clinic level *(40)*.

Local purchasing of commodities contributed positively to local economies and improved acceptability of products, enhancing adherence to nutritional prescriptions *(40)*. To address logistical challenges, the use of smaller trucks (1 tonne) and engaging multiple smaller suppliers was suggested *(40)*.

The response also underscored the importance of identifying, assessing and accrediting regional and local suppliers of specialized nutrition commodities to improve future preparedness and support local economies. This process, while slow, could benefit from capacity-building and technical assistance for local suppliers *(40)*.

Lastly, the experience emphasized the need for technical partners to have a local presence rather than working remotely to provide more hands-on assistance *(40)*.

No lessons related to supply chains were identified in the 2023/2024 literature review, although some interview participants did raise this as a challenge in the response.

Data generation and use

During the 2015/2016 response, the need for timely data, research and strengthening the capacity for research at local levels was a key lesson *(45)*. A lack of timely assessment of data and real-time monitoring systems impeded the response and real-time decision-making across the response *(34)*.

Challenges to data procurement and use during the drought response included the lack of strong baseline data, data that could be disaggregated easily and data that did not create parallel reporting systems or tools *(32, 44, 46)*.

- There was a need for standardized indicators and vulnerability assessments to ensure the response was meeting the needs of the beneficiaries and that resources could be reallocated as the crisis evolved *(34, 35)*.
- Collective agreements on methodology, triggers and deadlines for publishing results across sectors could strengthen the humanitarian response *(34)*.
- HIV and nutrition data were described as not included in routine data collection systems or facility reports, not integrated (e.g. nutrition status of ART patients), not harmonized or adequately funded and not sufficient for emergency responses *(9, 40, 44)*.
- Disease outbreak information had significant gaps for an adequate response, including not being georeferenced, verifiable, timely and consistent *(46)*.
- Paper-based methods of data collection were described as being demanding, inaccurate and not aligned with other sources of data *(40)*.
- Existing data systems were described as not being accurate or reliable or available in real time *(9, 40)* which hindered the quick dissemination of learnings across countries.

Since the 2015/2016 drought response, several platforms, initiatives and tools were implemented. The World Health Organization (WHO) and the Global Health Cluster support countries with data standardization, collection and identifying essential health resources and services to map health system gaps and inequities *(47)*. Integrated disease surveillance including the Epidemic Intelligence from the Open Sources Initiative and the use of DHIS2 can be used to identify triggers for humanitarian responses *(47)*.

WFP in Southern Africa has a drought hotspot analysis that provides a composite score for early warning to prioritize assistance *(48)*.

WHO produced a list of potential indicators to monitor for El Niño at the country level which included food security, WASH, morbidity, health services, communicable diseases, coordination, supply chain and funding *(22, 47)*.

However, health status and threats, health system capacity, health facility vulnerability, response operations and indicators related to SRHR (including HIV) are under-represented. Linking data to the impacts from humanitarian emergencies such as El Niño has been challenging, especially when there is a delay from an event occurring and its impact *(30)*. Despite data and research being described as a high priority and need from the 2015/2016 response, the 2023/2024 drought response highlighted similar needs from the technical consultations.

Despite these initiatives, participants described data as being a major challenge to an appropriate drought response in 2023/2024. Many participants highlighted the difficulty in obtaining systematic data to understand the impact of the drought. While many players are collecting data, it was often described as only specific to their mandates or not sharable, especially between UN agencies.

One participant reported that data is not routinely collected. The data that is collected is not in a platform that is easy to disaggregate, analyse and share. Data was often described as necessary to assist in advocacy, policy-making, evidence-based decision-making and to understand the complexity of the impact of the El Niño drought across actors and sectors.

One participant spoke of the need for timely vulnerability assessments to understand the role gender played in the drought response.

At the regional level:

- A need for data on the coordination of the humanitarian response was identified, describing the acquisition of funding for data and assessments as difficult and that most donors are more interested in funding the response rather than data collection.
- Data was reported as being unavailable in a timely manner, hindering the effective coordination of the response. This was especially pronounced when governments took additional time to validate the data.
- A challenge for HIV integration was the lack of data on HIV and overlapping vulnerabilities and social protection.

Specific to HIV integration, data was discussed as the main challenge to evidence-based decision-making and to inform advocacy. This was especially true for understanding people at risk for HIV and the impact of multisectoral approaches (e.g. GBV and HIV, HIV and food insecurity). A WFP manager discussed how there is a need for data across the continuum of HIV, especially on initiations.

A WFP participant from Mozambique reported that partners rejected including an HIV status question in a household questionnaire in a drought targeting exercise due to sensitivity concerns. Alternative options to obtain HIV-related data could include using a proxy indicator (a question on chronic disease

at household level) or to conduct a parallel targeting exercise involving health facilities, to identify vulnerable PLHIV and their households.

Community engagement

The 2015/2016 drought response in Southern Africa emphasized the importance of community engagement and participation in addition to the lessons learned in the preparedness section on engaging communities.

Key lessons learned from 2015/2016 included the need to educate communities about climate change impacts on maternal and neonatal health by utilizing various communication channels such as clinic materials, social media and maternal education programmes *(49)*.

Community involvement, especially men and women, community groups, outreach workers and subnational institutions in decision-making processes for intervention design and targeting criteria during the drought response was found to increase the sense of local ownership, success and sustainability *(35)*. However, it was noted that the findings from community-level engagement were not often given to decision-makers, highlighting the importance of systems to ensure community input feeds into higher level decision-making *(34)*.

The response also highlighted the effectiveness of proactive community outreach through cooperating partners and CHWs to reach targets beyond facilities, especially in areas with low health-seeking behaviour. CHWs played a crucial role in screening, promoting health-seeking behaviour and linking beneficiaries to care during the 2015/2016 drought response *(12)*.

Community engagement in the 2023/2024 response was described by technical consultation participants as having improved since the 2015/2016 response, but it was still in need of further strengthening to maximize its potential. Improved community engagement from the government was described as facilitating the drought response when comparing 2015/2016 to 2023/2024.

Community-level strategies during the 2023/2024 response were highlighted as successes. Anticipatory action helped prepare the communities to lessen the impact of the drought which, in turn, was described as reducing the numbers of people who needed assistance.

In Zambia, governments empowered communities with irrigation systems and winter maize to provide food and income generating alternatives throughout the year to drought-impacted communities. Partners and various stakeholders focused on sustainable, climate resistant projects that included innovations for food security (e.g. changing agricultural practices) and health-seeking behaviour

Several examples of community engagement were described by participants. One participant representing PLHIV in Malawi felt the government was more proactive in the 2023/2024 drought response by providing support and visiting areas impacted by drought to warn communities of the dangers of returning to drought-prone areas and ensuring people had a safe place to take refuge.

A participant representing PLHIV in Malawi described successes of community-led initiatives where people used WhatsApp groups to identify, fundraise and donate food and supplies to drought-impacted communities. Group members posted receipts and the delivery of donated items. This was described as resulting in a high level of accountability and transparency. Examples of effective community-based initiatives included having community support volunteers who were PLHIV check on 10 other people on ART to ensure they continued on treatment and shared medication when needed.

Although community engagement and participation were described as a priority in the drought

response—ad many community-level interventions were discussed as being impactful and sustainable—they were not well documented.

One participant expressed a need to engage and leverage community structures that are already in place to make the drought response more resilient. Another suggestion was to build capacities and provide resources to communities to empower them to respond and be self-reliant during any emergency.

A youth participant described consistent engagement of youth-led organizations from partners and governments but felt their input was not well received or utilized, describing community engagement with youth often being at the implementation stage rather than at the inception stage where their feedback would be more meaningful.

A successful community engagement response included an example of governments going into communities to provide medication and health services to fill gaps in service provision when facilities closed due to lack of water. Integrated outreaches from health workers to communities focused on providing services for children under 5 years old, ART and condoms.

One participant representing PLHIV described the need for community support initiatives that are multisectoral.

Resources and funding

Resources

A challenge from the 2015/2016 response was the difficulty in mobilizing resources until the drought already had an impact, despite knowing it was looming. Flexible funding is critical for resource allocation during the drought response.

An FAO document suggested the need for established agreements with partners for flexible funding, allowing reallocation between development and emergency activities. Project documents should include pre-agreed measures for fund redirection during crises to protect development gains *(35)*.

From the 2023/2024 response, several examples of funding models were identified as successes in the El Niño response. A regional interview participant described how rapid emergency responses to droughts were facilitated by the availability of regionally pooled funds that were earmarked for emergency projects that were less than six months in duration. FAO described a special fund for emergency and rehabilitation activities that facilitated funding for urgent activities to rural communities at scale quickly during droughts and floods *(6)*. Forecast-based financing was identified as a way to help countries in the region cope with cyclical El Niño weather events *(1)*.

Global leadership also played a key role in ensuring resources for HIV were available during the El Niño response. One participant described how leadership at the global level prioritized the areas with the highest HIV prevalence in the region during the response which facilitated preparedness and the channelling of resources to the region. Despite these successes, there is a need for more flexible funding models that could be deployed quickly during emergencies.

Lessons learned

Lessons related to HIV and sexual and reproductive health rights (SRH)

1. **Innovative HIV care models**
   Innovative HIV care models emerged, such as providing ART supplies for six months and mobile clinics which improved retention in care, especially in remote areas. For example, in Zimbabwe, HIV outreaches in communities included supplies for viral load testing, demonstrating successful decentralization of HIV services.

2. **Multisectoral collaboration including SRH**
   Multisectoral collaboration improved, particularly during emergencies. For instance, in Mozambique, the MoH coordinated a drought response that included **GBV prevention, HIV care and SRH services** in coordination with education, social protection and weather management sectors. However, verticalization of responses at the national level sometimes hindered collaboration.

3. **Challenges in HIV integration into humanitarian response**
   HIV integration into drought responses faced persistent challenges. Many participants reported a lack of guidance, resources, real-time monitoring and prioritization of HIV in humanitarian settings.

4. **Participation of high-risk and vulnerable populations**
   The 2015/2016 response highlighted the need for increased engagement of high-risk groups in emergency planning, including pregnant women, children, adolescents, older people, people with disabilities and PLHIV. However, this lesson did not fully translate into the 2023/2024 response, with participants noting continued gaps in addressing the unique needs of key vulnerable populations.

5. **PEPFAR–WFP HIV-nutrition integration**
   The PEPFAR–WFP collaboration in 2015/2016 provided valuable lessons for integrating **HIV and nutrition services**. This partnership improved prioritization of HIV in the response and strengthened linkages between nutrition and HIV policies. However, integrating nutritional assessments at clinics increased workload for health care workers.

6. **Youth engagement in HIV awareness**
   Youth engagement improved but lacked sustainability. In Malawi, innovative tools like the card games mentioned earlier were developed to raise HIV awareness, but youth reported that their input was often not incorporated into long-term planning and programming.

7. **GBV prevention linked to HIV and SRH**
   GBV prevention was prioritized more in 2023/2024 compared to 2015/2016 with examples such as CHWs in Zambia being trained as GBV monitors. However, challenges remained in strengthening reporting and referral structures, particularly in communities where GBV was exacerbated during the drought.

8. **Supply chain challenges impacting HIV services**
   Supply chain challenges persisted, particularly for smaller commodities. The 2015/2016 response revealed difficulties in aligning food distribution for PLHIV with existing networks, especially in health care clinics lacking food procurement systems.

System-wide lessons and their relation to HIV

While several system-wide lessons emerged from the El Niño response, their direct connections to HIV programming were often limited or not well documented. This underscores the need for more systematic documentation and integration of HIV-related considerations in system-wide coordination, response, learning and reporting. Given the complex, multisectoral nature of HIV—spanning health, education, gender equality, protection and livelihoods—its integration requires deliberate cross-sectoral approaches rather than being treated as a stand-alone issue. Nevertheless, these lessons provide valuable context for understanding the broader environment in which HIV interventions are implemented as well as potential entry points for improved HIV integration.

9. **Improved preparedness and risk communication**
   The 2023/2024 El Niño response showed improved preparedness, with SADC developing a phased plan for El Niño preparedness and response. This included partnering with FEWS NET to issue bulletins on El Niño risks, demonstrating an improved approach to risk communication and early warning. However, the response capacity remained insufficient, emphasizing the need for wider dissemination of early warnings and agricultural advisories.

10. **Regional coordination strengthened**
    Regional coordination improved through the creation of RIASCO under OCHA, which strengthened the region's preparedness and coordination infrastructure. This high level forum addressed operational and strategic issues related to humanitarian assistance, helping countries identify gaps and escalate responses as needed.

11. **Climate forecasting and local application**
    Climate forecasting improvements were noted, but challenges persisted in translating this information into actionable local data. The 2015/2016 response revealed a need for stronger local governance and better translation of global weather forecasts into local information, a lesson that was partially addressed in 2023/2024 but still requires further improvement.

12. **Community engagement and ownership**
    Community engagement showed improvement but required further strengthening. Successful examples included community-led initiatives in Malawi using WhatsApp groups to identify, fundraise and donate supplies to drought-impacted communities. However, youth participants noted that their involvement often came too late in the programme design process. A need for community-based and community-led engagement was identified, including educating communities about the risks and challenges of climate change.

13. **Data management and interoperability gaps**
    Data management remained a significant challenge. Participants reported difficulties in obtaining systematic data to understand drought impacts, with data often being mandate specific and not easily shareable between agencies. This hindered evidence-based decision-making and coordinated responses, especially related to vulnerable populations, migration and child protection. Considerations must be made for the capacities of data collection, systems and use and efforts made to build capacities in these areas, especially the integration of streamlined HIV data in humanitarian settings.

14. **Cash-based transfer programmes**
    Cash-based transfers evolved between the two periods, with FAO prioritizing unconditional cash and cash-plus-seeds programmes in 2023/2024. However, these were often not systematically integrated into national social protection systems, leading to fragmented efforts.

15. **Sustainable approaches for displaced populations**
    Assistance for both refugees and IDPs should prioritize sustainable preparedness-focused approaches that foster self-sufficiency rather than depending exclusively on reactive measures. Continued efforts must be made to prevent and treat HIV amongst displaced populations.

- See more detailed lessons learnedFurther lessons came from a study in Zimbabwe that examined the effects of the drought on rural school children, most of whom were child-headed households. They identified disruptions in education due to the inability to pay for school fees, the need to search for water or alternative income generating activities, deterioration of physical and mental health and increased vulnerabilities to sexual assault, abuse, child labour and trafficking. The authors recommend targeted strategies for child-headed families that include financial assistance, psychological support and access to food and health care. Additionally, they recommended flexibilities in school programmes and resources to ensure continuation of learning during drought (57).ex 2.

Recommendations

1 **Expand Innovative HIV care models:** Implement multi-month ART dispensing and mobile clinic outreach to maintain continuity of care in remote and climate change affected areas, integrating decentralized HIV services with viral load testing, SRHR, nutrition support and climate-smart interventions to enhance resilience.

2 **Strengthen multisectoral collaboration including SRH:** Enhance coordination mechanisms to integrate HIV and SRHR into humanitarian and drought response clusters, using shared data platforms, operational guidance, joint planning that links GBV prevention, HIV care, SRH, nutrition, social protection and climate-risk management.

3 **Prioritize HIV integration in humanitarian responses:** Establish standardized protocols and guidance, strengthen real-time monitoring and allocate sustainable resources for staffing, training and operational tools to ensure HIV services are maintained during emergencies.

4 **Ensure participation of high-risk and vulnerable populations:** Develop targeted strategies and consultation mechanisms to actively engage PLHIV and key populations, pregnant women, children, adolescents, older people and people with disabilities, incorporating feedback loops to adapt services to their needs throughout the drought response.

5 **Integrate HIV and nutrition services:** Institutionalize joint HIV and nutrition assessments while streamlining provider workload, strengthen linkages between nutrition and HIV policies and promote integrated programming linking HIV care with food, cash transfers and nutrition counselling.

6 **Enhance youth engagement in HIV awareness:** Co-develop sustainable youth-focused HIV awareness tools, ensure youth input informs long-term planning and promote innovative engagement approaches such as gamification, peer education and digital platforms.

7 **Strengthen GBV prevention linked to HIV and SRH:** Train community health workers and local monitors to detect and respond to GBV, reinforce reporting and referral mechanisms and incorporate GBV mitigation measures into all HIV and SRH programming during drought and emergency responses.

8 **Improve supply chain resilience for HIV services:** Invest in climate-resilient supply chain infrastructure for HIV, SRH and nutrition commodities, implement last-mile distribution strategies to ensure uninterrupted access and build supply chain management capacity for integrated service delivery during emergencies.

9 **Enhance preparedness and risk communication:** Develop and disseminate phased preparedness plans, strengthen early warning systems and climate advisories and conduct community and regional drills to improve readiness for El Niño and other climate-related events, integrating HIV and SRH considerations.

10 **Strengthen regional coordination:** Support regional mechanisms to facilitate information sharing, joint planning and capacity building for HIV and SRHR integration, establishing clear communication protocols to reduce duplication and optimize resource use.

11 **Apply climate forecasting locally:** Enhance translation of regional climate forecasts into actionable local guidance, integrate forecast data into HIV, nutrition and SRH programming and train local authorities to apply climate information in emergency response planning.

12 **Promote community engagement and ownership:** Support community-led planning and implementation of HIV, SRH and nutrition interventions, establish mechanisms for ongoing consultation and participatory monitoring and develop knowledge hubs and digital platforms for sharing local coping strategies.

13 **Strengthen data management and interoperability:** Standardize data collection tools across agencies, build capacities for data management, analysis and use and integrate HIV, nutrition and SRH data into broader emergency information management systems to enable evidence-based decision-making.

14 **Integrate cash-based transfer programmes:** Systematically link cash-based transfers to national social protection and drought response systems, ensure coordination with nutrition, HIV and SRH services and monitor and evaluate targeting, uptake and health outcomes to improve effectiveness.

15 **Promote sustainable approaches for displaced populations:** Prioritize preparedness-focused, self-sufficiency strategies for refugees and IDPs, integrate HIV, SRH and nutrition services into sustainable livelihood and resilience programmes and develop policies and partnerships to ensure continuity of care for PLHIV and other vulnerable groups.

- See more detailed recommendations in Annex 3.

Conclusion

The analysis of El Niño-induced droughts and floods in Southern Africa in 2015/2016 and 2023/2024 reveals both progress and persistent challenges in addressing the complex interplay between climate change, HIV, GBV and displacement during humanitarian emergencies.

The analysis also reveals the need for more flexible and adaptive programming approaches that can respond to the dual threats of droughts and floods often associated with El Niño events in Southern Africa.

Future preparedness and response strategies must account for this complexity to effectively protect vulnerable populations and safeguard development gains. While significant improvements were made in preparedness and coordination, the increasing severity and scale of climate-related crises continue to outpace response capacities.

The findings underscore the critical need for a paradigm shift in how we approach drought responses in high HIV prevalence settings. The interconnectedness of HIV vulnerabilities with food insecurity, displacement and GBV demands a truly integrated and multisectoral approach. This is not just a matter of improving health outcomes but of safeguarding decades of progress in HIV prevention and treatment.

Moving forward, it is imperative that HIV and SRHR considerations are mainstreamed into climate change adaptation strategies and broader humanitarian responses. This requires not only policy changes and increased funding but also a fundamental analysis and rethinking of how services are delivered and how communities are engaged.

The success of innovative models, such as extended ART supplies and mobile clinics, points the way towards more resilient and adaptive health systems. Crucially, the voices and needs of the most vulnerable populations—including PLHIV, youth, women and key populations—must be centred in all stages of planning and implementation. Their lived experiences and insights are invaluable in designing effective, context-appropriate interventions.

As climate change continues to exacerbate existing vulnerabilities and create new challenges, the global community must act with urgency and commitment. By learning from past responses, leveraging technological advancements and fostering genuine community partnerships, we can build a more resilient and equitable future, one where HIV services remain accessible and effective even in the face of increasing climate-related crises.

The path forward requires sustained political will, increased investment in integrated approaches and a commitment to evidence-based decision-making. Only through such concerted efforts can we hope to mitigate the impact of future droughts on HIV outcomes and protect the health and well-being of millions in Southern Africa and beyond.

Appendix

Search terms

- "El Niño" health Africa integration
- HIV drought southern Africa
- Drought Africa multisectoral HIV health
- "El Niño" drought GBV health
- El Niño HIV
- Climate change HIV
- Climate change Africa HIV drought key populations HIV
- Climate change and displacement or displaced populations
- Resilience/Resilient drought health and disaster risk reduction

Secondary searches included terms on SRHR, malnutrition/food insecurity, humanitarian emergency and key populations (e.g. pregnant and breastfeeding mothers, adolescents, children, LGBTQ+ individuals), floods, humanitarian and country specific information for the target countries listed in the annex.

Annex 1

Country profiles

Country specific information

Lesotho

The 2015/2016 drought response in Lesotho provided valuable insights into the complex interplay between climate-related disasters, food security and public health. A PEPFAR–WFP programme, implemented via USAID, aimed to mitigate drought impacts by providing specialized nutrition support to vulnerable populations, including malnourished children, PLHIV and orphans and vulnerable children.

The programme's success was largely attributed to strong partnerships with the government, NGOs and implementing partners which facilitated robust supply chains and distribution centres. These collaborations enabled the provision *of family food rations and improved access to HIV testing, particularly for men and families (50)*.

Despite these successes, the response faced several challenges. Initial coordination issues, poor documentation and data accuracy in clinics of acute malnutrition, non-adherence to guidelines, long travel times to food distribution points, limited supply chain capacity and poor linkages between facilities and communities for referrals and follow-up were among the primary obstacles encountered. These challenges highlighted the need for improved coordination, capacity-building and stronger community-facility linkages in future responses *(50)*.

The drought's impact extended beyond immediate food security concerns, affecting various social and health outcomes. In rural areas, the drought was associated with early sexual debut among girls aged 15–19, higher HIV prevalence and lower educational attainment in girls and women aged 15–24. These findings underscore the far-reaching consequences of climate-related disasters on vulnerable populations, particularly in terms of sexual health, HIV risk and education *(51)*.

Furthermore, the drought response in Lesotho emphasized the critical need for strengthening local capacities to manage water resources effectively and implement sustainable agricultural practices that are less dependent on rainfall *(39)*. This highlights the importance of long-term, sustainable solutions in addition to immediate relief efforts.

The 2023/2024 it was declared an emergency on 12 July 2024 with 190 000 affected by the drought and 700 000 at risk of severe hunger *(48)*. Vulnerability assessments indicated half of Lesotho's districts were in crisis, with the country expected to be at crisis levels for food security by October 2024. Nutrition and food security were severely compromised, with reports indicating a sharp rise in malnutrition cases, particularly among children and pregnant women, due to the failure of crops and subsequent food shortages. The drought also impacted the availability of nutritious food necessary for effective ART adherence for PLHIV. (World Health Organization. Public Health Situation Analysis-Drought in Southern Africa, 2024).

Key strategies in the SADC appeal—in partnership with government, humanitarian partners, district disaster management teams and local organizations—were cash transfers, vegetable seed provision, nutrition campaigns for children under 5 years old, improving WASH and providing social support.

Challenges included high food prices, lack of water and mountainous terrain. Community engagement and accountability planned for ensuring two-way feedback from toll-free hotlines and suggestion boxes and to identify families at risk. (International Federation of Red Cross and Red Crescent Societies).

The drought led to a significant increase in GBV due to heightened economic and social stresses. Lastly, the health systems were overwhelmed, facing shortages of supplies and personnel and further strained by the increased demand for health services due to the drought-related issues (WHO. Public Health Situation Analysis-Drought in Southern Africa, 2024).

Malawi

In 2015/2016, Malawi experienced one of its worst floods in history, followed by a severe drought exacerbated by El Niño. This period saw 6.5 million people, representing 39% of the population, requiring food assistance by January 2017 *(48)*. The agricultural sector was heavily impacted, with maize production decreasing by 12.4% in the 2015/2016 growing season compared to the previous year (Ministry of Agriculture, Irrigation and Water Development, Malawi, 2016).

The floods in December 2014 and January 2015 affected over 100 000 people, damaging homes and critical infrastructure and were linked to cholera outbreaks *(21)*. The humanitarian response faced significant challenges, including delayed government action, with the state of emergency only declared in April 2016, hampering the initial response (Government of Malawi, 2016). Coordination issues led to inefficiencies, with the cluster system activated only in July 2016 (OCHA, 2017).

The 2023/2024 period saw even more complex challenges, with drought affecting 6 310 000 people *(9)*, of whom 4 400 000 needed assistance *(49)*. UNICEF anticipated approximately 9.4 million people, including 4.8 million children, required humanitarian aid in Malawi in 2024 *(23)*.

Agricultural losses were severe, with 749 000 hectares of maize out of 1.7 million planted being destroyed *(43)*. This resulted in an estimated 4.4 million people experiencing IPC 3 or worse food insecurity from October 2023 to March 2024 *(23)*. The situation was further complicated by the lingering effects of Cyclone Freddy from March 2023, which left more than 659 000 displaced and over 204 800 hectares of cropland were flooded (OCHA 13/05/2023). Recurring floods have affected more than 156 000 people and displaced over 18 000 in the east of the country *(21)*.

The 2023/2024 crisis highlighted increased health risks, particularly for PLHIV. Poor households were expected to adopt harmful coping strategies, potentially facing IPC 3 food insecurity outcomes from February to May 2024 *(23)*, which can lead to poor ART adherence and increased HIV prevalence. Compounding health challenges included cholera outbreaks coinciding with drought and flood impacts *(22)*. GBV risks also increased, with floods leading to displacement and loss of livelihoods, potentially increasing negative coping mechanisms such as child labour and child marriage *(20)*.

Response mechanisms had evolved since 2015/2016, with evidence of adaptive programming in 2023/2024. For example, a Central Emergency Response Fund (CERF) project was modified to cover additional districts through irrigation equipment provision *(5)*. However, challenges persisted, as demonstrated by the declaration of a State of Disaster in 23 districts by President Lazarus Chakwera on 24 March 2024, with response needs totalling US$ 447 million *(11)*.

In conclusion, while both periods experienced severe impacts from droughts and floods, the 2023/2024 crisis appears to have more far-reaching consequences. The compounding effects of climate-related disasters, health crises and economic challenges created a more demanding situation for response efforts and vulnerable populations in 2023/2024 compared to 2015/2016. The scale of humanitarian assistance required has grown and the impacts on food security, health and displacement intensified, underscoring the need for more robust and adaptive response strategies.

Mozambique

In 2015/2016, Mozambique experienced a complex situation of both drought and flooding. SADC reported that the regional drought slightly eased in January 2016, with some areas receiving well above normal rainfall, in some cases over twice the normal amount, resulting in flooding in northern Mozambique *(1)*. The El Niño-induced flooding damaged aquaculture farms, leading to significant economic losses for farmers and reduced fish supplies for local markets. It also contaminated water sources, increasing cases of waterborne diseases among coastal communities *(11)*.

Despite these challenges, the capacity to respond to the drought-impacted population in Mozambique during 2015/2016 was low, with only 20% of those in need receiving assistance by 2016 *(19)*. Key lessons from this response highlighted the need to build logistics capacity to facilitate timely aid distribution and strengthen community awareness and preparedness for drought scenarios *(32)*.

However, some positive outcomes were observed. The implementation of concerted programming—focusing on flood and drought mitigation, climate information services and disaster management activities through village savings and loans associations and farmer field and business schools—facilitated recovery from shocks, increasing from 46% to 82% among project participants *(37)*. The use of conservation agricultural techniques resulted in better drought coping capacity and a shortening of the hunger season *(12)*.

Moving to the 2023/2024 period, Mozambique faced several concurrent shocks impacting the drought response, including drought, conflicts, cyclones and cholera outbreaks *(43, 49)*. Similar to the 2015/2016 period, flooding remained a significant issue. In March 2024, torrential rains caused by Tropical Storm Filipo affected more than 149 000 people in the provinces of Maputo, Sofala, Inhambane and Gaza *(21, 28)*.

The multiple concurrent crises suggested a more complex humanitarian situation in 2023/2024 compared to 2015/2016. The compounding effects of drought, floods, conflicts and health crises presented significant challenges for humanitarian efforts and affected populations.

In both periods, Mozambique's experience underscores the need for adaptive and multifaceted response strategies that can address the simultaneous occurrence of drought and flooding, as well as other concurrent crises. The positive outcomes from community-based interventions and conservation agriculture techniques in 2015/2016 suggest that such approaches could be valuable in building resilience to climate shocks in future responses.

In Mozambique, the capacity to respond to the drought-impacted population during the 2015/2016 response was low, with only 20% of those in need of assistance receiving it by 2016 *(27)*.

Key lessons from this response in Mozambique highlighted the need to build the capacity of logistics to facilitate the timely distribution of aid and on strengthening community awareness and preparedness for drought scenarios *(39)*. Additionally, the implementation of concerted programming—focusing on flood and drought mitigation, climate information services and disaster management activities implemented through village savings and loans associations and farmer field and business schools—facilitated the recovery from shocks from 46% to 82% *(42)*.

During the 2023/2024 drought response, several concurrent shocks impacted the drought response. This included drought, conflicts, cyclone and cholera *(48, 52)*.

Namibia

Comparing the El Niño-related responses in Namibia between 2015/2016 and 2023/2024 reveals both similarities and differences in the country's approach to managing floods and droughts.

In 2015/2016, Namibia experienced a severe drought that affected approximately 370 000 people, with the government allocating about N$ 350 million (US$ 22.5 million) for various interventions. The response primarily focused on immediate relief efforts, including food assistance and water provision to affected communities. A key lesson from the 2015/2016 drought response was the need to prioritize water infrastructure and technology to manage scarce resources during droughts *(39)*.

In contrast, the 2023/2024 response reflects a more comprehensive and forward-looking approach. While Namibia continues to grapple with drought conditions, the country has also had to contend with localized flooding, demonstrating the increasing variability of climate impacts. The current response involves a wider range of actors and more diverse interventions. For instance, WFP has implemented a commodity voucher programme reaching over 26 000 people in drought-affected regions such as Kunene and Ohangwena. This programme represents a shift towards more flexible assistance modalities compared to the primarily in-kind food aid distributed in 2015/2016.

Furthermore, the 2023/2024 response shows a greater emphasis on strengthening long-term resilience and food systems. WFP's efforts to support school feeding programmes and enhance smallholder farmer production capacity indicate a focus on sustainable solutions rather than just emergency relief. The planned transition of feeding programmes to cash-based transfers also suggests a more sophisticated approach to aid delivery.

Additionally, the involvement of international funding mechanisms such as CERF points to improved coordination with global humanitarian systems compared to the more nationally focused response in 2015/2016.

Both periods highlight Namibia's vulnerability to climate shocks, but the 2023/2024 response demonstrates an evolution in disaster management strategies, with a greater emphasis on building resilience, diversifying assistance modalities and integrating long-term development goals into humanitarian responses. In 2024, 1.26 million people faced food insecurity *(29)*.

Zambia

The El Niño events had significant impact on Zambia, primarily through severe drought conditions that affected multiple sectors. During the 2015/2016 drought response, a key lesson was the need for enhanced forecasting tools and early warning systems to guide preparedness and response during the drought *(39)*.

The 2015-2016 El Niño food insecurity emerged as a major concern, with an estimated 975 738 people projected to be food insecure at the peak of the 2016/2017 lean season. Agricultural production suffered with maize output in 2016 estimated at 2.87 million tonnes, approximately 10% lower than the previous year due to drought conditions *(53)*. The lack of pasture and water sources resulted in livestock losses in drought-affected areas.

Additionally, the drought conditions exacerbated food insecurity and malnutrition, particularly among children under 5 years old *(53)*. In response to these challenges, the government and humanitarian partners implemented food assistance programmes and other interventions to address the crisis and mitigate its effects on the population.

While the 2015/2016 El Niño event in Zambia was primarily characterized by drought, some areas of the

country did experience localized flooding, which had health implications. In early 2016, parts of Zambia, particularly in the northern and eastern regions, experienced heavy rains and flooding. These floods led to increased risks of waterborne diseases such as cholera and typhoid as well as vector-borne diseases such as malaria due to increased mosquito breeding sites. The flooding damaged water and sanitation infrastructure in some areas, contaminating water sources and increasing the risk of diarrheal diseases. This situation created a paradoxical health challenge where some regions were dealing with drought-related health issues while others faced flood-related health risks.

Health facilities in flood-affected areas faced operational challenges, including damage to infrastructure and difficulties in accessing remote communities. The combination of flood and drought impacts in different parts of the country strained Zambia's health system, requiring a flexible and varied response to address the diverse health needs across the country. The government and health partners responded by strengthening disease surveillance, providing emergency health kits to affected areas and implementing water treatment and vector control measures in flood-prone regions.

The 2023-2024 El Niño event in Zambia resulted in a complex pattern of both drought and flooding, with significant health implications. From the 2023/2024 drought response, the loss of half of the 2.2 million hectares of maize led to one of the highest malnutrition rates globally with over 50% of households unable to access nutritious food *(30, 48)*. Over six million people were in need of humanitarian assistance by 2024 *(30)*.

These extreme weather events had substantial health impacts on affected populations. In drought-affected areas, water scarcity led to an increased risk of waterborne diseases as people resorted to using unsafe water sources. The use of contaminated water sources raised concerns about potential outbreaks of diseases such as cholera, diarrhoea and dysentery.

In flooded areas, the health risks were equally severe. Stagnant floodwaters created breeding grounds for mosquitoes, potentially leading to an increase in malaria cases. The floods also caused damage to sanitation infrastructure, leading to the contamination of water sources and increasing the risk of waterborne diseases.

The combination of drought and flooding exacerbated food insecurity which, in turn, had implications for nutrition and overall health. Between October 2023 and March 2024, about 2.04 million people were projected to face IPC Phase 3 (Crisis) or worse food insecurity levels *(16)*, potentially leading to increased malnutrition rates, especially among vulnerable groups such as children and pregnant women.

Furthermore, the extreme weather events strained Zambia's health system. Health facilities in affected areas faced operational challenges, including damage to infrastructure and difficulties in accessing remote communities. This situation was compounded by an ongoing cholera outbreak, with 22 337 confirmed cases and 721 related deaths reported as of 31 March 2024 due to lack of WASH, cultural practices and health system weaknesses *(54)*.

The Zambia Red Cross Society implemented early actions in anticipation of floods in some areas, which included health-related interventions such as the distribution of insecticide-treated nets, hygiene kits and health education messages. These actions helped mitigate some of the health impacts on affected communities *(55)*.

The dual challenge of drought and flooding, and their subsequent health impacts, highlighted the need for comprehensive and flexible health preparedness and response strategies in Zambia to address the complex consequences of El Niño events.

Zimbabwe

The 2015/2016 drought in Zimbabwe was caused by 75% less rainfall in the country and left 30% of the population at risk for food insecurity *(56)*. The government appeal requested US$ 1.5 billion in humanitarian assistance.

In 2026, a PEPFAR–WFP programme in Zimbabwe via USAID in 2016 aimed to mitigate the impacts of the drought by providing specialized nutrition support and food rations to the most at-risk, including vulnerable children and PLHIV *(50)*. The programme had many successes, including that it was timely and well aligned with the priorities of the government and mobilized CHWs to improve health-seeking behaviour and link communities with the appropriate care. This resulted in increased visits to health facilities and improved adherence to ART due to nutritional support.

The programme was able to engage a high number of malnourished PLHIV on ART and found that social and behavioural communications facilitated nutrition education and diversifying diets with local foods. However, challenges included poor data capturing, insufficient nutrition from sharing of household rations and the use of sex work as a coping strategy. Additionally, the integration of HIV and nutrition in the response faced challenges such as stigma, a mismatch between three-month ART supply and monthly nutritional assessments and a lack of storage space at facilities at clinics for nutritional products.

Aside from the PEPFAR–WFP programme, the need to mobilize resources and implement food security programmes with high coordination of government and nongovernmental actors was an important lesson from the response *(39)*.

From the 2023/2024 response in Zimbabwe, humanitarian assistance was needed for 2.7 million people *(30)*. Poor harvests resulted in 680 000 metric tons deficit of cereals *(48)* and negative coping mechanisms such as reducing the number of meals per day and decreased spending on health *(30)*. The health system was further strained by an ongoing cholera outbreak *(30)*.

Some important lessons emerged from the 2023/2024 drought response from the Zvandiri programme on the importance of integrating HIV care and the prevention of GBV during the drought response *(3)*. This programme provided community-based support for children and adolescents living with HIV and educated nurses on the determinants of ART defaulting related to drought. Additionally, using water collection points as a platform in communities, programme staff educated community members on GBV and HIV at water collection points.

Key lessons included the importance of prioritizing community and health worker engagements to ensure systems are adaptable to promote continuity of care and ART supply during drought. It identified a need for greater collaboration between health and environmental sectors, development of drought-resistant health care infrastructure and enhanced training for health care providers to manage both HIV care and emergency drought responses effectively.

Further lessons came from a study in Zimbabwe that examined the effects of the drought on rural school children, most of whom were child-headed households. They identified disruptions in education due to the inability to pay for school fees, the need to search for water or alternative income generating activities, deterioration of physical and mental health and increased vulnerabilities to sexual assault, abuse, child labour and trafficking. The authors recommend targeted strategies for child-headed families that include financial assistance, psychological support and access to food and health care. Additionally, they recommended flexibilities in school programmes and resources to ensure continuation of learning during drought *(57)*.

Annex 2

Lessons learned

1 *The 2023/2024 El Niño response showed improved preparedness*, with SADC developing a phased plan for El Niño preparedness and response. This included partnering with FEWS NET to issue bulletins on El Niño risks, demonstrating an improved approach to risk communication and early warning. However, the response capacity remained insufficient, emphasizing the need for wider dissemination of early warnings and agricultural advisories.

2 *Regional coordination improved* through the creation of RIASCO under OCHA, which strengthened the region's preparedness and coordination infrastructure. This high-level forum addressed operational and strategic issues related to humanitarian assistance, helping countries identify gaps and escalate responses as needed.

3 *Climate forecasting improvements were noted*, but challenges persisted in translating this information into actionable local data. The 2015/2016 response revealed a need for stronger local governance and better translation of global weather forecasts into local information, a lesson that was partially addressed in 2023/2024 but still requires further improvement.

4 *The 2015/2016 response highlighted the need for increased participation of high-risk groups* in emergency planning, including pregnant women, children, adolescents, older people, people with disabilities and PLHIV. However, this lesson did not fully translate into the 2023/2024 response, with participants noting continued gaps in addressing the unique needs of vulnerable populations. Youth participants noted that their involvement often came too late in the programme design process. A need for community-based and community-led engagement was identified.

5 *Multisectoral collaboration improved*, particularly during emergencies. For instance, in Mozambique, the MoH coordinated a drought response that included GBV prevention, HIV care and SRH services in coordination with education, social protection and weather management sectors. However, verticalization of responses at the national level sometimes hindered collaboration.

6 *HIV integration into drought responses faced persistent challenges*. Many participants reported a lack of guidance, resources and prioritization of HIV in humanitarian settings.

7 *Community engagement showed improvement* but required further strengthening. Successful examples included community-led initiatives in Malawi using WhatsApp groups to identify, fundraise and donate supplies to drought-impacted communities. . A need for community-based and community-led engagement was identified.

8 *Data management remained a significant challenge*. Participants reported difficulties in obtaining systematic data to understand drought impacts, with data often being mandate specific and not easily shareable between agencies. This hindered evidence-based decision-making and coordinated responses especially related to vulnerable populations, migration and child protection.

9 *The PEPFAR–WFP collaboration in 2015/2016 provided valuable lessons* for integrating HIV and nutrition services. This partnership improved prioritization of HIV in the response and strengthened linkages between nutrition and HIV policies. However, integrating nutritional assessments at clinics increased workload for health care workers.

10 *Cash-based transfers evolved between the two periods*, with FAO prioritizing unconditional cash and cash-plus-seeds programmes in 2023/2024. However, these were often not systematically integrated into national social protection systems, leading to fragmented efforts.

11 *Supply chain challenges persisted*, particularly for smaller commodities. The 2015/2016 response revealed difficulties in aligning food distribution for PLHIV with existing networks, especially in health care clinics lacking food procurement systems.

12 *Youth engagement improved but lacked sustainability*. In Malawi, innovative tools like card games were developed to raise HIV awareness, but youth reported that their input was often not incorporated into long-term planning and programming.

13 *GBV prevention was prioritized more in 2023/2024* compared to 2015/2016 with examples such as CHWs in Zambia being trained as GBV monitors. However, challenges remained in strengthening reporting and referral structures particularly in communities where GBV was exacerbated during the drought.

14 *Assistance for both refugees and IDPs should prioritize sustainable preparedness-focused approaches* that foster self-sufficiency rather than depending exclusively on reactive measures.

Annex 3

Recommendations

1. **Continue to advocate for the integration of HIV/SRHR in the emergency preparedness and response agenda.**

   UN agencies and donors:

   - Enhance multisectoral coordination by integrating HIV into humanitarian clusters.
   - Strengthen disaggregated data collection and integration of HIV in humanitarian planning and responses from sub-national to national levels. This includes strengthened planning and use before, during and after an emergency within the capacities of data management systems.
   - Support shared data platforms and technologies for real-time information sharing.
   - Ensure sustainable, flexible funding for HIV services in emergency settings.
   - Support inclusion of vulnerable PLHIV in cash-based social protection schemes.
   - Fund research on climate impact on HIV outcomes and multisectoral programming.
   - Improve technical guidance documents on HIV and SRH to ensure they can be implemented during emergencies (e.g. update the IASC Guidelines for Addressing HIV in Humanitarian Settings, 2010.)
   - Disseminate research findings related to HIV and SRH integration to facilitate advocacy for all partners in the form of briefs and policy tools.
   - Invest in community-based, decentralized HIV service outreach.

   Governments:

   - Mainstream HIV into climate preparedness and emergency response plans.
   - Improve cross-ministerial coordination for unified HIV integration.
   - Invest in community-based, decentralized HIV service outreach.
   - Address stigma through awareness campaigns to ensure equitable access.

   Civil society and communities:

   - Increase local participation in planning and implementing HIV services in preparation for and during climate emergencies.
   - Ensure PLHIV involvement in climate emergency response advocacy, planning and implementation.
   - Leverage community structures for peer support and monitoring of ART adherence and service delivery.

2. **Improved coordination regionally, across partners and locally**

   UN agencies and donors:

   - Support RIASCO to prioritize HIV and SRHR integration through coordinated mechanisms for sharing information, tools and documents.
   - Facilitate regular cross-sectoral coordination meetings and information sharing on HIV/SRH integration in emergencies, especially as it relates to climate change.

- Develop and implement regional climate emergency response information management systems.
- Establish sector-specific working groups for technical staff that include establishing clear roles and communication channels among all stakeholders to avoid duplication of efforts and to ensure resource optimization.
- Encourage and fund coordinated multi-agency proposals for HIV and SRH integration.
- Strengthen institutional capacities for coordinating early warning systems, vulnerability assessments and national response plans to improve targeting of the most vulnerable.

Governments:

- Establish clear roles and communication channels among stakeholders.
- Fund dedicated coordination positions and training programmes in key government agencies.
- Strengthen national level and district coordination mechanisms with multisector representation.
- Implement a cluster approach for drought response.
- Develop and update national and district drought response stakeholder maps.

Civil society/communities:

- Actively participate in coordination mechanisms at all levels.
- Establish networks among CSOs to coordinate response efforts.
- Develop community-level coordination structures where information can be shared bidirectionally with district and national coordinating bodies to ensure the views and needs of the communities are considered.
- Implement joint planning and resource-sharing initiatives.
- Conduct regular coordination capacity assessments and address gaps.
- Ensure sustainable financing and infrastructure support for integrating HIV and SRH into a multisectoral drought response.

The revised version below focuses on sustainable financing and infrastructure support for integrating HIV and SRH into a multisectoral drought response with UN agencies and donors combined.

3. Invest in preparedness and anticipatory action

UN agencies and donors:

- Strengthen and fund regional early warning systems and timely information dissemination.
- Support development of national and community climate emergency preparedness plans.
- Develop multi-hazard and multisectoral preparedness plans that address all climate impacts,

including drought, cyclone and flood scenarios, recognizing the complex impacts of El Niño events in the region.

- Facilitate regional preparedness exercises and simulations.
- Develop standardized, cross-sector preparedness tools and checklists.
- Establish and fund regional climate emergency preparedness mechanisms for rapid response.
- Support pre-positioning of essential supplies in climate emergency-prone areas.
- Fund capacity-building for government officials and community leaders.
- Invest in early warning technologies and systems.
- Integrate HIV and SRHR services in anticipatory action approaches.
- Scale up of early warning systems as a matter of urgency, combining emergency preparedness with medium-term interventions to meet the needs of the most vulnerable and mitigate the impact of drought and future shocks on their lives *(5)*.

Governments:

- Establish clear triggers for climate emergencies and response activation.
- Conduct regular simulation exercises to test preparedness plans.
- Develop sector-specific climate emergency preparedness guidelines.
- Create emergency stockpiles of essential supplies (e.g. ART, nutritional supplements).
- Implement climate emergency resistant infrastructure projects.

Civil society/communities:

- Conduct community-level risk assessments and develop local preparedness plans.
- Establish community early warning systems linked to national systems.
- Organize regular community drills and preparedness exercises.
- Develop community resource maps identifying vulnerable groups and available resources and the integration of traditional knowledge.
- Implement household-level preparedness measures.

4. **Improve community engagement on HIV and SRH(R) before, during and after drought response, in emergency preparedness, response and recovery**

UN agencies and donors:

- Establish regional community engagement frameworks and platforms for sharing best practices.
- Support co-development of community-based early warning systems, integrating scientific and traditional knowledge.
- Nurture partnerships between international and local organizations to enhance community reach.
- Strengthen accountability frameworks with bidirectional feedback mechanisms.

- Prioritize sustainable funding for projects with strong community engagement components.
- Require detailed community engagement plans in grant proposals.
- Support capacity-building for local organizations in climate emergency preparedness and response.
- Fund research on innovative community engagement strategies in climate emergency contexts.
- Provide flexible funding for community-driven project adjustments.
- Support community-led monitoring on HIV in emergency settings.

Governments:

- Invest in community capacity and proactive outreach programmes.
- Establish diverse community climate emergency committees including key populations.
- Incorporate community feedback into national climate emergency response plans.
- Mandate community participation in all stages of climate emergency response.
- Invest in local communication channels for climate emergency-related information.
- Consider social contracting mechanisms.

Civil society/communities:

- Establish community-led monitoring and accountability mechanisms.
- Develop community action plans for drought preparedness and response.
- Create local knowledge hubs for traditional coping strategies.
- Implement peer education programmes on drought resilience.
- Organize regular community forums on drought impacts and responses.

5. Engagement of key and vulnerable populations, enhance inclusion and protection of PLHIV, key populations and vulnerable populations during drought responses

UN agencies and donors:

- Develop targeted strategies for key and vulnerable populations in HIV-related emergency planning.
- Establish, maintain and support community-led associations/organizations.
- Improve data collection and monitoring on key and vulnerable populations needs during droughts.
- Support establishment of safe spaces and protection centres for marginalized groups.
- Fund stigma reduction campaigns and human rights initiatives for key populations.
- Provide dedicated funding for organizations supporting LGBTQ+ individuals, sex workers and other vulnerable groups.
- Ensure resources for PrEP, PEP and harm reduction services in emergency-affected areas.
- Support inclusive programming that combats stigma against key and vulnerable populations.

Governments:

- Include key and vulnerable populations in social protection schemes, providing targeted assistance.

- Strengthen legal protections against discrimination in humanitarian settings.
- Facilitate community-based health services and mobile clinics for uninterrupted HIV care.

Civil society and communities:

- Establish or work with community-led associations/organizations.
- Engage key and vulnerable populations in emergency planning and decision-making.
- Promote peer-led HIV services tailored to key populations.
- Develop targeted outreach programmes for safe access to health and social services.

6. **Ensure sustainable financing and infrastructure support for integrating HIV and SRH into a multisectoral drought response**

UN agencies and donors:

- Integrate need for HIV and SRH supply chains in drought-prone areas into planning.
- Provide multi-year, flexible funding for integrated HIV and SRH commodity procurement and distribution systems.
- Invest in climate-resilient storage facilities for HIV and SRH commodities in high-risk areas.
- Fund the development of digital supply chain management systems that integrate HIV, SRH and drought response.
- Support the implementation of last-mile distribution strategies for HIV and SRH commodities during droughts.
- Finance capacity-building for supply chain managers on integrating HIV, SRH and emergency response logistics.
- Invest in research on innovative, drought-resistant supply chain models for HIV and SRH commodities.
- Target support for PLHIV, ensuring they have continuous access to ART and other necessary health services during droughts and floods.

Governments:

- Allocate dedicated budget for maintaining and upgrading HIV and SRH supply chain infrastructure.
- Develop policies to ensure uninterrupted funding for HIV and SRH commodity procurement during climate emergencies for HIV, SRH and emergency response supplies.
- Ensure emergency funding mechanisms include the rapid mobilization of HIV and SRH commodities during crises.
- Develop public–private partnerships to enhance supply chain resilience for HIV and SRH commodities.

Civil society/communities:

- Advocate for increased funding for community-based/led distribution of HIV and SRH commodities.
- Implement community-led monitoring of HIV and SRH supply chains to identify and address gaps.
- Establish community storage and distribution points for essential HIV and SRH supplies.

- Develop local transportation networks to support last-mile delivery of HIV and SRH commodities during droughts.
- Train CHWs in supply chain management for HIV and SRH commodities.

7. Promote innovative models of care

UN agencies/donors:

- Support pilot projects testing new approaches to integrated resilience (e.g. combining HIV services with climate–smart agriculture, HIV and nutrition support).
- Fund the implementation and evaluation of multi-month ART dispensing programmes.
- Promote models of gender equality and women's empowerment in drought responses.

Governments:

- Implement policies supporting the provision of six months of ART supplies and mobile clinic services.
- Integrate HIV services with nutrition, WASH and livelihood initiatives.
- Adopt cost-effective strategies for women's empowerment in drought response plans.

Civil societies/communities:

- Implement community-based adaptation projects focusing on diversifying livelihoods.
- Support peer-led ART adherence monitoring and support programmes.
- Engage men and boys in dialogues and awareness raising for gender equity.

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