

The rapidly accelerating AIDS epidemic of the 90s have affected the levels, intensity and nature of vulnerability in southern Africa. The food price crisis of 2008 and the ongoing global financial crisis have further impacted the ability of households, communities, and national governments to achieve food security for large numbers of people in the region. Overlaying these dynamics, climate change is beginning to have an adverse impact, interacting with other drivers of vulnerability.

**HIV and hunger are entwined in several important ways in sub-Saharan Africa.** Not only does HIV co-exist with widespread food insecurity and economic inequality in time and space, it interacts with these conditions. HIV incidence rates are fuelled by food insecurity while subsequent AIDS-related morbidity and mortality, in turn, further exacerbate food insecurity. In addition, HIV and malnutrition interact negatively within the human body itself.

**Seasonality affects many of the structural drivers of HIV risk and vulnerability** – including income and gender inequalities, mobility, food insecurity and malnutrition. It affects midstream vulnerability of people living with HIV in terms of their nutritional status, access and adherence to antiretroviral therapy. And it affects downstream vulnerability of individuals and households to the myriad impacts of AIDS-related disease and premature mortality – often mediated through seasonal effects on agricultural systems.

### Aims

- We applied a “seasonal lens” to a decade of research on HIV, food and nutrition security – much of it undertaken by the RENEWAL network.
- We explore the potential of long wave processes of AIDS epidemics and climate change to amplify the adverse short-term effects of seasonality on food security.

### Research Questions

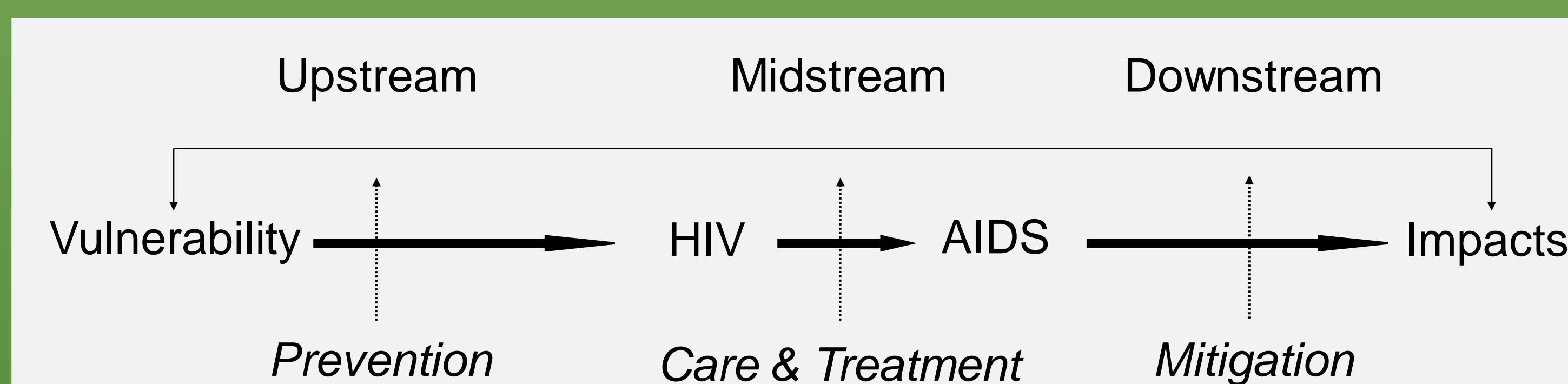
- Can seasonality in livelihood security affect people’s risk of being infected with HIV?
- Does it affect the ability of people living with HIV to access and adhere to treatment?
- Are there seasonal dimensions to the resilience of households in the face of AIDS impacts?
- To what extent, if at all, is such seasonality taken into account by agencies and governments seeking to combat both HIV and hunger in the region?
- How may a combined response to HIV and hunger be better adapted to such seasonal effects?

### Findings

In considering AIDS epidemics, we can consider several timescapes.

- Seasonality *per se* is short-wave, as it is annual;
- Hunger may be chronic, seasonal, or both;
- AIDS epidemics are multiple, long-wave phenomena; waves of infection and illness are followed by household, community and societal impacts that span generations;
- Overlaying or underpinning these timescapes are the long-wave dynamics of climate and environmental change.
- The seasonality of food security may also lead to periodic spikes in HIV-related vulnerability.

The HIV timeline showing core intervention strategies



Upstream of HIV, acute food insecurity is associated with:

- Unprotected transactional sex among poor women;
- Distress migration, which may enhance risk of HIV exposure;
- Increased adult undernutrition possibly compromising immunity;
- Maternal undernutrition, associated with higher risk of mother-to-child HIV transmission.

In midstream:

- Adults living with HIV require up to one third more energy
- Inadequate nutritional intake leads to more frequent and severe opportunistic infections;
- Malnourished individuals have much lower survival rates at the onset of antiretroviral therapy.

On the downstream side of the epidemic:

- Food insecure households suffer more severe and enduring livelihood impacts from concurrent health and economic shocks;
- A range of impacts over different time scales, many of which iterate back and cause heightened vulnerability of other household members to HIV infection.

### Conclusions

The interactions between HIV and AIDS and food insecurity and malnutrition require a more integrated analysis of food systems and the dynamics of food and nutrition insecurity.

Confluence of long-wave shocks, including the AIDS epidemic and climate change, compound and amplify the adverse effects of seasonality on disease incidence, food insecurity and malnutrition.

Responses:

- Sustained nutritional support for malnourished individuals living with HIV.
- AIDS-sensitive, seasonally appropriate social protection systems for affected households.
- Agriculture and health sectors need to capture synergies and work together.

**Spirals within spirals: Interactions between food insecurity, malnutrition and HIV infection**

