

# AGRICULTURE AND MOBILE FINANCIAL SERVICES

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- ▶ Crop yield growth lagging population growth.
- ▶ 1 in 3 work in agriculture worldwide.
- ▶ Smallholders produce 80% of food consumed in developing countries.
- ▶ Loss of arable land to urbanization.
- ▶ Climate volatility threatens accelerated erosion of arable land.
- ▶ Market price signals should not be ignored as indicating persistent and emerging imbalance that must be addressed.

## **AGRICULTURE: A CRITICAL PAIN POINT IN DEVELOPMENT**

- ▶ Informal economy characterized by high cost of capital, promotes need to self-insure.
- ▶ Lack of insurance leads to under-planting by 25% margin as smallholders self-insure.
- ▶ Important to establish access to lower cost of capital through formal crop insurance.
- ▶ Insurance necessary as increased weather volatility likely to drive mass crop failures.

## **AGRICULTURAL PRODUCTION: CAPTIVE OF INFORMAL ECONOMY**

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- ▶ Caller Data Records (CDR): Basis for effective customer segmentation.
- ▶ Segmentation: critical basis for extending financial services.
- ▶ Accurate risk-based pricing supports sustainable business models.
- ▶ Best practices for managing credit risk:
  - ▶ Origination credit scoring system employing CDR and other data.
  - ▶ Management system to rank agents dynamically for commission payouts.
  - ▶ Automated customer management system.
  - ▶ Enhanced mobile client interface allowing real-time credit management.

**MOBILE DATA: CALLER DATA RECORDS  
ENABLE INSURANCE & CREDIT EXTENSION**



- ▶ Technology supports deployment of index-based insurance products.
- ▶ At present, weather index based insurance products are superior to area-yield based insurance products for implementation.
- ▶ Technology advances in monitoring & evaluation (e.g. drones) may allow normalized difference vegetation index (NVDI) insurance products to replace weather index based insurance.

## **AGRICULTURAL PRODUCTION MMI: INSURANCE DEPENDS ON INDICES**

- ▶ Kilimo Salama (“safe farming”) – First micro-insurance product distributed and implemented via mobile phone network.
- ▶ Technologies employed: mobile phone, solar-powered computerized weather stations.
- ▶ PPP Model: Sygenta (agribusiness), Safaricom (MNO), UAP (insurance), International Finance Corp. (IFC, part of World Bank Group).
- ▶ With weather data, policy payouts disbursed by mobile money at growing season end.

## **INDEX INSURANCE AT SCALE: KILIMO SALAMA**

- ▶ 200 farmers (2009 launch) => 187K (2013) => 1MM (2015 expected). One country at launch (Kenya) => three countries by 2013 (Kenya, Rwanda, Tanzania).
- ▶ Insured farmers invested 19% more than uninsured peers and earned 16% more income. 95% of insured farmers had loans linked to insurance coverage.
- ▶ In 2012, over 30K farmers could access \$5.5MM in loans due to insurance coverage.
- ▶ In June 2014, Kilimo Salama spun off from Syngenta Foundation into Agriculture and Climate Risk Enterprise Ltd. (ACRE, for more detail see: <http://acreafrica.com/>).

**KILIMO SALAMA:  
POSITIVE OUTCOMES AT SCALE,  
NOW PRIVATE COMPANY, ACRE LTD.**


- ▶ Customer trust must be established and sustained for program to succeed.
- ▶ Immediacy of policy payouts necessary to keep client trust.
- ▶ Importance of agent network to support service deployment and operation.
- ▶ Offer farmers a package (i.e. seed, fertilizer, financing) plus insurance.

## **KILIMO SALAMA: LESSONS LEARNED**



- ▶ CDR data access to enable analysis and allow offering of affordable MMI.
- ▶ Bundle MMI with credit products, do not offer as stand-alone product.
- ▶ Use technology to reduce risk.
- ▶ Focus on establishing solid trustworthy agent network.
- ▶ Require supportive governmental environment to allow for development and operation of mobile as channel for financial service offerings.

## **TOWARDS A MODEL OF COMMERCIALY SUSTAINABLE MFS**

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- ▶ June 2015 publication “Technology for Development: What is Essential?” (Springer Verlag)
- ▶ Chapter 5: Mobile Financial Services in Disaster Relief: Modeling Sustainability
- ▶ <http://gvaresearch.com/2015/06/book-release-technologies-for-development-what-is-essential/>
- ▶ Email: david@gvaresearch.com

**THANK YOU FOR YOUR INTEREST**

