Measuring the impact of financial services on rural smallholder farmers in Kenya
More than 7M smallholder farmers in Kenya

- 75% work in agriculture
- 30% lower productivity
- 21% of food is imported
- 2/3 have no access to financial services
- Subsistence farming or limited markets
- Farm 1-5 acres of land earning USD 2-4 per day
We are Juhudi Kilimo

For-profit social enterprise since 2009

Individual agricultural loans with group guarantee

20 rural offices
140 employees

20,000 active smallholder farmer clients

Average loan of USD 500

Loan portfolio worth USD 6.6 million

Asset finance

- Dairy cows
- Poultry
- Irrigation equipment
- Greenhouses
- Vehicles
- Grain mills

Insurance

- Livestock insurance
- Life insurance
- Weather-based index insurance

Training

- Group governance
- Financial literacy
- Business management
- Farming technology

Linkages

- Access to markets
- Buyer linkages
- Veterinarian services
- Farming input suppliers

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Our work in Juhudi Labs

- Affordable financial products and services
- Insurance products
- Credit appraisal
- Risk management

Financial Product Program

- Solar lamps
- Clean cookstoves
- Biogas digesters
- Carbon emissions tracking

Clean Energy Program

- Market access
- Supply chain
- Farming inputs
- Extension services

Startup Residency Program

- Ag efficiency
- Technology uptake
- Financial literacy
- Social impact measurement

Field Research Program
Our social impact

- 54 million litres of milk worth $12.6 million
- Annual incomes increased by more than double
- Improved the lives of over 100,000 rural Kenyans
- 82% client satisfaction and 89% employee satisfaction
- 50% women farmers, 33% under 35 years old
- Five Star GIIRS rating and first African B-Corporation
Our technical solutions for impact measurement

- **Echo Mobile**: SMS data collection platform
- **Android**: Smartphones and tablets for field staff
- **Salesforce**: Cloud-based MIS and loan management
- **Open Data Kit**: Client intake and surveys
Case study | Milk yield survey | 2014

- SMS survey sent to 13,400 farmer clients
- 1,862 responses in 48 hrs (14% response rate)
- Respondents replied free of charge
- Survey cost approx. USD 700
- Measured milk production, consumption, sale, price and markets
- 60% of Juhudi Kilimo loans are used to buy dairy cows
- Over 80% of respondents have 1-2 cows
- Average 7 litres of milk produced per day
- 66% sell their milk in informal markets, formal market hard to tap
- Average milk income of USD 2-4 per day
- Milk production and sale increases with number of cows
• Compared SMS vs. in-person method for conducting PPI survey
• Participation of 3 Kenyan social enterprises, including Juhudi Kilimo
• 10 PPI questions tailored for SMS format and translated into Kiswahili
• 300 clients contacted per company in 3 rounds (total 900)
• Highest response rate 92%, lowest 8%
• Response rates higher for stronger client relationships
• A small airtime reward with advance outreach most effective
• SMS survey cheaper than in-person survey
• Verification found small variation of 0.1-4% in PPI scores
Benefits and challenges of mobile data collection

**Pros**
- **Speed**: results can be obtained very quickly or in real time
- **Accuracy**: fewer data entry errors or controls needed
- **Cost-effectiveness**: lower cost of running campaigns, especially with SMS
- **Reliability**: data-backed intelligence for decision making
- **Transparency**: information accessible to all who need it

**User requirements**: users must be literate and know how to use a mobile device
**Connectivity**: data networks and applications needed for rich data collection
**Incentivization**: respondents may have to be rewarded for voluntary participation
**Accuracy**: self-reported data may be less accurate than information collected and verified by a third party

**Cons**
What next? Collecting better and richer data

- Core social indicators
- Customer satisfaction surveys
- Employee satisfaction surveys
- Farming productivity surveys
- Progress out of Poverty Index
- Farmer risk profiles
- Financial literacy assessments

Juhudi Kilimo data collection
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