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February 28, 2014

Latest Impact Findings on Financing Africa's Smallholder Farms





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John Magnay

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John Magnay is a Senior Agriculture Advisor at Opportunity International. He has lived and worked in Uganda for the last 31 years. In private business, Magnay has been involved in both the agricultural input and output markets. In 2001 he founded and chaired Uganda Grain Traders Ltd., a consortium of 16 companies formed to alleviate the Uganda maize market crash of 2001-2002. In recent years Magnay has been lobbying locally and internationally on the issues related to strengthening the output markets in Africa. As a private consultant for WFP, FAO, and The World Bank, he has advised on agribusiness and output market development in Madagascar (rice), Malawi (tobacco), Rwanda (agribusiness), and Ethiopia (grain). This involves understanding the interaction between governments, donors, and the private sector.



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Simona Haiduc is the Vice President of International Business Development at Opportunity International. In her current role, Haiduc is actively engaged in managing Opportunity International's relationships and building business development strategies with government agencies, multilateral donor institutions, and large foundations. Haiduc also manages the program management team—supervising the planning, fund allocation and management, and the monitoring and evaluation processes of major grants from private and technical donors. Prior to joining Opportunity International in 2003, Haiduc managed the microcredit program for the Open Society/Soros Foundation, Cluj Branch, in Romania. She holds a Master's of Science in management of international organizations from New York University.

Latest Impact Findings on Financing Africa's Smallholder Farms

Opportunity International
USAID MPEP Seminar – February 28, 2014



Opportunity International

Global Financial Services Institution

Opportunity International:

- Community economic development through access to financial services
- Full-range of financial services: savings, loans, insurance and financial training
- 5 million clients globally at the base of the pyramid
- 44 financial institutions across 22 countries (32 MFIs, 12 regulated deposit-taking)
- Strategic focus on key value chains: agriculture and education



Latest Impact Findings on Financing Africa's Smallholder Farms Opportunity International

1. Shape and Scope of Program
2. Research Design
3. Primary (Agricultural) Impact Findings
4. Secondary (Quality of Life) Impact Findings
5. Lessons Learned
6. Looking Forward



1. Serving Smallholder Farmers Sustainably and at Scale: Shape & Scope of Program

Opportunity International: Agricultural finance

- Started in 2009
- Key premise: focusing financial services on key value chains in sub-Saharan Africa provides the most potent short and long-term approach to lasting economic growth

The Challenges in Agriculture

- Large number of smallholder farms holdings in Africa
- Smallholder farmers lack access to finance to purchase inputs and hire labor
- Lack of organized farmer groups receiving technical support
- Project-based support services disappear when funding ends
- Lack of good data on clients' households and farms
- High cost of financial services delivery
- Difficult to monitor clients and staff

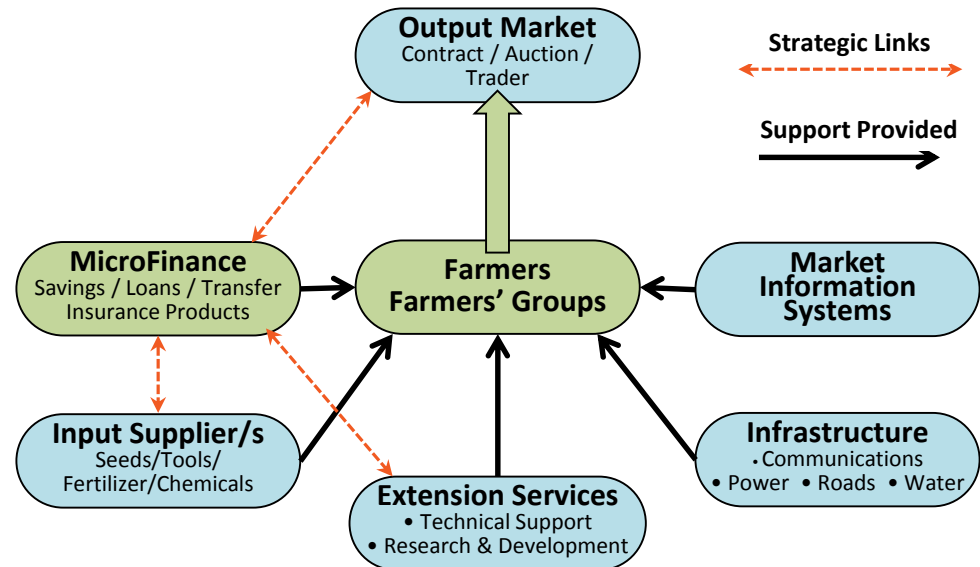
GOAL: Achieve Gains in PRODUCTIVITY

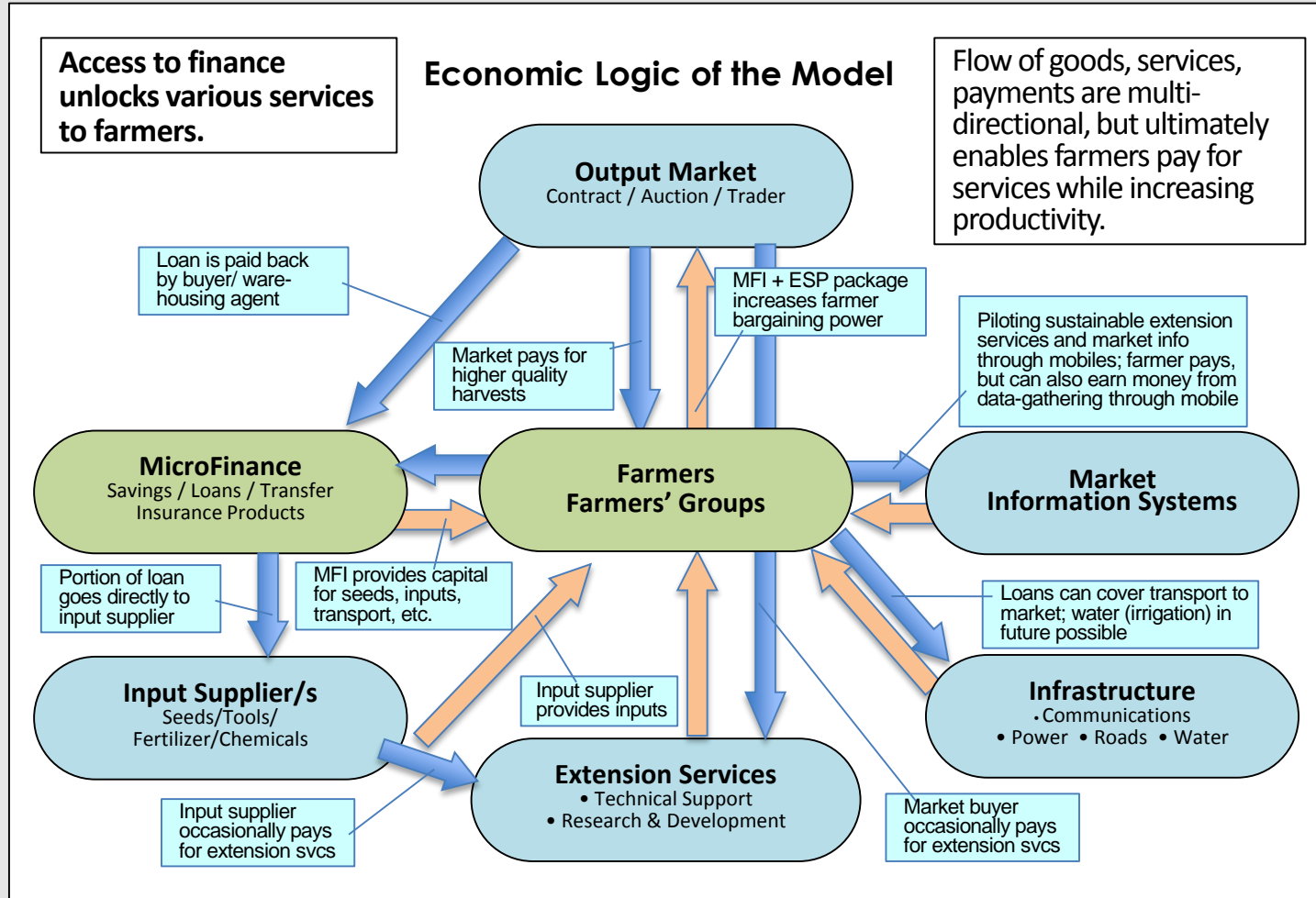


Opportunity: Market Facilitation in Agriculture

- Collaborates with key stakeholders across the value chain
- Provides farmers with a range of financial services. This, in turn...
- Increases access to agricultural training and to better markets
- Equips client farmers to move from subsistence to economically and commercially active farming
- Helps to reduce risk for financial institutions

Key Value Chain Relationships

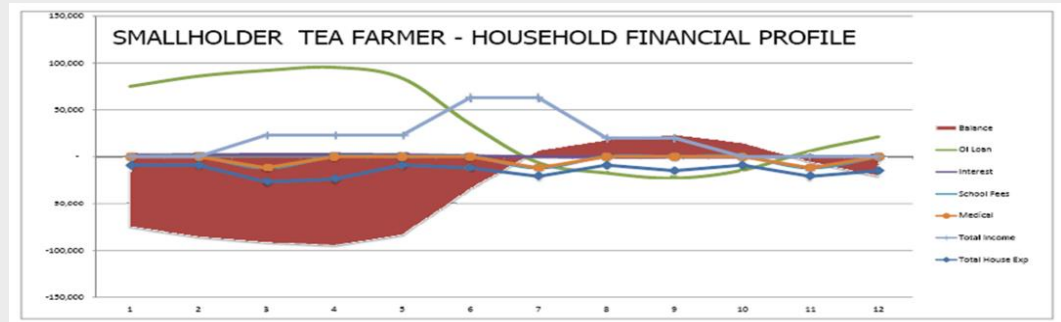




Loans that match crop cycles

The Agricultural Loan -

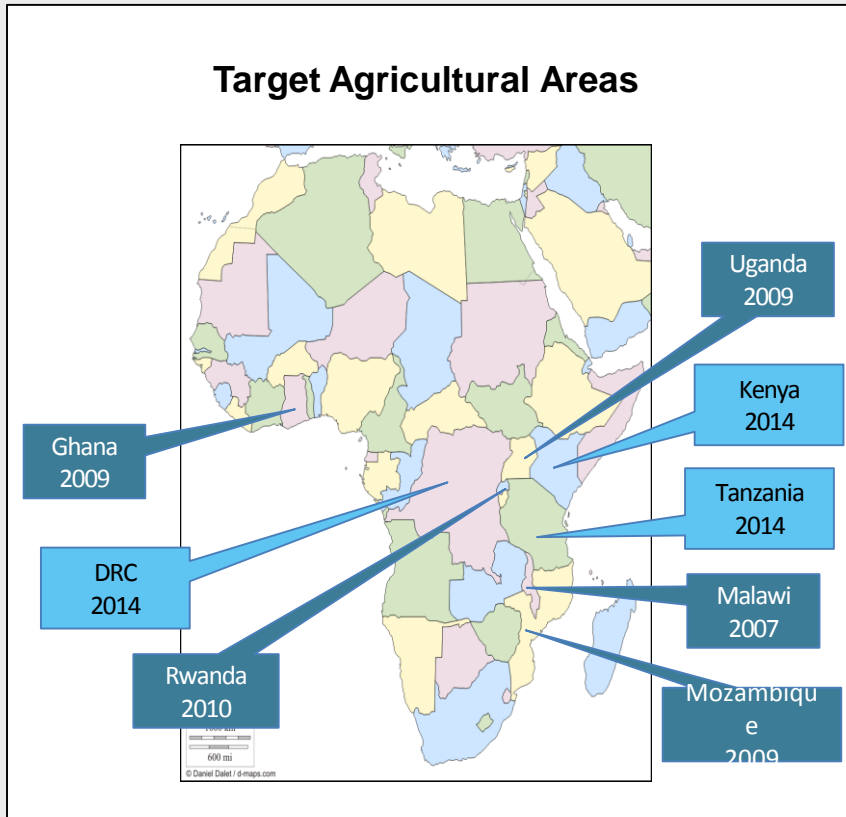
The loans are shaped to the unique income-smoothing needs of smallholder farmers given their specific crop cycles.



Basic outline of an agricultural loan

1. **Loan begins at the time of land preparation** For seeds, inputs
2. **Loan provides for crop maintenance equipment (sprayers, mist blowers, etc.)** For insecticide, pre-/post-emergent herbicides,
3. **Loan provides for harvesting and marketing** For needed labor, transportation
4. **Top-up capability** For urgent needs leading up to harvest
5. **Repayments to begin at harvest season oftaker** During repayment window; possibly thru
6. **Nurturing savings during harvest season** Deposits during harvest window, disbursed in farmer-chosen disbursements but with an extra disbursements that are totally savings

The Shape and Scope of Program (since 2009)



Serving farmers in five countries across Sub-Saharan Africa

Loans disbursed: 165,000

Total loan value: \$38 million

Number of crops financed: 20+

Savings accounts: Over 1.4M savings accts including 580,000 in rural areas

Reached more than 216,000 active clients w/loans for small businesses

Replicating the initiative in Tanzania, Kenya and DR Congo starting in 2014

SAGCOT Pilot: branchless banking

2. The Need for Evidence-Based Program Review: Research Design

- **Assessment Objectives:** Assess the impact of our program on farmers' lives.
- **Key Questions:**
 1. What was the impact of the program on the agricultural outputs of smallholder farmers?
 2. In what ways did this program change farmers' everyday lives more broadly?

Categories Covered	
Standard Descriptives Primary agricultural impacts <ul style="list-style-type: none"> • Socioeconomic demographics • Land ownership and use • Production of selected enterprise Financial activity <ul style="list-style-type: none"> • Use of financial services • Use of loan • Household income 	<ul style="list-style-type: none"> • Household expenditures • Household assets Secondary impacts <ul style="list-style-type: none"> • Women's empowerment • Children's education • Health • Food security • Business and employment generation • Self-assessment

Research Methodologies/Approaches

This research used a “mixed method” research design (qualitative + quantitative) using a combinations of internal and external researchers (hybrid team).

Quantitative

Retrospective Baseline Survey covering—

Land area

Production

Income

Jobs created

Changes in asset ownership

Usage of good agricultural practices

Household expenditure patterns

Usage of Education and Health Services

Qualitative

Focus Group Discussions with farmer clients

Special target groups: youth, women, men

Client factors of success

Impact perceptions of loans

Key Informant Interviews with market stakeholders

Challenges and opportunities

Macro-environment

Human stories

Use of industry standards

Accessing indicators from known protocols—

Progress out of poverty index (PPI)

Household Food Security Access Scale (HFIAS)

Women's empowerment in Agriculture Index (WEAI)

The Survey Instrument

- Used a ~225 question survey
- Covered over 1200 farmers across 3 countries (Uganda, Malawi, Ghana).
- In general achieved 95% confidence level, 10 point interval

Rural Household Impact Review Assessment

What changed in your agricultural practices since 2009 with respect to each of the following areas:

1 st season 20	Quantity used / units	Value
1.3 Use of fertilizers		
1.4 Use of disease and pest control chemicals (Total Value)		
1.5 Use of herbicides (Total Value)		
1.6 Hiring of equipment / labour for timely land opening		
1.7 Hiring labour for timely field operations		
1.8 Marketing of produce (Quantity)		
1.9 Other specify		

SECTION E: PRODUCTION OF SELECTED ENTERPRISE

E.1 We need some information about your production of tobacco, soya bean or maize etc.) Use the table in E.2 below

Season	Enterprise	Unit in Kg	Qty used at home	Qty sold / bartered	Total production	Unit in Kg	Qty used, home
1.1 ONE							
1.2 TWO							

Enumerator Quantity of produce used for seed, paying for labour, and gifts to friends/relatives must be included in quantity

E.2 Reasons for the observed increase or decrease in total production: Enumerator only answers one set - either reasons for decrease depending on answer to previous question. Tick all the reasons that apply. Establish level, the answer to that reason is yes. Use cards labeled 1 to 3 and have the respondent point to the selected level.

Reasons for the observed increase in total production	Yes (tick)	Level of Importance	Reasons for the observed Decrease in total production
2.1.2 Increased use of improved/Better variety			2.2.1 Poor variety
2.1.3 Timely planting			2.2.2 Late planting
2.1.4 Planting in lines, / better spacing			2.2.3 Poor germination, spacing
2.1.5 Used fertile land, Crop planted after fallow/ management			2.2.4 Declining soil fertility/soil not fertile, too expensive
2.1.6 Applied fertiliser, better soil fertility			2.2.5 Did not use fertilizer, not available
2.1.7 Cultivated larger garden			2.2.6 Cultivated smaller garden
2.1.8 Timely weeding, better weed management			2.2.7 Not weeded/ weeded late
2.1.9 Improved post harvest handling			2.2.8 Harvested late, post harvest losses
2.1.10 Better pest/disease control			2.2.9 Increased pests or diseases
2.1.11 Variety Tolerant to drought			2.2.10 Drought
			2.2.11 Too much rain, flooding
			2.2.12 Damage by wild

Rural Household Impact Review Assessment Tool

E.3 Please rate the following constraints in terms of seriousness. Use cards labeled 1 to 3 and have the respondent point to the selected level. Then rank the three which are most important with 1 as most important and 3 as less important.

External Constraints to expansion in production yields and income from crops	1=Not a problem 2=Yes a problem 3= Very serious problem	Ranking
3.1 Lack of knowledge/advice on farming		
3.2 Diseases		
3.3 Pests (specify)		
3.4 Lack of labour for opening land		
3.5 Labour for weeding		
3.6 I do not have enough money to buy inputs when they are needed		
3.7 Unavailability of inputs when I want to buy them		
3.8 Adulterated/ counterfeit inputs (poor quality of inputs on the market)		
3.9 Labour for harvesting		
3.10 Transport of produce from field to stores		
3.11 Unfavourable weather (prolonged dry spells)		
3.12 Unfavourable weather (too much rain in short time, fields flood)		
3.13 Low prices for produce		
3.14 No buyers/market for produce		
3.15 Storage problems		

E.4 CHANGES IN DECISION MAKING AND CONTROL

Please tell us who makes the decisions with regards to production, marketing and utilization of proceeds from enterprise when you invested the loan funds

Use codes below	2012	2009
4.1 Who controlled the field where the crop was planted		
4.2 Who controlled the decisions about how much to invest in the production of this crop (inputs and labour)		
4.3 Who controlled the decision about how the crop should be marketed		
4.4 Who controlled the decisions about how the revenue should be spent		

1=Husband alone; 2=Husband ultimately decides after consultation with wife; 3= Wife alone; 4= Wife ultimately decides after with husband; 5= Jointly

SECTION F: GENERAL IMPACT OF THE LOAN

F.2 EDUCATION OF HOUSEHOLD MEMBERS

Use cards labeled 1 to 3 and have the respondent point to the selected level.

Please indicate extent to which to the following issues affect your HH with regards providing for education of your household members

2012	2009
2.1 Number of days children miss classes due to failure to pay school dues on time	
2.2 Cash for buying required scholastic materials/uniform on time	
2.3 Ability to pay/provide for lunch for children while at school	
2.4 Forced to sell animals/produce at the expense of food in the home in order to settle school dues	
2.5 Incurred debts from neighbors/relatives/friends to settle school dues	

F.3 HEALTH/MEDICAL CARE SERVICES

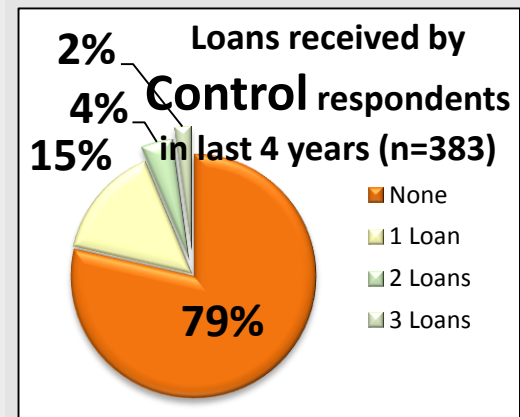
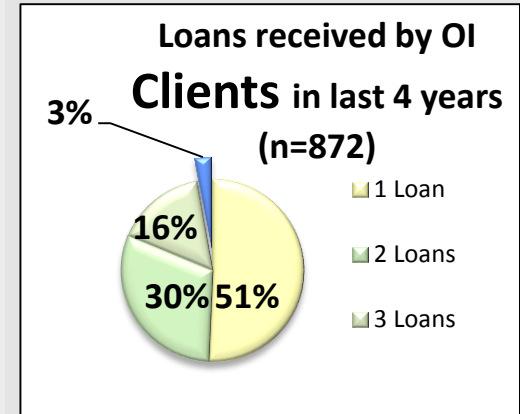
Use the following codes to answer the questions below. 1=much worst 2=somewhat worse 3=about the same better 5=much better Use cards and have the respondent point to the answer.

F3.1 What is the general direction of change for availability of health care services in your 2009?

F3.2 How has your own family's access to health care changed in general since 2009?

Sampling Approach

1. **Crops:** We took the top 3-4 crops in the portfolios of the country Opportunity banks.
2. **Locations:** We identified the locations with the largest number of farmers in those crops.
3. **Client Farmers:** We chose smallholder farmers who have had at least one matured (finished) Opportunity agriculture loan in the priority crop.
4. **Randomization/Sample Size:** Client farmer lists were systematically randomized, and sufficient numbers contacted to get sample size sufficient to achieve a 95% confidence (+/-10).
5. **Control Farmers:** Smallholder farmers who did not take an Opportunity agriculture loan during the 2009-12 period that were similar to client farmers. They grew the same crops in the same locations as clients.



Uganda Research

Total farmers w/matured loans: 1580

Total Farmers Surveyed: 401

Crops Surveyed: Coffee, maize, cotton, sugarcane

Survey Locations: Iganga, Kyenjojo, Masaka

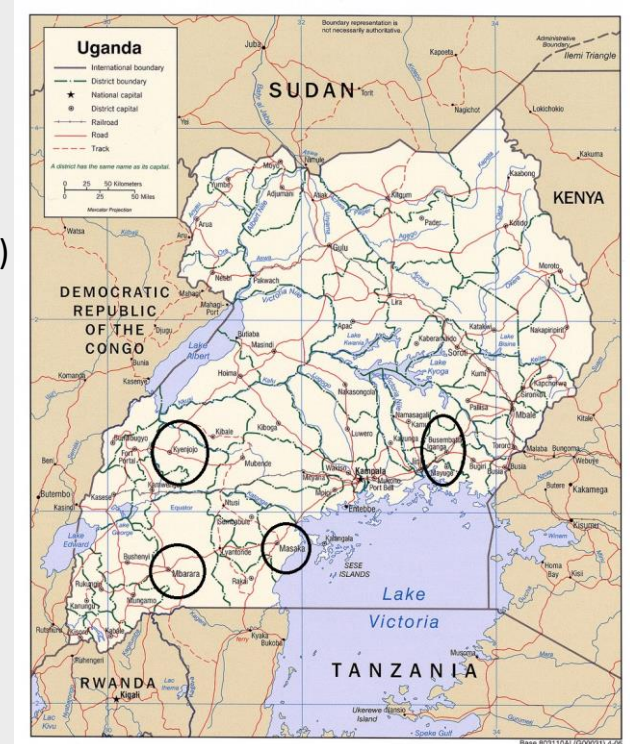
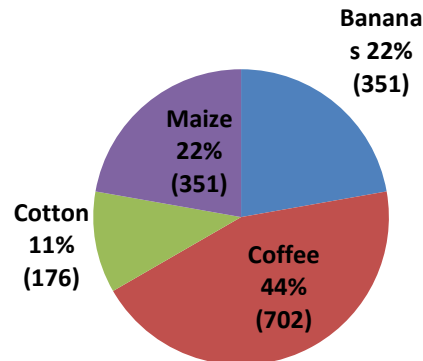
Sample sizes by crop & locations: Total Cotton/Maize: Iganga: 112 (75/37)
Total Sugarcane: Iganga: 70

(34/36)

Total Maize: Kyenjojo: 120 (83/37)

Total Coffee: Masaka: 99 (69/30)

Crops as a Share of



Malawi Research

Total farmers w/matured loans: 9608

Total Farmers Surveyed: 416

Crops surveyed: Tobacco, soya, groundnuts

Survey Locations: Ntchisi, Kasungu, Dowa

Sample Sizes by crop & locations: Total Tobacco: Dowa (30/14), Kasungu (107/41), Total: 192

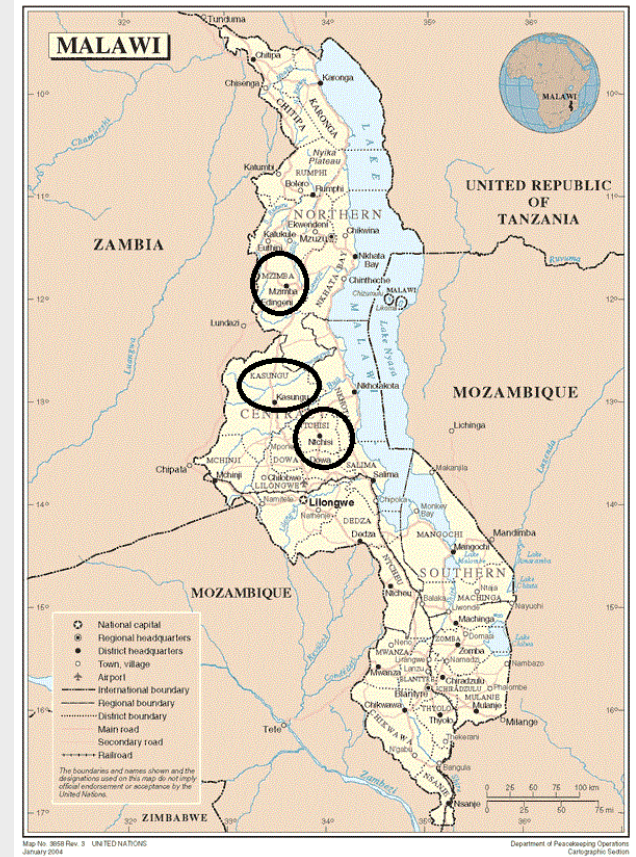
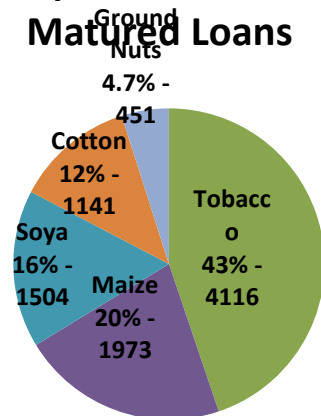
(137/55)

Total Soya: Ntchisi 96 (58/38)

Total Groundnuts: Dowa: 128

(85/43)

Crops as a Share of Matured Loans



Ghana Research

Total farmers w/matured loans: 8758

Farmers Surveyed: 427

Crops Surveyed: Cocoa, maize, onion/chili

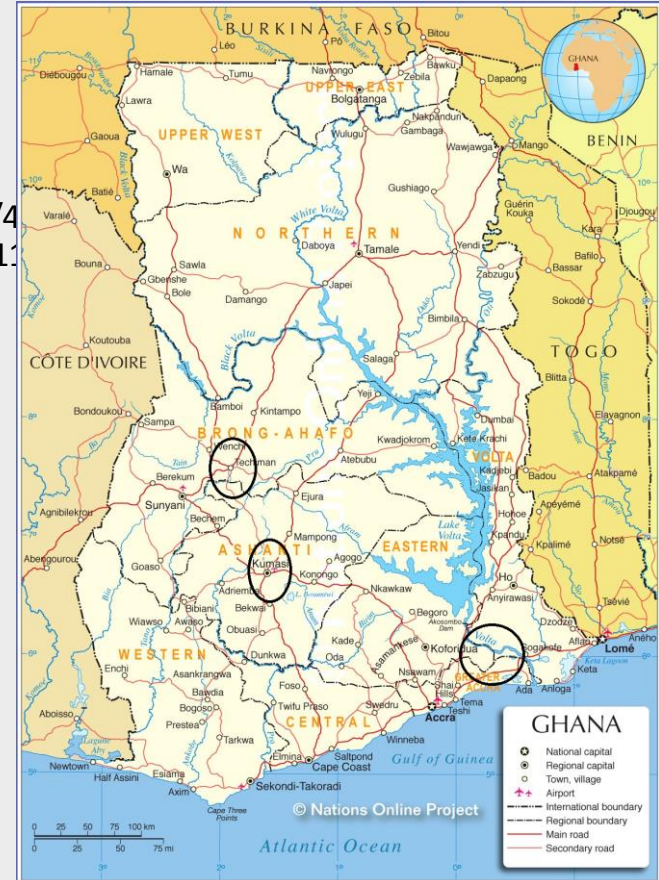
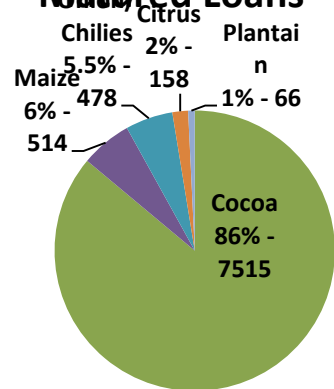
Survey Locations: Kejetia, Techiman, Ashaiman

Sample Sizes by crop & locations: Total Maize: Techiman 109 (84/25)

Total Cocoa: Kejetia 204 (157/47)

Total Onion/Chili: Ashaiman: 11

Crops as a Share of Matured Loans



3. PRIMARY AGRICULTURAL IMPACT FINDINGS

Our client farmers surveyed experienced:

- Average number of loans: 1.7 loans/client
- Average amount loaned: \$505/client
- **Increased access to agricultural inputs:** 68% used fertilizer versus 49% in control group
- **Increased crop yields:** up to 54% greater than the control group
- **Expanded crop production**
 - 42% expanded crop production by renting land
 - 14% expanded crop production by purchasing land
- **Increased access to marketing channels**
- **Experienced greater price transparency**
- **Modified their approach to farming** after receiving agricultural support and training (83% of client farmers trained by extension services)
- **Hired additional labor** for their farms during peak seasons

Changes in Agricultural Production

- **Most client farmers increased**
 - access to inputs, agricultural extension advice, links to markets,
 - production, quantity marketed, and yield.
- **The situation differs crop by crop**

Malawi	Tobacco Soybean Groundnuts	<ul style="list-style-type: none"> – A success story – A story of failure* (weak ESP partner, late seed/planting, water stress) – A modest success
Uganda	Coffee Sugar Maize Cotton	<ul style="list-style-type: none"> – A success story – A temporary setback (processing plant opening delay, transitory issue) – A modest success – External constraints* (ESP partner project end, collapse of int'l market)
Ghana	Cocoa Maize Chilies	<ul style="list-style-type: none"> – Successes & challenges – A success story – Farmers very happy

Uganda Coffee – A Success Story

- Coffee cooperatives mobilize members for loans; market linkages to Fair Trade exporters
- Good prices & extension encouraging investment in inputs and new trees.
- 2X as many client farmers use fertilizer.
- Client production and yields 40% higher than for controls.
- More farmers selling collectively, and adding value by hulling.
- Less side-selling of unripe cherries while still on the tree.

Table 10. Percent of Households Growing Coffee Reporting

Practice	Control		Client	
	2009 (n=28)	2012 (n=28)	2009 (n=67)	2012 (n=74)
Proportion using Fertilizer	25%	46%	33%	88%
	Average			
Quantity produced (kg)	1,330	1,255	1,116	1,767
Quantity marketed (kg)	1,314	1,240	1,097	1,725
Yield (kg per acre)	716	551	542	779

Malawi Soybeans – A Failure Story

- Partnered with a private wholesaler who organized farmers, supplied inputs, & extracted the loan payment through end of harvest repayment-in-kind
- Weak extension service provider in the area
- Late delivery of seed from input supplier which meant late planting
- Water stress on crop

Table 9. Percent of Households growing Soybean Reporting				
Practice	Control		Client	
	2009 (n=30)	2012 (n=40)	2009 (n=49)	2012 (n=57)
Improved seed	80%	90%	84%	98%
Fertilizer	27%	35%	14%	61%
Pesticides	10%	10%	6%	14%
	Average			
Quantity produced (kg)	377	450	662	520
Quantity marketed (kg)	337	405	597	473
Yield (kg per acre)	478	421	488	308

4. SECONDARY (QUALITY OF LIFE) IMPACT FINDINGS

Our client farmers experienced:

- **Improved cash flow** as a result of increased production
 - 52% greater economic standing improvement and ability to meet basic needs than control group
- **Households able to invest in assets and income generating activities**
- Increased **access to education** and improved **food security** (less number of hungry days)
- **Perceived greater positive changes to household** compared to control

Challenges and Lessons Learned (for the Program)

- **Individual farmers.** Must make sure that data on individual farmers within groups are being carefully tracked in-house, not just at the ESP level
- **ESPs.** Effective extension service providers are absolutely necessary. Finding them is a challenge. Given that they serve a crucial component, this area warrant further innovation.
- **Input dealers.** Timeliness of inputs is vital for optimal production. Finding responsible input dealers is therefore essential for success.
- **Farmer Groups.** Weak farmer groups – defaulting members made other members' miss their opportunity to obtain a second loan, which was strongly encouraged in the perennial crops.
- **Off-takers.** Must build win/win relationships with market off-takers where marketing arrangements can be made

AGRICULTURAL FINANCE: Looking Forward

- **Data-Gathering.** Account opening and loan processing in the field using digital data capturing technology on tablets (Ghana and elsewhere)
- **Branchless Banking.** Money in & money out using multiple Telcos with aggregated mobile money platform (SAGCOT Tanzania and elsewhere)
- **Extension Services/Data-Gathering.** Village-based extension services through Grameen Foundation's Community Knowledge Workers (Uganda)
 - Use of smart phones and lead farmers in groups to disperse GAP and to collect farmer-level data
 - Embeds extensions services within the community
 - Data-gathering can become a source of income for farmer
- **Data-Gathering.** Data exchange with key partners (greater data-level collaboration with value chain actors)
- **Mobile Relationship Officers.** Village-based loan officers & crop insurance



Technology Enables:

- Geo-Tagging
- Time Tagging
- Land Mapping
- Performance Measurement
- Other data gathering

Thank You!



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