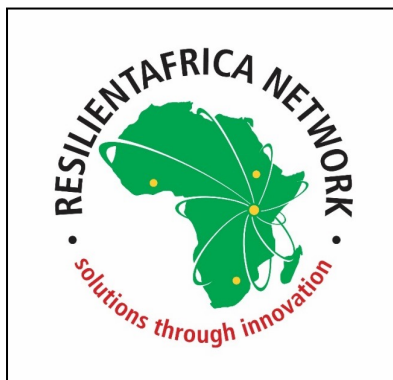# Fostering resilience of communities through innovations: The Resilient Africa Network (RAN) experience



Girl helping her father to take produce to the market

Dr. Roy William Mayega

Deputy Chief of Party, RAN

[www.ranlab.org](http://www.ranlab.org)

# Story….



Mr. Swaib Dragule

## Village Egg Bank in Egg Currency (VEBEC) Project



http://www.nestedsavings.org/village-egg-bank-project

# Background

- Despite sizeable humanitarian and development investments, the persistent complex challenges and recurrent adversity in vulnerable communities in LMICs denote a major a resilience gap

- To break these negative cycles requires learning from adaptive capacities of communities to develop new contextualized solutions that transcend business as usual

- Why HEIs? LMIC HEIs are uniquely placed to drive local resilience agendas: They are near the communities; are locally respected; research and innovation is their mission; Yet LMIC HEIs have insufficient presence in the development space

- We share a case-study of how African HEIs contributed to increasing development research and innovation through the RAN

# RAN: Who are we?

- RAN, one of 7 development labs under the HESN USAID, convenes a consortium of 28 Universities in 16 African countries to advance resilience-based research and innovations

  - Organized around 4 regional Resilience Innovation Labs (RILabs); with strong knowledge/technology-sharing partnerships with US-Based institutions (Purdue, Notre Dame, Stanford, Chicago, Tulane, The George Washington etc.)
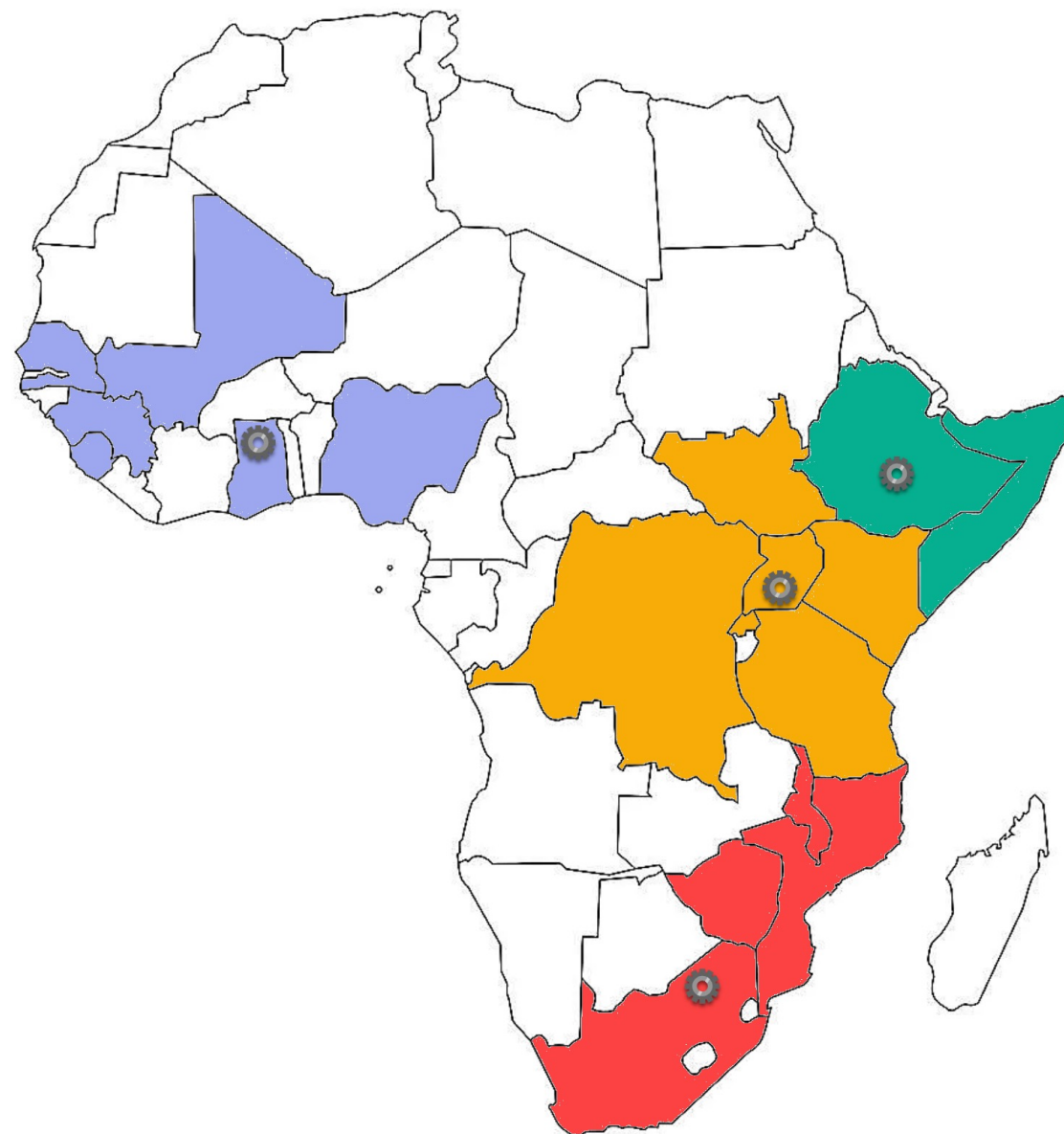
# Objectives of RAN

- **<u>Objective (1)</u>** Design a resilience analysis framework for Sub-Saharan African researchers

- **<u>Objective (2)</u>** Strengthen resilience  of communities through research and innovations

- **<u>Objective (3)</u>** Enhance resilience-related knowledge generation and sharing

# Step 1: Articulating a Resilience Framework

- **Purpose:** To facilitate a deeper understanding of resilience factors and intervention entry-points

- *Theory of Change: "The resilience of people and systems in Africa will be strengthened by leveraging knowledge, scholarship and creativity in HEIs to incubate, test, and scale innovations that target capabilities and reduce vulnerabilities identified by evidenced-based approaches"*



**Context Analysis**
Resilience of whom, to what, where and when?

**Resilience Dimensions**
What makes you capable to realize your aspirations? What makes you vulnerable? What strategies have you used to effectively/ ineffectively mitigate, adapt to, recover and learn from a specific shock/stress?

**Stakeholder Engagement**

**Evaluation**
To what extent did interventions improve capacities and address vulnerability?

**Resilience Interventions**
What innovations would most effectively address resilience in this community? (Including those that have previously successfully been attempted)

# Step 2: Defining: Resilience of whom and to what ?

- **Of whom?** RAN believes that to increase resilience should be grounded in understanding the affected communities and what makes them thrive in recurrent adversity

  - We selected 1-4 Sentinel Communities per region to explore the resilience issues

- **To what?** Through comprehensive desk reviews, 6 regionalized resilience themes were identified:
  - **Eastern Africa**
    - Adverse climate events
    - Effects of chronic conflict
  - **West Africa**
    - Effects of rapid urbanization in vulnerable communities
  - **Southern Africa**
    - Food and income insecurity in communities affected by chronic diseases
  - **Horn of Africa**
    - Effects of drought
    - Effects of chronic displacement

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# Step 3: Conducting formative micro-resilience studies



*Community engagement, Ga-Dikgale, Limpopo, South Africa*

- Locally-led deep-dive exploratory research:
  - FGDs and KIIs in the selected communities
  - Systems analysis workshops with stakeholders
  - Policy reference groups

- 6 questions:
  - *What main shocks and stresses affect you?*
  - *What are the causes/underlying causes?*
  - *What are the effects/Secondary effects?*
  - *What makes you vulnerable?*
  - *How have you adapted?*
  - *What makes you happy/fulfilled?*



*FGD, Uganda*

# Step 4: Developing resilience indicators and conducting surveys

- The dimensions identified in the qualitative assessments were translated into quantitative indicators and tools

- 13 Community surveys enabled 1) structural models to show relationships and pivots; 2) development of measurement indices for resilience factors

- 4 Deliberative Polls enabled a democratic understanding of communities' informed opinions on key resilience policies
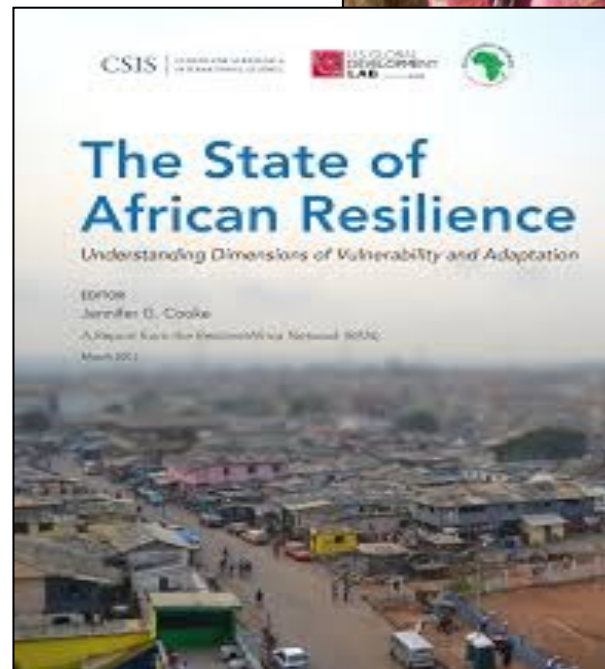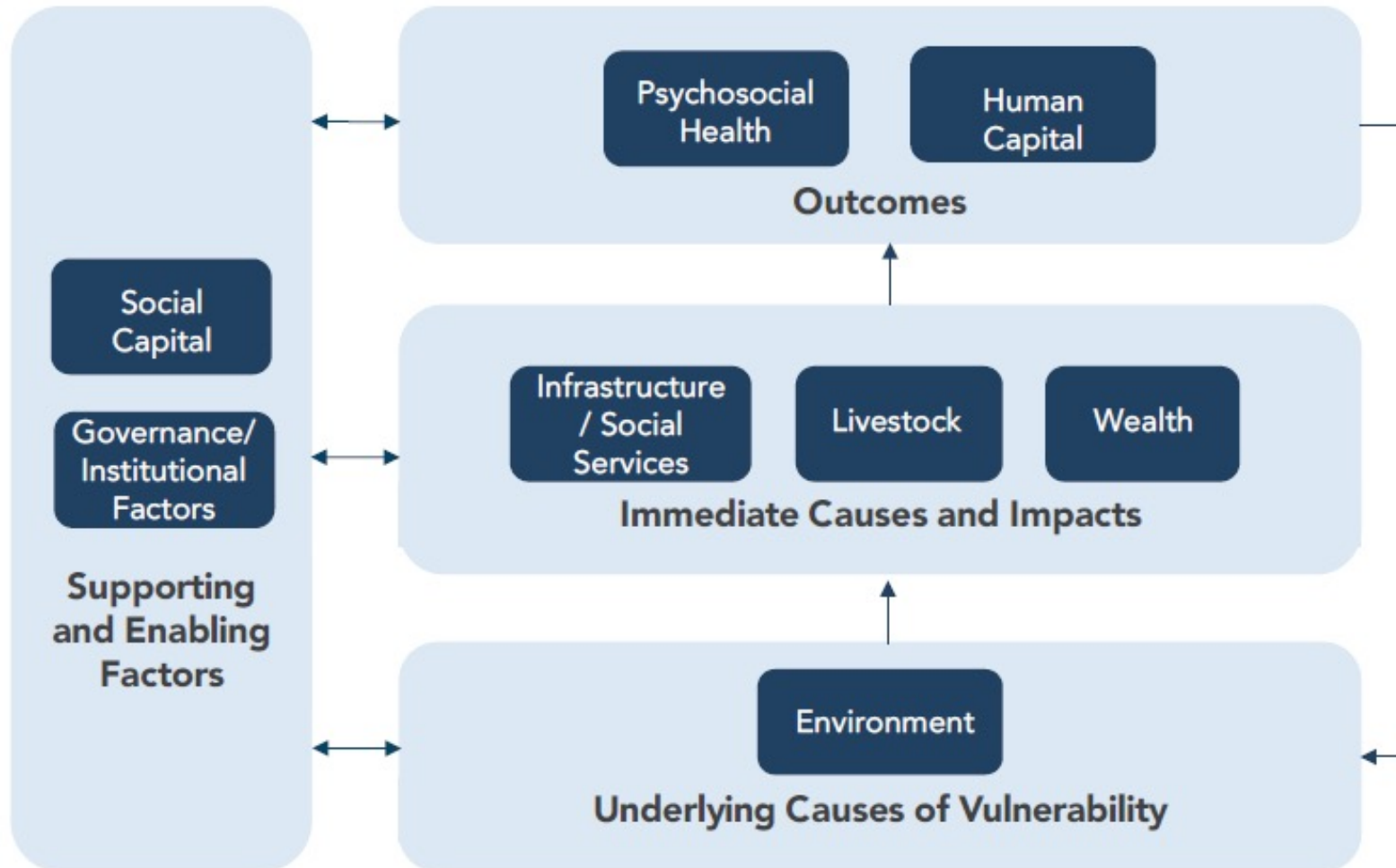
# Example of findings: How an evidence-based framework can help identify leverage points in a livelihoods resilience system

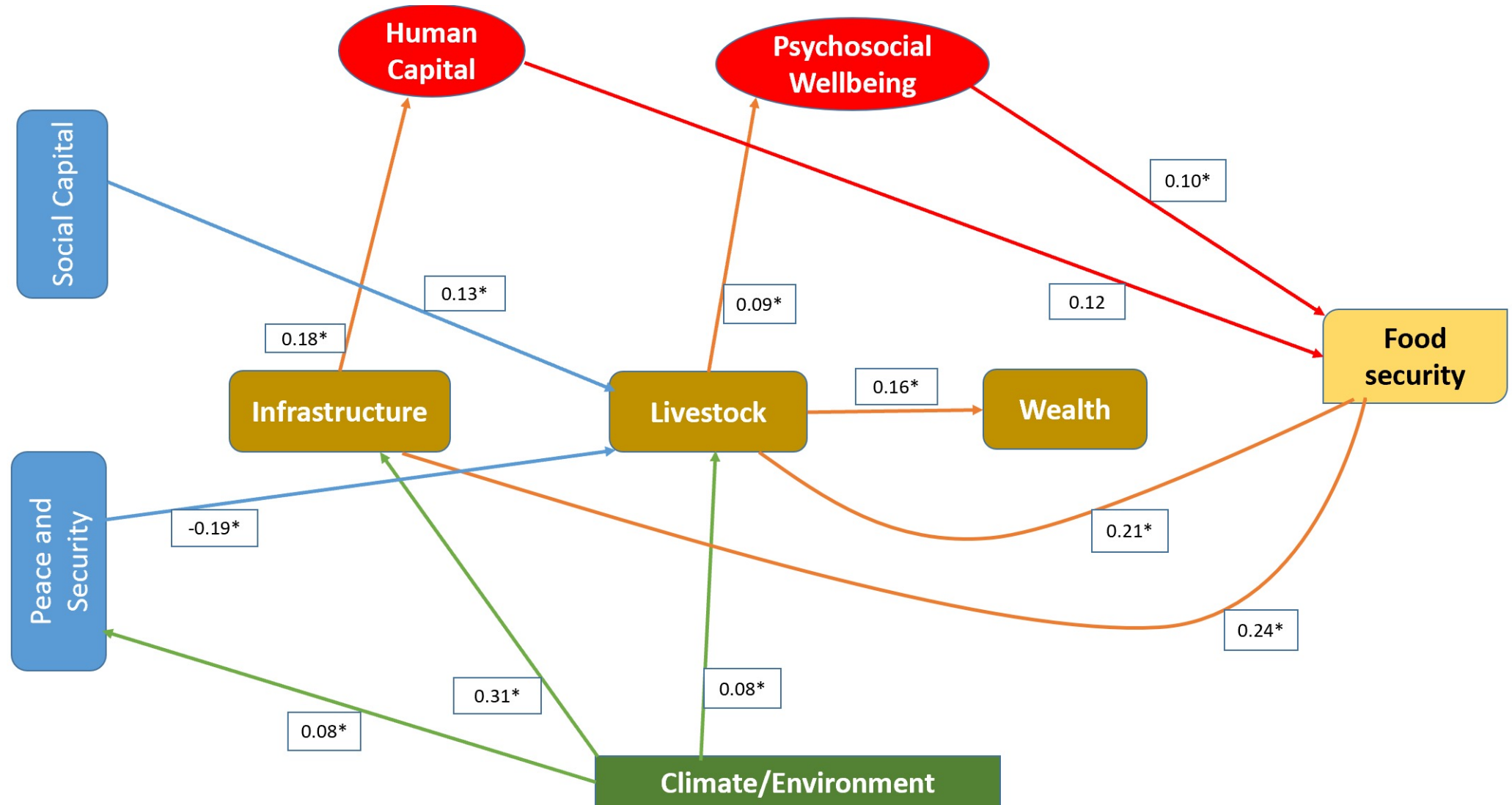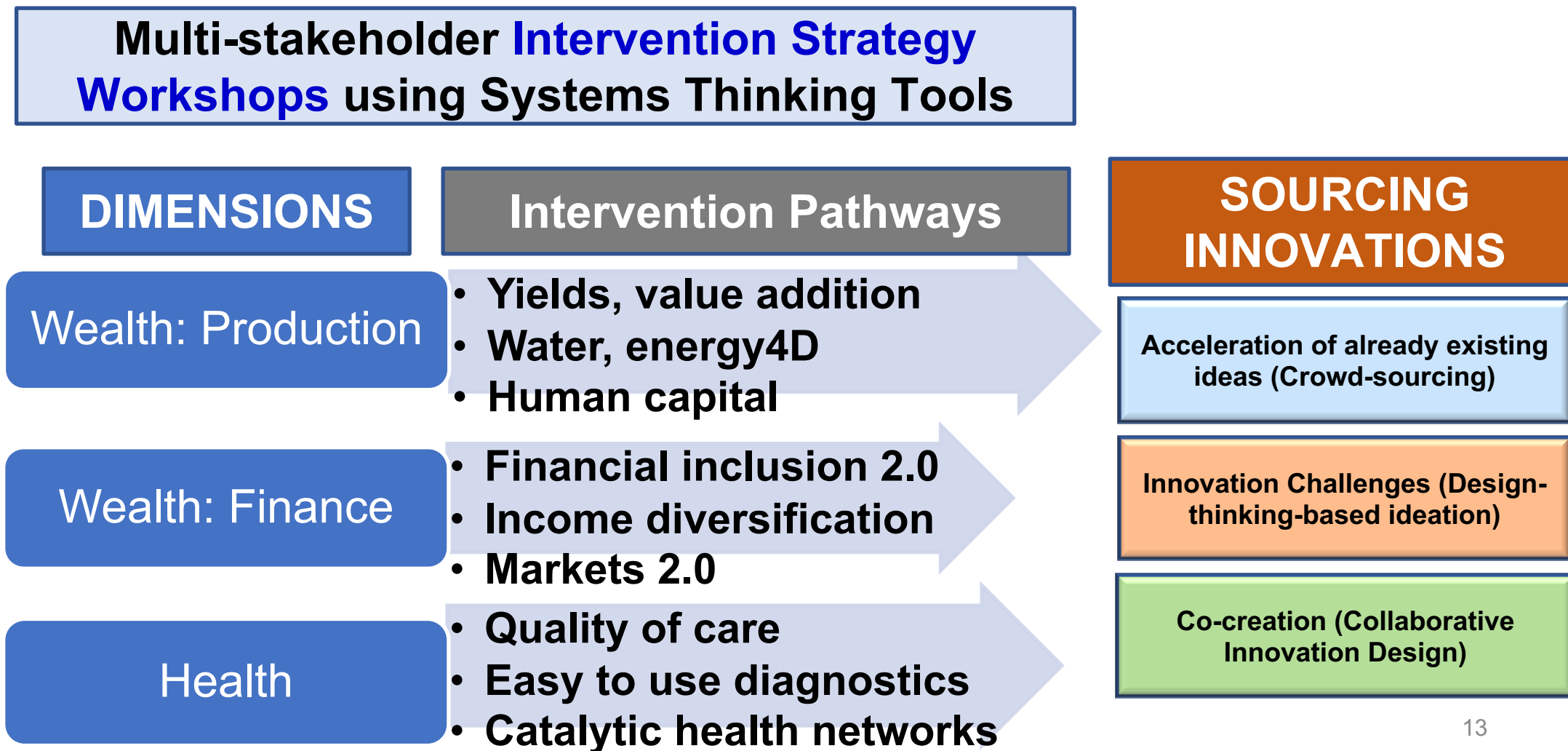Case study: Borana Pastoralist community in Horn of Africa



BORENA ZONE ADMINISTRATIVE DIVISION
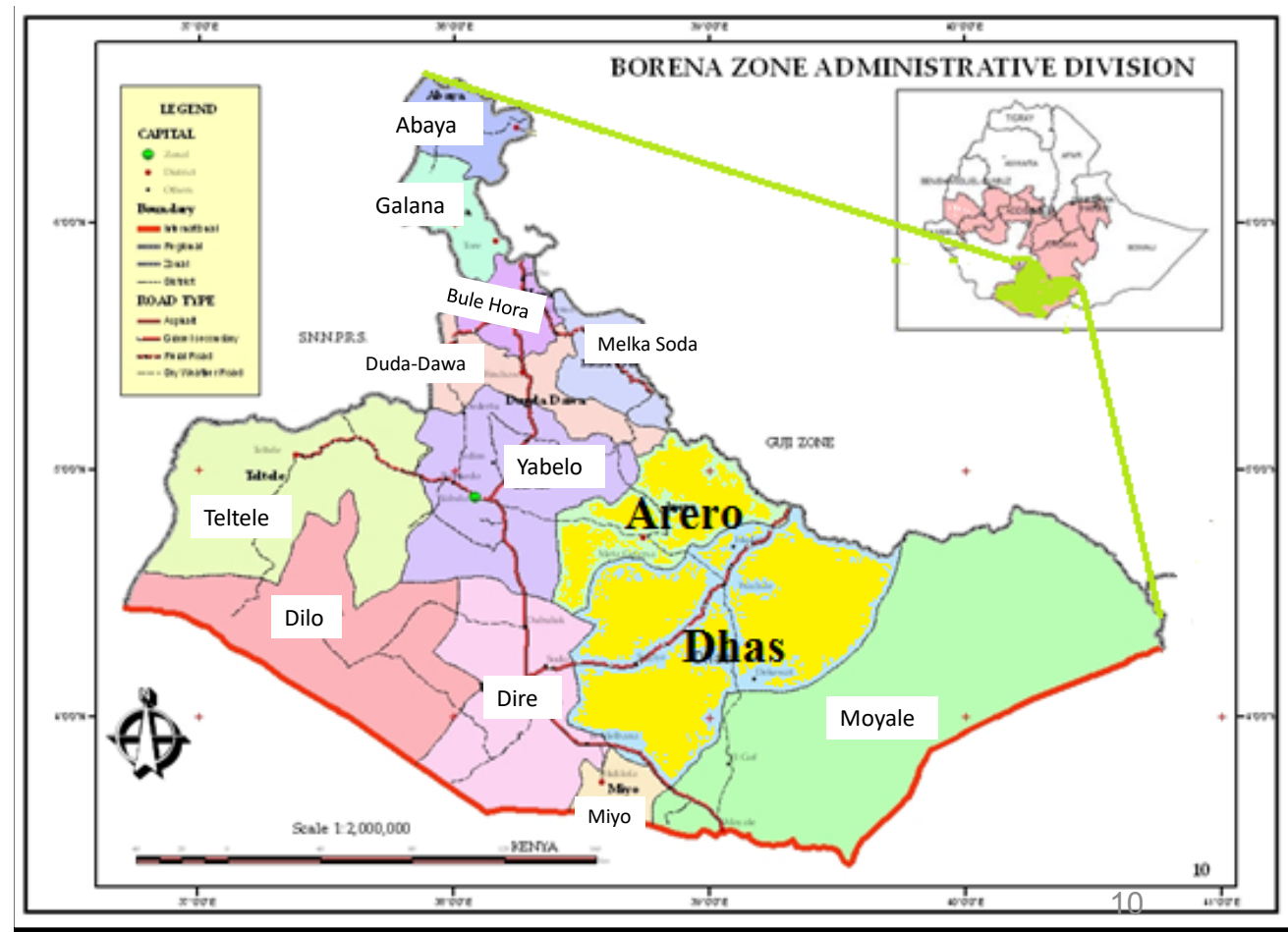
# Initial Qualitative resilience dimensions identified for Borana Region Ethiopia

# Final Quantitative structural model on drivers of resilience in Borana

## Step 5: Translating resilience findings into intervention pathways and innovations

**Multi-stakeholder Intervention Strategy Workshops using Systems Thinking Tools**

**DIMENSIONS**

**Intervention Pathways**

**SOURCING INNOVATIONS**

**Wealth: Production**

- **Yields, value addition**
- **Water, energy4D**
- **Human capital**

Acceleration of already existing ideas (Crowd-sourcing)

**Wealth: Finance**

- **Financial inclusion 2.0**
- **Income diversification**
- **Markets 2.0**

Innovation Challenges (Design-thinking-based ideation)

**Health**

- **Quality of care**
- **Easy to use diagnostics**
- **Catalytic health networks**

Co-creation (Collaborative Innovation Design)

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# Step 6: Solutions tested in communities


'Push and Pull' pest control technique


The Winnowing Thresher


Nubrix: Bricks from Waste


The Solar Produce Dryer

- **Over 400 innovators supported (Seed-grants, idea development, mentorship, incubation, training, community testing etc)**

- **448,617 community beneficiaries involved in testing of solutions**

- **56 successful start-up companies created**

# Examples

**Low-cost water purifier**

**Akello Banker**



http://www.akellobanker/com

**Village Egg Bank**

Village Egg Bank in Egg Currency (VEBEC) Project



http://www.nestedsavings.org/village-egg-bank-project

**Akorion/EzyAgric**



**ORGANIZATION TYPE**

**Service Providers**

**HEADQUARTERS**

**Uganda**

**FOUNDED**

**2014**

**AKORION**

Akorion Company LTD, an agtech company digitizing agricultural value chains to enable all commercial farmers and other agribusinesses to access high-quality production and marketing services through the flagship platform EzyAgric.

To bridge the gap of service delivery, EzyAgric is supplemented by the e-VAM (Electronic Village Agent Model) a service delivery model in which community-based service providers equipped with smartphones who readily deliver services on demand by the farmers.

3 years down the road, Akorion has served 60,000 farmers and digitally profiled 42,000 farmers through a network of 480 village agents and 100 farmer associations.

https://ezyagric.com

# Innovating COVID-19

**Low cost-Medical Ventilator**

**E-commerce: Akatale**

**EpiTent: The Tent that breathes**







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akatale

Vegetables    Fruits    Spices

https://www.akatalefresh.com

# Many more examples......

| Pathway | Solution | Description of innovation |
|---|---|---|
| Tech4dev | RootIO | Content agnostic, community-led portable radio-broadcast system |
| Scaling agriculture | Low cost Solar Irrigation | Cheap irrigation pump to increase off season yields |
| | Improved push and pull | Inter-cropping of a 'nuisance' legume *(Desmodium Spp.)* with Napier grass triples maize yields |
| | m-Omulimisa | Phone App to enhance agricultural extension servies |
| Value chains | Akorion | Scaling the 'farmer-agent model' |
| | Kungula | The Maize thresher that also winnows |
| | Low cost solar dryer | Rapid produce preservation using a low cost solar dryer |
| Scaled health outcomes | EpiTent | Humane Tent for Emergency Epidemic Response operations in hot humid climates |
| | Obulamu | Low cost ventilator for high dependency care |
| | Matibabu | Non-invasive POC malaria test that uses red light and the magnetism |
| | Weekebere | Personal foetal well-being monitor |
| | Increasing family planning | Using trained hair-dressers and tailors to spread messages on family planning |
| | BV Kit | Rapid Point of Care detection of Bacterial Vaginosis using a phone app and a vaginal sensor |
| | Arvanna | Mapping of emergency service providers |
| | E-Health for Refugees | Timely RH messaging for refugees in Rwanda |
| Education | 'MEMA' (Local acronym) | Empowering mothers to prevent drop-outs in Mayuge (Co-created by the community) |
| | 'GEKAT' (Local acronym) | Peer-to-peer Support enrolment and retention in schools |
| Markets 2.0 | Village Egg Bank | One-by-one bulking of subsistence eggs  as a currency for leverage in the markets |
| Diversification | Nubrix | Expand a tested model for brick making using waste paper |
| WatSan for health | Pedal tap | Retrofittable no-touch foot-operated sanitation tap |

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# Step 7: Policy engagement

- Stakeholder engagement activities were undertaken in the different countries to co-create the research, disseminate learnings. and follow-up recommendations

  - Example: RAN's Deliberative Polling research directly influenced the approach to high-risk settlements in landslide prone districts in Eastern Uganda



*Woman speaking at a Deliberative Poll on Climate Risk, Butalejja, Uganda*

# Diversifying RAN's core research agenda

- Following the Africa-wide resilience analyses, RAN diversified its research agenda to address a broad range of development issues, using local researchers

- This arose as:
  - RAN became part of other Dev. Research networks, expanding its partner base (LASER/RTAC/SHARE)

  - Different development agencies started to buy into RAN's approach

- **Value proposition:** RAN can link development actors to local researchers anywhere in SS Africa to facilitate co-design of research, manage local research, bridge capacity gaps, and deploy innovative tools already developed by RAN (e.g. systems research and resilience-lensing tools)

# Tools for action
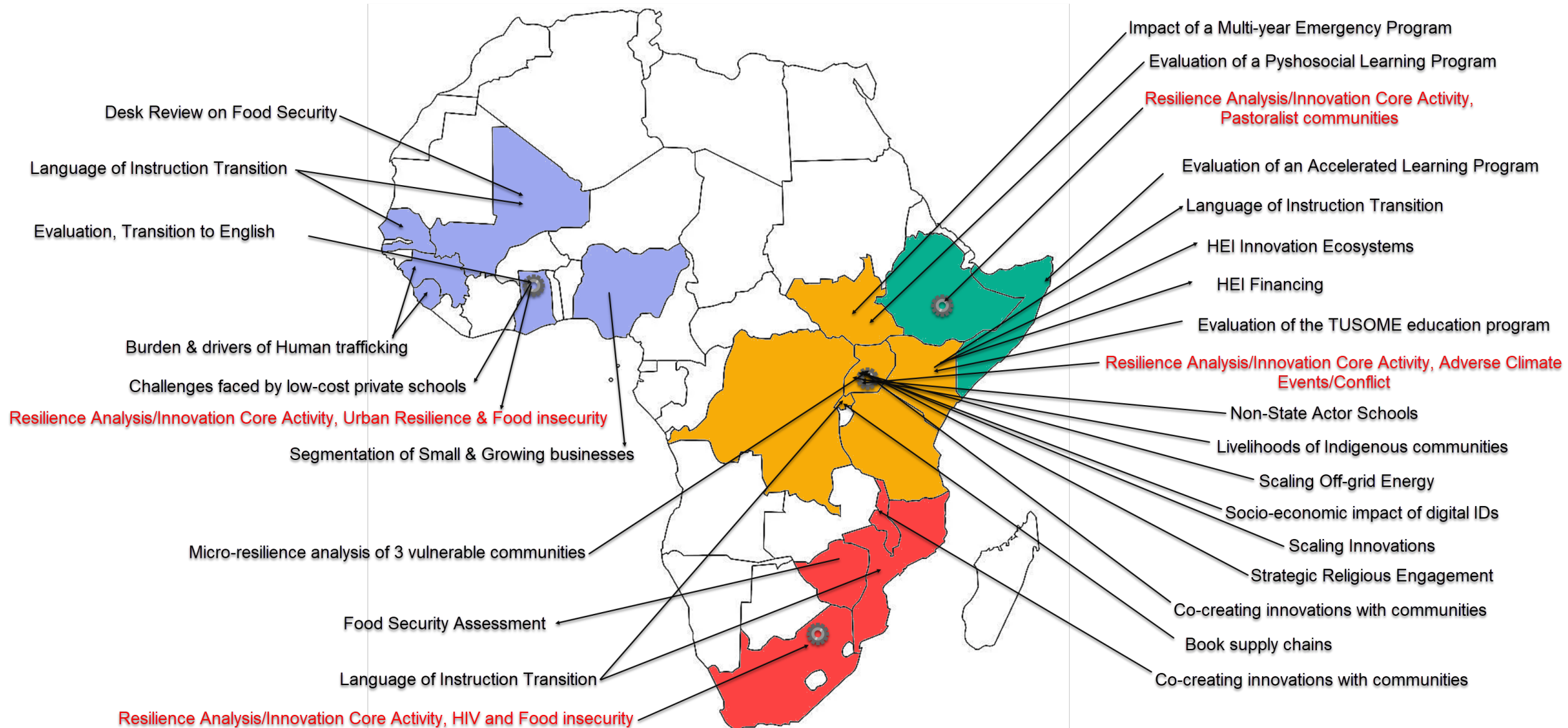
- Resilience analysis methodology

- Systems thinking tools

- Human-centered design

- Innovation Co-creation tools

- Community-engagement strategies



Refugee camps, Northern Uganda: *"Why there are so many idle youth in the trading centers?"*

# Challenges of Engaging HEIs in Dev. Research/Innovations

- Working in silos

- Insufficient development research capacity (eg. Writing for development audiences)

- Weak Innovation ecosystems in HEIs

- Bureaucratic systems stifle timely flow of logistics

- Inadequate research/innovation translation/scaling capacity

- Prohibitive regulatory environment that does not understand the innovation process