

Platform
for Agricultural
Risk Management

Managing risks
to improve farmers'
livelihoods

Tools Assessment



Uganda

**High Level Dissemination
Workshop Report**

**Presentations
Vol. 2**

November 2016





PARM
PLATFORM FOR
AGRICULTURAL RISK
MANAGEMENT

Platform
for Agricultural
Risk Management

Managing risks to improve farmers' livelihoods

Uganda



High Level Policy Dialogue Workshop on Agricultural Risk Management

Volume II

PRESENTATIONS

Kampala | 29 November, 2016

In collaboration with:





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Agricultural risk management tools in Uganda

Presentation 1: The Finance, Information & Risk Management Model (FIRM)

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Presentation 2: National Agriculture Insurance Scheme

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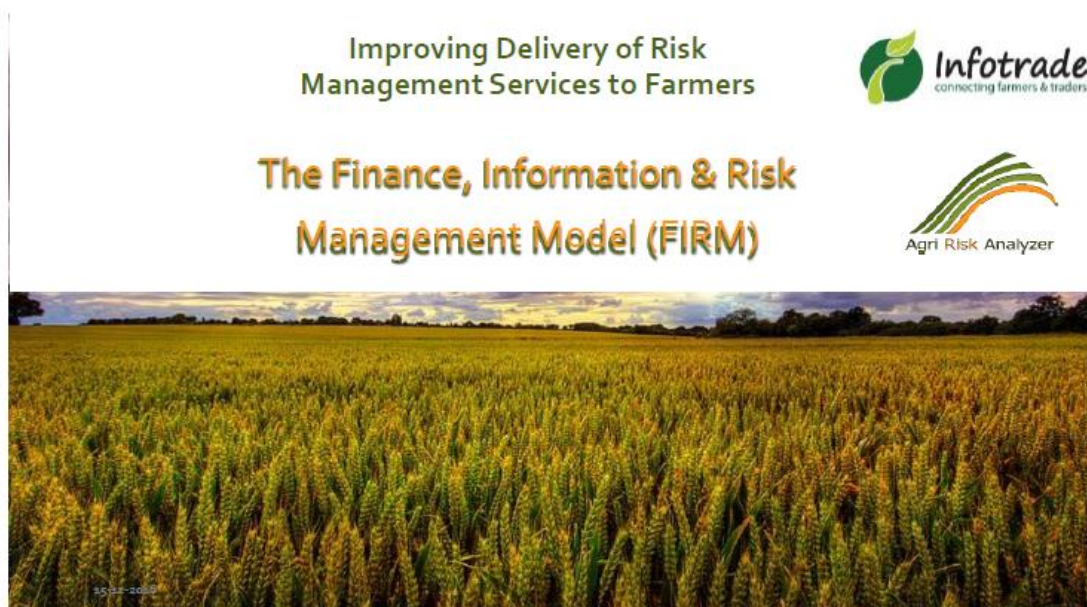
Presentation 4: Finance Information & Risk Management

Jaime Ter Linden, Founder, Agri Risk Analyzer
Robert M Kintu, Principal Consultant, Fit Uganda

Presentation 1:

The Finance, Information & Risk Management Model (FIRM)

Jaime Ter Linden, Founder, Agri Risk Analyzer
 Robert M Kintu, Principal Consultant, Fit Uganda



The Problem



Farmers don't run their farms as a business:

- Average land ownership less than two acres
- Outdated production & storage technologies, poor seeds
- Low cashflow generation and profitability

+



High Risks in the Sector

- High individual risks
- Farmers are highly exposed to risks (drought, pest & disease, market, etc.)
- Many risks are catastrophic
- Poor Risk Management knowledge and expertise

+



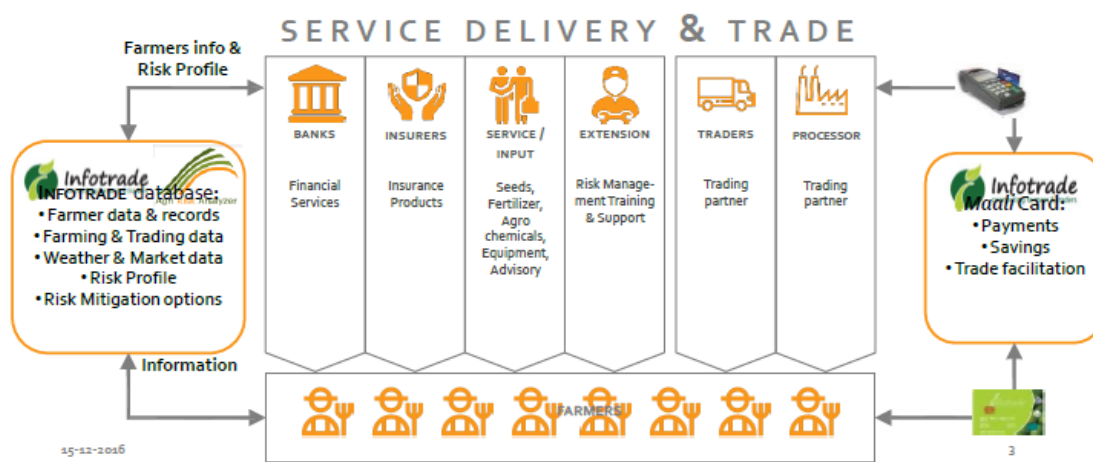
Service Providers shy away from the sector:

- Low purchasing power of farmers
- High risk of farmers (for banks and insurers)
- High operational costs to service the sector

Result: an underserved sector



FIRM – How does it work?

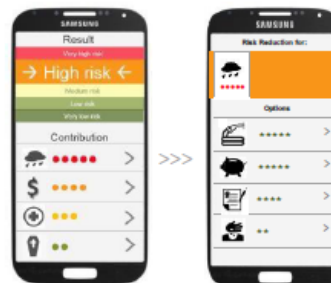


FIRM – Risk Analytics



The Agri Risk Analyzer will process the data and calculate:

- Risk Information:
 - A risk score (1-5 scale) indicating the farmers' risk exposure
 - A sensitivity analysis providing how risks contributes to the total risk
- Risk Mitigation Advice:
 - An overview (ordering) of most effective and efficient risk mitigation options, like insurance or irrigation
- Credit Score*:
 - A score based on 'distance to default'



* Sufficient financial farmer data needed in order to process a credit score

FIRM Partners



ROLES

FIT Uganda	Lead partner, operating the FIRM system
Agri Risks	Providing risk analytics & advice
FINCA, Postbank	Banking partners
Jubilee	Insurance partner
Makerere University	Development partner, technical support & training
MAAIF	Public partner, extension services
PARM	Facilitator, stakeholder management

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FIRM – Added Value for Users



Presentation 2:

National Agriculture Insurance Scheme

Munya, Agro Consortium



National Agriculture Insurance Scheme

Presented by Munya



UAIS

- The government of Uganda introduced the Uganda Insurance Agriculture Scheme (UAIS) in July 2016
- Insurance subsidy program for both small and large scale farmers
- to assist Ugandan farmers to reduce the effects of losses of their crops/livestock



Eligibility for the UAIS

- Both small and large scale farmers are eligible for this scheme and participation shall be at individual level or in farmer groups

Subsidies

S/N	Farmer Category	Either by Number of Acreage	Either by Annual Income	Subsidy
1	Small scale	Less than 5 acres	Less than 20M seasonal income	50%
2	Large scale	5 acres and more	More than 20M seasonal Income	30%
S/N	Item	Number/Quantity	Subsidy	
1	Small scale	Poultry	500 – 2000	50%
	Large scale		2000 and above	30%
2	Small scale	Cattle	1 - 30	50%
	Large Scale		30 and above	30%
3	Small scale	Pigs	1 - 50	50%
	Large Scale		50 and above	30%
4	Fish		Mostly participants are large scale	30




Agro Consortium

- The UAIS is managed by the Agro Consortium (AIC) which is housed under the Uganda Insurers Association (UIA)

Consortium Members

- APA Insurance (Uganda) Ltd.;
- GoldStar Insurance Company Ltd.;
- Lion Assurance Company Ltd.;
- Phoenix of Uganda Assurance Company Ltd.;
- Jubilee Insurance Company of (U) Ltd.;
- UAP Insurance Uganda Ltd.;
- CIC General Insurance Uganda Ltd.;
- First Insurance Company Ltd.;
- NIC General Insurance Company Ltd.;
- Pax Insurance Company Ltd.





Crops & Livestock covered under the scheme


A. Crops

- Coffee, Tea
- Maize, Barley
- Rice, Sorghum
- Beans
- Bananas
- Fruits and Vegetables
- Cotton, Oil Palm, Oil Seed and Cocoa
- Irish potatoes

B. Livestock

- Cattle (Beef & Dairy)
- Piggery
- Poultry

C. Fish



Products

- Multi – peril Insurance
 - a. Crops
 - b. Livestock
- Drought indexed insurance
 - a. Crops
 - b. Livestock



Crop premium rates

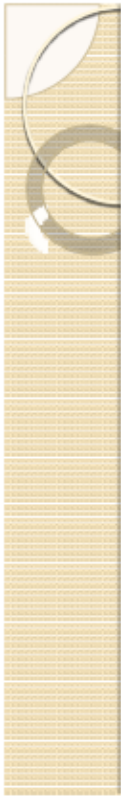
Crop	Premium rate	Yield Guarantee
Maize	5.0%	75%
Beans	5.0%	75%
Coffee	5.0%	75%
Bananas	5.0%	75%
Tea	4 (western region) 6% (central region)	75%
Cotton	6%	75%
Sunflower & oils seeds	5%	75%



Livestock premium rates

Animal	Premium rate	Excess
Dairy Cattle	5%	10%
Exotic beef	4%	10%
Local Cattle	3.5%	10%
Aquaculture	6%	15%
Pigs	6%	15%
Poultry	5%	15%





Q & A

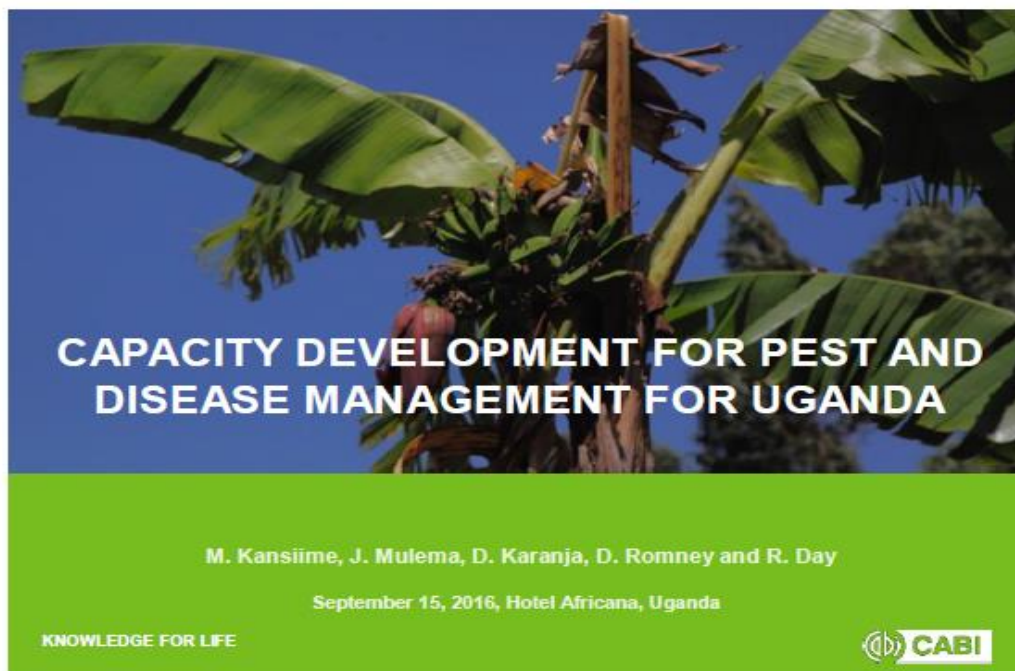


Presentation 3:

Capacity Development for pest and disease management for Uganda

Joseph Mulema, Plantwise Regional Support Manager, CABI

Dannie Romney, Program Manager, CABI

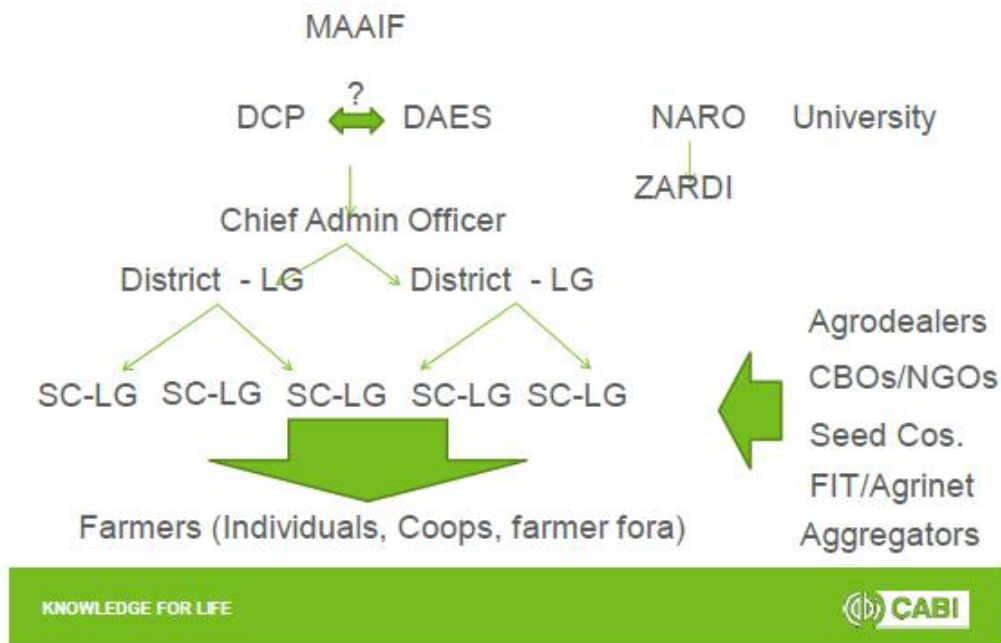


Objectives

- Cost-efficient information systems to detect and monitor plant pests and diseases
- Sustainable models to reach out to farmers with pest management services
- Capacities at MAAIF (and other relevant stakeholders) to analyze and combat the threat of plant pests and diseases

KNOWLEDGE FOR LIFE





Coordination: National staff and office costs to oversee investment program



ICT for services: Integrate HH data collection database and data management system and collect farmer profiles

Pest management Advisory: Costs of setting up a clinic in every sub-county. Including training extension as plant doctors, weekly operational costs and equipping clinics

General Surveillance – data collection: Equipping extension officers with tablets for pest monitoring and data collection and management – (in and out of clinics)

Specific surveys: Contingency costs of pest specific surveys

Farmer awareness: Rapid outreach campaigns using mass media and plant health rallies

High Quality inputs: Agro-dealer development, awareness raising on counterfeit products and importance of good seed; support seed inspection and regulation

DCP capacity building: Recruitment of new staff and staff training; refurbishment and running costs of main diagnostic lab, pesticide lab, seed lab and greenhouse



.Capacity Development

UNDP definition of capacity

The ability of individuals, organisations and societies to perform functions, solve problems, and set and achieve objectives in a sustainable manner” (<http://www.capacity.undp.org/>).



Capacity is much more than the knowledge, skills and tools of individuals and organizations. It is a property of a system comprising a range of different actors and the formal and informal linkages between them.

KNOWLEDGE FOR LIFE



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DCP Capacity Building

Skills	DCP Staff	Skills	DCP staff
Phytosanitary processes		Information Management	
Risk analysis	Senior staff	Database management	IT staff
Import controls	Senior staff	Data analysis, modelling	IT staff
Export certification	Senior staff	Presentation, visualization	IT staff/Ag inspectors
Surveillance	Ag inspectors		
Diagnostics	Ag inspectors		
Regulatory functions		Management	
Impact assessment / regulatory good practice	Senior staff	Strategic planning	Senior staff
Pest control products	Ag inspectors	Leadership	Senior staff
Seed systems	Ag inspectors	Quality management	Senior staff
Monitoring (pesticide analysis, seed testing)	Ag inspectors	Communication, advocacy, policy influence	Senior staff
		Financial management	Finance staff

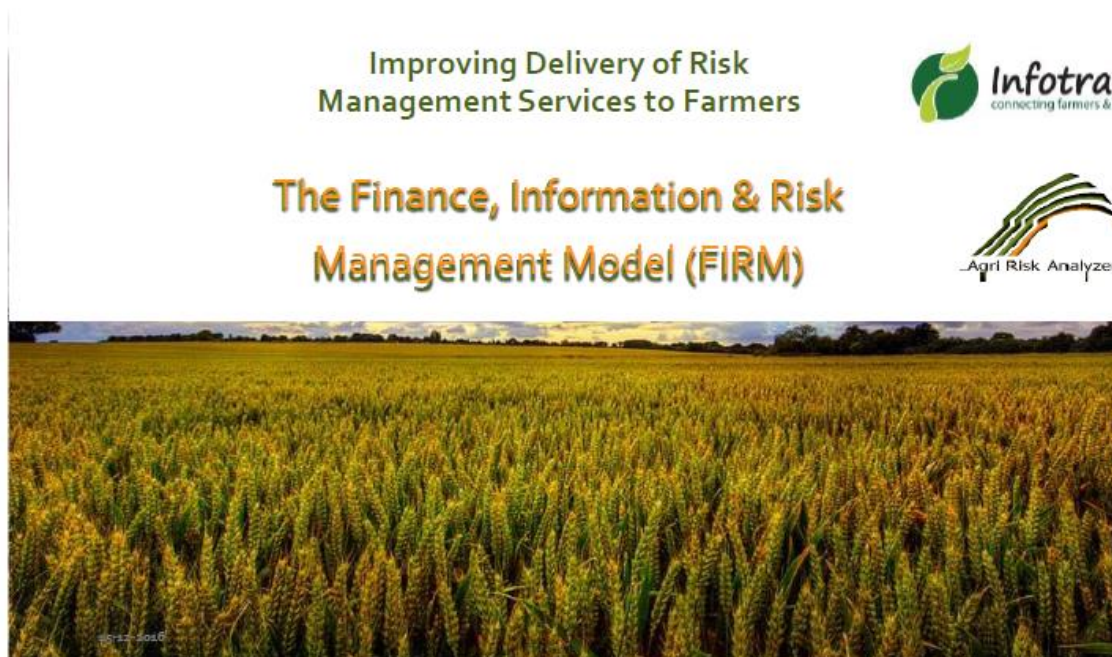
5-10 day; 3-4 mo courses 1 month courses; Distance learning and mentoring; Study tours



Presentation 4:

Finance Information & Risk Management

Jaime Ter Linden, Founder, Agri Risk Analyzer
 Robert M Kintu, Principal Consultant, Fit Uganda



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Reasons for Underserving the Sector



	 Financial Institutions	 Insurance companies	 Other service providers	 Extension services
Target group with limited purchasing power	✓	✓✓	✓✓	-
High cost of identifying target group & collecting farmer information	✓✓	✓✓	✓	✓
High marketing & distribution costs	✓✓	✓✓	✓✓	✓✓
Exposure to systematic risks	✓✓	-	-	-
High risk of default / non-payment / fraud	✓✓	✓	✓	-

Solution – the FIRM concept



FIRM: Finance, Information & Risk Management



Unlock Access to Finance and other Services by Integrating:

- Farmers Information
- Risk Profiles & Analysis
- Payment & Transaction Platform



Take away Barriers for Service Providers by:

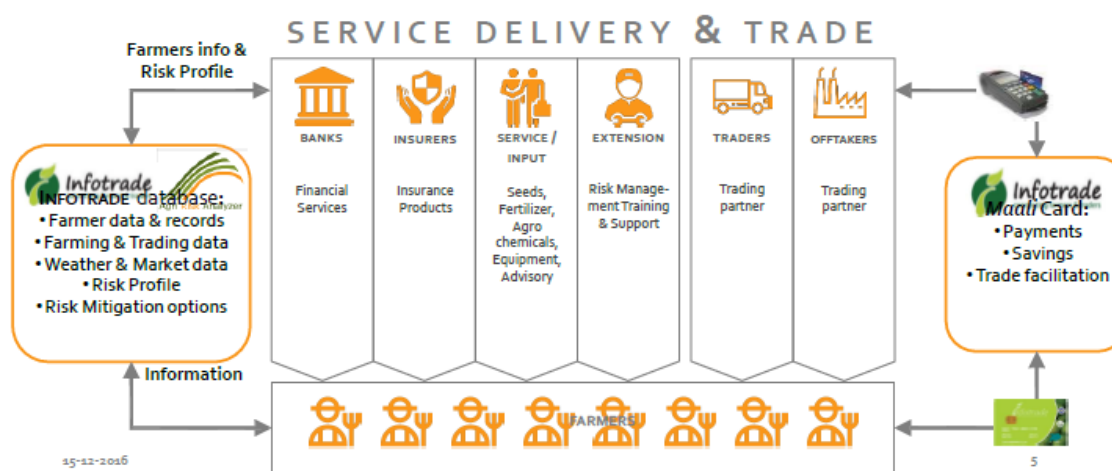
- Provide turn-key farmer profiles
- Provide risk analysis on individual and systematic risks
- Payment & Transaction platform



Facilitate Risk Insights for Extension & Policy:

- Aggregated profiles on village, district & national level
- Advice on Risk Mitigation policy & support

FIRM – How does it work?



FIRM step 1: Data Collection & Sharing

- Infotrade collect information from farmers in Infotrade
- 18 years experience in Uganda
- Mapping and profiling of farmers, traders and service providers
- Infotrade is the core of FIRM
 - Infotrade Basic: 900,000 farmers
 - Infotrade Premium / Basic plus: 26,000 and currently growing ±3,000 / month
 - 409 in production information advisors (PIAs)

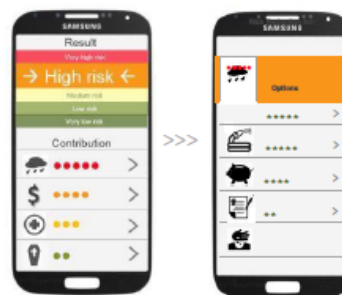


FIRM step 2: Analytics



The Agri Risk Analyzer will process the data and calculate:

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FIRM step 3: Sharing Information & Trade



User Case: Farmers



1. Access to Information
 - Receive weather and market information
 - Get agronomical advice
 - Get insight into risk profile
 - Know risk mitigation options



2. Improve Practices
 - Improve agronomical practices
 - Get better prices
 - Improve risk profile



3. Link to Service Providers
 - Get access to providers of finance, insurance, services & products, extension
 - Further enhance productivity, access to storage, reducing post-harvest losses



4. Debit Card
 - Store, save, receive, send and spend money electronically with the *Maali Card*

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User Case: Financial Institutions



1. Identify Potential Customers
 - Identify customers in need for financial services
 - Identify creditworthy versus non-creditworthy farmers
 - Cost reduction for marketing and loan origination



2. Easy Processing, Better Loan Decisions
 - Transfer turn key data & analytical profile into internal loan process
 - Improve accuracy of credit decision based on credit scores



3. Packaged Loans
 - Based on risk mitigation advice, the loan can be packaged with insurance, or irrigation loans only, for example
 - This can significantly reduce the risk for FIs



4. Easy Processing
 - Distribute loan to *Maali Card*
 - Collect repayment via *Maali Card*
 - Receive transaction based credit information
 - Reduce cost on distribution

User Case: Insurance Company



1. Identify Potential Customers
 - Identify farmers who can benefit from insurance
 - Cost reduction for marketing and origination



2. Easy Processing & Better Underwriting Process
 - Transfer turn key data & analytical profile into underwriting process
 - Improve accuracy of underwriting process



3. Easy Processing
 - Distribute insurance and collect payment with *Maali* Card
 - Distribute payouts via *Maali* Card
 - Reduce cost on distribution



4. Packaged Insurance
 - Package insurance with other products, like loans or inputs
 - Increase marketing opportunities

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User Case: Service / Input provider



1. Identify Potential Customers
 - Identify farmers who can benefit from service / product
 - Reduce cost for marketing



2. Improved Market Intelligence
 - Quantified insight in how farmers can lower their risk profile with certain products / services (e.g. improved seeds, agronomical practices, irrigation)
 - Custom made products & group discounts



3. Easy Transactions
 - Receive payments with *Maali* Card
 - Reduce cost on distribution



4. Package with other Products
 - Package own product with other products & services
 - Increase marketing opportunities

User Case: Extension Services & Policy



Extension



1. Understand Risk Profile
 - Get insight in the risk profile of farmers
 - Identify training opportunities
 - Increase effectiveness of programs



2. Identify Risk Mitigation Options
 - Identify risk mitigation options with farmers
 - Integrate in training & capacity building program
 - Link to providers of services
 - Improve risk profile of farmers

Policy



1. Portfolio Overview
 - Get an overview of farmers, risk and trade on village, district, national level
 - Identify weak spots in the system



2. Policy & Support
 - Improve policies on village, district and national level
 - Improve risk resilience of farmers
 - Support public & private sector in service delivery to farmers

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Business Model



Farmers	Banks & Insurers	Service / Input Providers	Extension Services
Annual Subscription USD 10	Pay as you go (pay per view) USD 3-5 per farmer record		

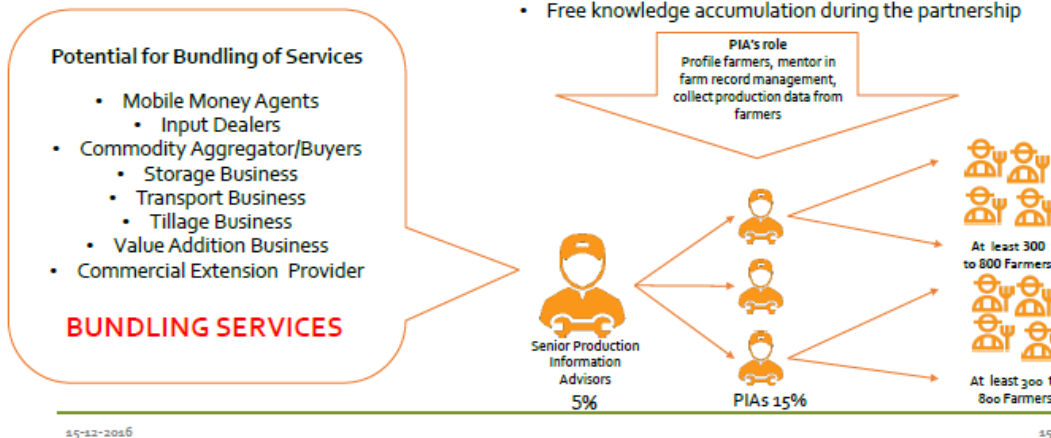


Farmers	Banks & Insurers	Service / Input Providers
Buy Card for UGX 15,000	Pay as you go 0.5 % of transaction	

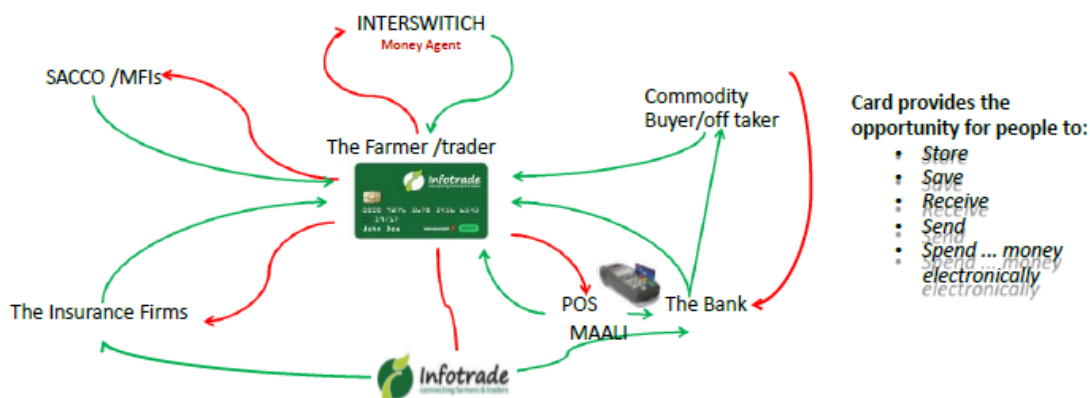
Behind the Scenes: PIA Model



- Based on Revenue Sharing Service Contract
- Self Sustaining service continuity and Growth
- Free knowledge accumulation during the partnership

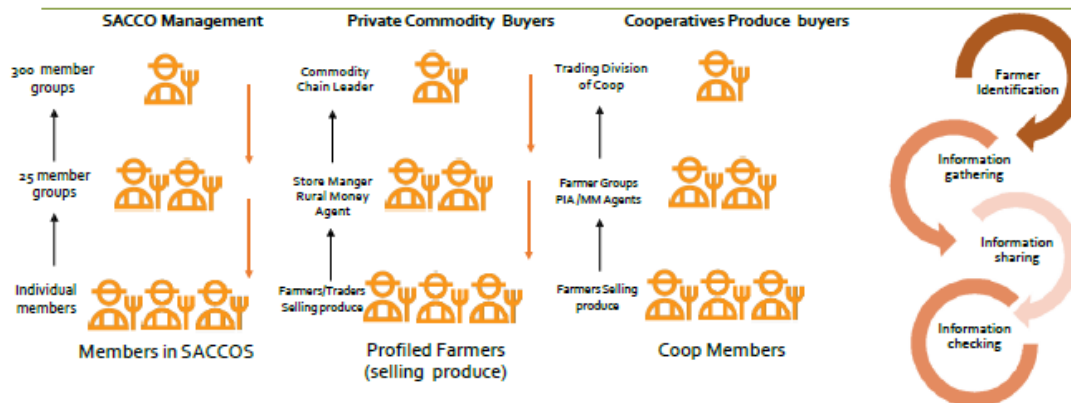


The Infotrade Maali Card Eco-System





Money Agents model



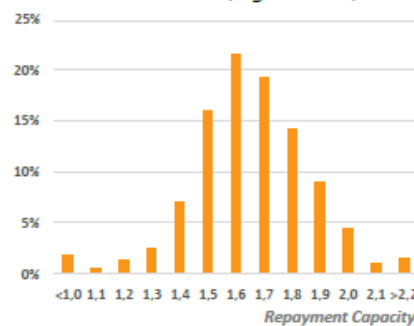
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Behind the Scenes II – Agri Risk Analyzer



- The Agri Risk Analyzer compiles a cashflow of the farmer
- This can be based on basic inputs like location, crops, land size, sales channels and household characteristics for more simple use
- It can also be based on a more enhanced profile of the farmer for advanced use (e.g. finance)
- A simulation of the cashflow is made, with scenarios based on what we know of:
 - Yield variability (insurance models)
 - Price volatility (market models)
 - Life & health events causing cashflow shocks (insurance models)
 - Pest & Diseases (forthcoming, i.c.w. Makerere University)
 - Other sources of cashflow variability (expert opinion possible)

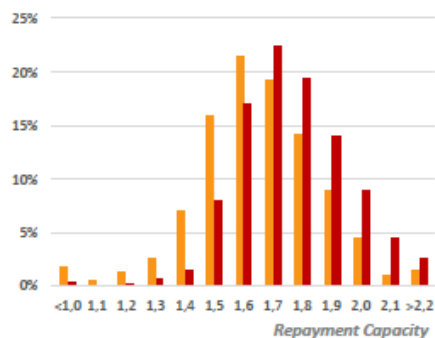




Behind the Scenes II – Agri Risk Analyzer



- Within this methodology, we can also calculate the effect of risk mitigation
- For example: irrigation
- Irrigation in general delivers higher yields and makes the farmer less vulnerability for drought. This is reflected in the scenarios
- Now we can compare the farmer with irrigation (red bars) and without irrigation (orange bars)
- The difference between these graphs determines whether there is a 'business case' for irrigation
- This is repeated for other risk mitigants (e.g. insurance, improved seeds, agronomical practices, etc)



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FIRM Partners



FIRM Partners



 <ul style="list-style-type: none"> • Lead partner • Infotrade Database • Farmer field network <ul style="list-style-type: none"> • <i>Maali</i> Card • Training of end users 	 <ul style="list-style-type: none"> • Delivery of Agri Risk Analyzer (ARA) technology • Leading R&D activities • Training of end users 	 <ul style="list-style-type: none"> • Recipients of farmer risk profiles <ul style="list-style-type: none"> • Product development & innovation • Provide loans • Provide other financial services 	 <ul style="list-style-type: none"> • Recipient of farmer risk profiles • Provide insurance
 <ul style="list-style-type: none"> • Strategic partner in R&D of ARA • Operate field research • Training partner of extension networks 	 <ul style="list-style-type: none"> • Strategic partner in R&D of ARA • Operate field research • Training partner of extension networks 	 <ul style="list-style-type: none"> • Driving ARM agenda • Stakeholder management • Facilitator 	

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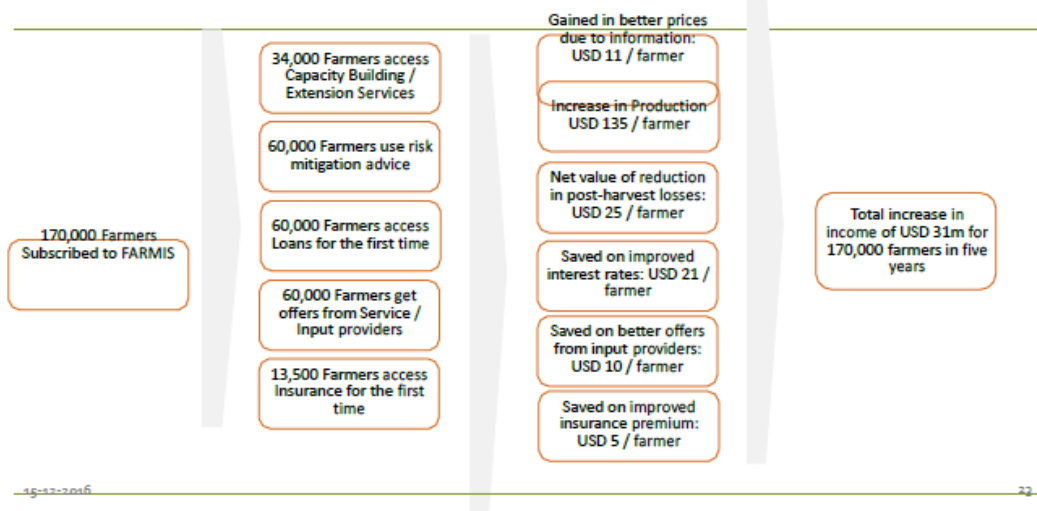
Timeline & Milestones



<p>H1 2017</p>	<p>H2 2017</p>	<p>2018</p>	<p>2019 >></p>
<ul style="list-style-type: none"> • Further expansion into rural areas & expansion of PIA network • <i>Maali</i> Card pilot • ARA adaptation for Uganda (including field research) 	<ul style="list-style-type: none"> • Training of PIA network on risk profiling • Expansion of <i>Maali</i> Card • Roll out payment terminals • ARA integration into Infotrade • Produce farmer risk profiles 	<ul style="list-style-type: none"> • Further expansion of farmer / PIA network • Further expansion of <i>Maali</i> Card / POS terminals • Share integrated farmer risk profiles with service providers • Product design and delivery i.c.w. service providers 	<ul style="list-style-type: none"> • Further expansion & growth



Results in numbers



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What do we need



<p>Donors </p> <ul style="list-style-type: none"> FIRM: Funding need of USD 780k Additional funding needed for development of public services (extension) 	<p>Business Partners </p> <ul style="list-style-type: none"> Financial Institutions Insurers Input / Service providers 	<p>Field Partners </p> <ul style="list-style-type: none"> NGOs Outgrower Schemes Other farmer networks 	<p>Public sector </p> <ul style="list-style-type: none"> Extension network Creating awareness Support and enhancement
<p>Knowledge Partners</p> <ul style="list-style-type: none"> Pest & Disease knowledge (i.c.w. Makerere) Political Risk Knowledge / Models 		<ul style="list-style-type: none"> Infrastructure Risk knowledge Post harvest losses Farmer livelihood expertise 	





Thank You



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ANNEXES



ANNEXES



FIRM Partners: Agri Risk Analyzer



- A low-cost, easy-to-use risk-assessment tool for farmers, extension services, agribusinesses and financial institutions
- Provides insight into the systematic risk exposure of farmers
- Enables evidence-based decision-making on risk mitigation, for example:
 - Improved agronomical practices
 - Irrigation
 - Improved seeds
 - Insurance

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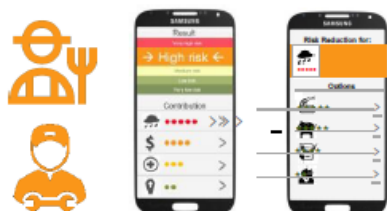
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FIRM Partners: Agri Risk Analyzer



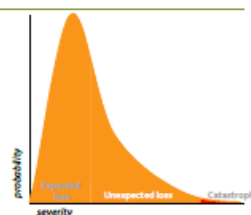
For an Individual Farmer:

- A **Risk Score** per farmer
- A **Sensitivity Analysis** of the risk score (contribution of risks to the total risk)
- An analysis which **Risk Mitigation** options are the most efficient



For a Portfolios of Farmers:

- The **Basic Tool** +
- A **Value at Risk** analysis
- A **Portfolio Analysis** which enables portfolio management decisions



	Maize	Wheat	Coffee	Beans	Total
Yield	Very High	Very High	High	Medium	High
Sales price	Very High	Low	Low	Very low	Low
Input price	High	Low	Very low	Very low	Medium
Forex	Low	Low	Very High	Low	Medium
Pest & Disease	Medium	Low	Low	Medium	Medium
Inflation	Low	Very low	Medium	Very low	Low
Political	High	Medium	Very High	Medium	Medium
Life					High
Health					Medium
Total	High	Medium	Medium	Low	Medium



Annex

ANNEX: How does the ARA work?



- The following slides show how the Agri Risk Analyzer can work in the credit analysis process of a Financial Institution
- We follow the cashflow analysis banks usually conduct, and show how the Agri Risk Analyzer add to that analysis

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Annex

Traditional cash flow analysis



AGRICULTURAL LOANS CASHFLOW ANALYSIS													
	Loan amount: 400,000		Interest: 10%		Grace: 0								
Months	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
CASH INFLOWS	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.
Income from farming	0	0	0	0	0	0	0	250,000	300,000	250,000	0	0	1,100,000
Loan proceeds	400,000	0	0	0	0	0	0	0	0	0	0	0	400,000
Others Income	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	600,000
TOTAL	500,000	50,000	50,000	50,000	50,000	50,000	50,000	400,000	550,000	300,000	50,000	50,000	2,150,000
CASH OUTFLOWS	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.
Inputs	50,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	325,000
Capex	125,000	0	0	0	0	0	0	0	0	0	0	0	125,000
Salaries	50,000	30,000	30,000	30,000	15,000	15,000	15,000	75,000	75,000	50,000	10,000	10,000	405,000
Debts	0	0	0	0	0	0	0	0	0	0	0	0	0
Household expenses	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	75,000	35,000	460,000
TOTAL	260,000	90,000	90,000	90,000	75,000	75,000	75,000	135,000	135,000	110,000	110,000	70,000	1,375,000
Monthly net cashflow	240,000	-40,000	-40,000	-40,000	-25,000	-25,000	-25,000	265,000	415,000	190,000	-60,000	-20,000	835,000
Loan interest & repayment	5,625	5,625	5,625	5,625	5,625	5,625	5,625	96,625	96,625	96,625	96,625	96,625	517,500
Net Cashflow	234,375	-45,625	-45,625	-45,625	-30,625	-30,625	-30,625	168,375	318,375	93,375	-156,625	-116,625	317,500
Cumulative Cashflow	234,375	188,750	143,125	97,500	66,875	36,250	5,625	175,000	493,375	586,750	430,125	317,500	317,500
Repayment Capacity													1.61

A cashflow statement:

- Repayment Capacity is the key metric*
- The 1.61 is *only one (1)* assessment of the farmers' cashflow, given certain assumptions about farming income, expenditure, etc.
- There are many other scenarios possible.

* The Agri Risk Analyzer also works for other metrics, like liquidity, solvency or profitability ratio's (though those ratio's usually needs much more information input)

Annex Traditional CF analysis reflects reality?



AGRICULTURAL LOANS CASHFLOW ANALYSIS

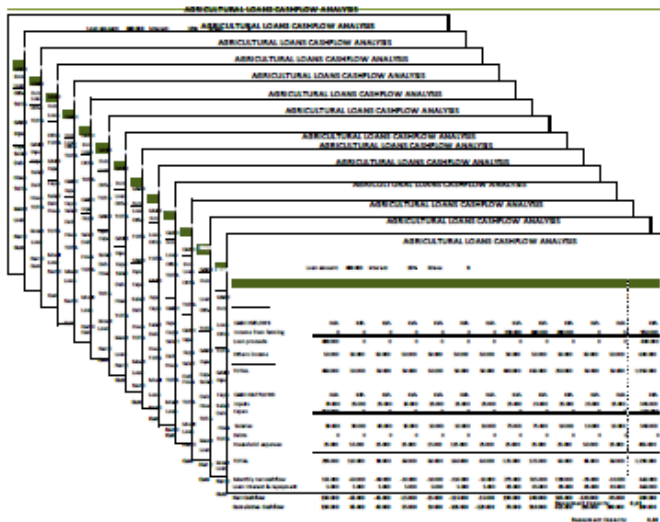
Loan amount: 400,000 Interest: 12% Grace: 0

Monthly	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
Income													
Income from farming	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.
Loan proceeds	0	0	0	0	0	0	0	200,000	400,000	150,000	0	0	750,000
Others income	400,000	0	0	0	0	0	0	0	0	0	0	0	400,000
TOTAL	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	600,000
CASH OUTFLOWS	450,000	50,000	50,000	50,000	50,000	50,000	50,000	250,000	450,000	200,000	50,000	50,000	1,750,000
Inputs													
Inputs	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.
Capex	80,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	410,000
Salaries	150,000	0	0	0	0	0	0	0	0	0	0	0	150,000
Debts	50,000	20,000	20,000	20,000	20,000	20,000	20,000	75,000	75,000	30,000	30,000	30,000	310,000
Household expenses	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	35,000	35,000	35,000	35,000	35,000	25,000	35,000	35,000	35,000	35,000	75,000	35,000	515,000
Monthly net cashflow	315,000	85,000	85,000	75,000	75,000	65,000	75,000	140,000	140,000	140,000	115,000	75,000	1,385,000
Loan interest & repayment	135,000	-35,000	-35,000	-25,000	-25,000	-15,000	-25,000	130,000	130,000	60,000	-85,000	-25,000	345,000
Net Cashflow	5,000	5,000	5,000	5,000	5,000	5,000	5,000	85,000	85,000	85,000	85,000	85,000	460,000
Cumulative Cashflow	130,000	-40,000	-40,000	-30,000	-30,000	-20,000	-30,000	25,000	225,000	-25,000	-150,000	-110,000	-95,000
	130,000	90,000	50,000	20,000	-10,000	-30,000	-60,000	-35,000	190,000	305,000	230,000	155,000	670,000
													Repayment Capacity

- The Agri Risk Analyzer calculates the cashflow based on many different scenarios;
- For example:
 - A drought will impact the income from farming;
 - Input prices are rising;
 - Household expenditure rises due to hospital bill;
 - Many other scenarios possible.
- This significantly affects the Repayment Capacity

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Annex Scenario Analysis

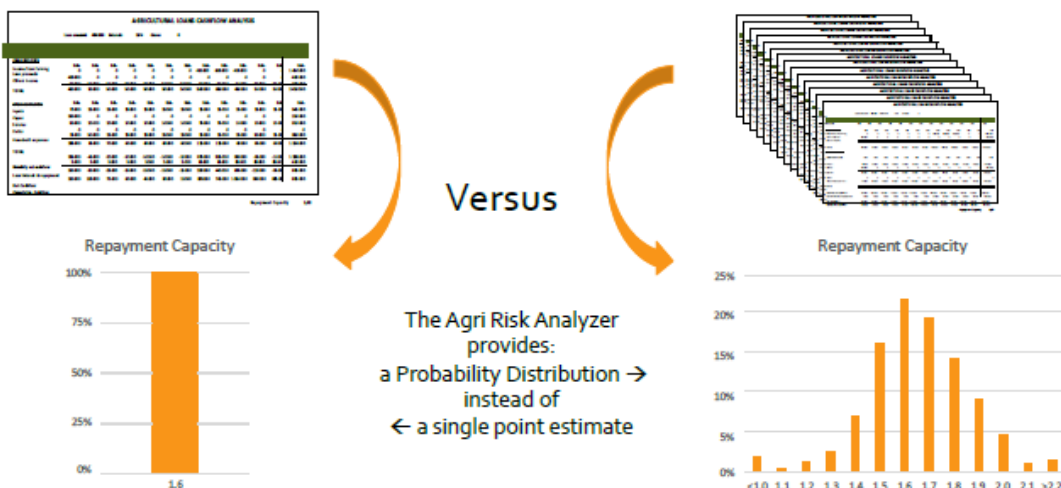


X 10,000 scenario's

- The Agri Risk Analyzer calculates 10,000 different cashflow scenarios (both positive and negative scenarios)
- Based on statistical models for example:
 - Insurance models for weather events (e.g. droughts)
 - Insurance models for health and funeral costs
 - Market models for price volatility
- This delivers 10,000 different scenarios, thus 10,000 different Repayment Capacity figures

Annex

Cashflow analysis vs scenario analysis



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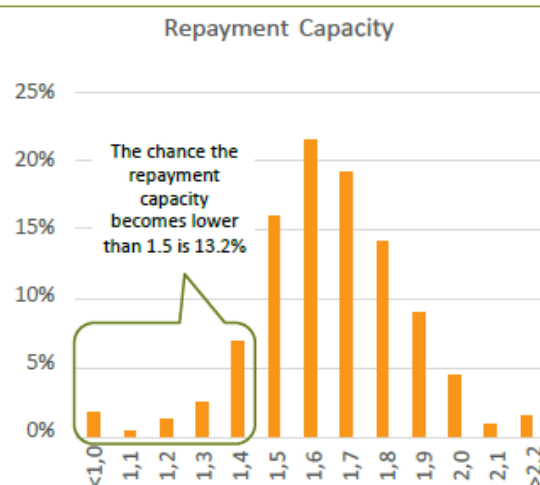
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Annex

Cashflow analysis vs scenario analysis



- A probability distribution of the cashflow (i.e. repayment capacity) is more useful
- It provides the likelihood a borrowers repayment capacity will fall under a certain threshold
- In this example: the probability that the repayment capacity falls under 1.5 is 13.2%
- The loan should therefore be rejected (given 1.5 is the threshold and a potential NPL rate of 13.2% is unacceptable)

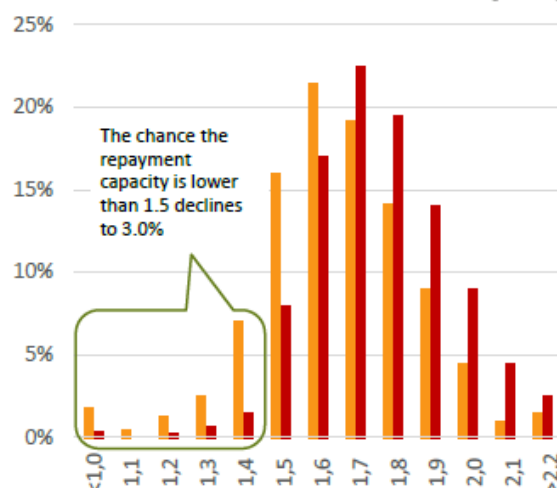


Annex

Analysis of risk mitigation



- Within this methodology, we can also calculate the effect of risk mitigation
- For example: irrigation
- Irrigation in general delivers higher yields and makes the farmer less vulnerability for drought. This is reflected in the scenarios.
- Now we can compare the farmer without irrigation (as it currently is, orange bars in the graph) and in a potential situation with irrigation (red bars)
- The probability the farmers will fall below a minimum repayment capacity decreased to 3.0%
- The loan can therefore be accepted



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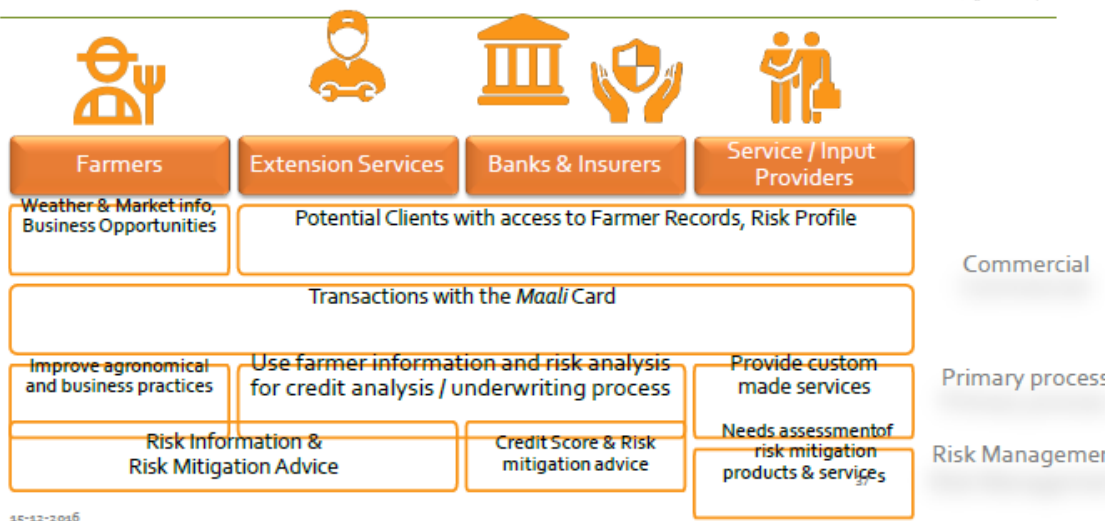
Annex

Summary – the Agri Risk Analyzer



	Traditional Cash Flow Analysis	Agri Risk Analyzer
Includes 'traditional' cashflow items (farming, household CF)	✓	✓
Provides repayment capacity or probability of default (PD)	✓	✓
Includes systematic risks (droughts, price shocks, etc.)	✗	✓
Enables stress testing of cash flow (also non systematic items)	✗	✓
Enables calculation of risk mitigation solutions	✗	✓

FIRM step 3: Sharing Information & Trade

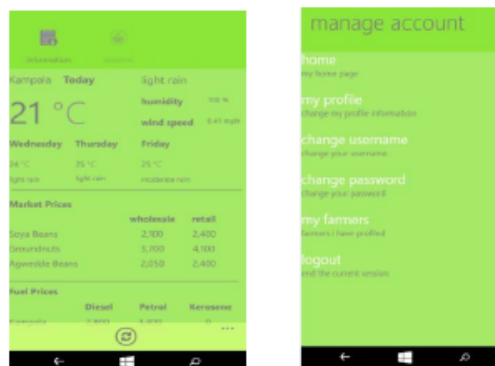


FIRM Partners: Infotrade



Infotrade provides:

- A farmer Identification Services;
- Farmer Records of enterprises;
- Season ledger report, Balance Sheet, Profit and loss reports;
- Business Advisory
- Market information
- Business record storage
- Business linkages to buyers, bankers and stores



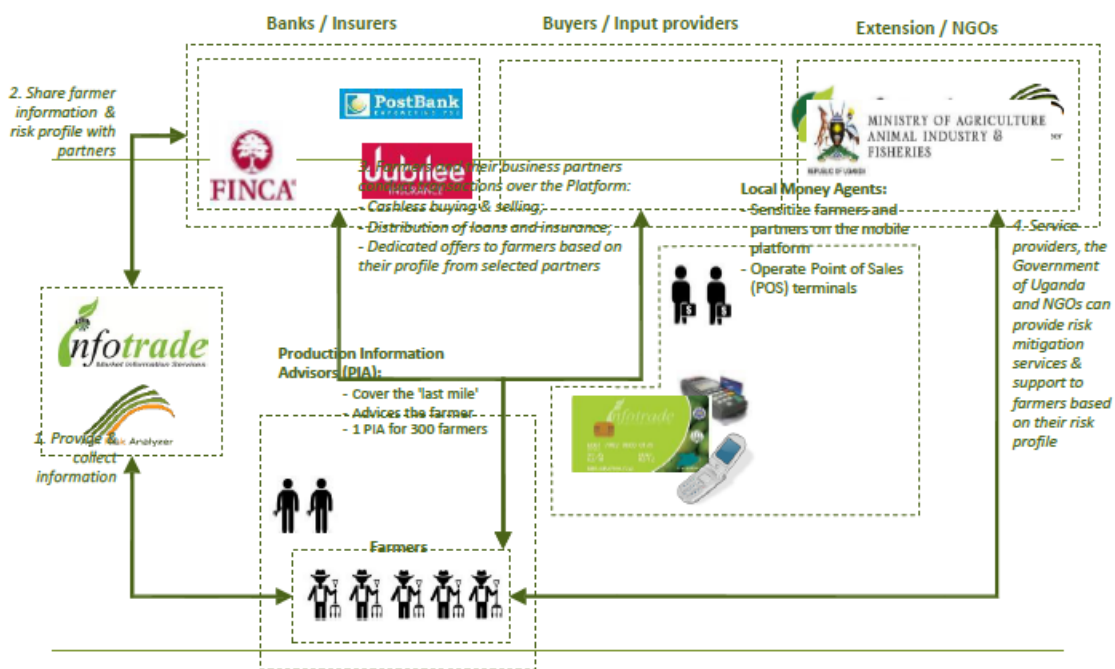


The Agricultural Risk / Poverty Cycle



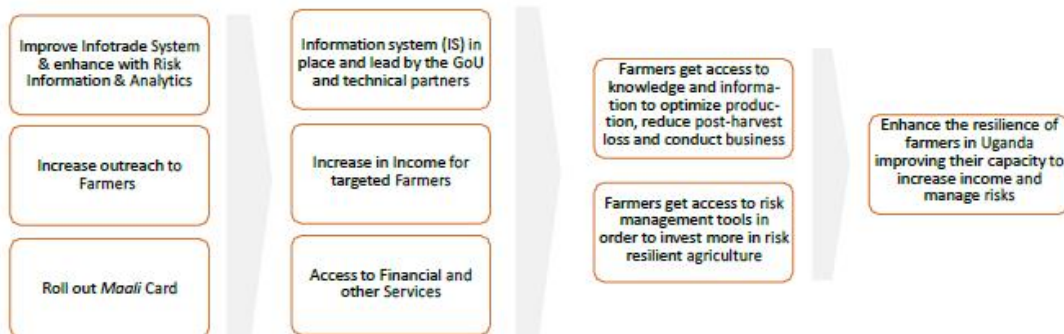
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Logical Framework



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VISION
Our vision is to create a vibrant agricultural sector through well connected and informed farmers and traders

Mission
FIT's mission is to become the leading facilitator of information, trade and knowledge around farmers and their trade

Strategic Options

- leveraging the use of relevant ICTs.
- Working with and for other service providers in Strategic Business alliances
- Create sustainable business revenue share schemes



- ❖ Operates two brands
 - ❖ FIT - Knowledge & business insights
 - ❖ Infotrade- for direct farmer/trader Services
- ❖ Has a Network of Data Collectors
 - ❖ 35 in Uganda for market Information
 - ❖ 409 in production information advisors
- ❖ Built a Database of traceable Small holders
 - ❖ 26,000 farmers in Uganda
 - ❖ 13,200 farmers in Kenya
 - ❖ 2,300 farmers in Tanzania
- ❖ Strategic Business Partners
 - ❖ Two financial Institutions
 - ❖ Payment gateways - for debit cards
 - ❖ One Crop & animal Insurance
 - ❖ Microsoft for cloud sourcing & storage.

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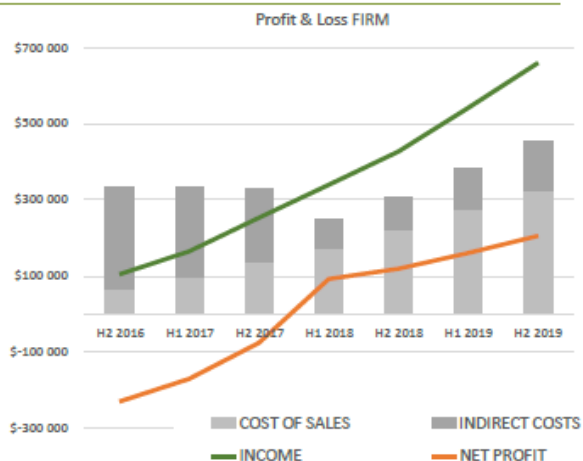


Investment needed



Financials:

- Breakeven within 2 years
- Investment needed for:
 - Further development of the Infotrade Platform
 - Further development of the Agri Risk Analyzer
- Negative Internal Rate of Return (IRR) if all investment costs are commercially funded (which makes the project not viable)
- Positive IRR if development costs are funded with grants / soft loans



NOTE



Contacts

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