The role of mobile technologies in promoting sustainable delivery of livestock insurance in the East African Drylands

*Toward Sustainable Index-Based Livestock Insurance (IBLI) for Pastoralists*

Andrew Mude
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Decades of evidence exist that risk

- *Makes people poor* by reducing incomes & destroying assets: and,
- *Keeps people poor*, by discouraging investment & distorting patterns of asset accumulation

The arid pastoral regions of Northern Kenya, and Southern Ethiopia are an archetype of risk & coping

Development impacts of risk reduction technologies (insurance) should therefore be significant.

Index-based livestock insurance (IBLI) – an innovative insurance product leveraging satellite data to estimate livestock losses – first deployed as a pilot in 2010.
THE IBLI R&D CHALLENGE

Can index-based insurance make a significant and sustainable contribution to the challenge of helping pastoralists manage the considerable risk of drought-related livestock losses they face?
Components of a Sustainable Index-Insurance Program

1. Precise contract design:

2. Evidence of value and Impact:

3. Establish informed effective demand,

4. Low cost, efficient, delivery mechanisms

5. Policy and institutional infrastructure.

For more information refer to https://ibli.ilri.org
Remote clients, challenging terrain: the mFactor

Many of the challenges faced in the delivery of IBLI – and indeed the provision of many relevant services in the drylands – could potentially be solved by the application of mobile, digital technologies.

Presenting Problem

- Information scarcity is severely limiting development and resource management in the drylands.

Strategic Objective

- Leverage transformational technology to relax information constraints and empower decision making for enhanced livelihoods in the drylands.
Leveraging mobile technologies for IBLI and beyond

• **Mobile Phones as a Service Delivery Tool**
  - Delivering Sales
  - Delivering Premiums
  - Delivering Information

• **Mobile Phones as a Training and Performance Assessment Tool**
  - mLearning and Gamification
  - Tracking impact of training on sales

• **Mobile Phones as Data Provisioning Tools**
  - Crowd Sourcing for Rangeland Conditions
  - Livestock Market Information Systems
  - ...and more

**HH Phone use: 2009-2015**

![Graph showing HH Phone use from 2009 to 2015 with different frequencies: Never, Once a year, Once a month, Once a week, Every day.](source: IBLI project data)
Mobile Phones as a Service Delivery tool

• **Sales Transactions Application**
  - Cost of Agency among the most limiting constraints.
  - Mobile sales transactions applications resulted in rapid increase of agent distribution
  - Allowed for better data management and a range of useful analytics on agent behavior

• **Mobile Delivery of Indemnities**
  - Indemnity payments initially conducted manually
  - Increasingly paid through MPESA (in Kenya).
Mobile Phones as a Service Delivery tool

- **IBLI INDEX Calculator**
  - Delivering critical information on performance of IBLI contract
  - Agent can now show active or potential client the current or historical state of the index.
  - Can show historical payout of hypothetical contract
  - Building awareness, trust and salience
Mobile Phones as a Training and Performance Assessment Tool

- Currently over 500 insurance sales agents who need to be trained on IBLI. Agents widely spread and constant churning.

- Standard approach to training, even those intended to minimize costs (e.g., cascades – TOT) still extremely expensive.

- Literature on adult pedagogy highlights inefficiencies of one-of training.

- Mobile phones offer low-cost option for training, which opens the door for improved methods:
Mobile Phones as a Training and Performance Assessment Tool

**IBLI mLearning Application**

- Developed a basic mobile application with standard IBLI training curricula
- Tested the impact of mobile training plus a range of learning incentives in an RCT:
  - Control: Standard F2F Training.
  - Base mobile application (no incentives)
  - Mobile application with cash (MPESA incentives)
  - Mobile application with gamification (leaderboards)

- Access to the application increased sales dramatically for incentivized agents.
- Incentives can be used to help increase investments in learning, which leads to higher sales.

(Lyons, 2016)
Crowdsourcing Rangeland Conditions:

• **Challenge:** How to cost-efficiently validate satellite data? *Not all that’s green is good*

• Crowdsource local and near real-time observations of vegetation type and conditions using smartphone apps.

• Develop a rangeland model that integrates local observations with existing remotely sensed data.

• Conduct value of information analysis of the rangeland model to direct further local data collection.

Herders Submit Vegetation Images and Surveys with Smartphones
Mobile Phones as a Data Provisioning Tools

Crowdsourcing Livestock Market Information Systems...the pilot

System Schematic

1. Client organizations request reports on specific types of data.
2. System administrator designs surveys, reports and dynamic incentive structures to facilitate collection of requested data.
3. Task allocation system pushes survey tasks and updated incentive values to contributors in the field, prioritizing by needs.
4. Contributors post observation data using a mobile app, receive incentives upon validation via mobile payment platform.
5. Data is validated for quality according to rules defined in the platform by the administrator.
6. Platform delivers outputs to client as dashboards, PDFs, spreadsheets, SMS messages, etc.
Leveraging mobile for rural agricultural development

• Snapshot of the emerging influence of mobile applications in challenging terrain

• Mobile phones as an asset:
  • Allowing access to far away markets and opportunity
  • Unlocking of underutilized resources

• Beyond access to applications

• Knocking on the door of BIG DATA and its engines

• Critical Regulatory questions remain
  • Issues of data ownership and security
  • Privacy
  • Enabling environment and digital literacy
It Takes a Village
Thank you!

For more information on IBLI, visit https://ibli.ilri.org/

*better lives through livestock*

ilri.org

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