# Resilience dimension pathways associated with climate variability in Uganda : A perspective from ResilientAfrica Network

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# EA RILab Thematic Focus

- The Eastern Africa Resilience Innovation Lab (EA RILab) is one of the 4 RILabs under RAN. Working in tandem with key partners, the RILabs exist to identify and scale innovations that have the potential to build resilience of communities that are vulnerable to varying shocks/stresses
- Five partner Universities make up the EA RILab: Makerere University (host) & Gulu University-Uganda; University of Rwanda; University of Kinshasa-DRC; Muhimbili University of Health & Allied Sciences-Tanzania
- Two priority thematic areas for resilience programming have been identified for Eastern Africa

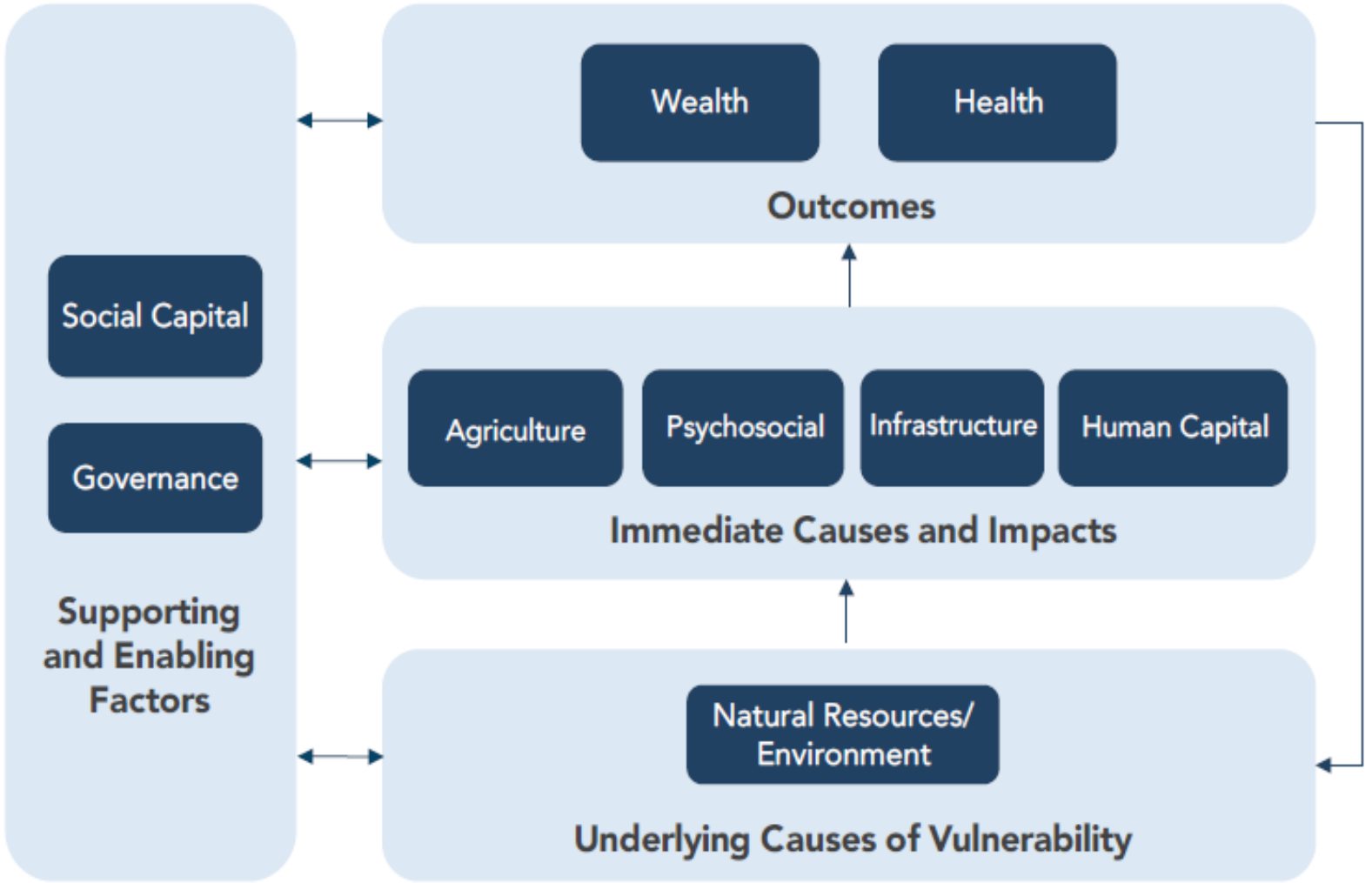
| | |
|---|---|
| Effects of climate variability | • Floods; Droughts; Disease epidemics; Landslides |
| Effects of acute and chronic conflict | • Gender Based Violence (GBV); Refugees; Slow pace of recovery after a conflict |

- These thematic areas were identified through literature review and stakeholder meetings. They were further validated through interviews with the target communities- i.e qualitative and quantitative surveys

# Context

- Disasters are increasing in frequency and depth; they are becoming more and more complex
- Some communities (&key populations) are disproportionately affected
- Disasters (due to complexity & disproportionality) often overwhelm traditional coping mechanisms, worsening the fragility of communities
- RAN has conducted extensive quantitative surveys on the key dimensions of resilience. This context specific information (including drivers of vulnerability and adaptive capacity of communities to shocks/stresses ) for Uganda is highlighted here to inform the development of transformative solutions and programing to bolster resilience of communities.

# Initial Qualitative resilience dimensions and theoretical framework: Uganda




- Through desk reviews and community consultations (FGDs, KIIs, DP), the EA RILab has developed a unified framework to understand the drivers of vulnerability and the aspirations (outcomes) for resilience building

# Methods

- A cross-sectional population-based survey conducted during Sept. 2015
- A total of 2,111 households out of 140 clusters were selected using 2014 Uganda Population and Housing Census (UBOS). Fifteen households were randomly selected from each Enumeration Area (EA). Sample sizes per district are shown in table across
- Analysis using STATA; Descriptive analyses were generated and Principle Component Analysis (PCA) was applied to construct dimension scales.
- Multiple linear regression and Structural Equation Models (SEM) were applied to measure the relationships between dimensions. Alpha of 5% was used to measure the statistical significance

| District | Stressor(s) | EAs | HH sample |
|---|---|---|---|
| Lamwo | Conflict | 17 | 253 |
| Bududa | Landslides | 36 | 544 |
| Amuria | Drought/floods | 36 | 544 |
| Hoima | Epidemics | 51 | 770 |

# Results: Unpacking the wealth resilience dimension

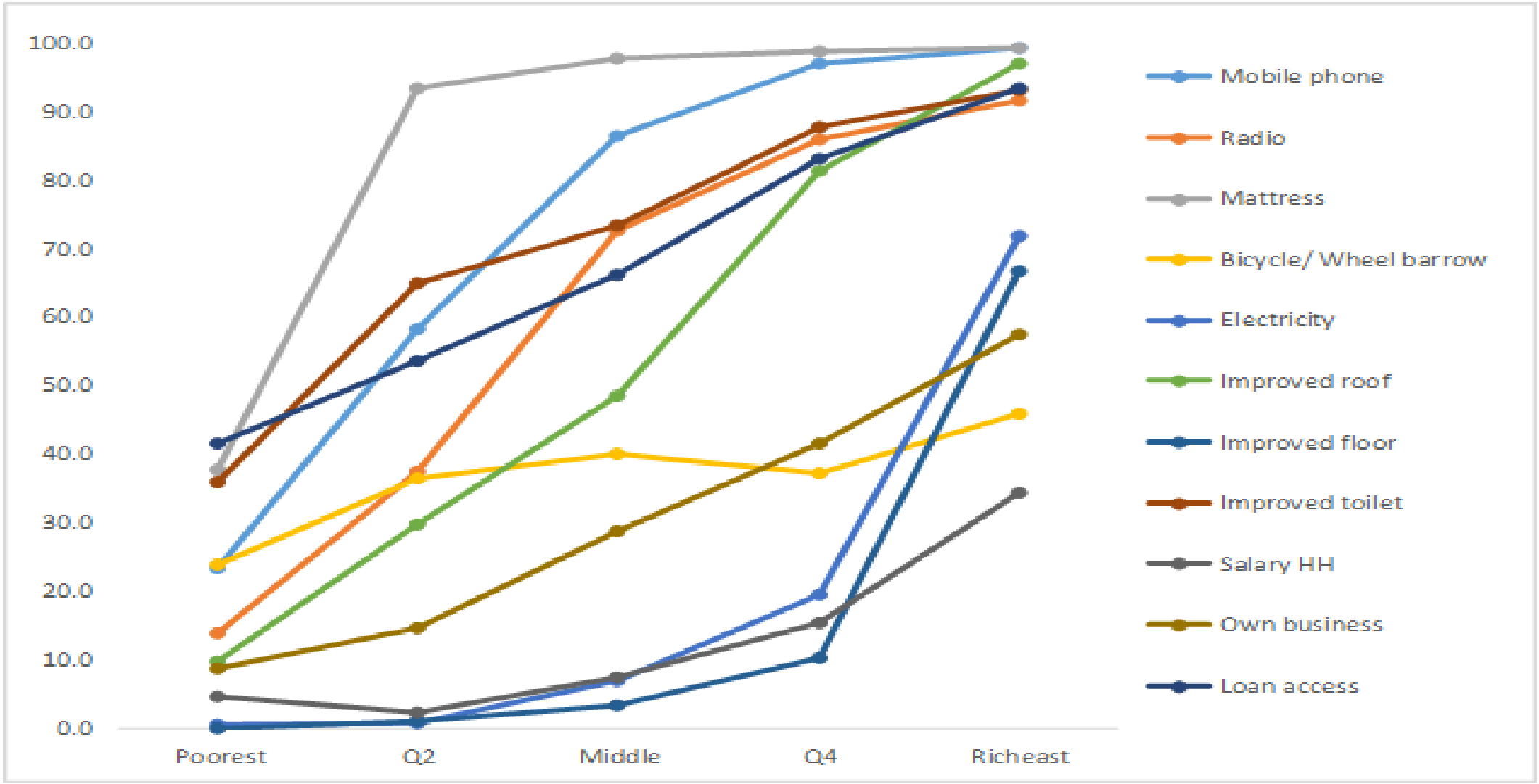
| | Rotated | | |
|---|---|---|---|
| **Indicators** | **Comp 1** | **Comp 2** | **Comp 3** |
| Mobile phone | 0.366 | | |
| Radio | 0.4768 | | |
| Mattress | 0.5431 | | |
| Improved toilet | 0.315 | | |
| Own business | 0.1808 | | |
| Electricity | | 0.4265 | |
| Improved floor | | 0.5706 | |
| Salary HH | | 0.5859 | |
| Bicycle | | | 0.7428 |
| Improved roof | | | -0.4801 |
| Loan access | | | 0.3302 |

***Chronbach's Alpha=0.692*** ***Variance 1= 26%***

- The wealth status of a household was described through *household assets, economic activities and nature of housing*
- Household assets (mobile phone, radio and mattress) load on component 1 (*and this may signify households that have some disposable income)*

# What constitutes Wealth in the surveyed communities?

**% of HHs with indicators by final wealth scale**



# Unpacking the Health resilience dimension

| | Rotated | | |
|---|---|---|---|
| Variable | Comp1 | Comp2 | Comp3 |
| **Concerns regarding access to health services** | | | |
| Distance to health facility (in 5km) | 0.4067 | | |
| Time to nearest health facility (within 45min) | 0.5157 | | |
| Long distance | 0.5546 | | |
| Transport means | 0.4744 | | |
| Poor quality services | | 0.6643 | |
| Range of services | | 0.303 | |
| Long waiting time | | | 0.5076 |
| Availability of medicine and supplies | | | 0.4399 |
| Convenience of opening hours | | | 0.4849 |

Factors that influence access to health services cluster under 3 principle components and these are related to:

- Physical access e.g distance and transport means
- Services offered
- Availability and convenience of services

***Chronbach's Alpha=0.761***
***Variance 1= 33.7%***

# Unpacking the agriculture resilience dimension

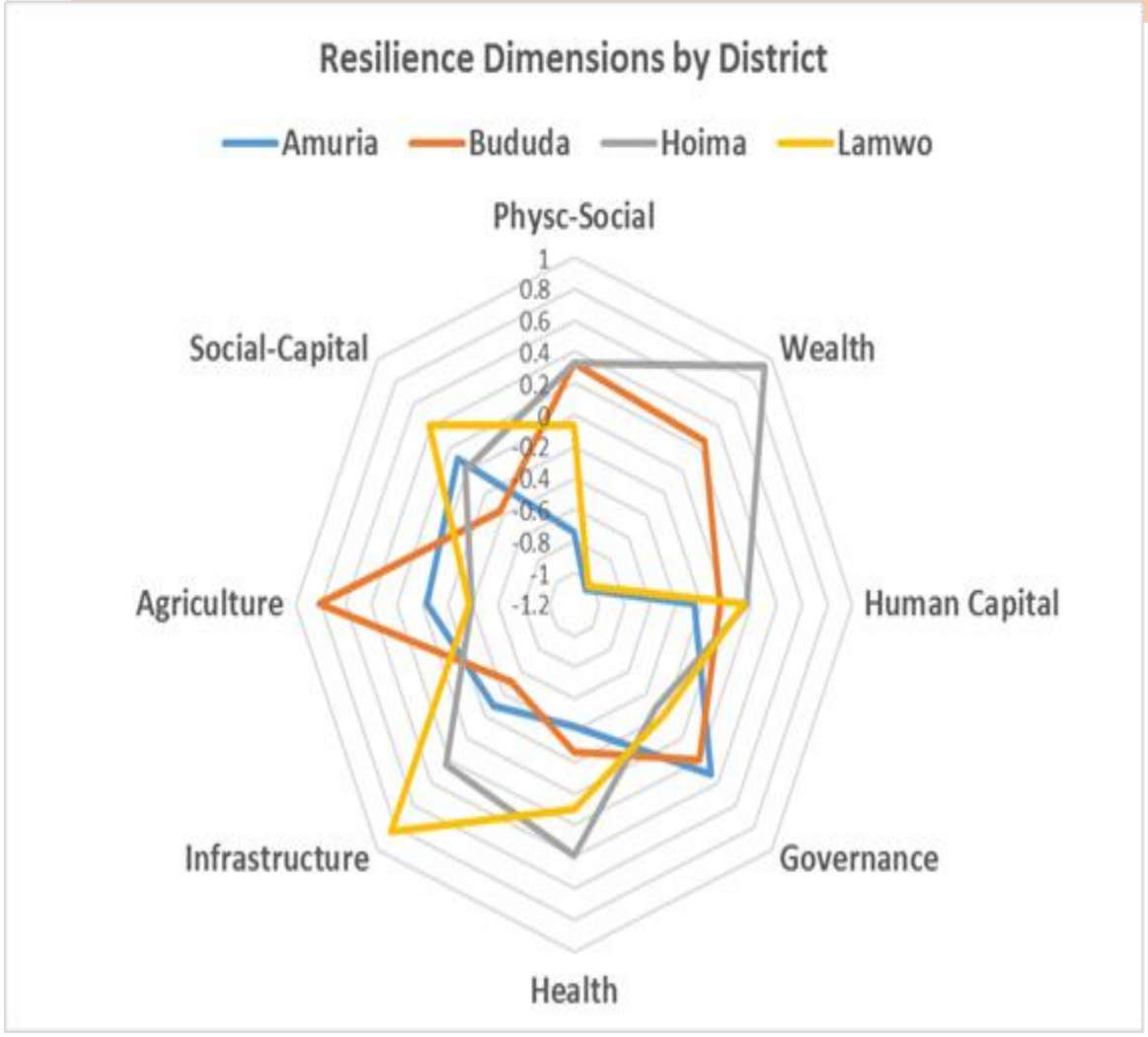
| | Rotated | |
|---|---|---|
| Variables | Component 1 | Component 2 |
| Livestock | 0.6371 | |
| Poultry | 0.6587 | |
| Grains & food crops | 0.3693 | |
| Use of fertilizers | | 0.5667 |
| Protect stored food | | 0.6193 |
| Receive extension services | | 0.5402 |

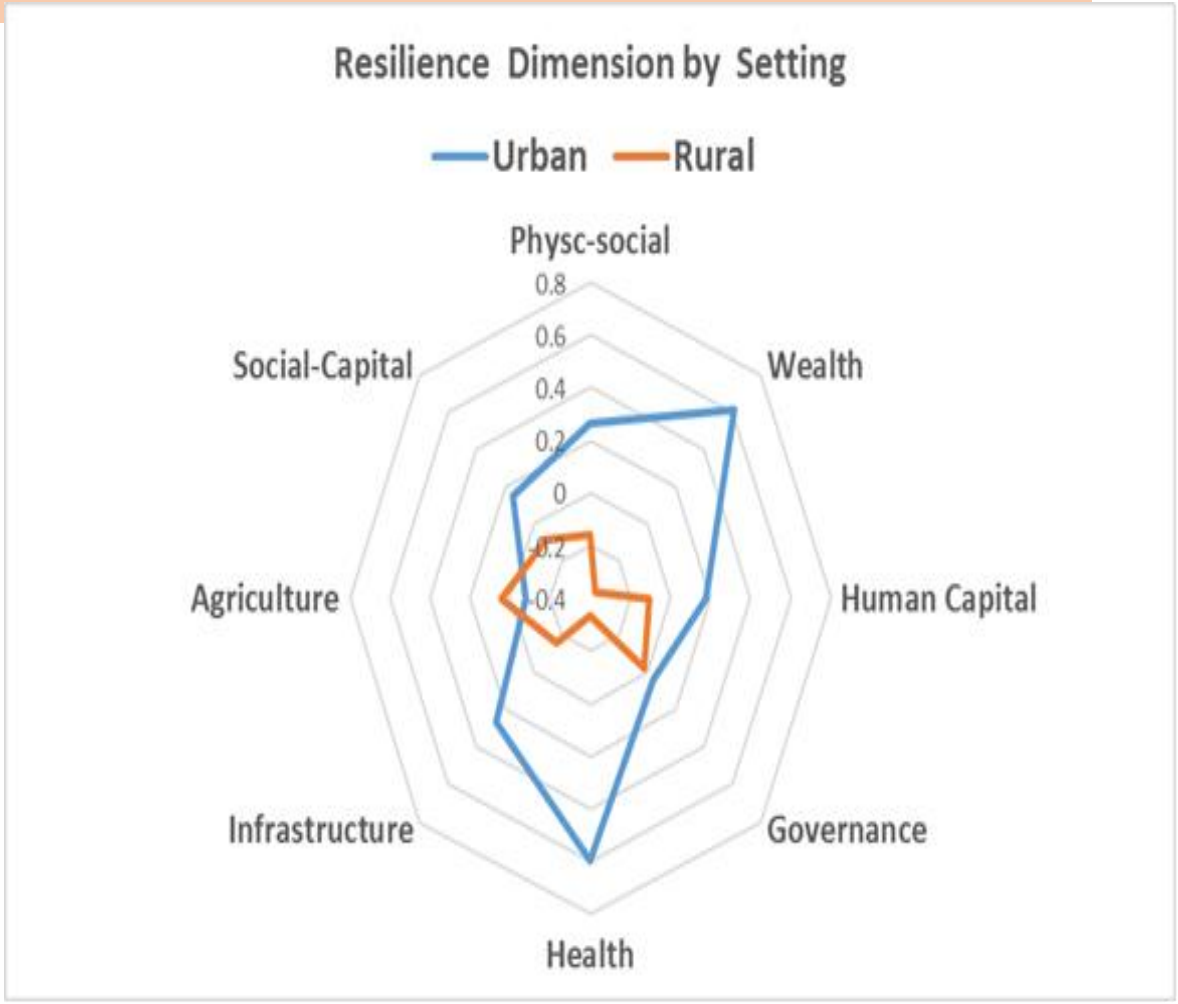
2 sub-dimensions emerged from the data

- Major HH agricultural activities (livestock, poultry & food crops)

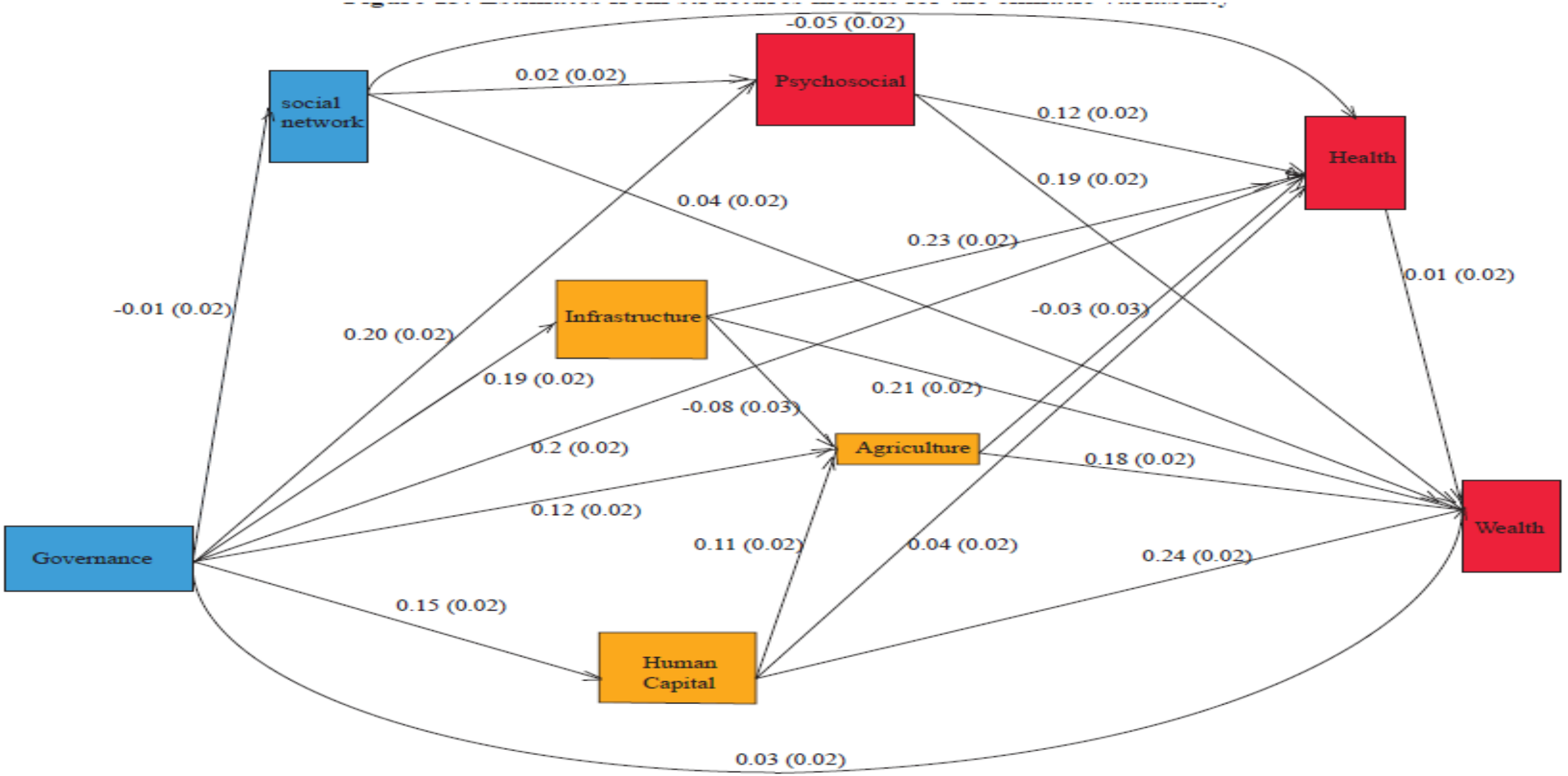
- Production associated factors: use of fertilizers, extension workers & protecting stored food from pests (PHL)

# Relationships between dimensions (by district & setting)



# Resilience Pathways: Relationships between dimensions



# Conclusion

- These pathways do not only give communities an alternative path to survive following a disaster but a route to  thrive

- There is a positive relationship between wealth and psychosocial wellbeing, agriculture, infrastructure, and human capital
- Although governance was negatively associated with the wealth dimension scale, the relationship was not statistically important.

# Thank You

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