

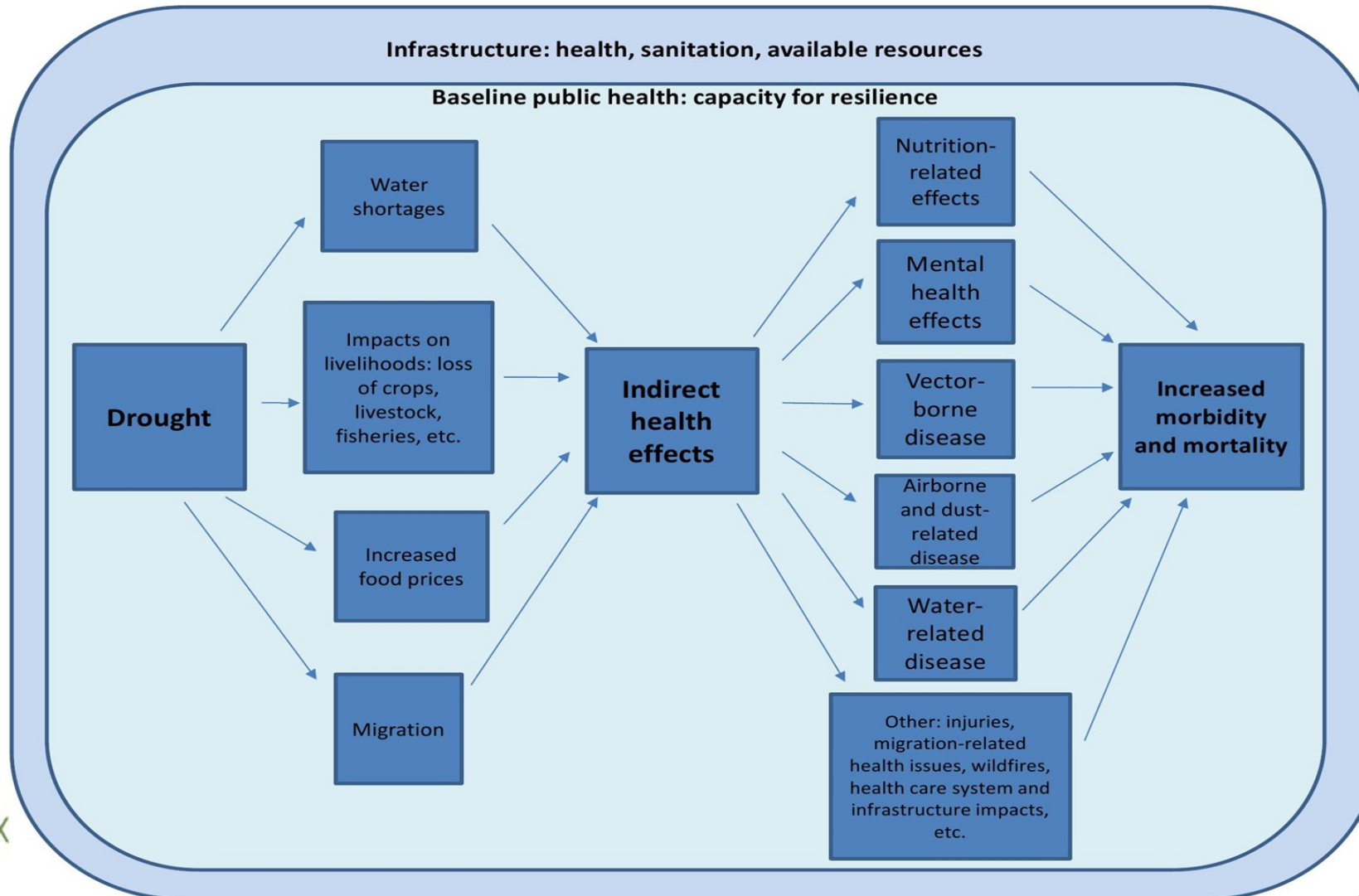
Economic, Social and demographic impacts of drought on treatment adherence among people living with HIV in rural South Africa

Kingsley Stephen Orievulu & Collins Iwuji

Background

- Many LMICs bear the brunt of the increasing catastrophic events linked to climate change, including rapidly recurrent droughts
 - Case studies in Southern Africa (2019 & 2020/21): **Floods in Zimbabwe, Mozambique and parts of Mpumalanga and KwaZulu-Natal in South Africa**
 - Outcome: **life & livelihood losses, economic disruption, power outages, decreased access to healthcare, etc**

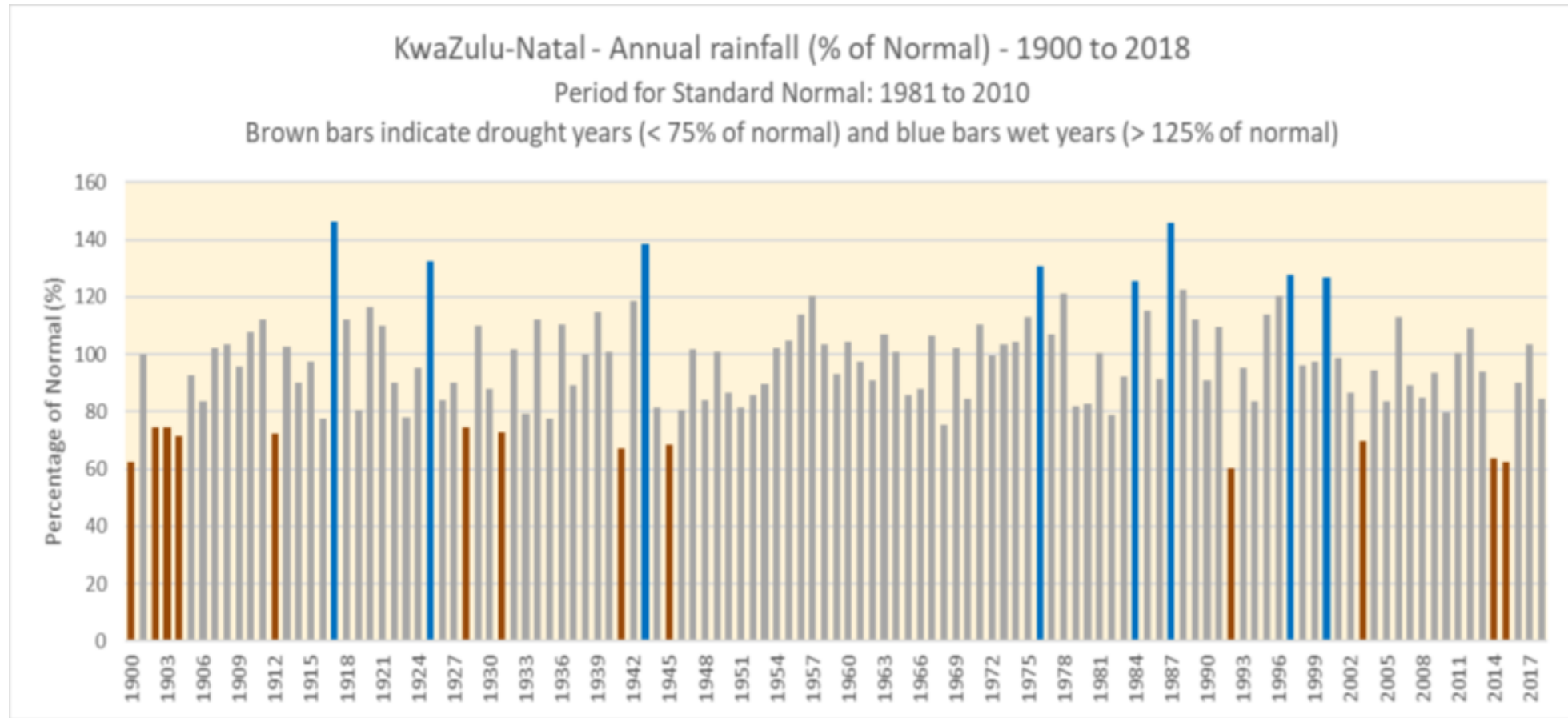
- Drought events challenge public health in many countries – mortality and morbidity, including mental illness and HIV-related outcomes



(Stanke et al., 2013)

- South Africa experienced one of the worst drought between 2014 & 2016
 - Highest HIV burden (>7.5 million PLHIV) – about 30% of global burden
 - Largest ART programme bolstered by the Universal Test & Treat (UTT) policy
 - High levels of poverty and inequality
- uMkhanyakude district, the 2nd largest district municipality in KZN, South Africa – also one of the poorest in South Africa.
 - >600,000 in population
 - Widespread unemployment (62% of adults without formal employment)
 - High HIV prevalence arguably linked to access to ART and improved survival
 - 19% among men aged 15-54 years; 40% among women (15-54) in 2018
 - HIV/AIDS, still the leading cause of mortality among people aged 25-64 years

- In 2015, uMkhanyakude was declared a drought emergency after months of insufficient – below average – rainfall



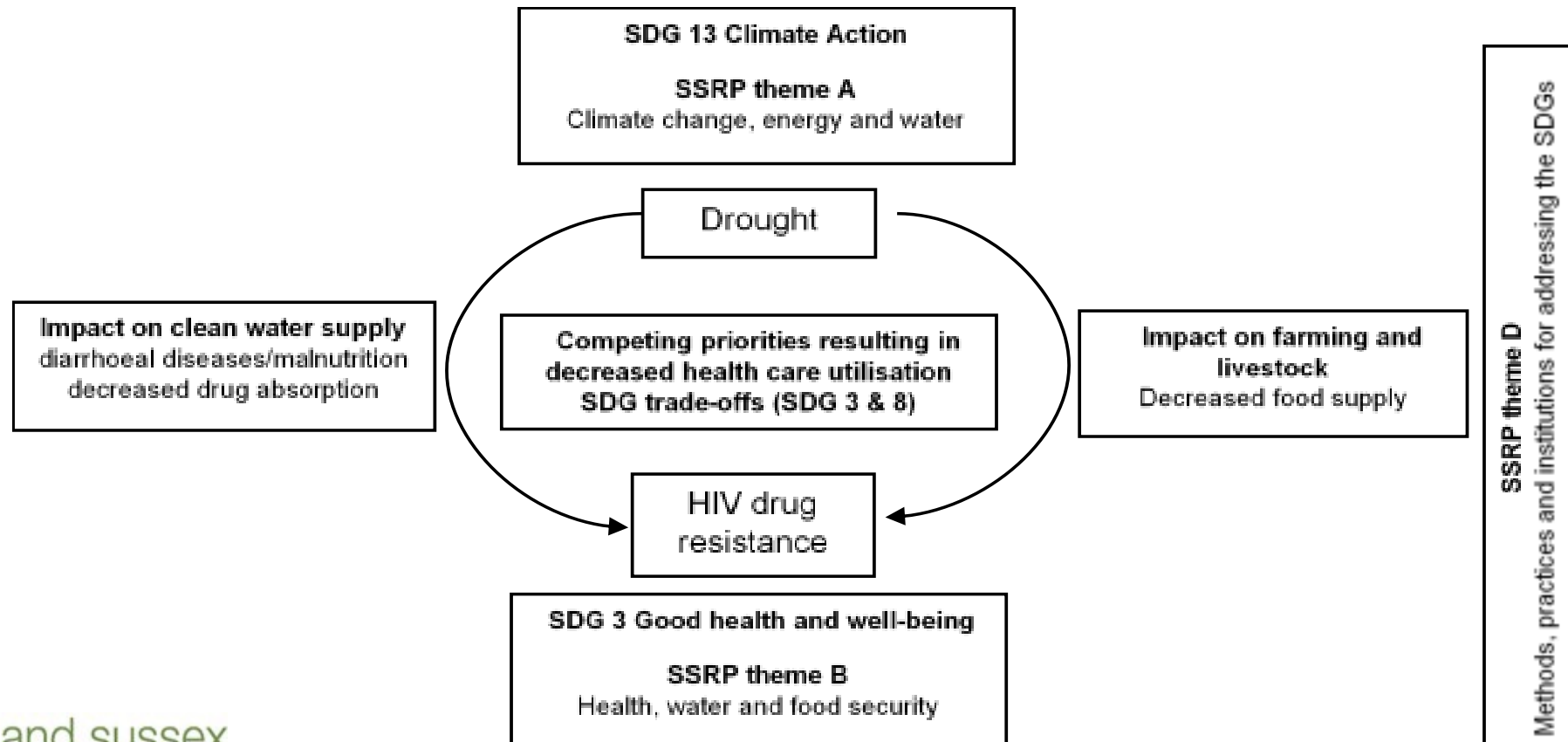
Standard Precipitation Index for KwaZulu-Natal, 1900- 2018 (Source: Climate data archive of the South African Weather Service).

Research Question(s)

- In looking at droughts impacts on PLHIV in uMkhanyakude district, especially relative to barriers to optimal treatment care, we explored the following questions:
 - What are the economic, social and demographic impacts of drought on PLHIV in rural South Africa?
 - How has drought contributed towards sub-optimal HIV treatment **adherence** among PLHIV in uMkhanyakude district in South Africa?
- We assumed:
 - Drought impacts on economic activities, income, food security, and access to clean water heightens local vulnerabilities and possibly fuel reactions like **migration** – all factors inimical to sustained treatment care for PLHIV

Hypothesis

- Drought increases vulnerability in rural KZN resulting in PLHIV making difficult trade-offs between healthcare utilization and pursuit of economic sustenance, thereby creating conditions for increased HIV drug resistance



Methods and Data Collection

- Qualitative research approach: *In-depth Interviews (Face-to-face IDIs & TIDIs)*
- Fieldwork and data collection: *Aug 2019 – October 2020*
- 30 Participants: *27 PLHIV (IC and OC); 3 Public Officials in the Dept of Agriculture*
 - *PLHIV participants: 15 Females, 12 Males*
 - *In-care participants (n=16); Out-of-care participants (n= 11)*
 - *Interviews conducted in IsiZulu – the local language*
- Interview focus: *Experiences linked to the 2015 drought event in the locality*
- Analysis: *Thematic analysis & Systems diagram*

Results

- Economic impacts:
 - Disrupted incomes, livelihoods & food systems
- Social impacts:
 - Insufficient access to water, Hygiene & sanitation-related challenges
- Demographic impacts:
 - Expected out-migration (temporary and permanent migration)
 - Attitudes to mobility among participants
- Government-led Interventions/responses

Economic impacts

- Disruptions to *income, livelihoods and food security sources*, were reported as the most insidious economic shock from the drought
 - *Loss/death of Livestock (cattle, goats)*
 - *Loss of agricultural production & failed harvests*
 - *Consequent high cost of food*
 - *Additional expenses to purchase feed and water for livestock*
 - *Loss of job opportunities reliant on water access and affordability*
 - *Selling of assets to mitigate drought impacts*



Government officials also reported disruptions in their activities of providing value-addition to farmers involved in processing their crops

Social impacts: *Water insecurity and hygiene*

- Access to (sufficient) water during the drought was a major challenge to most of the participants, mostly living in the outlying villages
 - *Broken taps were rampant experiences*
 - *Waking up as early as 5am to go in search of water*
 - *Walking long distances to dams, rivers or boreholes in search of water for household chores and possibly drinking for those who couldn't afford to buy portable water.*
 - *Spending extra on water purchase for drinking*
 - *Sharing dams and rivers with livestock due to insufficient supply of water in the taps or by water tankers.*
 - *Risky water purification approaches*



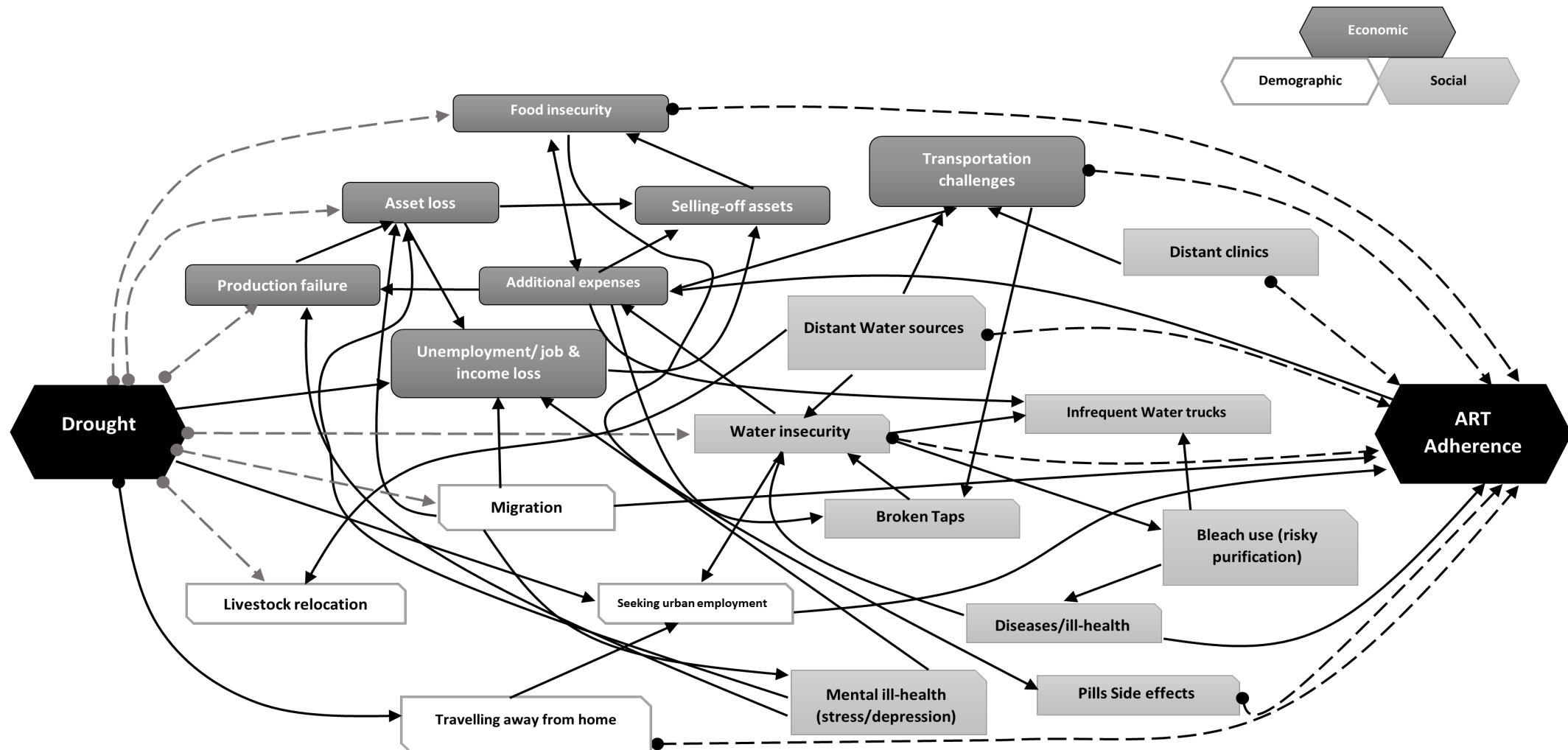
Demographic impact: *Human Mobility*

- Against expectation, many people noted that they did not and would not move out of the area as a result of the drought
 - *Their reasons include: fear & uncertainty about the destination; reception; possible drought; and affinity to their home and family grave site*
- There were people who reported knowing individuals and families who relocated to other locations to mitigate the drought impacts:
 - *They relocated their cattle; moved away to study or work; and some were keen on moving even though they could not relocate due to financial issues*

Drought mitigation interventions

- Dam scoping and new dams for livestock, borehole installations
- Extension support/capacity building for local farmers on livestock management and cropping/irrigation techniques to manage drought
- Compensation schemes for (livestock) farmers, and support to farmers to apply for compensation
- Inter-departmental engagement, information sharing and collaboration towards understanding drought – and other-related – challenges in the district municipality

Drought & HIV treatment Nexus



This systems diagram shows the interconnectivities between drought and treatment adherence as conceptualised from interviews conducted with study participants.

Implications of findings

- Disrupted income, livelihoods and food systems, exacerbate the physical and mental situation of individuals, especially PLHIV in or out of care
- Water insecurity leading to risky water purification approaches are detrimental to physical well-being – also known to inhibit optimal HIV treatment care
- Nuanced attitudes to mobility demonstrate attempts by people too show resilience despite the associated risks – including endangering their health
- An accumulation of interactive challenges from drought poses more dangers to PLHIV in and out of care, including the risk of failing treatment care and HIV drug resistance

Recommendations and conclusion

- Identify local drivers of vulnerabilities and information sharing gaps to improve planning and interventions
- Drought relief – cash support, borehole installations, food banks and consistent water truck presence in the communities – would lessen the competing priorities over the disposal of minimal resources between water purchase, transportation, feeding and attending to treatment
- Adopt a whole systems approach to improving public health in general such as ensuring water and food security. HIV treatment care do not generally factor-in effects such as those linked to drought-related water insecurity
- Interventions designed to suppress viral load counts should continue to target men since they are more likely to engage in circular migration due to drought and or the quest to improve their lives, and these men are the major drivers of new HIV infections among (local) women in the area

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Thank you for Listening!

