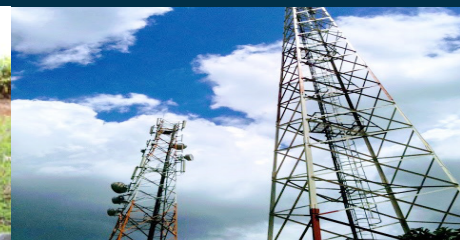




# AGRICULTURAL FINANCE YEAR BOOK

2020

Digitalisation and Agricultural  
Financing in Uganda



A woman wearing a purple t-shirt and a patterned skirt is bent over, tending to a field of young green plants. The field is densely packed with these plants, and the background shows a lush green forest. The scene is captured in a natural, outdoor setting.

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## FOREWORD

The 2020 Agricultural Finance Yearbook, which is the tenth edition in the series, offers an in-depth analysis of the Agricultural financing landscape in Uganda. The theme for this edition is “**Digitalisation and Agricultural financing in Uganda**”. The first chapter of the Yearbook includes an analysis of the impact of government’s policy and strategy on the agricultural sector. An important lesson of this analysis reveals that while government interventions such as the Agricultural Credit facility have been instrumental in boosting the flow of credit to the agricultural sector since its establishment in 2009, what remains critical is a comprehensive evaluation and review of the scheme with the aim of expanding and improving its reach beyond financing large scale farmers, processors and guaranteeing grain trading and marketing to encompass more types of Agricultural Small and Medium Enterprises. Secondly, government needs to fully implement the National Financial Inclusion Strategy 2017-2020 to deepen financial inclusion in the agricultural sector. This strategy identifies key aspects that are needed to fully unlock financial inclusion by reducing access barriers, enhancing credit infrastructure, optimising and de-risking digital financial infrastructure, deepen use of financial services (including insurance), and increase financial literacy in the country.

Chapter Two of the book chronicles the results of research into recent innovations in support for smallholder farmers and the provision of rural finance. One of the important findings in this chapter is that Government should urgently address issues that place Digital financial services (DFS) transactions under multiple legislations. Existing legislations should also be reviewed so that they adequately cover digital agribusiness. The draft national policy and strategy on agricultural finance should address DFS needs for agriculture and DFS should be fitted into agricultural cycles, agri-business skilling and extension services.

In the third chapter, evidence is presented regarding the financing of agricultural value chains. One of the important finding in this chapter is the lessons learnt from Tanzania’s Consortium Model for the rice value chain. The model reveals the importance of policies that enable contract farming business models to thrive and how they can galvanise private sector investments. The Model also indicates how lead firms enable financial institutions to reach and service smallholder farmers and other partners in the value chain. For Uganda to successfully adopt this or other similar models, it needs to; develop a law governing contract farming; eliminate disproportionate concessions or waivers to millers and tariffs (especially on imported rice); and invest in collection of reliable agricultural data. The last chapter in this Yearbook presents interventions aimed at improving the investment climate within select areas of the agricultural sector. A coffee auction arrangement is proposed to enable Uganda coffee to attract export margins similar to those of comparable quality coffee from other countries. However Uganda must; produce sufficient volumes of trades to make a coffee exchange financially viable; strengthen the link between the coffee exchange and its warehouse receipts system (WRS); and discourage cartel formation among coffee buyers.

I highly recommend this insightful book to all stakeholders working in, or with interest in, the agricultural sector in Uganda.



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**Matia Kasaija (MP)**

Minister of Finance, Planning and Economic Development.

## LIST OF ABBREVIATIONS AND ACRONYMS

aBi	agribusiness initiative	FAO	Food and Agricultural Organisation (of the United Nations)
ACE	Area Cooperative Enterprise	FDI	Foreign Direct Investment
ACF	Agricultural Credit Facility	FEWS NET	Famine Early Warning System Network
ACS	Alternative Credit Scoring	FFP LA	Fit for Purpose Land Administration
ADB	African Development Bank	FFS	Farmer Field School
AfCFTA	African Continental Free Trade Area	FI	Financial Institution
AFYB	Agricultural Finance Year Book	FINTECH	Financial Technology
AGRA	Alliance for a Green Revolution in Africa	FO	Farmers' Organisation
ASEAN	Association of South East Asian Nations	FSDU	Financial Sector Deepening Uganda
ASMEs	Agricultural Small and Medium Enterprises	FSP	Financial Service Provider
ASSP	Agricultural Sector Strategic Plan	FY	Financial Year
API	Application Programming Interface	GAP	Good Agricultural Practice
B2B	Business to Business	GCMMF	Gujarat Cooperative Milk Marketing Federation
BDS	Business Development Service	GDP	Gross Domestic Product
BOU	Bank of Uganda	GIZ	German International Cooperation
CARI	Competitive African Rice Initiative	GLTN	Global Land Tool Network
CASA	Commercial Agriculture for Smallholder and Agribusinesses	GOU	Government of Uganda
CBR	Central Bank Rate	IFAD	International Fund for Agricultural Development
CCO	Certificate of Customary Ownership	IFC	International Finance Corporation
CI	Credit Institution	IFI	International Financial Institution
CIAT	International Centre for Tropical Agriculture	ILGU	Improvement of Land Governance in Uganda
COMESA	Common Market for Eastern and Southern Africa	IP	Investment Profile
CoO	Certificate of Occupancy	IRA	Insurance Regulatory Authority
COVID-19	Corona Virus Disease (of 2019)	ISSD	Integrated Seed Sector Development (a USAID initiative)
DANIDA	Danish International Development Agency	JICA	Japan International Cooperation Agency
DDA	Dairy Development Agency	KYC	Know Your Customer
DFI	Development Finance Institution	LIP	Land Inventory Protocol
DfID	Department for International Development (of the United Kingdom)	MAAIF	Ministry of Agriculture Animal Industry and Fisheries
DFS	Digital Financial Services	MACE	Manyakabi Area Cooperative Enterprise
DRC	Democratic Republic of Congo	MDI	Microfinance Deposit-Taking Institution
EAC	East African Community		



MLHUD	Ministry of Lands Housing and Urban Development	SHIRCO	Southern Highland Rice Consortium (of Tanzania)
MoFPED	Ministry of Finance Planning and Economic Development	SMEs	Small and Medium Enterprises
MT	Metric Tonne	SMSF	Small and Medium Scale Farmers
MTEF	Medium Term Expenditure Framework	SNV	Netherlands Development Organisation
NAADS	National Agricultural Advisory Services	STA	Settlement Transformative Agenda
NARO	National Agricultural Research Organisation	TA	Technical Assistance
NDA	Non-Disclosure Agreement	TIDE	The Inclusive Dairy Enterprise
NDP	National Development Plan	UAA	Uganda Agribusiness Alliance
NLIS	National Land Information System	UAE	United Arab Emirates
NMB	National Microfinance Bank (of Tanzania)	UAIS	Uganda Agricultural Insurance Scheme
NSSF	National Social Security Fund	UBA	Uganda Bankers' Association
NUCAFE	National Union of Coffee Agribusinesses and Farm Enterprises	UBoS	Uganda Bureau of Statistics
OECD	Organisation for Economic Cooperation and Development	UCDA	Uganda Coffee Development Authority
OPM	Office of the Prime Minister	UCE	Uganda Commodity Exchange
OWC	Operation Wealth Creation	UDBL	Uganda Development Bank Limited
P4P	Purchase for Progress	UGX	Uganda Shilling
PABRA	Pan African Bean Research Association	UHT	Ultra Heat Treatment
PARM	Platform for Agricultural Risk Management	UNECA	United Nations Economic Commission for Africa
PCG	Partial Credit Guarantee	UNHCR	United Nations High Commissioner for Refugees
PCP	Pearl Capital Partners	UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
QBMP	Quality Based Milk Payment	UPDF	Uganda Peoples' Defence Forces
RELAPU	Responsible Land Policy Uganda (a project)	USAID	United States Agency for International Development
RFI	Regulated Financial Institution	USD	United States Dollar
RGL	Raphael Group Limited (of Tanzania)	VC	Value Chain
ROSCA	Rotating Savings and Credit Association	VSLA	Village Savings and Loan Association
RPO	Rural Producer Organisation	WRS	Warehouse Receipt System
RUFI	Rural Finance Initiative	YCE	Yunan International Coffee Exchange
SACCO	Savings and Credit Cooperative		
SADC	Southern Africa Development Cooperation		
SAFIN	Small and Medium Enterprise Finance and Investment Network		
SDG	Sustainable Development Goals		
SGA	Small and Growing Agribusiness		

## EXECUTIVE SUMMARY

The 10<sup>th</sup> in a series of AFYBs, the 2020 Yearbook focuses on Agricultural Finance Policy and Strategy, Innovation and Research, Value Chain Financing; as well as Investment in the agricultural sector.

The urgent need to digitalise financial service delivery in Uganda is raised in almost all the articles in this Yearbook. Digitalisation is critical in farmer/client profiling and data aggregation, developing of credible information system along agricultural value chains, documenting land inventories, risk assessment and credit scoring of clients, agricultural and business skills adoption, identification of genuine inputs, price optimisation, commodity aggregation, storage and marketing, improving record keeping and financial literacy, speeding up of lending processes while reducing transaction and access costs. Due to its importance, **Government should urgently address issues that place Digital financial services (DFS) transactions under multiple legislations. Existing legislation should also be reviewed so that it adequately covers digital agribusiness. The draft national policy and strategy on agricultural finance should address DFS needs for agriculture, and DFS should be fitted into agricultural cycles, agri-business skilling and extension services.**

The most recent Finscope (2018) bears testimony that Uganda has unresolved challenges in digitalising financial services, and this has hampered Uganda's progress in financial service outreach and inclusion. Coupled with the challenges created by the COVID-19 pandemic and the adverse effects of the pandemic's containment measures, Uganda needs to review its strategies because its SMEs (many of which are either financially excluded or served by small financial intermediaries), have suffered substantial shocks due to disrupted supply and value chains, depressed demand and lost incomes. **Government should support SMEs to; rebuild supply and value chains, find new markets, add value to commodities, overcome COVID-induced indebtedness/arrears (e.g. through loan rescheduling, interest rates subsidisation and partial credit guarantees). In the long term, Government should support SMEs to improve resilience to shocks through enhanced access to; value chain information, digital platforms; certified storage facilities, and a more comprehensive range of financial intermediaries that reach the financially 'excluded' and 'informally included' ASME operators.**

The Yearbook contains several agri-financing models for various commodities (rice, dairy, coffee). The models have some common features; aggregation of producers for economies of scale, functional linkages between value chain actors (input distributors, extension agents, agri-markets information providers, producers, storage units, marketing agents, processors, financial service providers etc.) with some of the actors, acting as 'lead agents' in the segments where value chains are weak. **Suppose Uganda aims to accelerate access to financial services to its ASMEs. In that case, it should take advantage of the progress made under these models in reducing risks arising from information asymmetries, moral hazards and adverse selection.** Those models that have operated viably should be refined and rolled out for broader use in the country. **Enactment of a contract farming law, elimination of unfair concessions/waivers imported grain (rice) and setting up systems for collecting reliable agricultural data are some of the underlying conditions for any of these models to succeed.**

The Yearbook presents interventions aimed at improving value chain development and the investment climate within select areas of the agricultural sector. To take our value chains beyond internal markets and link them to regional and global value chains, **Uganda has to provide a legal framework that can attract intra-African investments,**

**ease trade (particularly for fertiliser and agro-machinery), develop relevant agro-industrialisation policies that ensure enforcement mechanisms for commodity auctions, warehousing and central trading platforms. Investments in research for quality have to be improved; public-private partnership for financing research and innovations promoted and investments in roads extended to the rural areas including ‘last mile’ roads.**

Government’s affirmative schemes (Uganda Agricultural Insurance Scheme, the Agricultural Credit and Guarantee Facility, aBi financing and grant schemes etc.), have contributed to ‘blended’ finance for the agricultural sector. A combination of commercial (private) and concessional (public and social), blended finance is critical when private finance alone cannot address the structural and operational bottlenecks of financing a sector like agriculture. However, in Uganda’s case, the above schemes were reactions to agricultural financing crises rather than deliberate ‘blended’ finance interventions. **The Government should improve the effectiveness of these affirmative schemes by; documenting the impact achieved so far, the viable financing models that have emerged, whether the schemes have effectively addressed risks and other factors curtailing the growth of agricultural finance; how the schemes can offer better-blended finance and contribute to the mobilisation of medium and long-term capital for financing the agricultural sector.**



Picture credit: UNCDF Uganda



CHAPTER  
**POLICY AND  
STRATEGY**

# 1.1 TRENDS IN AGRICULTURAL LENDING

Brian Sserunjogi<sup>1</sup>

## 1.1.1 Background

Since its first edition (2007), the Agricultural Finance Yearbook (AFYB) has presented information on lending by Bank of Uganda regulated finance institutions (RFIs) to the agricultural sector. This article, the first in the 10<sup>th</sup> and AFYB's 2020 edition, discusses the trends in advances to the agriculture sector by RFIs for the period 2007 to 2019<sup>2</sup> and also compares the RFI performance of recent years, in terms of advances to agriculture. As in previous AFYBs, information on RFI lending to the sector has been compiled and presented. The analysis done focuses on new advances to the agricultural sector rather than the outstanding portfolio. This approach provides a more dynamic view of development in lending to the sector. However, due to lack of data, this edition of the Yearbook does not present information on leases to the agricultural sector. In lieu, an analysis of agricultural lending by lending rates is provided.

The first section of this article examines; trends in total agricultural lending; the level of participation of RFIs in agricultural lending; deepening of agricultural lending as reflected in the numbers of RFIs; and the disbursements made to different commodity value chains and actors. This section also analyses the cost of credit (interest rates) to agricultural value-chain actors.

Section 2 of this article covers; trends in total agricultural lending, followed by a discussion of RFIs while Section 3 deliberates on the share of RFIs in total agricultural lending. Sections 4 and 5 present a discussion on agricultural lending by activity and an analysis of agricultural lending by interest rates respectively. The final section presents conclusions and policy options.

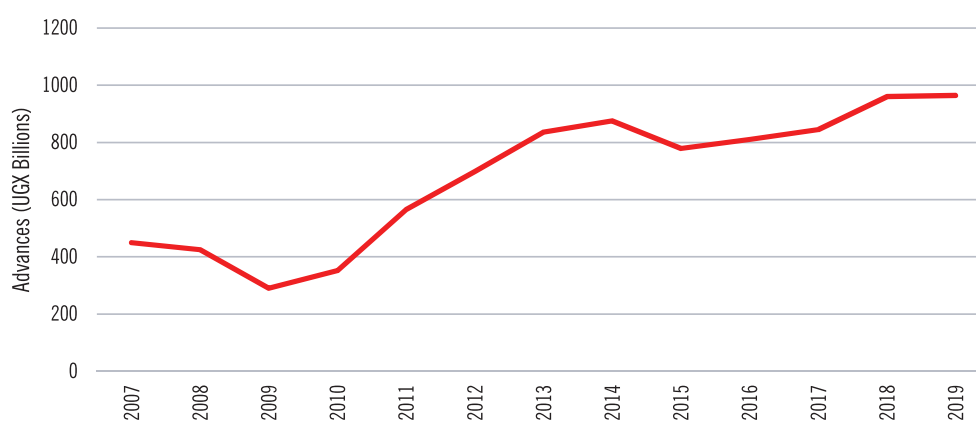
## 1.1.2 Trends in Total Agricultural Lending

Growth in agricultural lending during 2009-2014 was more impressive than during the period 2015-2019. Figure 1, shows that between 2009 and 2014, total agricultural lending increased three-fold, from UGX 291 billion to UGX 876 billion. The rapid growth in agricultural lending emanated from various sources. First, the establishment of the Agricultural Credit Facility (ACF), in 2009. The Government budget allocation towards the ACF increased from UGX 20.5 billion in 2009/10 to UGX 30 billion in 2014/2015.<sup>3</sup> Second, during the same period, the number of Tier-1 institutions (or commercial banks) increased from 21 in 2009 to 25 in 2015.<sup>4</sup> It should be noted that commercial banks contribute the largest share of total agricultural loans; hence the licensing of 4 new banks between 2009 and 2014 could have impacted agricultural loans disbursements during this period.

On the other hand, and as shown in Figure 1, total agricultural loans declined between 2014 and 2015 before recovering again in 2016. The decline resulted from the tight monetary policy stance adopted by Bank of Uganda (BOU) in a bid to control inflation in the build up to the 2016 general elections. Between July 2011 and December 2017, the Central Bank Rates (CBR) reduced by seven basis points. From an average of 18.2 percent in 2011, the CBR had fallen to 11.2 percent by the end of 2014.<sup>5</sup> After that, it increased to 14 percent in 2015 before increasing further to 14.9 percent in 2016. After 2016, the rate consistently declined first to 10.4 percent in 2017 and eventually to 9.3 percent by the end of 2018.

Between 2018 and 2019, new growth in loan disbursements to the sector emanated out of a reduction in operational costs and risk aversion to financial institutions, due

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**Figure 1: Total agricultural lending, 2007-2019**


Source: Author's computation based on BOU Supervision Department data.

to increased use of financial technological (FINTECH) innovations that eased reaching of the unbanked, especially growth in agency banking. Within 12 months (January to December 2019), the number of bank agents rose from 4,022 to 11,330 - a 10 percent month on month growth rate. The decline in the CBR, improved access and speed due to FINTECH innovations may have positively impacted the bank lending rate as well as enabled increased lending.

### 1.1.3 Trends in Regulated Financial Institutions

Until 2019, the number of Regulated Financial Institutions (RFIs) had stagnated. Prior to the stagnation (2015-16), the number of commercial banks had reduced to 24 due to the closure of Crane Bank in October 2016 (Table 1). From 2016, the total number of commercial banks remained at 24, until September 2019, when the central bank granted commercial banking licenses two banks - Afriland First Bank Uganda Limited and Opportunity Bank Uganda Limited (the latter had been operating as

**Table 1: Number of regulated financial institutions (RFIs) in Uganda**

Year	Commercial Banks (Tier 1)	Credit Institutions (Tier 2) <sup>6</sup>	MDIs (Tier 3) <sup>7</sup>	Total RFIs
2007	14	5	4	23
2008	20	5	4	29
2009	21	4	3	28
2010	22	3	3	28
2011	23	3	4	30
2012	24	3	4	31
2013	26	3	3	32
2014	25	4	4	33
2015	25	4	4	33
2016	24	4	5	33
2017	24	4	5	33
2018	24	4	5	33
2019	26	3	6	35

Source: Bank of Uganda, Supervision department

a Credit Institution – i.e. Tier 2). During the same period (March 2019), BRAC Microfinance Limited was granted an MDI (Tier 3) license, turning it into a deposit-taking microfinance institution (MDI). This increased the number of MDIs from 5 in 2016 to 6 in 2019.

In fact the growth in RFI outreach is best shown by the growth in number of automated teller machines (ATMs). While number of branches across all tiers (1 to 3) has generally stagnated, the number of ATMs has continued to grow. From 714 in 2012, the number of ATMs had grown to 923 by the end of 2019. Furthermore, RFIs are connecting more of their ATMs to the Interswitch – an interoperability exchange that enables an ATM card to be used in the ATMs of other banks (that subscribe to the interswitch). Starting off at 12.4 percent in 2012, the percent of ATMs that are interoperable rose steadily and had by end of 2018, reached 60.4 percent. (Table 2 - % ATMs on Interswitch). This means that bank customers were increasingly able to access services at more outlets of banks other than their domicile (own) bank.

#### 1.1.4 Agricultural Lending by Financial Institution

An analysis of lending by category of RFIs reveals that commercial banks remain the most significant contributors (accounting for over 90 percent) to agricultural lending in

Uganda (Figure 2). Credit Institutions and Microfinance Deposit-taking Institutions (MDIs) follow. In addition to having wider geographical outreach, greater capacity to adopt technological innovation and capacity to mobilise financing for on-lending, commercial banks are the primary channels of the Government's Agricultural Credit Facility (ACF).

However; commercial banks mainly target large farms and agricultural firms involved in commodity processing. They also have stringent loan requirements and limited outreach beyond urban areas. This implies that the majority of smallholder farmers access credit from other institution types like Savings and Credit Cooperatives (SACCOs), Rotating Savings and Credit Associations, Community-Based Organisations, moneylenders and family members.

The increase in number of RFI outlets and the use of improved FINTECHs are not sufficient conditions for agricultural small and medium enterprises (ASMEs) to access financial services in general, and credit in particular. More enabling measures that; improve savings mobilisation and available liquidity; reduce agricultural risk and bank aversion; strengthen governance and regulatory frameworks for tier-4 institutions; and further leverage of technology to serve ASMEs, are needed.

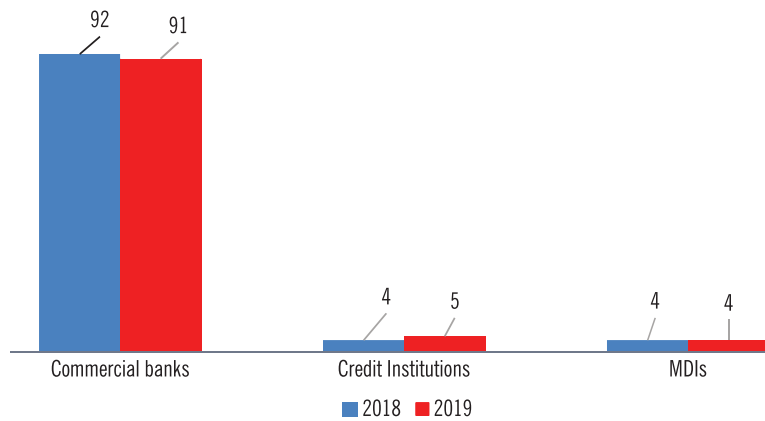
**Table 2: Licensed branches/outlets (number) for BoU- RFIs**

Institution/Year	2012	2013	2014	2015	2016	2017	2018	2019
Comm. Bank branches	496	542	564	573	570	544	549	553
<b>Bank ATMs (Total)</b>	<b>714</b>	<b>768</b>	<b>830</b>	<b>842</b>	<b>860</b>	<b>821</b>	<b>839</b>	<b>923</b>
Interswitch ATMs <sup>8</sup>	89	127	285	296	372	477	507	- <sup>9</sup>
<b>% ATMs on Interswitch</b>	<b>12.4</b>	<b>16.5</b>	<b>34.3</b>	<b>35.1</b>	<b>43.2</b>	<b>58.1</b>	<b>60.4</b>	
Credit Institution branches	47	52	57	57	61	66	66	64
MDIs branches	99	70 <sup>5</sup>	70	76	78	78	80	81
Forex Bureaus	205	248	267	280	267	260	275	285
Money Remitters	205	186	204	225	241	241	258	260
<b>TOTAL</b>	<b>1,766</b>	<b>1,786</b>	<b>1,992</b>	<b>2,053</b>	<b>2,077</b>	<b>2,010</b>	<b>2,067</b>	<b>2,166</b>

Source: Bank of Uganda, Supervision department



**Figure 2: Share of financial institutions in total agricultural lending (Percent)**



Source: Authors computation based on BOU data, Supervision department

### 1.1.5 Lending Along the Agricultural Value Chain

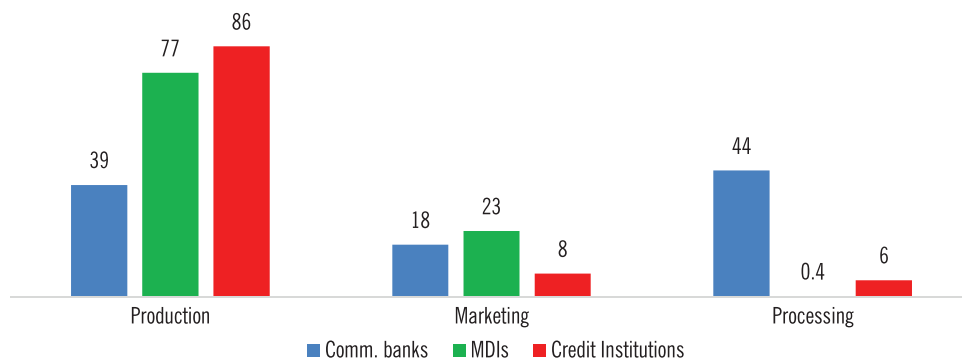
Between 2011 and 2019, production finance constituted the largest share of total outstanding agricultural loan portfolio of Credit Institutions (86%) and MDIs (77%) - Figure 3. Low participation of commercial banks in financing the agricultural production segment confirms banks aversion to the risk in financing low-value and disorganised customers. Banks attraction to agro-processing is shown by their leading share— 44 percent of the total outstanding loan portfolio for the agro-processing segment. MDIs and Credit Institutions account for only 0.4 and 5.9 percent (respectively) of the agro-processing financing, while for agricultural marketing, financing by commercial banks (at 18 percent) trails behind that of MDIs at 22.8 percent.

Since the ACF also prioritises value-addition (or agro-processing), commercial banks interests and those of the ACF are well matched, hence the banks’ majority participation in the ACF. As of March 2019, a total of UGX 149.6 billion (about 45 percent of total disbursement)<sup>10</sup> had been disbursed for agro-processing and agribusinesses for value addition. In contrast, only UGX 80 billion was disbursed for on-farm production activities (24.1 percent) while UGX 71.8 billion (21.7 percent) was allocated to finance working capital for grain trading.<sup>11</sup>

### 1.1.6 Lending Rates

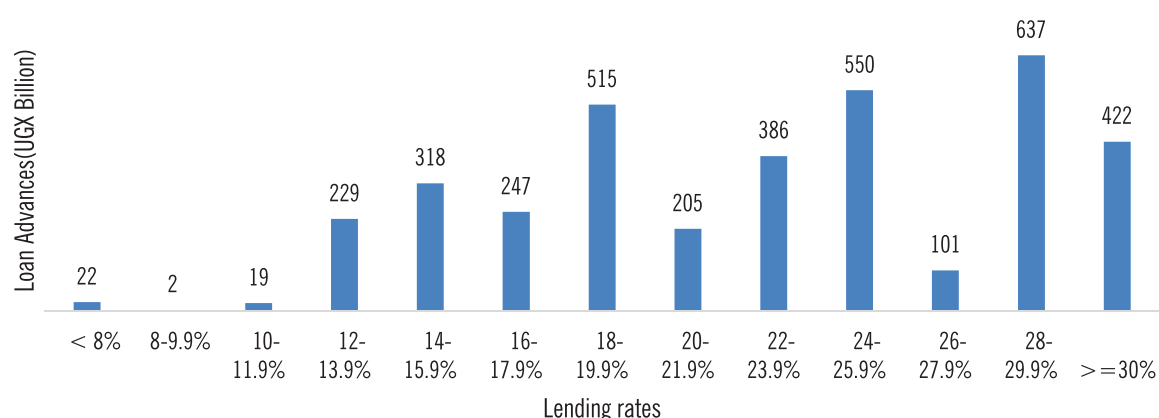
Agricultural sector lending traditionally attracts relatively higher interest rates compared to other sectors. Between 2015 and 2019, of the lending provided at an interest rate below 8 percent, UGX agriculture attracted only UGX 22

**Figure 3: Total outstanding loans by agricultural activity (2011-2019) (Percent)**



Source: Author’s computation based on BOU Supervision Department data

**Figure 4: New advances to the agricultural sector by lending rates (2015-2019)**



Source: Author's computation based on BOU Supervision Department data

billion, compared to manufacturing and trade sectors at UGX 67 billion and UGX 47 billion respectively (Figure 4 and Annex Figure A).

Conversely, (Figure 4) at higher interest rates (30 percent and above), the agricultural sector had the highest amount of advances. Agriculture was advanced UGX 422 billion compared to UGX 45 billion and UGX 394 billion advanced to the manufacturing and trade sectors respectively. Agricultural loans attract higher rates because of the production and market risks associated with agricultural activities. However, these high interest loans, which in many cases are of short or medium-term tenure are poorly suited to financing agricultural activities. They instead impose serious limitations as long term investments, needed for transforming the agricultural sector, remain unfinanced.

### 1.1.7 Conclusion and Policy Implications

Overall, the agricultural sector has, since 2009, continued to attract new and increasing amount of advances. This increase is partly attributed to; the availability of funds under the ACF; favourable weather; increased RFI outreach; FINTECH innovations; the establishment of a subsidised agricultural insurance scheme (since 2016); a risk-sharing guarantee option under the ACF; the gradual reduction in risk aversion by RFIs as they improve agricultural lending skills (and level of non-performing

loans decline) as well as a more stable monetary policy environment that is based on the CBR.

Commercial banks continue to contribute the largest share of new advances to the agricultural sector, though there has been a slight increase in the contribution of Credit Institutions. MDIs and Credit Institutions continue to dominate financing of agricultural production while commercial lenders have prioritised financing of the processing segments of agricultural value chains. The higher interest rates charged on agricultural projects are a signal of continued higher risk perception lenders have of the sector, compared to other sectors.

In light of the above, the following policy adjustments are proposed;

- i. Government should work with private sector (banks, insurance and equity companies as well as farmers organisations) to develop de-risking products suitable for the different segments of agricultural value chains. Improvements in agricultural advisory and extension systems should be prioritised since they are the frontline risk reduction strategies in the sector;
- ii. Government should increase and improve infrastructural investment to support adoption of improved production methods (mechanisation, biotechnology, soil management, irrigation, ICT etc) and the use of methods that reduce financial

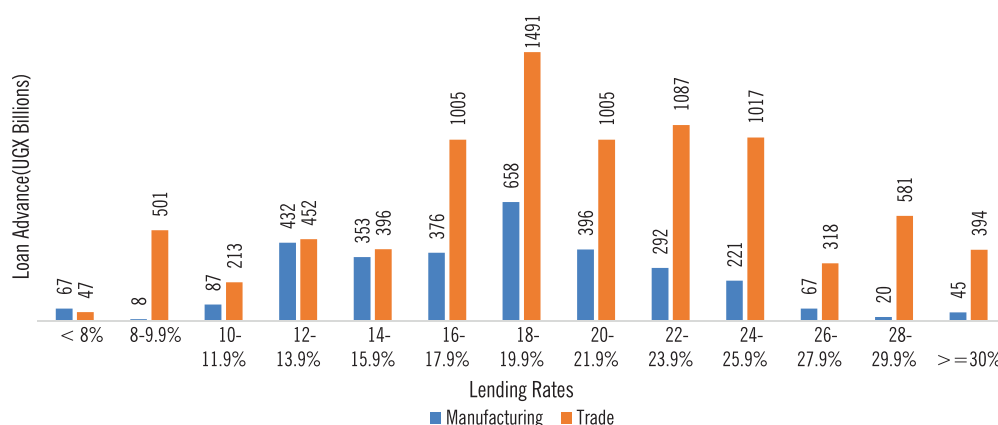
- iii. transaction costs;
- iii. While the introduction of the CBR was a step in the right direction, inadequacies in data for CBR compilation and poor transmission mechanisms have led interest rates remaining high even when the CBR reduces substantially. Recent efforts by BOU requiring banks to provide the basis for calculating their interest rates are based on moral suasion rather than regulation. Bank of Uganda should establish tighter measures for banks to mandatorily provide and justify their interest rates;
- iv. Government should recognise and reduce the crowding-out effect of its borrowing from the financial sector (TBs, bonds) so that banks appetite to lend to the private sector is enhanced and interest offering improved;
- v. Government should review the strategic roles of financial institutions it owns (or in which it holds shares) and articulate; the financial products it should offer tailored to specific parts of identified agricultural commodity chains; and
- vi. Government and Bank of Uganda (in consultation with agricultural private sector) should commission a comprehensive evaluation and review of the ACF with the aim of expanding and improving its reach beyond financing and guaranteeing grain trading and marketing, to encompass more types of ASMEs

### Endnotes

- 2 The cooperation of the Bank of Uganda and of supervised financial institutions in providing the data on which this and previous articles is based, is greatly appreciated  
[https://www.bou.or.ug/bou/rates\\_statistics/statistics.html](https://www.bou.or.ug/bou/rates_statistics/statistics.html)
- 3 Tier 1 are financial institutions regulated by Bank of Uganda whose minimum capital requirement is UGX 25 billion as of 2010.
- 4 [https://www.bou.or.ug/bou/rates\\_statistics/statistics.html](https://www.bou.or.ug/bou/rates_statistics/statistics.html)
- 5 Eleven institutions were (as at Dec 2015) connected to the Interswitch Network which facilitates ATM interoperability
- 6 Tier 2 are credit institutions whose minimum capital requirement is UGX 1 billion as of 2004.
- 7 Tier 3 are Micro Finance Deposit taking (MDI) institutions whose minimum capital requirement is UGX 500 million
- 8 Eleven institutions were (as at Dec 2015) connected to the Interswitch Network which facilitates ATM interoperability
- 9 Updated figure not availed
- 10 Agricultural Credit Facility, Progress Report, March 2019-unpublished
- 12 ibid

### Annex:

**Figure A: New advances to Trade and Manufacturing sectors by lending rates (2015-2019)**



Source: Authors computation based on BOU data, Supervision department

## 1.2 FINSCOPE FINANCIAL ACCESS SURVEYS: RESULTS AND IMPLICATIONS FOR AGRICULTURAL FINANCING IN UGANDA

Andrew Obara<sup>1</sup>



Photo by: UNCDF Uganda

### 1.2.1 Introduction

FinScope is a statistical framework for researching, studying and reporting on various aspects of financial inclusion. FinScope surveys are part of an Africa broad effort, in 13 African countries, supported by DfID and implemented by the FinMark Trust of South Africa to understand constraints to financial inclusion. FinScope surveys track access and use of financial services as well as restrictions to financial sector deepening. Since 2007, four FinScope surveys have been conducted in Uganda, i.e. in 2007, 2009, 2013 and 2018. This article presents insights from the 2018 FinScope survey report and implications of the findings to Uganda's agricultural finance.

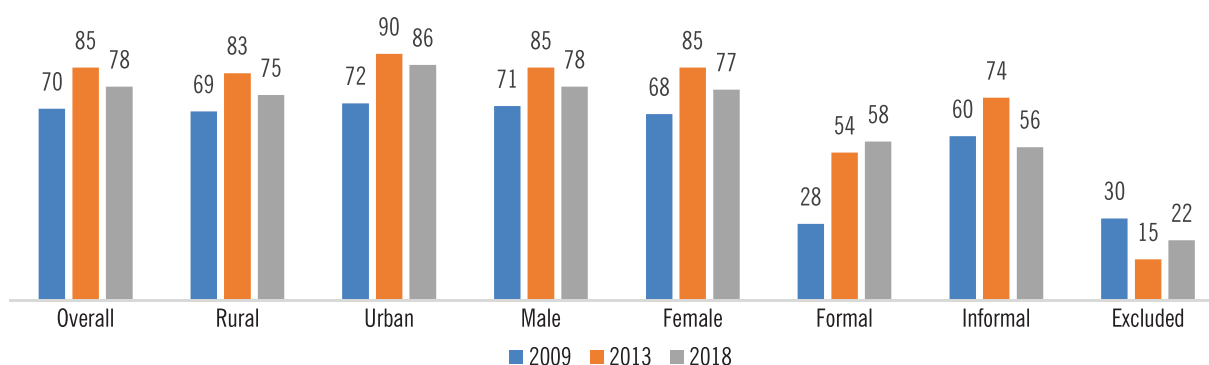
### 1.2.2 FinScope Methodology and Objectives

The 2018 FinScope survey employed a three-stage stratified sampling approach. The sample contained

3,002 respondents, and weights were used to make the sample representative of Uganda's adult population. In keeping with the general intent of other FinScope studies, FinScope Uganda 2018, had three main objectives:

- (i) To track overall trends in financial inclusion and provide information on how the landscape of inclusion has changed since 2007, including benchmarking these trends with countries within the region
- (ii) To provide insights that could be utilised both at policy and market levels to deepen financial inclusion further
- (iii) To describe the financial service needs of the adult population (i.e. individuals 16 years or older) in Uganda. The description is useful for supporting the development and delivery of financial services to lower-income households, and assisting in the development of an enabling environment within which these services can be delivered.

<sup>1</sup> Author: The Managing Director, FRIENDS Consult Limited (aobara@friendsconsult.co.ug)

**Figure 5: Percentage of the population accessing financial services**


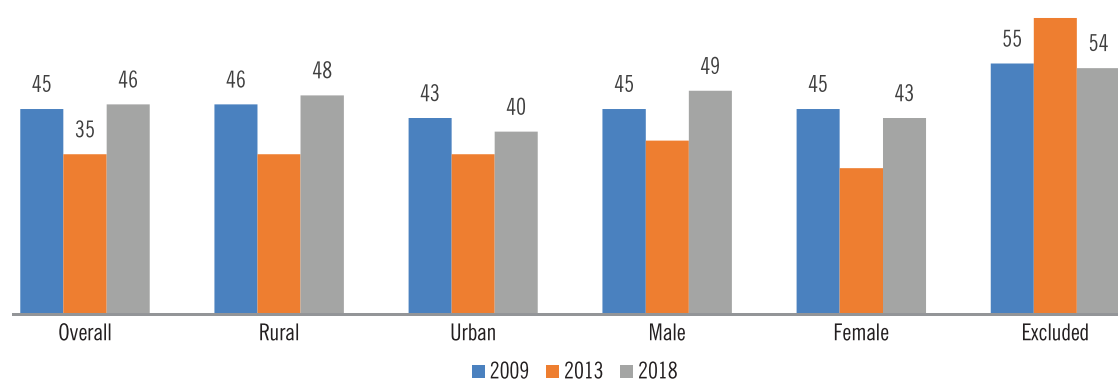
Source: Author's presentation based on FinScope Uganda Survey reports.

### 1.2.3 Implications for Rural Farmers

This article uses three indicators of access to finance; (i) overall access to financial services; (ii) access by the rural population (where agriculture is the economic mainstay); and (iii) access by women (who are more likely to be engaged in agriculture as a primary activity). Figure 5 presents the levels and trends in the three indicators based on the last three FinScope surveys for Uganda.

First, a focus on the trends in financial inclusion—which refers to the proportion of adults who have or use financial services provided by either a formal or an informal financial service provider. Figure 5 shows notable improvements in the extent of financial inclusion between 2009 and 2013, followed by a moderate decline between 2013 and 2018. By 2018, at least 78 percent of Ugandans were financially included. Between 2009 and 2018, formal financial inclusion more than doubled from 28 percent to 58 percent while the informal inclusion fell from 60 to 56 percent. Formal financial access was mainly driven by use of mobile money and to a lower extent, increased financial institutions outreach through agents, particularly those located in the rural areas where most of the agriculture takes place. Commercial banks were found to account for only 11 percent and together with SACCOs and MFIs, 18 percent of financial inclusion. On the other hand, 56 percent of adult Ugandans were using mobile money, which is more of a transactional rather than a deposit or credit product<sup>2</sup>.

Figure 5 also shows that over time, access to financial services has favoured the urban population. At 72, 90 and 86 percent for 2009, 2013 and 2018 respectively, urban population consistently posted the higher financial inclusion levels than the rural population. The urban bias affects the agricultural sector more (than urban-based sectors) as the sector is predominantly rural-based.<sup>3</sup> On the other hand, while informal savings and credit mechanisms are still widely used in both the rural and urban areas, both the formal and informal financial services seldom provide products that are tailored to Uganda's agricultural sector. The inadequacy of financial services for agriculture implies that the frontiers of financial inclusion need to be extended to ensure that rural populations are offered financial products and services that suit their financing needs, particularly for agriculture. FinScope 2018 also reveal that, in all the three periods, there were more borrowers in the rural than urban areas (Figure 6). However, rural residents were found to mainly borrow from informal sources with males having slightly better access to loans than females. However, for borrowers from the agricultural sector, some respondents reported minimal growth, and in some cases, a decline in the returns of their agribusiness.

**Figure 6: Percentage of the population borrowing<sup>4</sup>**


Source: Author's presentation based on FinScope Uganda Survey reports

The 2018 Finscope report also presents other factors affecting rural dwellers in accessing and utilising financial services;

#### Box 1: Factors affecting rural dwellers' inclusion

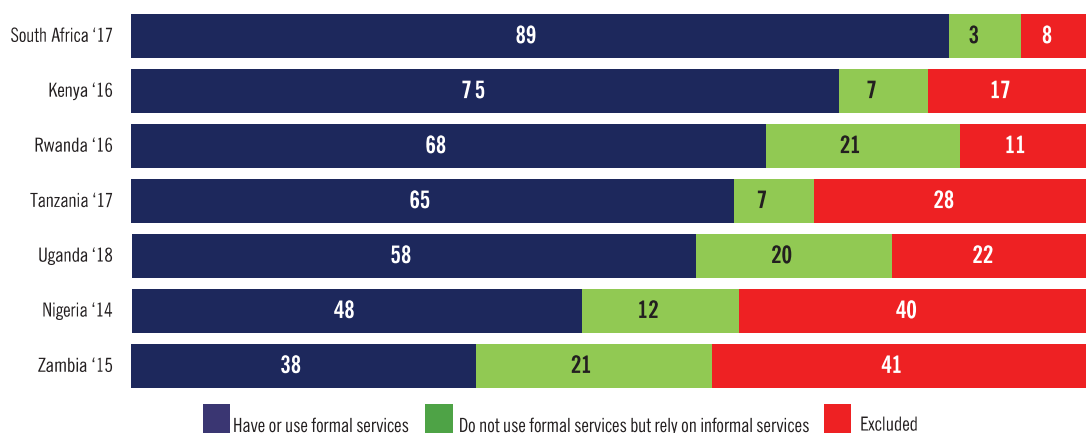
*“More than half of Ugandan adults (58%; 10.8 million) have taken up formal financial services. Uptake is significantly skewed towards males as well as towards adults in urban areas. With regards to gender; 63 percent (5.4 million) of males and 54 percent (5.4 million) of females are formally served. Spatially, urban adults (77%, 3.4 million) are more formally served than rural adults (52% of are formally served). Uptake of formal financial services is driven by mobile money services. 56 percent (10.4 million) of adults use mobile money services; 43 percent (7.9 million) of adults are registered to use mobile money services whilst 8 percent (1.5 million) use mobile money services through family or friends, and 5 percent (0.9 million) use the services through agents.” Adults living in rural areas are significantly less likely to have mobile phones and access to the internet than adults living in urban areas: Mobile phone ownership is 46 percent for rural-based adults compared to 70 percent urban-based adults. In the same vein, internet access is 5 percent in rural areas compared to 25 percent for urban residents.*

Apart from geographic location (urban/rural), the other factors found to affect financial inclusion were; person's sex; access to mobile phones (and therefore mobile

money); as well as access to the internet. Adults living in rural areas were significantly less likely to have mobile phones and access to the internet (46 and 5 percent respectively) compared to adults living in urban areas (70 and 25 percent).

The 2018 FinScope report confirms that while progress has been made in financial access, more needs to be done in deepening access so that it translates into substantial growth of agricultural enterprises/businesses. Urgent attention needs to be paid to reducing the rural-urban digital divide that affects access to mobile money services; and the disadvantages that women face due to limited access to mobile phones. With rural dwellers, and women in particular being the major players in Uganda's agricultural sector, policies and strategies aiming to improve inclusion in general and agricultural financing in particular, must prioritise digital/information technology solutions needs of rural dwellers, particularly women. FinScope 2018 therefore shows that while access to financial services is necessary, it is not a sufficient condition for improving agricultural enterprise performance. More needs to be done to ensure that access to financial services results into improvements in the operations and returns of agricultural enterprises.

**Figure 7: Financial inclusion across sub Saharan African countries (Percent)**



Source: Finscope Uganda Survey reports 2018

### 1.2.4 Comparison with other African Countries

This section compares Uganda’s performance to African peers. Figure 7 provides a snapshot of Uganda’s overall financial inclusion in comparison to other African countries. The figure indicates that Uganda is at the lower end of the financial inclusion spectrum despite its good progress since 2009. Out of seven selected Sub-Saharan African countries, Uganda ranks fifth in formal financial inclusion and fourth in overall inclusion.

Uganda has not performed much better than its East African neighbours. Figure 8 indicates that Uganda’s performance has been less impressive than that of Rwanda and Kenya. By 2008/2009, for example, Rwanda’s overall

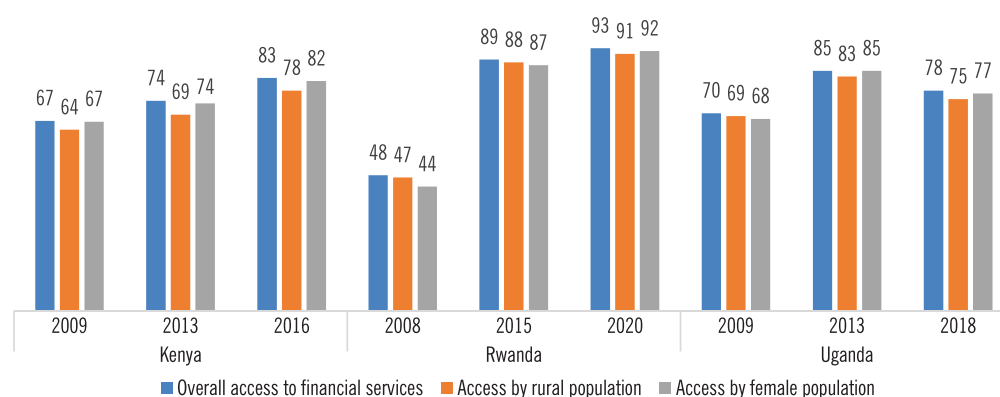
financial inclusion was at 48 percent while Uganda’s was 70 percent. By 2015/ 2016, however, Rwanda had bypassed Uganda in all the financial inclusion indicators. Both Kenya and Rwanda have shown consistent growth trends over the three successive FinScope surveys.

Uganda’s policymakers and financial sector stakeholders should take keen interest and address the factors that are holding back Uganda’s progress in financial inclusion, possibly learning from the two neighbouring countries.

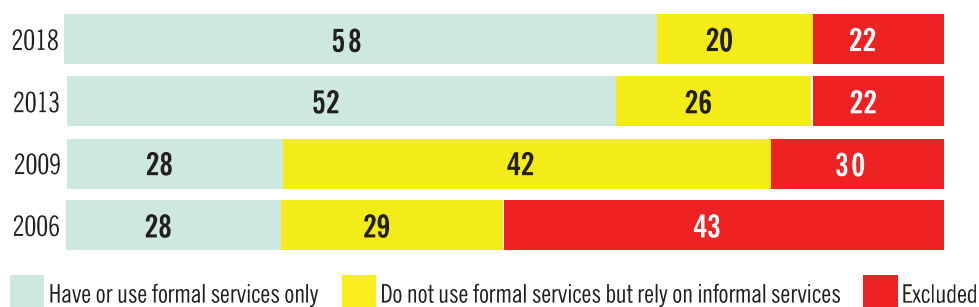
### 1.2.5 Implications of FINSCOPE for the Financial Sector

Figure 9 provides the trend (2006 to 2018) in Uganda’s financial inclusion journey. Starting with 2006 when

**Figure 8: Trends in financial inclusion indicators for agriculture (Percent)**



Source: Author’s computation based on Finscope Kenya, Rwanda and Uganda Survey reports

**Figure 9: Financial access and exclusion (Percent)**


Source: FinScope Uganda Survey reports

43 percent of Ugandans were financially excluded, the level of exclusion had dropped to 22 percent by the time of the 2018 FinScope. For the period 2006 to 2009, the biggest improvement came from those relying on informal financial services who increased from 29 percent (2006) to 42 percent (2009). Though formal inclusion did not initially register any change (2006 to 2009), there was an almost doubling of formal financial inclusion levels in the next period (2009 to 2013), from 28 percent (2009) to 52 percent by 2013.

But the 2018 FinScope reveals that the high growth rate of formal inclusion has not been sustained and only a modest improvement from 52 to 58 percent was attained between 2013 and 2018. Additional supporting observations drawn directly from the FinScope Uganda 2018 report, are presented in Box 2;

#### Box 2: Summary of key financial inclusion indicators

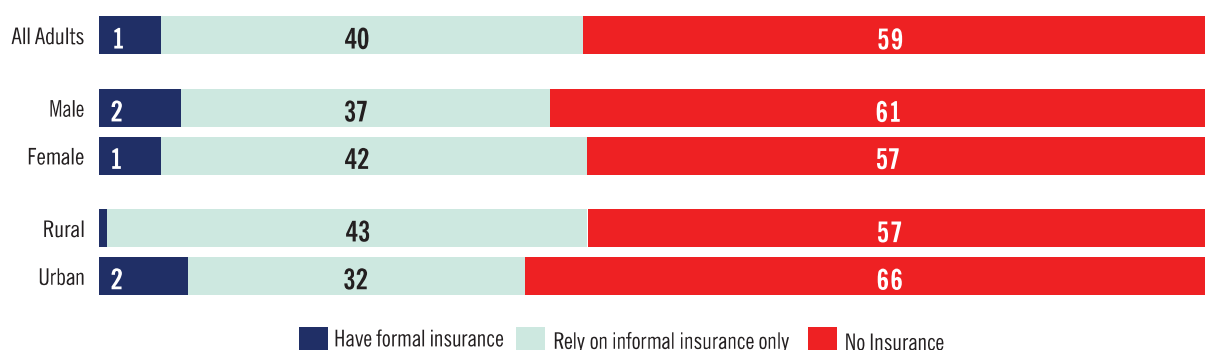
- i. 40 percent of adult Ugandans access formal financial services, of which 23 percent is through mobile money and only 11 percent through commercial banks
- ii. 43 percent use VSLAs and other informal, community-based financial service mechanisms
- iii. 27 percent keep their money (at least some of it) at home
- iv. Only 10 percent of borrowers are served by formal lenders such as commercial banks, microfinance institutions, credit institutions and SACCOs.

#### 1.2.6 FINSCOPE and the Insurance sector

In Uganda (as in most of Africa), insurance is often not appreciated yet it remains a very vital aspect for improving financial inclusion and the financing of agriculture. Livelihoods and sources of income that give rise to the demand for financial services need to be cushioned against risks and uncertainties. Uganda's insurance penetration has remained very low. Only 1 percent of Ugandan adults had an insurance cover of any type according to the 2018 FinScope Uganda survey. In comparison, insurance usage in Kenya was at 6 percent in 2016 up from 4.9 percent in 2006, and in Rwanda, it was at 17 percent in 2020 up from 9 percent in 2016. Rwanda's growth in insurance uptake is primarily attributed to government-run universal health insurance scheme. In Uganda, for those with any form of insurance, more than half have only health insurance.



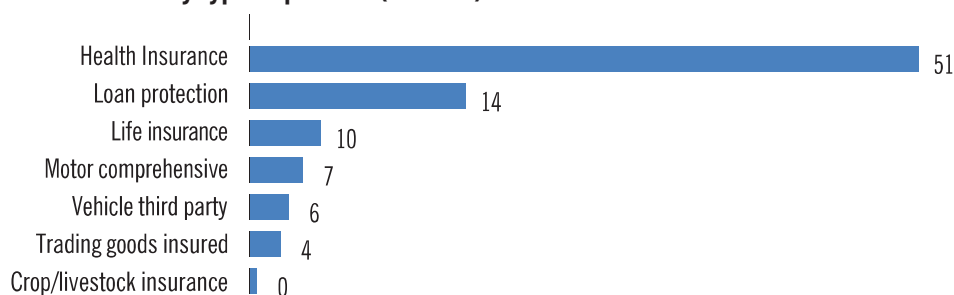
**Figure 10: Overall use of insurance services in Uganda (Percent)**



Source: FinScope Uganda Survey Report, 2018

One would expect that since most adults earn incomes from farming, uptake of crop or livestock insurance would be high, but according to the 2018 FinScope, such insurance is almost non-existent.

**Figure 11: Insurance cover by type of product (Percent)**



Source: FinScope Uganda Survey Report, 2018

Figure 11 shows that most of the insurance uptake is for health (mainly for the formally employed) and loan protection (in which case the real essence of insurance protects the loans against borrower’s default, rather than the agricultural risk). Crop and livestock insurance were reported to be at zero percent. It is however worth noting

that since 2016, Government of Uganda initiated and has been supporting the Uganda Agricultural Insurance Scheme. For a more complete presentation of agricultural insurance in Uganda, a brief of this Scheme is presented in Box 3.

**Box 3: A Brief of the Uganda Agricultural Insurance Scheme**

*The Government of Uganda, through the Ministry of Finance, Planning and Economic Development, unveiled an Agriculture Insurance Scheme in 2016 to cushion farmers from risks associated with losses arising from natural disasters as well as attract financing to the agriculture sector. By mitigating associated risks, the scheme intends to encourage commercial banks to lend to the agriculture sector through appropriate insurance cover. The government allocates UGX5Billion annually to the scheme as premium subsidies to farmers who either directly purchase an agricultural insurance product or access credit through a financial institution. Farmers with less than five acres or seasonal income of less than UGX20Million, are granted a 50 percent insurance subsidy whereas larger scale farmers with five acres or more or seasonal income of UGX20Million or more, are granted a 30 percent insurance subsidy. Farmers who operate in high risk areas – prone to regular catastrophic risks such as landslides, excessive rains and prolonged droughts – are granted an 80 percent subsidy. The scheme covers crops including coffee, maize, beans, rice, cotton, bananas, oil seeds – sunflower, simsim, soybean, and groundnuts, fruit trees, tea, sorghum, barley, Irish potatoes as well as livestock (poultry, pigs and fish). According to the 2019 Annual Agriculture Insurance Performance report, the number of farmers that embraced agriculture insurance in 2015/16 increased from 5,000 to 100,000 in 2018/19. The gross underwritten premiums for the agriculture insurance policies increased from UGX5.2Billion in 2017 to UGX5.24Billion in 2018 against the insured sums of UGX235.7Billion and UGX 387Billion respectively*

## 1.2.7 Conclusion and Policy Recommendations

In conclusion, the FinScope reports show that Uganda has made significant progress in financial inclusion but there is still a lot of improvement required. Increasing financial services outreach into the rural areas—where agriculture is the mainstay, needs to be sustained with a targeted government policy and strategies.

The findings on changes in levels of formal and informal inclusion indicate the following policy opportunities and challenges;

- i. Parts of the population that were considered financially unviable can be transformed into a vibrant market niche for formal and informal financial service providers.
- ii. For those excluded, it may be easier to graduate to informal inclusion first, before becoming formally included.
- iii. Growth of inclusion levels has been accelerated by technology, starting with the advent of mobile money services (2013) and reinforced by the 2016 Financial Institutions (Amendment) Act that has enabled commercial banks to rapidly expand outreach using agency banking.
- iv. Without deliberate actions, it may not be easy to sustain high growth rates in formal financial inclusion (as evidenced by the tapering off of Uganda's growth in formal inclusion with only 6 percent increase over a five year period 2013 to 2018).

What can be observed from the 2018 FinScope study is;

- i. FinScope provides vital information on both the financially included and the financially excluded. This information can be used to develop products that are responsive to the needs of both the included and currently excluded;
- ii. There are opportunities for financial service providers to increase business volumes by targeting the financially excluded. The latter can be developed into a viable market segment capable

of utilising a wider range of financial products and services offered by both formal and informal financial institutions;

- iii. Financial inclusion strategies can initially aim to transform the 'excluded' into the 'informally included' who can then be supported to fulfil the requirements of being 'formally included';
- iv. Deliberate policies and strategies to substantially grow the 'formally-included' segment are needed. Uganda has shown that initially progress can be rapid but if not adequately supported, inclusion growth rate can fall substantially;
- v. Among the key drivers of growing the 'formally-included' segment are; a) use of technology by all – formal and informal providers; b) formal providers understanding the financial needs of those they are not yet reaching - the 'informally-included' and 'the excluded'; and c) collaborations between formal and informal financial institutions so that together they can complement each other in reaching the different segments (excluded, informally-included and formally-included);
- vi. Research and innovations are key in extending the financial inclusion frontier. Different parts of agricultural commodity chains (production, marketing, processing etc) have different financing needs. These needs need to be well appreciated and addressed by providers
- vii. Formal financial providers should explore how to incorporate features of mobile money services and informal providers that appeal and attract 'the excluded' and 'informally-included'.

From the aspects of FinScope report analysed in this article, some policy recommendations are hereby outlined:

- i) Fully implement the National Financial Inclusion Strategy 2017-2020. This well thought out strategy identifies key aspects that are needed to fully unlock financial inclusion by reducing access barriers, enhancing credit infrastructure, optimising and de-risking digital financial infrastructure, deepening/broadening use of financial services (including

- insurance), and increasing the financial capability/ financial literacy in the country. When this is done, overall inclusion will be boosted, and rural/ agricultural financing (on which the strategy keenly focuses) can grow even more.
- ii) Implement incentive for formal financial institutions to embrace financing of agriculture. This can be achieved by subsidising the costs of agricultural finance product development, giving limited tax incentives for banks' business portfolio in the rural/ agricultural sectors, establishing an inclusive guarantee fund to support lending to stallholder primary producers, fiscal support to new or expanding agro-processing enterprises with catchments of at least 5,000 outgrowers.
  - iii) Invest in digital infrastructure to make internet access more affordable. Government should scale up national network of digital access to bring down the cost of the internet and implement policy to make mobile money a lot less expensive so that the drivers of financial access facilitate more inclusion in rural areas and to the agricultural sector.
  - iv) Review fiscal policy to support financial inclusion. As an example, the Government should support rather than tax mobile money transactions, and there should be no levy on bank-to-wallet digital transactions, so that the associated charges are low enough to attract the masses.

report/

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## Endnotes

- 2 Although some people keep their money on phone and of recent the mobile money companies have started some micro-lending
- 3 Discussions and drafts of both the Financial Sector Development Strategy and Agricultural Finance Policy focus on inclusive finance, especially for rural areas.
- 4 Determined by the percentage who borrowed in the 12 months prior to the Fin-Scope survey (not a conclusive indicator of access to credit since some people who did not borrow in the 12 months could still have had access to credit)

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## 1.3 THE IMPACT OF COVID-19 CONTAINMENT MEASURES ON AGRICULTURAL FINANCE AND EMPLOYMENT IN UGANDA: FINDINGS FROM A RAPID BUSINESS CLIMATE SURVEY

Mugume Reagan, Nathan Sunday and Paul Lakuma<sup>1</sup>



Photo: Badru KATUMBA / AFP Copyright ID4D, <https://ideas4development.org/en/covid-19-africa-fragility-food-system/>

### 1.3.1 Introduction

Agricultural Small Medium Enterprises (ASMEs) remain central to livelihoods of rural households in Uganda and significantly contributes to employment, food security and foreign exchange. Notably, Small and Medium Enterprises (SMEs) account for approximately 97 percent of the agribusiness in Uganda with the majority operating at the household level (FAO, 2020). Despite their importance, SMEs in Uganda operate in a constrained business environment. Before the COVID-19 pandemic, 70 percent of the agribusinesses at the household level reported either a fall or stagnation in the last three years on account of limited business finance/credit, product demand, limited inputs among others (Uganda Bureau of Statistics, 2018). The emergence of the COVID-19 pandemic since December 2019 seems to have exacerbated this situation.

Following its outbreak in China, the Coronavirus has continued to spread across the globe, posing a threat to

health systems and economies. As of the 15<sup>th</sup> June 2020, at least 437,471 persons had lost their lives out of over 8 million confirmed cases worldwide (WHO, 2020). To curb the spread of the pandemic, countries across the world, adopted several containment measures. Uganda imposed a lockdown for more than two months characterised by the closure of schools, restrictions on internal and international travel, wearing of protective gear, use of hand sanitiser and lockdown among others.

While these measures were vital in containing the spread of COVID 19 pandemic, their impact on small (including micro) and medium enterprises (SMEs), especially those in the agricultural sector are not adequately documented. The containment measures are not only likely to undermine the survival of ASMEs but also push a multitude of agricultural households into poverty. This article, therefore, seeks to assess the impact of COVID-19 on ASMEs in Uganda. The article examines the extent to which COVID-19 containment measures affected business operations, access to credit and employment among ASMEs in Uganda.

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### 1.3.2 Methodology and Data

The study utilised data from a rapid survey of businesses conducted in May 2020 by the Economic Policy Research Centre (EPRC). In the survey, a panel of enterprises was selected based on the Uganda Bureau of Statistics - Census of Business Establishment 2011 (first tracked in 2012). A structured questionnaire tool was sent electronically to 147 business establishments. Whereas the survey covered businesses in three sectors; Manufacturing, Agriculture and Services, analysis for this article is based solely on agricultural businesses.

The businesses were interviewed on business risks associated with COVID-19 pandemic and subsequent containment measures such as; the lockdown; curfews; and transport restrictions. In particular, the questions focused on the business risk indicators; the level of business activity, access to raw materials, price of inputs/raw material, operating expenses, domestic and international demand, price of output, the revenue of the business, productivity, employment, credit and liquidity constraint.

For each of the indicators, respondents were asked to rank their responses on a Linkert scale as follows;

**Table 3: Ranking of business risk associated with COVID-19**

Code	Level of business risk
0	Severely reduced (by more than 50 percent)
0.5	Moderately reduced (by about 50 percent)
1	No change
2	Increased

Source: Authors Ranking of Responses

If a respondent's perception of the effect of a business risk associated with COVID-19 on an evaluation indicator is that it was '*severely reduced*', such a response would be coded as 0. A code of 0.5 is used if the effect to a

business risk associated with COVID-19 was '*Moderately reduced (by about 50 percent)*'. Alternatively, a code of 1 is used if there was '*No change*' and 2 if the effect of a business risk associated with COVID-19 '*Increased*'.

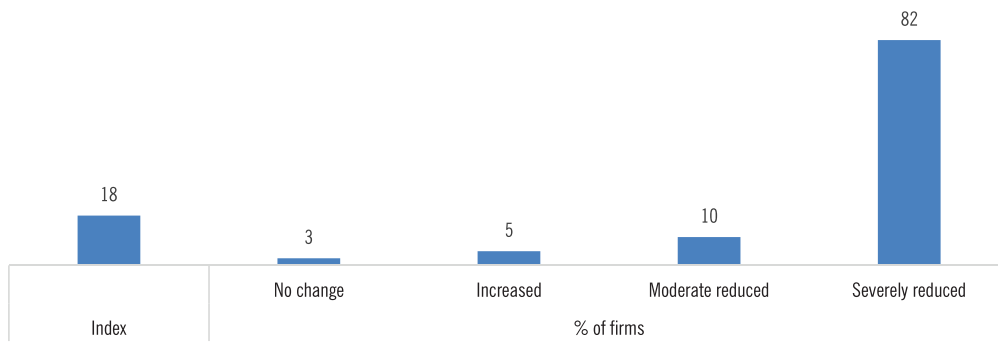
Further, questions about employment were asked to establish expectations regarding potential laying-off of workers and the estimated number of employees who would be laid off either temporarily and or permanently, in case the situation persisted for six months. The analysis entailed estimating indices of business activity. Noteworthy, the index of business activity constructed did not consider the magnitude of change but rather the general direction of movement of business activity as a result of COVID-19. Sample weights provided by the Uganda Bureau of Statistics (UBoS)—as part of the Census of Business Establishment—were used to ensure that estimates are nationally representative.

### 1.3.3 Findings

**COVID-19 and containment measures have severely affected business activities in ASMEs.** More than eight in every ten (82 percent) ASMEs reported a severe decline in business activity arising from the outbreak of COVID-19 and subsequent containment measures (Figure 12). The index of business activity in ASMEs reduced by more than 82 percentage points due to COVID-19. The severe decline in business activity was primarily attributed to containment measures instituted during lockdown such as transport restrictions, and ban on weekly markets which hindered access to input and output markets.

For instance, 41 percent of ASMEs reported a severe decline in access to inputs, while 54 percent reported a moderate reduction. Restrictions on transport also made it difficult for employees in these businesses to travel to work. Those who managed to travel to work, worked for fewer hours for fear of defying the 7:00 pm curfew restrictions (AFAP, 2020). With the easing in the regulations, the businesses reported that they are gradually recovering although the recovery is still insufficient.

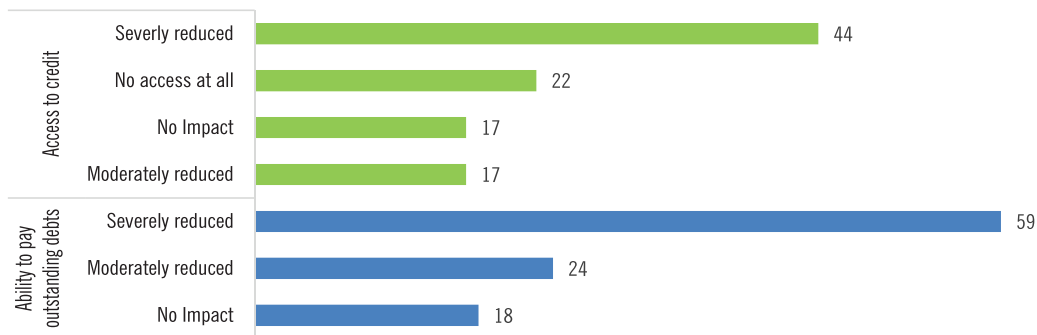
**Figure 12: Impact of COVID-19 on ASME business activity**



Source: Author’s computations based on data from the rapid Business Climate Survey 2020

**Access to credit and debt repayment by ASMEs has been severely compromised by COVID-19:** The pandemic has had a pronounced effect on access to credit and ability to pay outstanding debts by ASMEs. More than eight in ten ASMEs reported a decline in access to credit due to COVID-19—22 percent reporting no access at all, seventeen percent moderate reduction, and 44 percent reporting a severe drop (Figure 13).

**Figure 13: Impact of COVID-19 on access to credit and debt repayment by ASMEs**



Author’s computations based on data from the rapid Business Climate Survey 2020

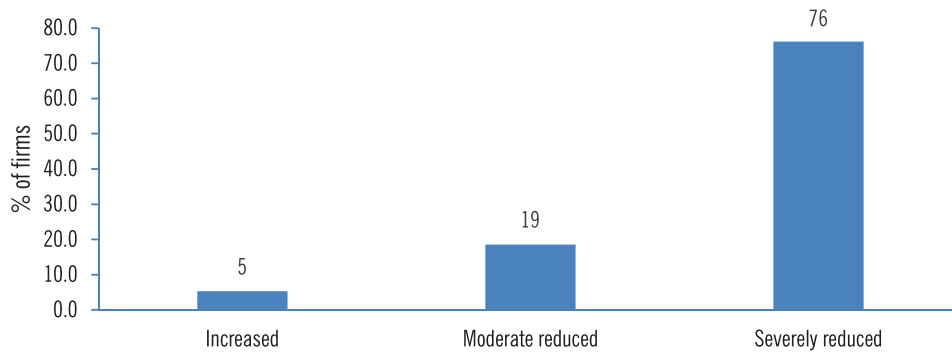
The decline in access to credit by ASMEs suggests that lending institutions are refraining from lending to ASMEs as they considered to be highly risky, likely to become insolvent in case COVID-19 persists and restrictions are maintained.

**Majority of the ASMEs, especially those dealing in perishable foods faced a decline in product demand as a result of COVID-19.** 76 percent of the ASMEs reported having experienced a severe decrease in demand for their products during the period of extreme containment measures-March to June 2020 (Figure 14).

Earlier findings by FEWSNET (2020) also show a decline in demand for perishable foods like matooke, milk, eggs,

horticultural crops, and vegetables during the lockdown, which affected prices. The fall in demand is attributed to a fall in the purchasing power among the masses due to job losses and significant pay cuts leading to reduced consumption of agricultural products whose demand is income elastic (FAO, 2020). Additionally, risk aversion, due to fear of contracting the virus resulted in reduced visits to food markets as consumers stocked dry rations. Others opted for online shopping hence excluding agribusinesses that could not sell commodities online. The other factor was the closure of institutional consumers such as restaurants, hotels and schools which also contributed to the decline in demand for foodstuffs (Mutegeki, 2020).

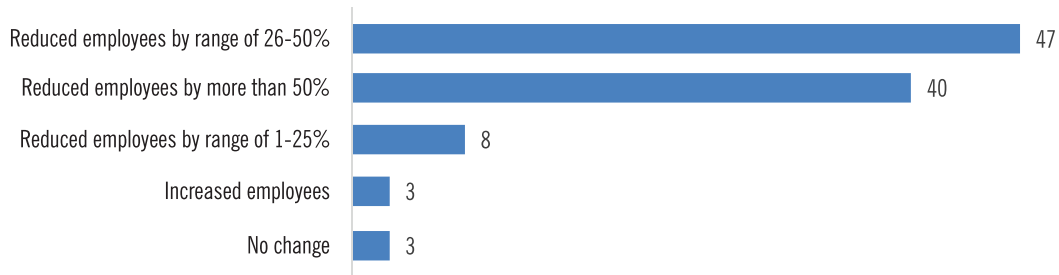
**Figure 14: Changes in demand for ASME products**



Author’s computations based on data from the rapid Business Climate Survey 2020

**The continued spread of the pandemic is likely to result in significant layoffs in the agribusiness sector:** Due to the decline in business activity and demand for products, the majority of ASMEs (95.7%) reduced their workforce—with 47 percent of them reducing employees by a range of 26-50 percent and another 40 percent reducing by more than 50 percent (Figure 15). It is estimated that ASMEs will lay off about 123,610 employees temporarily if the pandemic persists for the next six months. The massive layoff will not only affect the sector’s growth but could enormously affect household income, pushing more ASME operators into extreme poverty trap (World Bank, 2020)

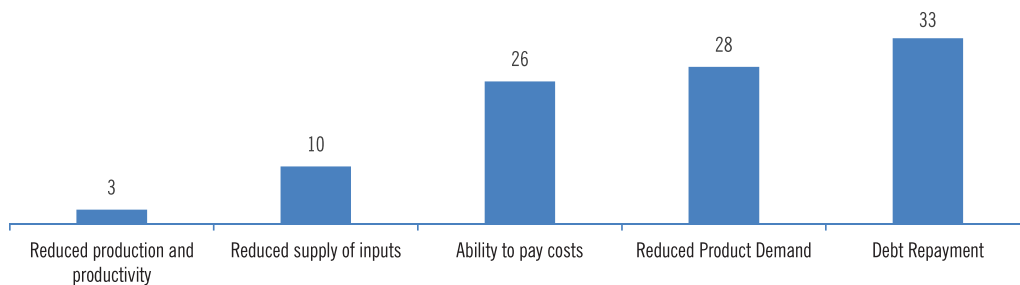
**Figure 15: Changes in employment in ASMEs due to COVID-19**



Author’s computations based on data from the rapid Business Climate Survey 2020

**Persistence of the pandemic (and containment measures) is likely to exacerbate debt default among ASMEs as product demand continues to fall.** In terms of future outlook, ASMEs envisage the accumulation of debt arising from non-payment of interest on borrowed funds. If COVID-19 persists, one-third of the ASMEs indicated that debt repayment would be the biggest challenge (Figure 16). Inability to pay costs and reduced product demand are the other worrying concerns for ASMEs in the event of continued spread of COVID-19 and containment measures. Nonetheless, ASMEs have continued to produce despite COVID-19.

**Figure 16: The future outlook of ASMEs**



Source: Author’s computations based on data from the rapid Business Climate Survey 2020

### 1.3.4 Conclusion

The challenges presented by COVID 19 and its associated containment measures (the lockdown, curfews and transport restrictions etc.) have imposed enormous supply and demand shocks on ASMEs. While transport restrictions hindered access to inputs and product markets by ASME owners, on the demand side, the pandemic led to income loss due to job losses and pay cuts in most sectors, resulting into a decline in demand for agricultural products.

Reduced household income levels translated into a shift in consumption patterns from high-value foods such as milk, matooke, eggs, and vegetables to long shelf staple foods such as beans and maize flour. The fall in demand was associated with the closure of consumer institutions such as restaurants, hotels and schools. The pandemic has also affected employment opportunities of a substantially high number of ASME workers as ASMEs adopted layoffs as one of their coping strategies.

Due to the financial and operational fragility of ASMEs, it is important for Government. SME owners/promoters (in general) and ASME owners (in particular) to implement a Resuscitation Plan aimed at mitigating the effects of COVID on ASMEs as well as making SMEs (overall) more resilient to shocks.

### 1.3.5 Recommendations

To come up with informed strategies and a credible Resuscitation Plan for ASMEs (including means of financing it), it is important;

- i. To organise ASME dialogues to capture experiences of ASMEs during COVID-19 pandemic, ASME strategies in coping with the containment measures
- ii. For government and ASME associations to agree on stimulus actions to enable ASMEs to enter new agricultural commodity markets particularly those available in government institutions and processors/factories;

- iii. To provide special COVID recovery credit/ guarantees for ASMEs either at favourable interest rates or/and facilities to enable rescheduling of loans whose repayment was good but has been affected by COVID. Use of partial credit guarantee schemes (PCGs) where the Government can partially guarantee ASMEs to enable risk-sharing between financial providers and Government;
- iv. To support (capital, capacity building) to informal groups like Rotating savings and credit associations (ROSCAs) and VSLAs to improve their capacity to ASMEs in remote areas
- v. To offset initial capital requirement for farmer groups and ASMEs by providing input subsidies (seed/biotechnology, equipment, storage and processing facilities);
- vi. To support development of more ASME-related digital platforms that can ease cash payments, access to credit and establishment of credible source of inputs. Use of platforms is aimed at, reducing travel time, transaction costs and losses arising out of purchase of fake inputs; and
- vii. To finance establishment of storage facilities to enable proper storage of accumulated commodity inventories that can be held until commodity demand adequately builds up.

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## 1.3 AGRICULTURAL FINANCING FOR REFUGEES: STATUS, CHALLENGES AND OPPORTUNITIES

Nakazi Florence<sup>1</sup>



Refugee farmer in Nakivale settlement area, Uganda (Photo: UNHCR)

### 1.4.1 Background

Uganda operates a progressive policy for refugees as enshrined in the 2006 Refugee Act and 2010 Refugee Regulations. These provide refugees with freedom of movement, access to social services, access to land<sup>2</sup> and participation in the economy. The policy has had a resultant effect on the number of Uganda's refugee population and asylum seekers from 457,000 in 2014 to 1,381,122 in December 2019 (UNHCR, 2019). The majority of these refugees come from South Sudan (861,590), followed by DRC (397,638) and Burundi (45,671). Some 54,143 refugees from Somalia, Rwanda, Eritrea, Sudan and Ethiopia have lived in protracted<sup>3</sup> exile in Uganda for the past three decades. While the refugee policy is welcoming, the Constitution prohibits the naturalisation of refugees and their offspring.

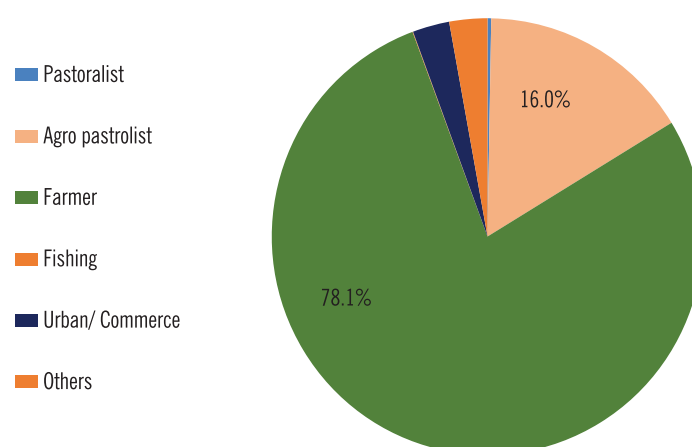
With refugees continuing to stay for longer durations, the use of humanitarian assistance to support refugee livelihoods, especially in the face of shrinking donor budgets is becoming a policy issue. Limited funds imply that emphasis must be placed on providing the environment and means for refugees to fend for

themselves. The integration process enables refugees to acquire the necessary skills and to gain access to production resources such as agricultural land, credit to invest in income-generating initiatives. Such approaches strengthen the humanitarian-development nexus by providing opportunities for refugees to support their livelihoods.

### 1.4.2 The Rationale for Agriculture Financing for Refugees

Despite the perception that refugees are destitute and unable to work, there is growing evidence of the contribution that refugees can make in enhancing their livelihoods and the economy of their host countries and communities. Previous studies show that refugees come with considerable resources, such as entrepreneurial skills, business experience, and some financial literacy. This capacity is demonstrated by the presence of refugee community-founded Village Savings and Loan Associations (VSLAs) and Rotating Savings and credit associations (ROSCAs). Refugees also provide labour for agriculture. Recent studies of refugee communities in Uganda highlighted that refugees farmed their land intensively and that their land productivity was significantly higher than

<sup>1</sup> Author: Research Analyst, Economic Policy Research Centre (EPRC).

**Figure 17: Livelihoods of Uganda's refugees (Percent)**


Source: FAO and OPM (2018)

their host country/community farmers (Zhu *et al.*, 2016). Consequently, the reasons for financing agriculture in a refugee setting may vary from one situation to another.

For humanitarian organisations to develop self-reliance and reduce operating costs, it is important to provide opportunities for agriculture-based livelihoods. Such initiatives enable a “*co-contribution*” by refugees to the local and regional economies through sale of products and the provision of labour. Although some refugees prefer to explore livelihoods outside agriculture, evidence has shown that most refugees and asylum seekers have derived their livelihoods from agriculture-related activities (Figure 17). Additionally, more than 90 percent of refugees officially residing in rural settlements depend on agriculture as a primary source of livelihoods, with 95 percent of refugees and 97 percent of those in host communities engaging in crop production in northern Uganda (Crawford *et al.*, 2019).

Ensuring access to food and nutritional security of refugee and local populations can also contribute to a balanced diet. Furthermore, there is increasing evidence to show that refugee situations are increasingly protracted. Research shows that refugees now spend an average of 10 years away from their home countries (Kocks *et al.*, 2018). Longer durations imply that Uganda needs to strengthen its financing strategies through Settlement Transformative Agenda (STA)<sup>4</sup> for increased contribution of agriculture to livelihoods of refugees.

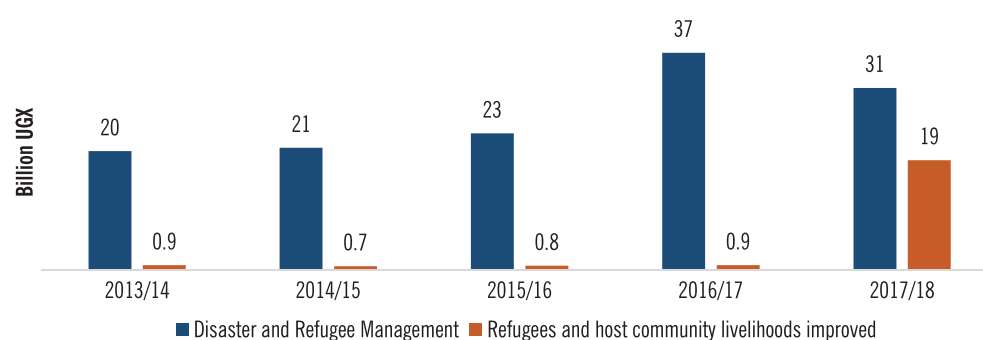
### 1.4.3 Status of Agriculture Financing for Refugees

Agricultural financing for refugees is supported through government, development partners and private sector. Despite the growing refugee crisis, Uganda has registered fluctuating trends in funding for refugee management. As at mid-2018, government and its development partners had only realised 8 percent of the consolidated financial appeal for the year.

#### 1.4.3.1 Extent and Composition of Public Finance towards Agriculture

Through the STA, Uganda has embedded refugee livelihoods in its current development planning. Government through the Office of the Prime Minister (OPM) incurs both direct and indirect costs in financing agriculture among refugees, and these finances are either through the national budget or through projects. Within this mandate, OPM resettles landless people (refugees, and persons affected by floods, waterlogging and landslides), provides immediate food and non-food items during an emergency and restores livelihoods among affected communities.

Analysis of the OPM budget shows that between 2013/14 and 2017/18, expenditure for disaster and refugees increased from UGX 20.2 billion to UGX 31 billion. However, over the years, the proportion of spending

**Figure 18: OPM budget allocation to disaster and refugee management**


Source: OPM Budget Performance Reports (2013/14- 2017/18)

targeted at improving the livelihoods of refugees and host communities did not exceed 0.03 percent of total allocation (Figure 18). During the 2017/18 financial year, OPM spent 60 percent of its disaster preparedness and refugee budget (amounting to UGX 18.6 billion) on livelihoods. The significant increase in allocation to livelihoods could partly be explained by increased donor participation with the World Bank, under its Development Response for Displacement Impacts (2017/18) financing UGX 17.8 billion of the OPM budget.

Other indirect costs incurred by the Government in financing refugee agriculture include allocation of land for agriculture, given the fact that more than 80 percent of landholdings held by refugees is acquired from the Government (Table 4). There is also evidence that alternative land acquisition methods (purchases and use rights -with or without agreements) are emerging.

Although these informal transactions are currently ad hoc and unregulated, they are a testimony to the availability of underused land around many of the settlements and the willingness of hosts to share this asset with refugees.

### 1.4.3.2 Extent and Composition of Financing by Development Partners

Previously, there was low prioritisation of livelihoods yet agriculture is the primary livelihood activity for refugees (Table 5). Over the last five years, donor funding for refugees has increased significantly. In 2018, the total reported donor funding towards agriculture amounted to USD 2.6 million and constituted only 0.87 percent of total inflows towards refugees.

With the limited budget, development partners employ a project-based approach to fostering agricultural livelihoods

**Table 4: Mode of land acquisition among refugees (Percent)**

Mode of land acquisition	Adjumani	Arua	Kiryandongo	Lamwo	Moyo	Yumbe	Isingiro	Kamwenge
Purchased	0.5	0.9	1.6	0.0	0.5	1.8	4.2	4.0
Inherited or received	1.5	0.7	5.1	0.0	1.5	1.1	1.6	2.5
Leased-in	0.5	0.2	2.2	0.0	0.0	0.0	3.1	0.0
Just walked in	1.5	0.5	0.0	1.0	5.1	3.5	1.0	0.0
Don't know	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Received from the government	90.5	93.4	78.9	95.5	89.9	89.9	87.5	91.0
Agreement with user rights	4.0	3.0	7.7	1.0	2.5	3.5	1.0	1.5
Without agreement but with user rights	0.5	0.2	2.9	2.0	0.5	0.0	0.5	0.5
Others	1.0	1.1	1.6	0.5	0.0	0.0	1.0	0.5

Source: FAO and OPM (2018)

**Table 5: Donor funding for refugees (million USD)**

Sector	2014	2015	2016	2017	2018
Agriculture	0.45	-	0.80	1.34	2.59
All other funding	30.95	48.21	68.15	196.18	25.01
Protection (incl. child protection)	1.03	1.67	6.13	5.51	6.75
Education	-	0.45	2.37	16.07	6.14
Emergency Shelter and NFI <sup>5</sup>	-	-	0.84	0.87	7.01
Food security	17.08	1.69	22.01	58.03	91.42
Health	10.21	1.21	3.77	3.59	11.40
Multi-sector <sup>6</sup>	114.11	79.87	37.37	28.41	26.14
Nutrition	-	-	-	5.02	1.52
Water, Sanitation Hygiene	1.60	0.50	6.44	6.26	6.61
Logistics, Coordination and Support Services	0.79	0.63	1.52	1.12	1.52
Total	176.23	134.23	149.39	332.41	296.10

Source: UNOCHA- Financial Tracking System

among refugees. Projects are designed and implemented in the context of identified gaps. The entry point to project activities is refugee groups. These groups may be derived from existing community structures or formed to aid the accomplishment of specific objectives. A multi-pronged approach is used to support beneficiaries. Such support may include technical support (e.g. how to produce low-cost fish food pellets and other innovative ideas), provision of inputs, skilling (financial emphasising savings and loan best practices and business management), establishment of VSLAs, post-harvest management and market linkages' development.

Project interventions by donors have also enabled refugees to use agricultural inputs, which in some cases, prevalence input use is higher among refugees than hosts (Table 6). For example, analysis of input use reveals that 23.6 percent of refugees used improved seeds/seedlings compared to only 18.2 percent among host communities. Most of the inputs were acquired from the support package received from development partners on arrival. New arrivals in the districts of Adjumani, Arua, Yumbe, Lamwo received their agricultural inputs as part of the startup support package (includes seeds, hand tools and fertilisers) provided by development partners.

**Table 6: Source of inputs for refugees (Percent)**

Refugee Host District	Purchase or Rent	Refugee Support Package	Own saved
Adjumani	10.9	80.4	8.7
Arua	16.9	76.4	6.7
Kiryandongo	59.2	34.7	6.1
Lamwo	3.6	84.8	11.6
Moyo	71.2	21.2	7.7
Yumbe	10.0	90.0	0.0
Isingiro	50.0	4.8	45.2
Kamwenge	51.4	0.0	48.6
Average	32.4	48.7	18.9

Source: FAO and OPM (2018)

However, in the areas where refugees have lived longer (Kiryandongo, Isingiro, Kamwenge and Moyo), refugees have transitioned to purchasing and renting their inputs and in some cases, producing the inputs from their farms.

#### 1.4.4 Private Agricultural Financing for Refugees

Financial Service Providers (FSPs) such as banks and microfinance providers are the preferred modality for facilitating relief cash transfers to refugees. FSPs also allow refugees to save or receive remittances and make payments through all the available e-platforms. For savings and transfer of cash, FSPs accept the use of refugee identity cards.

However, increased account opening has not translated into access to finance to support income-generating activities. Refugees seldom borrow to invest in business activities. Refugees’ financial barriers are compounded by unfamiliarity with FSPs. At the same time, FSPs also lack information on livelihood opportunities for refugees, the business case for serving them, and their creditworthiness. As such, refugees are perceived as very high-risk clients.

In West Nile, private sector credit to refugees is championed by a cross border microfinance institution—the Rural Finance Initiative (RUFi). The RUFi uses group methodology to circumvent the risk of lending at an individual level. The primary collateral required is the guarantee of group members. Farmers are required to have alternative income streams and substantial experience in agriculture to qualify for financing. The limited size of RUFi’s funding also imposes a ceiling on the amounts available to lend to individuals or groups.

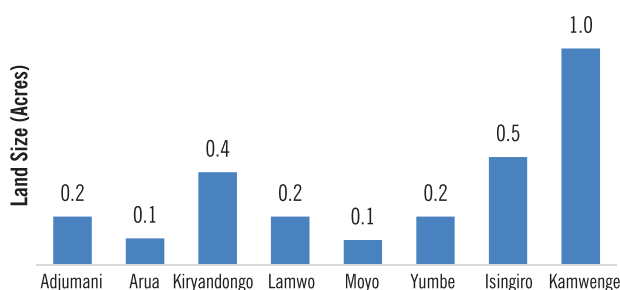
### 1.4.5 Challenges

Although refugees participate in various agricultural value chains, there is limited opportunity for growth. Refugees are locked into merely improving their agricultural activities due to various constraints, including;

#### a) Limited land holdings and non-functional land markets

The mainstay of Uganda’s agricultural approach to promoting self-reliance for refugees is through the cultivation of land, which is expected to meet both the

**Figure 19: Average landholding among refugees**



Source: FAO and OPM (2018)

refugees’ food needs and generate income. However, the availability of adequate land for production remains a significant challenge for refugees. The size of land that has been allocated to refugees varies by settlement but ranges between 0.12 acres in Moyo to 1.0 acre in Kamwenge (Figure 19). On average, landholding by refugees stands at 0.23 acres per household. The current land size among refugees cannot permit for expansion in the scale of production. Besides the size of land refugees produce on, there is heavy dependence on government allocated land. Options to purchase or secure access rights to land are limited.

#### b) Sub-optimal use of productivity-enhancing agricultural inputs

Optimal agriculture requires the use of appropriate technologies. However, similar to other Ugandan communities, access to and utilisation of critical farm inputs is limited. Only 24 percent of refugees used improved seeds/seedlings (Table 7). The prevalence of input use in some refugee communities has been higher than hosts, mainly because of the support package given by development partners.

**Table 7: Use of improved seeds/seedlings (Percent)**

District	Refugees	Host
Adjumani	23.0	3.9
Arua	17.9	13.8
Kiryandongo	15.1	10.5
Lamwo	56.0	3.7
Moyo	26.0	19.3
Yumbe	3.5	0.0
Isingiro	53.9	65.8
Kamwenge	17.3	48.7
Total	23.6	18.2

Source: FAO

#### c) Limited Access to Credit

Analysis of credit access constraints in refugee communities reveals that 74 percent of refugees did not have access to credit (Figure 20). The most common source of loans for refugees is customers, friends and relatives

based on personal relationships (Idris, 2020). The reliance on informal methods of credit is partly explained by the absence of conventional security (household properties, land) - which makes it hard for refugees to borrow from formal financial institutions. Also, the remote location of settlements increases the transaction cost (in terms of travel, time, and personnel) for service providers.

### 1.4.6 Conclusion and Policy Recommendations

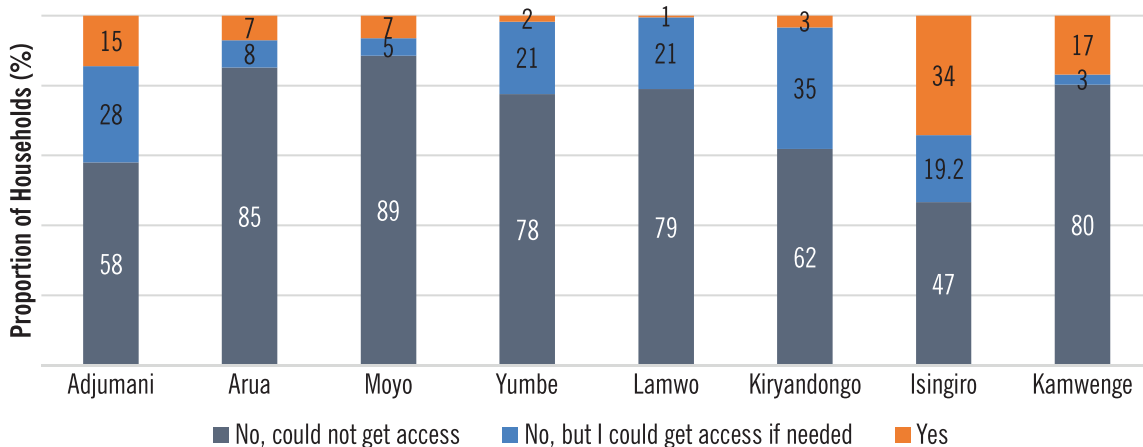
Given the fact that agriculture is the leading sector of employment for both host and refugee communities, it implies that financing refugee agriculture needs to be prioritised as a sustainable form of livelihood for both communities. To graduate refugees from dependency aid to sustainable livelihoods through agriculture, it will be necessary to:

**Facilitate land markets.** Apart from refugees accessing land through allocation by Government, in some areas, refugees have been able to acquire land for production through purchases or mutual agreement with hosts. Facilitating the exchange of land rights for money or services without compromising the land tenure security of *bona fide* owners would allow refugees to access more land for production.

**Encourage private and public partnerships to overcome the low prioritisation of refugee livelihoods financing.** Such alliances could bring together a broader set of actors with varying comparative advantages in agricultural inputs, credit and associated training in agriculture. It could also enable refugees to acquire skills as well as invest in inputs, technologies and meet the working capital needs induced by the production cycle. Lack of capital limits the extent to which refugees engage in the local economy. A transition away from in-kind aid support to emphasis on partnerships with local businesses based on demand and supply can enhance value chain participation of both refugees and their hosts.

**Incorporate a holistic approach to financing of agriculture in the context of refugee management** – beyond accessing finance, by linking refugees to both inputs and output markets. Support efforts towards regular pooling of financial resources under VSLAs to support access to credit.

Figure 20: Household access to credit



Source: FAO and OPM (2018)

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## Endnotes

- 2 The Act allows access to both settlement and agricultural land. However given the increased numbers of new arrivals, priority is being given to allocation of settlement land. Some refugees who arrived post-2016 might not have land for agricultural use.
- 3 According to UNHCR, a protracted refugee situation is one in which 25,000 or more refugees from the same nationality have been in exile for five or more years in a given asylum country (Ruauadel & Morrison-Metois, 2017).
- 4 Since 2015, the Uganda National Development Plan (NDP) II 2015/16-2020/21) includes refugees in national development planning and structures through a five-year government strategy called the Settlement Transformative Agenda (STA), which aims at aims to promoting social and economic development in areas hosting refugees for both refugees and host communities
- 5 NFI – Non Food Items
- 6 Multi-sector' refers to projects and activities with no dominant sector and often applies to UNHCR assistance for refugees





CHAPTER  
**INNOVATIONS  
AND RESEARCH**

## 2.1 LESSONS FROM 10 YEARS OF IMPLEMENTING THE SMARTMONEY MOBILE FINANCE APP IN EAST AFRICA

Michael Spencer<sup>1</sup>



Photo by: <https://www.smartmoneyinternational.com>.

### 2.1.1 Introduction

During the past ten years, SmartMoney has worked tirelessly, in rural East Africa to adapt financial services to the needs of the unbanked. Using a user-centred approach, SmartMoney is pioneering a unique combination of free digital money and financial education that is banking East Africa's (Uganda and Tanzania) rural unbanked with critically needed savings and payment services. SmartMoney also provides rural stakeholders free-of-charge low-value consumer payment services so that money saved can be used and invested with equal utility and convenience to cash.

One crucial factor to successful saving is for income to be saved as soon as it is received. SmartMoney enables rural stakeholders to receive payment from employers and off-takers directly into their digital wallets. For example, SmartMoney provides fee-based digital payment services to cotton and coffee companies, other institutional buyers and employers who, by using SmartMoney, benefit from replacing cash payments with digital money.

This article shares the lessons learnt from decade-long implementation of an innovative digital financial product

(Smart Money) in two districts (one in Uganda, the other in Tanzania) in East Africa. The article provides critical lessons learned and makes broad recommendations for scaling up.

### 2.1.2 The SmartMoney Model - Structure and Operation

SmartMoney is a mobile-based digital financial service (DFS) that overcomes the features that prevent traditional models (e.g. mobile money, mobile banking) from successfully delivering vital savings and payment services into rural African markets. The SmartMoney model combines modern financial technology with a low-cost ground-based financial education program. SmartMoney's ground operation trains rural Africans on the basics of wealth generation using proprietary market-tested methods. The scalable high-touch financial education program trains geographically-isolated customers on how to use digital money for savings and investments. Simultaneously, SmartMoney is uniquely accessible, affordable and secure. It competitively drives rapid customer adoption and advocacy, building the trust needed to capture the unbanked rural African market. Box 4 describes the setup of SmartMoney.

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## Box 4: The SmartMoney Setup

“SmartMoney has developed a proprietary mobile money service that can be accessed free of charge from any location in the world via standard GSM mobile phones and phone networks.

“SmartMoney is safe and secure. If a SmartMoney user loses their mobile phone, their money is not at risk. SmartMoney stores all electronic money and user account information in a safe and secure data centre environment located in Europe. SmartMoney administrators can easily access and restore a user’s account access from a new phone, if their original phone is lost or stolen. “To prevent someone stealing a user’s phone and accessing that users SmartMoney account, SmartMoney requires all users to enter a PIN code when logging into the service. The combination of a physical phone and a PIN code forms a reliable 2-factor security solution comparable to the security used for debit cards and ATM machines in Western countries.”

Source: Author

### 2.1.3 Performance of SmartMoney

SmartMoney’s user-centric research and design have produced a unique and proven digital financial services model that achieves unparalleled registration and adoption rates in rural communities. In its first district in rural Uganda, SmartMoney registered an astonishing 44 percent of the addressable population in the first six months of operation. Its highly efficient grassroots training operation delivers financial education to over 2,000 customers per month per district, achieving an adoption rate of 50 percent - 5 times the world average adoption rate of traditional mobile money. A total of USD 5 million was transacted during the first 36 months, with customers saving (on average) 15 percent of their income. These performance metrics show the opportunity for SmartMoney to rapidly bank Africa’s unbanked rural population and its potential contribution to lifting entire rural communities out of poverty through financial inclusion.

### 2.1.4 Lessons Learnt

After ten years of introducing digital financial services in rural Uganda, the following were the lessons learnt;

#### a) **Cash is still King**

In rural markets, cash is the universal form of money. Cash is the dominant medium of value storage and exchange. **Unless new DFS business models are introduced that go beyond traditional mobile money, cash will remain**

**king in rural markets.** When SmartMoney started ten years ago, we anticipated rural stakeholders would recognise the obvious benefits of digital money over cash and flock to our free-of-charge digital money service for their payment and savings needs. To SmartMoney’s surprise, we were quickly proven wrong.

From our earliest experiences introducing SmartMoney, first in rural Tanzania and later in rural Uganda, we discovered that established mobile money services offered by local telecom companies are designed and priced for sending large amounts of money over long distances - money transfer. We also discovered that the majority of rural stakeholders have little need for this. Instead, their everyday financial activities revolve around small consumer purchases and payments in their communities - buying soap, salt and soda and paying school fees. We also discovered that, for such low-value consumer payments, digital money competes directly with cash.

#### b) **Farmers are price sensitive**

Another discovery was those rural stakeholders with little money are significantly price sensitive. If a medium of payment such as digital money makes a purchase even slightly more expensive than paying with cash, rural stakeholders will always prefer to pay with cash. As a DFS service provider, we realised that if we had any hope of competing with cash for low-value consumer payments, we must, at a minimum, offer our payment services free-of-charge. Our experience is that most rural stakeholders

believe established mobile money services are too expensive for everyday low-value consumer payments, preferring to use cash. Providers of traditional mobile money services earn significant revenue from the fees. They are typically uninterested in eliminating the costs to compete with cash for low-value consumer payments. This has been confirmed to us by product managers of all leading local telecom-based mobile money providers in Uganda. Traditional mobile money struggles to penetrate rural markets because the vast majority of rural stakeholders believe regular mobile money does not address the financial use case that is most relevant to them - low-value consumer payments. Cash prevails.

c) **Bulk agricultural value chain payments require sufficient farmers demand first**

From inception, SmartMoney's core service was agriculture value chain payments. We launched in rural Tanzania in 2010, offering an affordable fee-based digital payment service to large cotton companies. Cotton companies struggle with cash in their crop-buying operations. A typical cotton company in rural Tanzania buys USD 10 million of cotton from 200,000 rural cotton farmers, every year, using cash. They must use cash because their cotton farmers do not accept any other form of payment. Most cotton companies cannot dictate the form of payment to their cotton farmers because farmers can refuse to take alternative methods of payment and sell to another company that pays with cash. The reality is that in the agriculture value chain context, the viability of digital payments is wholly determined by farmer demand. **Farmers must prefer digital money to cash in order for agriculture companies to use digital money for payments.**

d) **Savings is the "Killer App"**

To save, one must have a secure place to store money and an understanding of the benefits of saving, how to save, and how to invest their savings in new income generation. During the most recent four years of SmartMoney's research and development, our company has committed itself to the proposition that savings are

the ONLY viable pathway to prosperity for the majority of rural stakeholders. We believe savings is the "killer app" for DFS that achieves maximum impact and profit. This belief has led SmartMoney to expand from our original focus on payments to a broader focus on savings. Through our user-centric research and design approach, we have discovered the essential ingredients necessary to deliver an effective and scalable savings solution to rural communities.

To successfully save, rural stakeholders must be able to store money securely. SmartMoney provides our rural stakeholders with a free-of-charge digital wallet allowing an affordable and secure place for them to store money. Equally crucial to successful saving is the ability to deposit, withdraw and use any money saved quickly. SmartMoney pioneers a unique service model for depositing and withdrawing called "community exchange" allowing any two digital wallet holders to exchange digital money with cash.

The result of these combined features is a savings and payment ecosystem that effectively competes with cash and overcomes all significant obstacles to successful saving. This saving solution is attractive to rural stakeholders who already save. However, many rural stakeholders prefer to save in non-financial forms (animals, land), shying away for financial forms of savings. For many, their previous experiences in financial savings have not yielded the anticipated benefits. Those who have deposited their savings in formal institutions have seen the savings reduce rather than increase. Furthermore access to own savings becomes harder once deposited compared to the non-financial forms of saving. In some areas (Uganda), the return on investment in land (and in some animals) cannot be matched by any of the savings products on offer. Yet turning savings into financial forms is critical for providing credit to those who lack funds by collecting from those who have extra.

To drive adoption of our saving service, SmartMoney needed to promote (financial) savings behaviour

throughout the rural communities we serve. We needed to create a financial savings culture. We also discovered that the most effective way to achieve sustainable financial saving behaviour is financial education. Through our investment of millions of dollars in research and development, SmartMoney has learned how to; deliver significant financial education profitably and scalable, establish the needed understanding and trust to drive adoption of our unique digital savings solution.

e) **Unique educational training is necessary**  
**Delivering effective financial education has become our third and most significant expansion in scope, and it is arguably an essential component for successful rural DFS.** When SmartMoney first started training rural stakeholders four years ago, we assumed we could use the same training methods that the founders had experienced themselves in their youth - lectures and printed reading materials. We began by observing how others delivered training in rural communities. Many donors, development organisations and NGOs train rural stakeholders where we operate, and they rely heavily on workshops to provide their training. We started by organising our training workshops, and we hired trainers to lecture and hand out printed training materials at the workshops.

In remote rural communities, few job applicants have experience as trainers; indeed few have any professional experience at all. Education levels are low and basic communication and organisational skills are limited. Recognising these challenges, many organisations operating in rural communities recruit their staff from far away urban centres or even from foreign countries. In our case, this was not possible because our rural stakeholders speak a unique tribal language that is not understood even by people in neighbouring districts. Our trainers needed to talk about this language to be understood.

Furthermore, there is a high degree of tribal tension in the region and trainers needed to be from the local community to be trusted and welcomed. After learning how to recruit, train, organise, mobilise and monitor our local trainers,

we were finally ready to conduct practical, workshops, or so we thought.

At our workshops, lectures and printed training materials were not working. We quickly discovered that learning by doing is the ONLY effective method of achieving understanding and driving sustainable behaviour change. Trainers must sit with the trainees, write on worksheets together and allow the trainees the opportunity to DO the things they are being trained on. This is practical, kinetic training. It is incredibly high touch, and it is hyper-local. It is at the top of mountains and across vast distances. Stakeholders lack mobility - most don't even have bicycles - and so any practical training must be brought to them. To achieve the required behaviour change, practical training must be repetitive and must not be spaced too far apart. Indeed, the training activities must be weekly and last as long as three months.

Strengthening the education component of SmartMoney's model has not only developed the education of the users' ability to save but also has employed hundreds of youth in rural communities. SmartMoney hires marketers, trainers, and local youth with little confidence or experience training others or formally working. SmartMoney invests in these youth through investing in strengthening the professional skills that then lead them to go on and get jobs with banks or NGOs. On-the-job training is a crucial added benefit of SmartMoney's models that integrates its effective ground operations with the education and employment of local stakeholders.

f) **Cost control is vital for rural DFS success**  
 SmartMoney's ten years of implementing DFS in rural markets has shown that the key to profitable rural DFS is not rapid exponential growth; it is cost minimisation. Ultimately the central challenge to banking the rural unbanked is how to deliver a banking solution in rural markets that overcomes ALL obstacles identified above, and does so at the absolute lowest possible cost. Cost control is critical at SmartMoney. Every operational component of SmartMoney's unique rural DFS model has

been developed through relentless user-centric iterative trial-and-error. For every operational method that works, ten other methods were previously tried with rural stakeholders and failed. This iterative discovery process was made possible because SmartMoney intentionally limited its geographic footprint to a single rural district for an extended period, allowing for failure to occur on a small and affordable scale.

Instead of growing for the sake of satisfying arbitrary investor growth expectations, SmartMoney deliberately limited its geographic footprint to a single district in each of two neighbouring East African countries. Operational design iterations are small, inexpensive and quick. Lessons are learned, and adaptations are made, new iterations are introduced and the cycle is repeated. Proven operational methods are codified to be trainable, repeatable and scalable. SmartMoney's "agile" design and development approach has allowed SmartMoney to achieve astonishing results at a fraction of the cost of competitive rural banking and financial services models. SmartMoney customer savings balances grow as trust develops. Over time, revenue increases and costs reduce. The SmartMoney model is profitable, scalable and sustainable.

### 2.1.5: Conclusion and Insights

The conclusion from SmartMoney's 10-year history of deploying DFS in two districts of rural East Africa is that successful rural DFS requires; a low-cost combination of right technology and effective ground-based marketing and financial education; to be priced to compete with cash; a focus on savings; and a robust localised digital money ecosystem. In order for digital money to effectively compete with cash in rural markets, it is necessary to address the following requirements:

- a) Price to compete with cash - no transaction fees
- b) Utility equal to cash - widespread acceptance of digital payments by local merchants and service providers
- c) Focus on relevant use cases - low-value consumer

payments and SAVINGS

- d) Establish trust through marketing and non-traditional, practical EDUCATION

To satisfy these requirements, DFS providers must sacrifice fee-based transaction revenue and increase operating costs - an unattractive proposition for most DFS providers. SmartMoney's unique rural DFS model addresses all of these requirements. Its remaining challenge is rolling out to more districts so that it can reach more unbanked communities.

## 2.2 IMPROVING PROSPECTS FOR FINANCING SMALLHOLDER FARMERS IN UGANDA USING THE LAND INVENTORY PROTOCOL APPROACH

Steve Hodges, Mercy Babirye, Thorsten Huber and Rita Mwase<sup>1</sup>



Photo by: GIZ Responsible Land Policy in Uganda (RELAPU) Project

### 2.2.1 Introduction

Fewer than 10 percent of all plots of land in Uganda are formally registered, with most of the registered plots being in urban centres (MLHUD, 2017). Rural populations are particularly likely to lack the documentation that prove their land rights. For this reason, traditional land ownership rights can often be established only with testimony from neighbours, village elders or clan representatives. Issuing land titles is a lengthy and costly process where surveying of a small parcel of land of a quarter of an acre can incur costs of up to UGX2 Million (USD500) (Musinguzi *et al.*, 2020). For most of the rural population – as is indeed the case in most developing countries - this is simply prohibitive and is one of the key reasons why most rural households do not possess registered rights to their land.

Research shows that overlap of ownership and user rights on mailo land in the central region for example causes large productivity inefficiencies and losses (Ali and

Duponchel, 2018). Other challenges include insufficient funding; an inadequately skilled workforce and lengthy procedures; the value discrepancy of land aggravated by a lack of transparency of objective land values in most regions in Uganda; inadequate access to information on land buy-out options including products developed by financial institutions to address this issue; absence of skilled, neutral and affordable third parties to moderate successful negotiations towards legally binding buy out; and land sharing or lease options (Musinguzi *et al.*, 2020), among others.

The Ugandan Constitution of 1995 enshrined four different tenure systems:

- i. Freehold (4%) – mainly urban areas: grants full rights of land to an individual, for ever
- ii. Leasehold (2%): grants an individual rights of land with agreed terms and conditions for a limited period (a minimum three years, and usually 49 or 99 years)
- iii. Mailo (14%) – mainly in central Uganda: land is owned in perpetuity by a landowner with tenants (if any) living on the land and paying an annual ground-rent (*Busuulu*) to the landlord for their land-use right

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- iv. Customary (80%) – mainly northern and western Uganda: land is owned by an individual, community/clan or family and governed by traditional authorities observing the traditions

### 2.2.2 Fit-For-Purpose Land Administration

Uganda has been struggling to maintain a conventional (European-type) land administration system for a long time but has faced many challenges including lack of funding, inadequately skilled workforce and lengthy procedures. The aim of securing tenure rights for all citizens using limited financial resources and low capacities has inspired the development of alternative approaches popularly known as Fit for Purpose Land Administration (FFP LA) which focus on the main purpose of securing land tenure for all (UN-Habitat 2016). The FFP LA was designed to meet the basic needs of the population, be the best “fit” for achieving the purpose (“as little as possible – as much as necessary”) and shall allow for incremental upgrading and improvements over time (Enemark and McLaren, 2018).

The FFP LA concept considers the cultural, social, economic and political context of a country when designing the components of land administration to benefit all members of society. It is defined according to three broad characteristics: focus on purpose, flexibility and incremental improvement. Although the FFP approach is a relatively new concept, it has received recognition and endorsement by the World Bank, the International Federation of Surveyors (FIG), and UN Habitat/Global Land Tool Network (GLTN) amongst others.

The Responsible Land Policy in Uganda (RELAPU)<sup>2</sup> project, implemented by the German International Cooperation (GIZ) aims to secure land rights of 92,000 rural households in eight (8) selected districts<sup>3</sup> in Uganda through a systematic documentation of their land rights applying the FFP land administration approach.

### Box 5: Example of Land Inventory Protocol for Mailo land


**Land Inventory Protocol**

**Part I: Description of the Land**  
Occupancy ID number(OIN): 1073080408.040

District	County / Municipality	Sub-county / Town Council / Division	Parish / Ward	Village / Cell	Portion Number
Kassanda	Kassanda	Myanzi	Myanzi	Myanzi	040

Coordinates of Parcel's Centroid (WGS84)	Latitude	0.43889
	Longitude	31.90721
Approximate Area	Hectares (ha)	0.0350
	Acres (ac)	0.09
Use	Rural - Residential	

Sketch parcel map All distances are given in metres (m) on a horizontal plane.

Note: This Land Inventory protocol (LIP) is a comprehensive documentation that provides for evidence of land occupancy rights as agreed by both, the Tenant and Landlord and ascertained by the Area Land Committee, after an inspection of the land.  
The information in this document supplements the Demarcation Form 24 compiled by the Area Land Committee for the certification of the boundaries of the land described in accordance with the provisions of the Land Act, 1998 and the Land Regulations, 2004.  
The LIP may be used as a basis for obtaining a Certificate of Occupancy (Land Act, 1998) or for negotiating other options which are prescribed in the National Land Policy (2013).

One of the results handed out to households is a Land Inventory Protocol (LIP) which includes all necessary information on the land such as name of the claimant(s), neighbours, clans, location of parcel, inclusive boundary points which are geo-referenced in a point coordinate register. A LIP is a social document that provides for evidence of customary land ownership (on customary tenure) or land occupancy rights (on private Mailo tenure) as claimed by the person(s) indicated in this document and ascertained by the Area Land Committee (ALC), after an inspection of the land. The LIP is issued by the chairperson of the respective ALC. It serves as a support in case a household applies for an official Certificate of Customary Ownership (CCO) or Certificate of Occupancy (CoO) as prescribed in the Land Act (1998) and National Land Policy (2013). Captured user rights data will form the basis to increase transparency over land use and to subsequent official registration or, in the case of Mailo



land, for amicable negotiations with the landlord.

The LIPs are a pragmatic, cost efficient minimum standard for securing land rights: the systematic land documentation approach markedly reduces the work and costs involved in documenting land rights as parcels are mapped in clusters, preferably mapping entire villages at once opposed to sporadic land documentation where only one parcel is documented in a specific area, accumulating high costs. The LIPs may also function as security when holders apply for small loans (UGX 500,000-800,000) as experiences in the field show. LIPs therefore not only improve the land rights situation through improved transparency and evidence on land rights but also facilitate their access to credit to enable them to invest in their land. This gives entire families a better future.

The project “Improvement of Land Governance in Uganda (ILGU) is a component of the RELAPU project and is co-funded by the European Union and the German Government. The project aims to increase the productivity of small-scale farmers on private Mailo” and is implemented jointly with the Uganda Ministry of Land, Housing and Urban Development, a range of civil society organisations and the private sector.

Started in 2016, the RELAPU project has been working in Eastern Uganda (Soroti, Katakwi districts), securing customary land ownership rights according to customary tenure. In 2017, RELAPU began work in Central Uganda (Mityana, Mubende, and Kassanda districts), documenting land-use rights of both *bona fide* and lawful tenants on Mailo land. As of 2020, RELAPU started scaling-up its activities in two other regions: Lango in Northern and West Nile in north-western Uganda.

### 2.2.3 The Land Inventory Approach

Because of the political sensitivity of Mailo tenure in Uganda, the methodology takes an incremental approach involving obtaining local political support, awareness raising, capacity development, alternative dispute

resolution mechanisms, documenting of land rights and negotiation processes. The capacity of the ALC, comprising the legally-mandated land authorities at the sub-county level, is developed to enable them to mediate among the landlords and tenants who opt for any of the options mentioned above. The key activities are;

- (i) **Social preparedness**  
Sensitisation of stakeholders who include landlords and tenants, local authorities, traditional leaders, members of parliament, ensuring free prior and informed consent;
- (ii) **Capacitating land stakeholders**  
Capacity building of land administration structures (ALCs, Lower Physical Planning Committees, District Land Office, District Land Board) including training of senior government officers, locally recruited paralegals, local land administration assistants, and local council executive members;
- (iii) **Land mapping and documentation**  
Parcel inventory – of conflict-free parcels – through use of Fit-For-Purpose<sup>4</sup> Land Administration;
- (iv) **Conflict management**  
Conflict mediation and alternative dispute resolution processes throughout the approach;
- (v) **Aligning data with existing cadastral maps**  
GIS overlay of occupancy rights and cadastral boundaries using open source GIS;
- (vi) **Data verification through claimants**  
Display of village maps, correction of errors, and issuance of a provisional social document (Land Inventory Protocol);
- (vii) **Negotiation between parties**  
Provision of facts to landlords and tenants to facilitate negotiation;
- (viii) **Policy advice**  
Provision of facts to government for streamlining policy, law and the relationship between landlords and occupants.
- (ix) **Issuance of certificates**  
Support for issuing a legal document

The land inventory approach is new in Uganda. Whereas there are established and well-tested approaches for dealing with the formalisation of unregistered land through first registration, experiences on formalising occupancies on registered land are non-existent in Uganda.

### **Available options for squatters or *bibanja*<sup>5</sup> holders in Uganda as provided in the Land Act and National Land Policy**

The legal and regulatory framework provide for various options for addressing the problem of over-lapping rights on the same piece of land. Under the Land Act 1998 (with subsequent amendments), statutory protection is granted to the *bona fide* and *lawful* occupants (and their successors) against arbitrary eviction, as long as a prescribed nominal ground rent (*busuulu*) is paid. The law does not protect tenants who do not pay ground rent, leaving them at risk of eviction and criminal prosecution. The National Land Policy of 2013 provides for four concrete options for tenants under Mailo tenure to pursue tenure security, namely;

- i) **Buy-out**— Tenants can negotiate with the landlord and purchase their tenure rights fully and acquire a certificate of title. Government made provisions for a land fund to be accessed by such tenants.
- ii) **Sharing and land re-adjustment** – The option provides for a tenant to negotiate with his/her landlord and agree on a portion that the tenant returns to the landlord and acquires a title for the remaining portion.
- iii) **Lease** – The landlord issues the tenant a lease guided by terms and conditions
- iv) **Provision of Certificate of Occupancy (CoO)** – The tenant is issued with a CoO and keeps paying a nominal annual ground rent.

### **2.2.4 Results of the Implementation of the Land Inventory Approach**

One of the measurable benefits of the project is that it opens communication channels between landlords and tenants to negotiate terms under which they could

coexist. Many tenants are now paying nominal ground rent to landlords, which in the majority of cases was a precondition by landlords for allowing them to map their occupancy rights. Beside improved payment behaviour, the overall relation between the two parties has improved, resulting in stronger respect of one another. In the project area, now 80 percent of the tenants paid ground rent as a result of this intervention, whereas before the average was 26 percent (Ali and Duponchel, 2018). Other tenants who had illegally occupied the landlords' land were required to pay an introduction fee (known as *ekanzu*) which establishes the first recognition of a tenant by the landlord.

Another major source of landlord-tenant unrest that RELAPU addressed was that of unclear boundaries of the land used by tenants. Many landlords claimed that tenants were frequently extending the boundaries of their allocated land hence encroaching on the Mailo owners' land. This was possible because there is no proper and precise demarcation of boundaries. Lack of well-defined boundaries had also triggered disputes between tenants as some tenants tried to fraudulently extend into other tenants' land. The project has mapped boundaries of the land belonging to each tenant in a participatory and transparent manner – with the consent of both landlords and tenants - and this has led to a record of agreed boundaries between landlords and tenants. The procedure has improved landlord-tenant and tenant-tenant relationships given that efforts to extend boundary markers into another's land are more difficult now as evidence of agreed boundaries is available.

Land conflicts are not uncommon in the project area. Conflict mediation forms a pivotal part of the project approach. As of December 2019, 1,980 cases of conflicts have been recorded, of which 63 percent have been resolved. While the project's mandate is to resolve new disputes arising out of its mapping activities, in line with the 'do no harm principle', many disputes resurface' and constrain land rights-mapping activities during the process. Such pre-existing land disputes between land

owners and tenants as well as between tenants and neighbouring tenants or in-family related disputes are sometimes exacerbated by leaders, largely with a bias towards the larger number of tenants, for political gain. Oral narratives given by district and village leadership (e.g. LC5, LC3, RDC) in the project areas indicate a significant drop of land-related conflicts leading overall to a strongly improved level of social cohesion.

## 2.2.5 Opportunities for the Financial Sector

RELAPU commissioned a scoping study of available financial institutions which are doing agricultural lending, particularly to small scale farmers in Mityana, Kassanda and Mubende Districts, which was conducted by Uganda Agribusiness Alliance (UAA) within the target area. Findings indicated that there are many SACCOs offering small-sized loans with only few of them adjusting to the terms to fit agricultural enterprises, for example by extending grace periods even up to 1 year, as well as allowing farmers to negotiate the payment mechanism. Among the five banks present in the area, two lend to small, medium and large farmers, though the absence of acceptable collateral is a limiting factor. As a result few loans are made to smaller scale farmers. SACCOs, as well as some NGOs and MFIs, are already providing loans with social rather than physical security, usually in the form of lending to farmers in groups and using group guarantee for the loan. At least one service provider also uses purchase agreements as security.

In order for financial institutions to understand the full potential LIPs hold when it comes to using it as assessment paradigm for credit worthiness, sensitisation meetings were initiated. In these the potential value which LIPs hold was outlined. The availability of potentially more than 75,000 LIPs in Central Uganda created high interest by the financial institutions. However, one of the key questions remaining is the legitimacy and security features of the LIP. While LIPs can be forged, they are already of greater value than most evidence provided by tenants on Mailo

land such as purchase agreements or *Busuulu* receipts. Furthermore, the fact the data is also stored at the ALC (Area Land Committee) enables potential lenders to verify the content and authenticity of the LIP. At present the RELAPU project is working with the Ministry of Lands, Housing and Urban Development to have at least the shapefiles of the plots integrated into the National Land Information System (NLIS).

Based on the interest of some financial institutions individual meetings were arranged with selected financial institutions and field visits organised for more in-depth understanding of the project and the value of the LIP. In particular, the Uganda Bankers Association (UBA) has recognised the high value of these documents and will, together with the project, aim to promote their value and use.

## 2.2.6 Conclusion

Land tenure and security remains an extremely sensitive and political issue in Uganda. Through improved awareness and information sharing on land rights at all levels, the different parties in the project areas have obtained a better understanding of cost efficient and faster ways to improve security of land rights for rural households. The issuing of LIPs under the project provides the first documentation of land use claims by tenants, and serves as evidence of the size, location and claimants of the land parcel. This is a fundamental requirement for improved transparency of land use and occupation and provides the prerequisite for further improved tenure security options as outlined in the National Land Policy and the Land Act. In addition, LIPs hold the potential of being used as one criterion to assess credit worthiness of the person claiming the land. Access to finance is, in addition to secured land rights, one of the key pillars for improved agriculture productivity and consequently improved farm income levels.

Besides economic factors such as access to finance or land as productive capital, social factors such as the reduction of land conflicts and improved social cohesion

in those rural areas are important requirements for the development of rural areas in Uganda. Not only do conflicts hamper development because of land that is blocked by disputes, or because of costs arising from legal actions or reduced investments into the land due to uncertainty, they also pose a real threat to the lives of rural persons as can be seen in the Ugandan media. With the increasing interest of financial institutions in using the LIP as a criterion for the assessment of credit worthiness, LIPs can create improved financial inclusion and strengthen land security of rural households in Uganda.

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- 3 Arua District, West Nile; Dokolo and Amolotar Districts, Lango; Katakwi and Soroti, Teso; Mubende, Kassanda and Mityana, Buganda, Central Uganda
  - 4 The aim of securing tenure rights for all citizens using limited financial resources and low capacities has led to alternative approaches popularly known as Fit for Purpose Land Administration (FFP LA) which focus on the main purpose of securing land tenure for all. The FFP LA was designed to meet the basic needs of the population, be the best "fit" for achieving the purpose ("as little as possible – as much as necessary") and shall allow for incremental upgrading and improvements over time.
  - 5 Bibanja is the plural of Kibanja. A Kibanja is a piece of private Mailo land occupied by a peasant.

## Endnotes

- 2 RELAPU is part of the Global Program Responsible Land Policy implemented in 7 countries. It is funded by the German Government under the Special Initiative "One World, No Hunger" of the Federal Ministry of Economic Cooperation and Development (BMZ). The work on documentation of tenancy rights on private Mailo is cofounded with the support of the European Union (EU)

## 2.3 HOW CAN DIGITAL PRODUCTS ADDRESS UGANDA'S SMALLHOLDER AGRICULTURAL FINANCING CHALLENGES: AN ILLUSTRATION USING STANBIC BANK'S ONE FARM PLATFORM

Christian Karamagi<sup>1</sup>



Photo by: <https://www.smartmoneyinternational.com/>

### 2.3.1 Introduction

Agriculture is the foundation of Uganda's economy. Although it contributes only 24 percent of the gross domestic product (GDP), it nonetheless accounts for over 72 percent of the total employment (CGPA, 2015). Uganda has vast agricultural potential with two annual crop cycles and a large population of smallholders. Nevertheless, the Ugandan agriculture sector has underperformed other sectors of the economy, partly due to challenges relating to smallholder financing gaps and poor value chain linkages (Standard Bank, 2019). At the same time, smallholder farmers are characterised by low productivity and limited commercialisation, and this affects the full exploitation of the agricultural potential offered by the country (National Planning Authority, 2013).

The digitisation of agricultural value chains is an emerging opportunity in developing countries. Projections are that in the next decade there will be a shift to the '*digital agricultural revolution*', which could help ensure agriculture meets the future needs of the global

population (Trendov *et al.*, 2019). The predictions are that the value chains will become traceable and coordinated at the most detailed level. In this respect, different fields, crops and animals will be accurately managed. Digital agriculture will create systems that are highly productive, anticipatory and adaptable to changes such as those caused by climate change. Increased digitalisation, in turn, shall lead to greater food security, profitability and sustainability. Holistic enterprise solutions targeting the agricultural value chain might include a combination of digital payments for the procurement of crops from smallholder farmers, digital farmer records, information, and track and trace services. These digital tools enable agribusinesses to improve control and monitoring of operations, transparency of transactions and the establishment of effective communication channels, both internally as well as with smallholder suppliers (GSMA, 2018).

Stanbic Bank Uganda is part of and a key player in the digital agricultural revolution in Uganda. To unlock the potential of agribusiness in Uganda, Stanbic Bank supports a multi-faceted platform that connects buyers, producers and enablers. The support targets to drive the supply certainty,

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optimisation and monetisation needed to realise Uganda's agricultural potential. This platform, called the One Farm solution is critical to fostering innovation in farmer-led data-driven finance. It is a Business to Business (B2B) platform that enables enterprise capability providers to access the last mile through making services available via Application Programming Interface (APIs) to the network partners. Overall, Stanbic Bank's approach aims to resolve various identified smallholder pain points (funding, price, inputs and knowledge) digitally.

This article, therefore, shares an innovation approach/solution that Stanbic Bank has developed and implemented to increase financing to agribusinesses, specifically through the maize value chain. The model has been piloted among smallholder farmers in Kasese, Uganda. Kasese was selected because it is a large maize growing area and also a key partner—AfroKai Uganda Limited—offered us a chance to use their already established farmer structures to test the solution. The article provides critical lessons and makes broad recommendations to better the agricultural sector in a digital way.

### 2.3.2 Structure and Conduct of the One Farm Platform.

Uganda's unique conditions have provided a suitable setting to pioneer a new approach to smallholder lending. The method also serves as the foundation for a broader ecosystem of agriculture products that extend beyond financial services and can be instrumental in driving Africa's growth. Uganda's challenge is her isolated and rural informal economy. The rural last-mile remains out of reach for most financial institutions in Uganda due to the informal, fragmented and localised nature of rural economies. As a result, farmers and local businesses are cut off from critical resources.

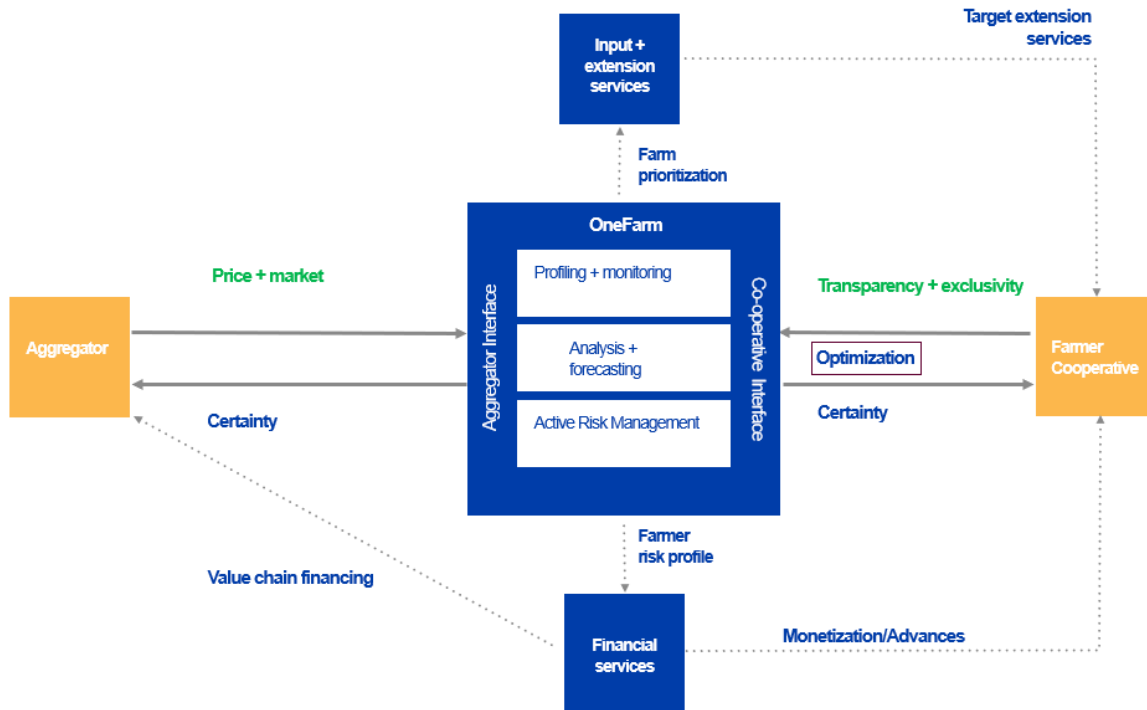
From the demand side, enterprises lack the capabilities required to grow their bases. In contrast, on the supply side, institutions of all sizes have underutilised agribusiness capabilities due to lack of last-mile expertise

(route to market) to either service rural area or identify farmer behaviour—to help predict this year's harvest size and timing. To overcome these challenges, a digital platform that combines a remote banking system that uses regional, climatic, farm, farmer and crop data, was developed. The platform seeks a digital economic record for members, creditworthiness, farm gate commerce, market place, transparency and social /community contracts. The platform enables users to make decisions that they were previously unable to make confidently. This platform allows institutions to integrate their capabilities into established last mile networks digitally. These capabilities as a service include lending, Know Your Customer (KYC), Crop Insurance, Tractor Hire, Agro-marketing, Warehousing, Agronomy as well as De-cashing.

This **One Farm platform** is a multi-sided platform that connects off-takers, producers and enablers in the agricultural value chain hence link farmers, village agents, cooperatives, off-takers (aggregators<sup>2</sup> and processors) and the bank. By making use of big data and machine learning, the platform provides smart and valuable insights to reduce uncertainty, streamline the value chain and increase overall productivity. The foundation for the One Farm platform is an innovative smallholder lending solution powered by an **alternative lending model**<sup>3</sup> that utilises relevant data to power a dedicated smallholder credit bureau and decision-making with **active risk management**<sup>4</sup> that goes beyond banking to proactively improve the risk profile of smallholder farmers to be financed. The platform provides financial security down the value chain that is capital intensive and very high-risk for aggregators and their lenders.

For aggregators, this solution promises a more secure value chain without crippling capital requirements and risk burden. Uganda's commercial aggregators hold immense influence and loyalty within the agribusiness value chain and are often responsible for financing inputs and other resources for smallholders through their farmer cooperatives. Aggregators reluctantly take on this responsibility to drive supply certainty<sup>5</sup> and

Figure 21: One Farm Platform.



Source: Stanbic Bank, 2019.

supply optimisation<sup>6</sup> in the absence of financially secure smallholders. This responsibility places a disproportionate share of the value chain risk in the hands of aggregators while depleting their capital reserves (Stanbic Bank, 2019).

Through the development of its **One Farm** solution, Stanbic Bank has focused on solving the key pain points (funding, price, inputs and knowledge) through focusing on the most critical aspects of any agriculture value chain in supply-optimisation, supply-monetisation<sup>7</sup> and supply-certainty.

In summary, this solution integrates farming with data science and seeks to solve issues related to gaining access to affordable credit and create lasting value chain linkages through;

- i) Enabling the agricultural ecosystem to access timely and relevant information/ knowledge to make decisions that will increase yield, production, efficiency, quality and hence share useful information at the right time to improve farmers'

business.

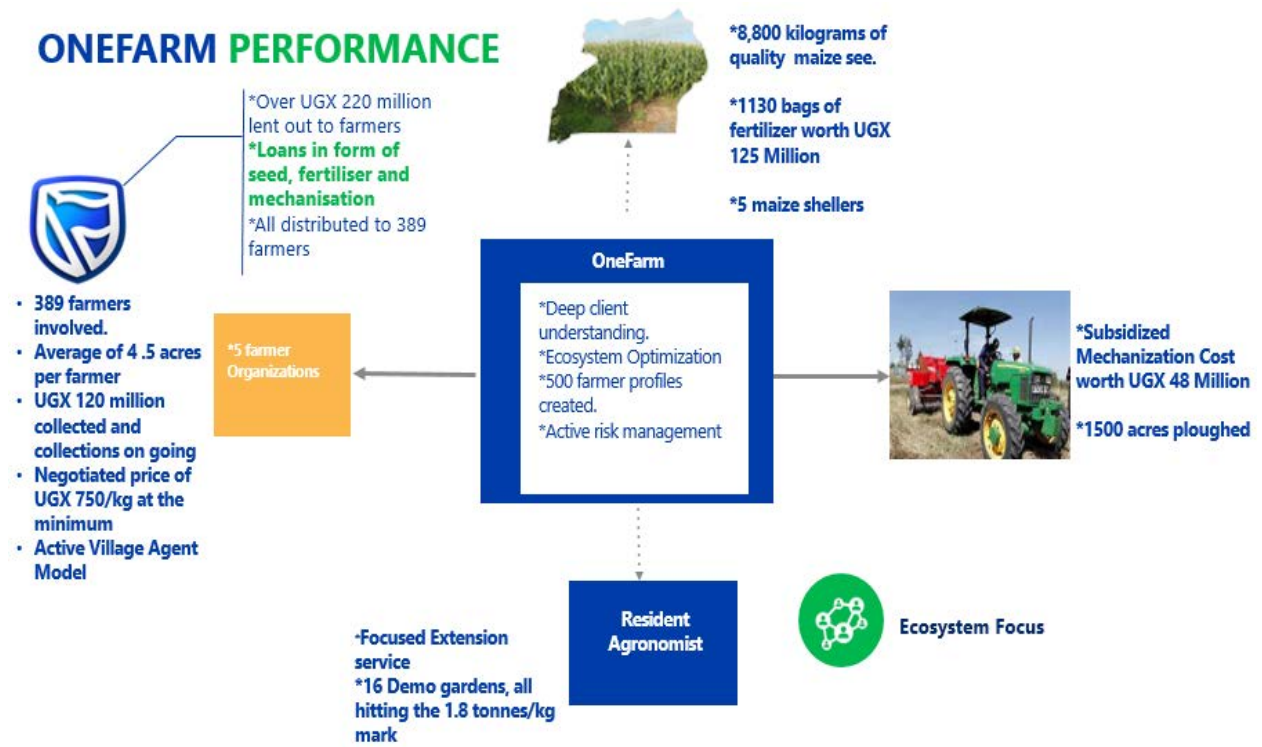
- ii) Enabling farmers to access affordable financial services and solutions to increase production and productivity. This is aimed at solving the credit issue for smallholder farmers.
- iii) Increasing yields by providing the right information/ tools and rising effectiveness of community structures, including cooperatives/village savings and loan associations/ community-based conservation as well as volunteers/extension services.
- iv) Increasing the market effectiveness by providing access to marketplaces for inputs and produce through engaging both aggregators and processors. Groupings of farmers foster this through cooperatives.

### 2.3.3 Performance of the One Farm

Since its inception in August 2019, there has been a marked impact of the One Farm product. The platform has enrolled over 389 farmers whose profiles have been



Figure 22: One Farm Performance.



Source: Stanbic Bank, 2020.

captured including mapping out of their gardens. The bank has registered a substantial behavioural shift, especially as regards to the application of the fertiliser, weeding, storage. These have been partly achieved in collaboration with other stakeholders such as district production and commercial officer and agricultural extension workers. Also, the operation of the product has built a strong relationship throughout the value chain with critical linkages amongst the various players. The Uganda Grain Council and its member in AfroKai, Rugendabara and Bigando Cooperative Societies Limited and Akorion Co Ltd as our channel partner.

### 2.3.4 Challenges

While the platform has achieved some initial success, this has not been without challenges. Below are some of the persistent constraints identified during August 2019 and January 2020.

(a) Digital agriculture is an emerging sector and an area seen as highly risky. Risk is an everyday

occurrence in smallholder financing and it is the reason why most financiers shy away from it. Going innovative and digital is one key way to mitigate it. Access to finance has proven a major challenge for such innovations largely because most financial institutions in Uganda have little knowledge or experience in agricultural innovations. Specifically, not many capable institutions understand both i.e. how to integrate innovation and agriculture.

(b) Knowing and understanding smallholder farmers as clients is a challenge. There is a lack of reliable background information on data on potential clients and their needs. Without such data, it is not easy to formulate a sustainable business model that is client centred. Resources have to be used instead to build-up this data, and this is costly as well as time-consuming.

(c) Most cooperatives lack both business and management skills which are crucial to such an innovation given that it is geared towards commercial operations. Most cooperatives are

not well structured to handle such designs as a business and are used to handouts from the donor community.

- (d) Poor infrastructure and network connectivity have proved disruptive to the innovation, often making travel, communication and farmer profiling very difficult.
- (e) Seasonality and weather variability is a significant challenge to the innovation mainly due to planting and harvest cycles which remain much unpredicted. Climate change has a substantial negative impact on agriculture, yet Uganda is highly dependent on environmental conditions for production.
- (f) Data, its management and its privacy, is a big issue, especially when dealing with farmer profiles given risks involved in sharing personal information and their operations. Data is an essential variable in how Uganda's agriculture will be understood and assisted.
- (g) The absence of donors impacted on the sustainability and this drove many possible farmers away from the innovation. Various farmers were not sure that the design was sustainable through seasons because such projects often lasted one season.
- (h) The behavioural shift was challenging, yet this was key to supply-optimisation. A transition away from poor agronomic practices was very difficult, including resistance to the application of fertiliser and sticking to the timelines for the application.
- (i) Cash flow challenges. Various off-takers had cash flow challenges. Various off takers who would have been buyers of this maize often do not have ready cash to purchase the grain. The market is such that whoever has cash at the right price will have the grain. This in turn affects the purchase of maize and is challenged by the limited storage as well as the repayment ability of funds availed to the farmers. Also, challenges were encountered regarding the off-take price, moisture content and timing.
- (j) There is limited youth involvement in agriculture

in Uganda which affects the speed of adoption of agricultural innovations. While innovations play a critical role in accelerating financial inclusion, agriculture has to be re-branded as a viable career for the youth. However, it is the older people who own and farm most of the arable land. Hence a shift to digital innovation remains a serious challenge to the elderly.

### 2.3.5 Lesson learned from the Stanbic Bank One Farm

- (a) Partnerships are critical and are an important aspect of innovations development and scalability in agribusiness. Various partners within and outside the value chain (e.g. Central government through the district officers, private companies like AfroKai, Local governments and farmer groups, Agri-techs like Akorion) are required to bring on experience, expertise and local market content to the innovation. These have given the platform access to rich information resource bank and various additional resources critical to the success of the project.
- (b) Scalability of such an innovation is quite challenging given the ecosystems that the innovations are designed for. It is only possible for those ecosystems that are highly interdependent and well-financed, yet ecosystems in Uganda are fragmented ecosystems. Ideally focus on only one side of the ecosystem would create substantial negative impacts on the other.
- (c) Price is a critical variable within the maize value chain. Maize is source of livelihood and food for various communities in Uganda and one of the reasons why we selected Kasese—which is a maize growing hub in Western Uganda—as earlier mentioned. In the future, the project intends to engage in coffee, tobacco, palm oil, and the cocoa value chains. The price must be addressed right from the start of the season. Contracts must be signed between the off-taker as well as farmers

- through the cooperatives to ensure that there is no side selling of the crop. It, however, does not mean that contracts will be adhered to.
- (d) It is essential to explore business innovations models without interrupting the farmers' current value chain or business cycle. Innovations should fit seamlessly within the current business cycle.
  - (e) Financial literacy and agricultural extension services must be embedded into digital agriculture innovations since these are key to shifts in behavioural change and adoption of new technologies and best practices. It became quite important to concentrate on understanding and to change farmers' financial and agronomic behaviour to deliver substantial value and sustainable propositions.
  - (f) The future of digitisation in agriculture lies with the youth. Uganda is a youthful nation. Rural youths are the future of food security and are vital to integrating such solutions into the agribusiness space.

### 2.3.6 Conclusion and Policy Recommendation

Supporting innovation in Uganda's agriculture sector is a challenging but promising endeavour. Through its One Farm platform/ Solution for agricultural ecosystems, Stanbic Bank addresses some of the challenges of financing small holder agriculture. Along the journey, it became relatively apparent that such innovation is the future for Uganda's agriculture. As a bank, the aim is to play a substantial part beyond the mere provision of financial services. Stanbic Bank hopes that her experiences, lessons learned, and recommendations will be helpful not only to leverage the bank's position as the country's biggest bank but also to support Uganda's most important sector in terms of livelihoods—agriculture.

There are immense benefits to be reaped by value chain actors through the One Farm Innovation in many ways. Below are some of the policy considerations relevant for

scaling up similar digital innovations in Uganda;

**Financial illiteracy is a significant barrier** to the demand and use of various digital solutions in agribusiness and is constraining the use of digital solutions in the agribusiness space. Hence financial literacy must be a crucial part of all innovation development in agribusiness mainly because the majority of those involved are the elderly and semi-educated individuals;

**Solutions for smallholder farmer financing must be low priced**, and therefore, costs to the farmer must be thoroughly investigated and calculated to the minimum. Inclusion of farmers in design is essential for sustainability. The ownership of the innovation significantly improves their likelihood that it will be sustainable. A critical potential function for such an innovation is to channel feedback to research and helping setting up an agricultural digitisation research agenda;

**The village agent model must be developed further and strengthened through value chain players, government and the local communities.** Village agents must be trained to leverage new and innovative approaches and technologies, especially Information and Communication Technologies for effectiveness and efficiency;

**For the success of such digital innovation in agribusiness, there must be a shift away from traditional due diligence through proper profiling of farmers**, including mapping out their gardens. This is because formal identity documentation is lacking even when the government has made significant strides through the National Identity Card initiative; and

**Strengthening of the cooperative movement** in agriculture as a route to reach out to various smallholder farmers is vital. This is because they help farmers remain competitive, business and market-focused, ease accessibility by multiple players in the value chain and hence ensure high-quality solution are made available. Through these, farmers can pool their small fragmented

lands, therefore, pave the way for modern technology, especially mechanisation. Groupings of farmers through Cooperatives are critical to the scalability of such an innovation.

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## Endnotes

- 2 **Aggregators** are responsible for buying produce from smallholders for bulking and processing
- 3 The **alternative lending model** will augment satellite-based remote sensing data with on-the-ground data captured by a network of field agents to develop and maintain a smallholder credit score in the absence of a conventional credit history. This credit score will leverage farmer behaviour as measure of reliability and propensity to repay loans. Smallholders will receive credit in the form of cash and input (seed, fertiliser etc) advances that are tied to their crop yield earning potential. Using newly available data, this earning potential will be forecasted and revaluated during the season.

- 4 The **active risk management system** will utilise near real-time data to anticipate agricultural risks and deploy the appropriate interventions during the season. These interventions may include pest/disease control, fertiliser protocols, weed management and yield optimisation through agronomy services.
- 5 Is making sure the off taker receives what has been promised through the value chain
- 6 Relates to improving productivity and cost efficiencies in the value chain especially at the farm
- 7 Refers to the commercial success of the crop. Smallholder farmers must know that its business

## 2.4 FACILITATING FINTECHS TO PILOT AND SCALE ALTERNATIVE CREDIT SCORING: LESSONS FROM FINANCIAL SECTOR DEEPENING UGANDA

Jimmy Ebong<sup>1</sup>



Photo by: Uganda Agribusiness Alliance

### 2.4.1 Introduction

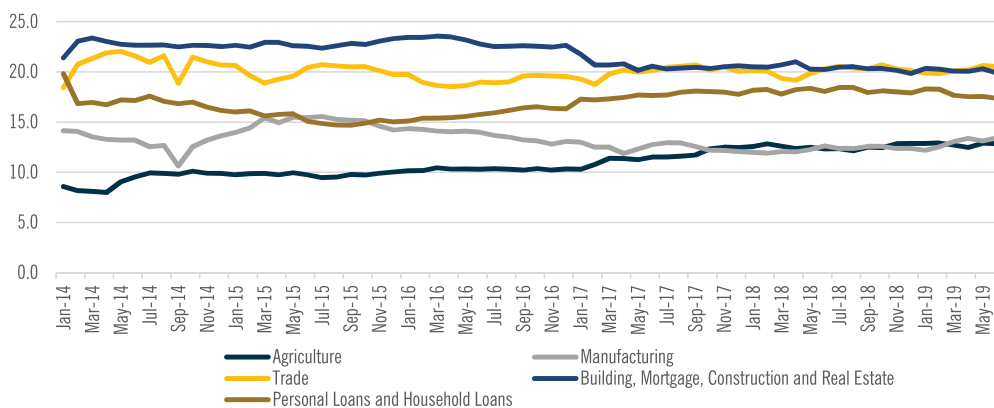
Agriculture is vital for economic growth and poverty reduction in Uganda. In 2019/20, agriculture contributed about 24 percent of Uganda’s gross domestic product (GDP) (MoFPED, 2020). Despite the enormous contribution of the sector to GDP, the sector’s access to credit has remained constrained. Figure 23 examines credit to the private sector reveal that private sector credit to agriculture, which was only 10 percent in 2010, reached a

maximum of 16 percent towards 2018, but reduced to 14 percent (2019). Allocation of credit to agriculture is low in comparison to manufacturing and trade which stand at 22 percent and 20 percent respectively.

There are many challenges constraining lending to agriculture. This article focuses on the lack of registered land that can serve as collateral. Many farmers own land without any documentary titles that they can present to lending institutions as security. Digital innovative solutions such as credit scoring have the potential to break barriers of access to credit caused by the lack of documented

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**Figure 23. Trends in sectoral shares of private sector credit**



Source: Author’s presentation based on statistics from Bank of Uganda

securities. In this realm, the Financial Sector Deepening Uganda (FSDU) supports interventions that seek to promote Alternative Credit Scoring (ACS). The objective of this article is to provide information on the digital innovations that can be used for deepening digitalisation and flow of additional finance to the agricultural sector.

## 2.4.2 Digital innovations and Alternative Credit Scoring

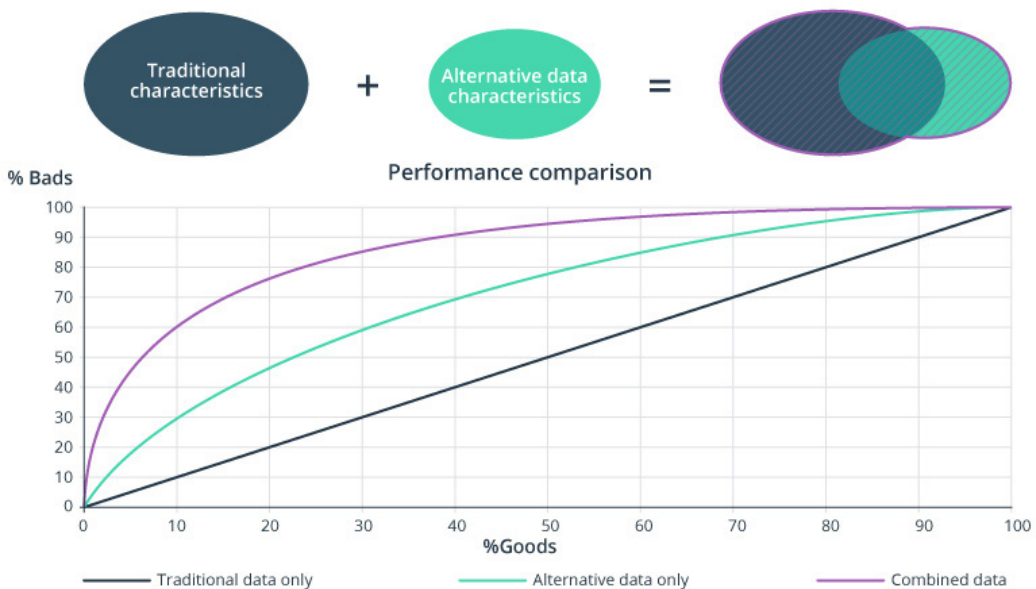
### 2.4.2.1 Alternative Credit Scoring

Credit scoring is a method for managing risks that is used to assess the creditworthiness of a loan applicant by estimating the probability of such an applicant’s default, based on historical data (CGAP, 2019). Although credit scoring requires huge farm and farmer data trails, credit scoring provides an opportunity for enhancing access to credit, with limited or no securities (SAFIRA, 2018). Without security, smallholder farmers, last mile agricultural investmentd, the under/unserved may never access loans, even when they have economically viable agricultural enterprises.

According to Consultative Group to Assist the Poor (CGAP, 2018), one of the challenges that financial institutions face, is understanding farmers, their behaviour, and needs, given the numbers and diversity of farmers. Credit scoring can help financial institutions understand farmers better. Through credit scoring, financial institutions can identify agricultural commodity segments and risk profile each segment. Conventional credit data includes trade lines, credit inquiry and internal records on credit performance. Alternative credit data includes alternative financial service data, rental payments, asset ownership, utility payments, mobile data and social media usage data. By combining traditional credit data and alternative credit data, credit scoring increases accuracy in customer selection.

Additionally credit scoring increases the scale at which financial institutions understand rural customers, it improves accuracy, reduces risk of lending by reducing the costs of understanding the customers. The comparison is illustrated in Figure 24.

Figure 24. Performance comparison of traditional and alternative data



Source: Intellias Services

### 2.4.3 FSDU’s Approaches and Tools for Market Facilitation

#### 2.4.3.1 Market System’s Facilitation Approach

Market Facilitation approaches seek to address the root causes of why markets often fail to meet the needs of the poor from a systemic perspective (Ripley and Nippard, 2014; Kessler, 2014). The approaches are based on the principles that market interventions should deal with the underlying causes of market failures, rather than just the superficial symptoms. The feature of market facilitation is an in-depth analysis and understanding of systemic constraints affecting the functioning of a whole market and its interconnected systems and thereafter, designing intervention that address specific conditions hindering smooth functioning of the entire market.

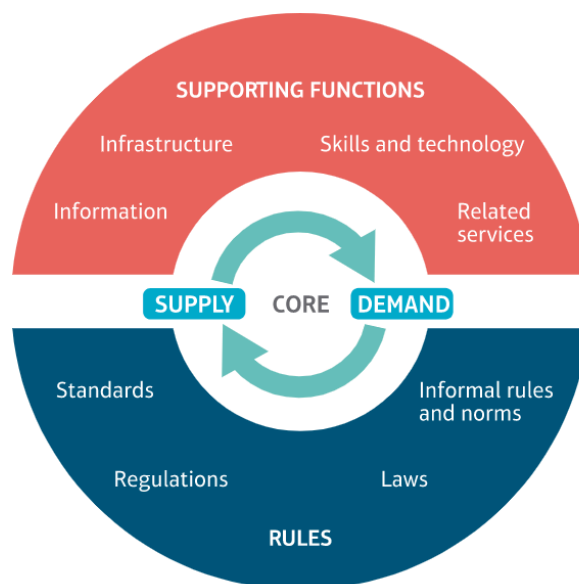
According to Figure 25, supply and demand forms are core to all market systems. These forms are the basis of exchanges of value (e.g. the availability, price, quality of goods or services, etc.). Market system exchanges are shaped by supporting functions and rules. These regulations ultimately improve poor people’s terms of

participation within the market system. On one hand, FSD Uganda supports market systems to improve information, infrastructure, skills development and related services that enhance proper functioning of the system and the private sector operating in it. On the other hand, FSD Uganda works with regulatory and policy agencies to ensure an enabling business environment.

#### 2.4.4 FSD Uganda’s Market Facilitation Tools and Interventions in ACS

Market facilitation tools used by FSD Uganda include grants, technical assistance (TA), research, providing evidence, as well as consultative public and private sector engagements. Donations are used to de-risk new ideas and prompt innovations or take pilots to scale. TA is provided to partners and implementing organisations to build capacities in those areas where capacity is lacking. Demand and supply-side research undertaken by FSD Uganda provides evidence that informs public and private sector decisions on policy and regulatory reforms, as well as on product development and innovations. FSD Uganda has supported Government of Uganda and industry stakeholders in actively addressing financial inclusion issues and to ensure regular buy-in and increase

**Figure 25: Market systems facilitation approach**



Source: Adopted from Beam Exchange



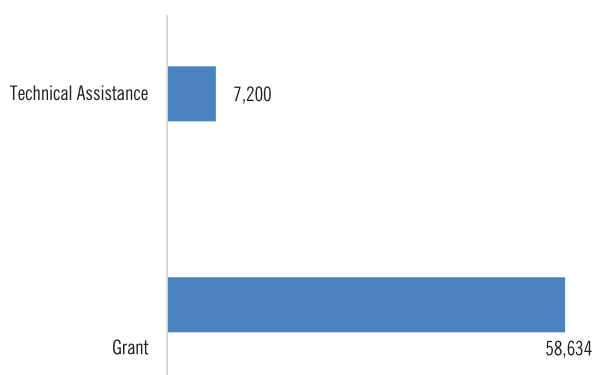
awareness of the challenges of the public and private sector, while also facilitating the evolution of solutions to the identified challenges.

FSD Uganda has facilitated five innovations within its Alternative Credit Scoring (ACS) portfolio. Of the five, two innovations have been completed while the rest are ongoing. The completed innovations include; Record Keeping and Reputation-Based Credit Score. In the following paragraphs, we present the two innovations. However, experiences and lessons shared are for the entire ACS portfolio.

**(a) Record keeping**

The intervention on record-keeping sought to address problems of information asymmetry. The asymmetry is created where entrepreneurs, who despite having a lot of information about their businesses, do not fully avail/share this information with financial institutions/lender so that the lender can use it to make lending decisions. Figure 26 presents the Facilitation Approach, Value, Market Systems and Change Attained.

**Figure 26. Approach and value for facilitating record-keeping for ACS**



Source: Author.

The following changes in the market system were attained from the record-keeping intervention;

**Table 8: Changes from the record keeping intervention**

Institutions		Changes attained from record-keeping
Type	No.	
SMEs	1090	Created a TrackApp account, 70 and 30 percent male; female-owned
SMEs	44	Active users of TrackApp
MDIs	2	Used TrackApp data

Source: Author

**(b) Reputation-based credit score**

Intervention on reputation-based credit score sought to address curtailed creditor portfolio expansion due to high due diligence costs and uncertain risk resulting from limited information on potential debtors. Interventions on the future of farmer financing sought to test proof the concept of emerging financing instruments like; discounted receivables-based financing using dairy farmers' income inflows and outflow data trails to enable them access credit. A grant worth USD 79,055 was invested in this intervention. As a result; the following changes were registered in the market system.

**Table 9: Changes from reputation-based credit score**

Institutions	Number	Changes registered
Individuals and MSMEs	11,341	Mobilised for participation in the platform
	728	Actively using the platform to record their economic activities
	359	Partner scores were established
	295	Proficiency scores were established

Source: Author

The focus, value of facilitation, as well as the envisaged changes in the market systems of FSDU's ongoing interventions on ACS are summarised in Table 10.

**Table 10: Focus, value and envisaged change of FSDU's ongoing interventions**

Titles/Focus	Facilitation value	Market system's change envisaged
The Future of Farmer Financing <i>-Emata</i>	Grant - USD210,000	<ul style="list-style-type: none"> <li>Cooperatives utilise the CCO digital platform for farmers, SACCOS, merchants, and potential off-takers</li> <li>Merchants accept options of taking CCO deliverables as payment for inputs</li> <li>Farmers request for credit for inputs from the CCO platform</li> <li>SACCOs utilise information from CCO platform when assessing farmers and Cooperatives for credit</li> </ul>
Unlocking access to finance, energy and income generation for the BOP – Finca/Brightlife	Grant USD50,000	<ul style="list-style-type: none"> <li>Energy loan repayment data is used to assess suitability for Finca savings and loan products</li> <li>Interested BL customers for loans open saving account</li> <li>Rebate payments made to graduated customers</li> </ul>

Source: Author

### 2.4.5 Lessons Learnt from Facilitating ACS Interventions

#### a) Ensuring financial institutions trust and confidence to use data is a must

Innovation on record keeping, which was supported by FSD Uganda was only within the prospecting segment of the lending process. This innovation initially proved difficult to scale, partly because financial institutions did not trust it and therefore were not willing to use data on SMEs which was on-boarded onto the platform of the partner supported by FSD Uganda. However the partner believed in its innovation and went ahead to obtain a lending license and capital and started lending to the SMEs on the platform. In this way, the partner successfully scaled its innovations upwards along the lending pathway.

#### b) Understanding the unique needs of each customer segment drives adoption of ACS

The need to understand customers and their unique financial needs drives the relevance of ACS to such specific groups. The challenge of extending financial services to rural households is attributable to poor product design, emanating from the fact that rural households are diverse and their demand for financial assistance are also various. Yet, financial institutions do not sufficiently understand such needs.

#### c) Business models have implications on affordability and consequently uptake and usage of ACS platforms

Business models and consequential costing and pricing of ACS services and products affect affordability as well as uptake and usage. Lessons from facilitating ACS in the energy sector shows that demand for services and products tend to be low initially but may pick up as more users start to appreciate the value of ACS. Increase in the number of users drives down the unit costs for on-boarding customers. Business models should be responsive to initial high costs and corresponding declining costs in the long run. Fast-tracking on-boarding helps to quicken increases in revenues due to declining unit cost.

#### d) Integration of the borrowing process, customer lifecycle and lending pathways is necessary

According to experiences from various initiatives of facilitation ACS, ACS is applicable at all points in the borrowing process and lending pathways. The scope of scaling ACS across the entire lending pathway is limited by the level of integration of partners along the lending pathway and trust among different partners engaged at various points along the lending pathways. A partner who is also having the capital to lend can more easily scale innovations that cut across the stages along the segment and lifecycle.

e) **Constraints associated with data affects the design and rollout of ACS.**

Constraints associated with data include insufficient data, poor quality of data and data protection. From initiatives on generating pipeline for ACS portfolios, FSDU learnt that there is a divergence in the data that some FINTECHs have and the kind of data that financial institutions find to be relevant and useful. The type of data that financial services providers are looking for is diverse and includes production data of farmers and market data related to farmer's commodities. Often, comprehensive data of production and commodity trade for many agriculture value chains is lacking.

The Data Protection Act was enacted into law in February 2019. According to the law, data ownership is defined by three accountability centres, i.e. data subject, the data controller and data processor. A data subject is a person from whom data is collected e.g. the farmer. A data controller is a person who has collected data from the farmer and has the data within their custody; this could be a FINTECH. A data processor is the one who is going to manipulate data for anything. A data processor may also be a FINTECH. Each of the accountability centres has rights and obligations. Ultimately, the data subject is also entitled to the data gathered and is free to revoke the privileges of control of the data if they feel that the information is being misused. The data controller must ensure that data does not fall in the hands of unauthorised persons. The data processors' obligations are like the ones for the Data Controllers.

The rights and obligations of the accountability centres have implications for the design of the ACS model. FINTECH now has to ensure adequate engagement across the accountability centres as well as providing the permission to access and use data is obtained from across the accountability centres. In some cases, Non-Disclosure Agreements (NDAs) are signed between FINTECHs and other actors in the accountability centres. These may lengthen the time for getting ACS product to the market.

## 2.4.6 Conclusions and Policy Recommendations

Agriculture is relevant to economic growth and poverty reduction hence increasing the flow of credit to the sector is likely to drive production and productivity in the sector. Digital innovations, which includes ACS, is expected to provide solutions that will enhance access to credit as ACS innovations break barriers of access to credit attributable to securities for credit. Experiences from facilitation of digital innovations in financial services reveal that FINTECH is emerging as a subsector and it promises to enhance efficiencies of the financial sector.

Compliance with data protection regulation and multiple regulations within the financial sector has been a challenge to innovations. Compliance requirements drive design of business models, including those for delivering ACS services. Business models have implications on affordability and consequently uptake and usage of ACS platforms. Compliance also drives up total costs for scaling digital innovations.

Besides, digital innovation within the financial services spheres is hindered by multiple regulations set up by regulatory authorities within the financial sector. A FINTECH providing insurance, bundled with credit service may require licensing from the Insurance Regulatory Authority (IRA) and another license for being able to provide credit. These multiple regulations also affect scaling up of the innovation. A public and private sector engagement on the theme of digitising agriculture is recommended. Such arrangements should be tailored to enhance digitisation initiatives and harness public sector support.

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# CHAPTER FINANCING OF AGRICULTURAL VALUE CHAINS

## 3.1 UNLOCKING AGRICULTURAL VALUE CHAIN FINANCING: THE INVESTMENT AND FINANCE PROSPECTUS APPROACH

Asaph Besigye<sup>1</sup>

### 3.1.1 Introduction

As in many other rural economies, smallholder farmers and other agricultural small and medium enterprises (ASMEs) anchor the growth and efficient functioning of specific value chains (VC) in Uganda. Because of the big number and expansive spread of ASMEs, they are vital contributors to more inclusive and sustainable food systems by enabling aggregation of input demand and tradable agricultural commodities. ASMEs provide useful and desirable linkage for large scale agribusinesses such as inputs and machinery suppliers, processors and exporters, among others.

Equally important, smallholders and ASMEs play an immense role in the realisation of SDGs—notably SDG 1 (end poverty), SDG 2 (end hunger), SDG 8 (sustained, inclusive and sustainable economic growth), SDG 12 (sustainable consumption and production patterns), SDG 13 (climate action) and SDG 15 (life on land). However, ASMEs are hardest by constrained access to financial products and services<sup>2</sup>, a situation that holds back investment and growth of the agricultural sector<sup>3</sup> and its contribution to GDP.

Investment and financing flows for agribusinesses, as for many other sectors, is often enhanced by narrowing information asymmetry - in terms of; assessed and quantified investment opportunities and risks; reliability and sustainability of markets; and viability of the actors. Compared to large scale agri-business actors (who can carry out feasibility studies to access investment and financing), the asymmetry is more pronounced for smallholders and ASMEs. The asymmetry often results in inadequate funding and inappropriate financing terms and

features for smallholders, ASMEs and other small value chain actors.

Government of Uganda (GOU) and other stakeholders has pursued multiple avenues to increase access to finance for smallholder farmers and other ASMEs. These include targeted lines of credit and loan guarantees (Agricultural Credit Facility (ACF)), subsidised agricultural insurance (Uganda Agricultural Insurance Scheme (UAIS)), technical assistance for value chain development as well as financial sector strengthening. GOU has also made proactive efforts to enhance the regulatory and policy environment for value chain actors and the financial sector<sup>4</sup>. One other innovative but less explored intervention is the development of Investment Prospectus (IP) for specific agricultural value chains. The use of IPs to improving financing of smallholder farmers and ASMEs are central to the discussion in this article.

### 3.1.2: Investment Prospectus - Meaning, Focus and Purpose

#### 3.1.2.1. About the Investment Prospectus

An IP is a comprehensive document that details the significant demand for investment and financing in a given sub-sector or value chain. It is similar to conventional company prospectuses which provide details about a proposed investment. An IP details the underlying issues in the financial services supply landscape and policy environment. It also highlights existing support initiatives that benefit the sub-sector and financial service providers. Effectively, an IP adopts a sub-sector comprehensive analysis approach to inform and harmonise stakeholders' actions aimed at enhancing both private and public investments and financing in the specific sub-sector.

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### 3.1.2.2. Purpose and Focus of an IP

The purpose of developing an IP for a given value chain or sub-sector is to provide:

**Figure 27: Purpose of an IP**



Source: SAFIN Investment Prospectus for the Coffee Value Chain in Uganda

An Investment Prospectus Framework (IPF) facilitates strategic, well-targeted collaborative and harmonised efforts among a range of actors and institutions to either invest directly or to provide finance for investment in a targeted agribusiness sector. The IP (refer to Table B in the Annex);

- i) Provides an overview of the agribusinesses (including smallholder farmers) in the sub-sector, specifically detailing their demand for investments and financing;
- ii) Highlights the laws, policies, regulations and institutional environment that should guide and catalyse investments and funding in the sub-sector;
- iii) Identifies essential opportunities and challenges that can increase or realign investments and financing flows in the value chain;
- iv) Details how the existing financial ecosystem matches these opportunities, current gaps, the role of public and private investors and commercial financial services providers; and
- v) Highlights and provides contacts to industry associations, government bodies, or other institutions that may be useful to prospective

investors, financiers, or investment/ financing-supporting entities.

The IP is expected to guide the mobilisation and targeting of public and private sector investment and financing resources. It further identifies other solutions such as technical assistance (TA) to enhance value chain efficiency by focusing attention on areas prioritised by stakeholders. An IP guides or informs the development of policies and strategies leading to the overall growth of the sub-sector.

### 3.1.3 Pilot Initiative for Developing IPs for Uganda's Agricultural Value Chains

The investigation and preparation of IPs for Uganda's coffee and oilseeds (e.g. sunflower and soybeans) subsectors was commissioned and financially supported by the Smallholder and Agri Small and Medium Enterprise Finance and Investment Network (SAFIN)<sup>5</sup> in collaboration with Uganda Agribusiness Alliance, an anchor partner institution in Uganda. The IPs development process, concluded in Quarter 1 of 2019, encompassed;

- a) Interviewing key stakeholders
  - i) Key government agencies that engage with the IP value chains **to identify their roles in value chain development and the key contact points;**
  - ii) Development Partners and GOU projects **strengthening the IP focal value chains and the financial sector, with the aim of increase access to financial services for agribusinesses;**
  - iii) Value chain actors in the respective subsectors (inputs suppliers, farmers, farmers organisations, bulkers/traders, processors and exporters);
  - iv) Financial services providers; and
  - v) Other service providers such as for TA and business development services (BDS).

The interviews focused on assessing and quantifying the opportunities and the gaps in investment and financing, the adequacy and efficacy of the policies and



regulations, the appropriateness of financial products and services, and the portfolio of programmes supporting the development of the IP subsectors, financial institutions and the enabling environment.

- b) Reviewing documents to assess the efficiency of the value chains, documented investment and financing opportunities and gaps, as well as detailing the key stakeholders and other value chain enablers in the sub-sectors.

Analysis of the information collected (leading to the preparation of the IPs) pinpointed the following key aspects;

- i. **For each transactional level of the value chain:** transactional mechanisms, profitability levels, reliability and stability of the markets, nature and size of relevant investments and financing needs, type and blend of financing requirements and currently accessed financing sources and their appropriateness, investments and financing gaps, etc.
- ii. **The key attributes in the existing financial sector landscape**, include sources, scope and blend of financing, agribusiness products, and main gaps and challenges
- iii. **Non-financial intervention opportunities and gaps** and how to overcome them (e.g. by policy and regulations, technical assistance, among others.)

Key flagship investment opportunities (carefully analysed for financial soundness, viability and relevance to value chain growth) were identified and presented in the respective IPs. For the coffee sub-sector, the main financing opportunities are presented in Table A (annexed).

### 3.1.4 Investment Prospectus versus Value Chain Analysis

Whereas value chain (VC) analysis is acknowledged to be a “cutting edge” approach to increasing provision of finance for agricultural sector actors<sup>6</sup>, an IP complements

it and increases the potential for broader impact. The pertinent areas of attention in the two approaches are;

- i. IP adopts a broader stakeholder user spectrum (investors, financiers, farmer organisations, policymakers, development partners, TA providers, etc.) while VC analysis (for financing purposes) often adopts a narrow user-focus, mainly to enable financial institutions to pinpoint the low risk and high return financing nodes in the value chain.
- ii. VC analyses focus on transactional mechanisms, transactional tenure and transactional profitability. At the same time, IP expands the lens of research to include a portfolio of programmes and other initiatives supporting the sub-sector, policies and regulations, broader financial services landscape, technical assistance landscape, etc.
- iii. VC analysis purely focuses on private financing, while IP combines both public and private investment and financing perspectives for complementarity.

An IP therefore, provides a comprehensive tool to demystify investment and financing risks and reward for agricultural value chains. It is thus an enhanced lens of analysis for packaging investment and financing opportunities in the target value chain. If supplemented by value chain analysis, the impact on expanding investments and access to finance is likely to be more significant.

### 3.1.5 Lessons learnt

The IPs were very useful in highlighting (and for specific cases, quantifying) the existing investment and financing opportunities plus assessing the challenges in the subsectors.

- i. Most IPs support initiatives address value chain/general policy and regulatory gaps for issues like producer contracts, quality adherence and standards, etc. but with very minimal coordination harmonisation and policy variations. The IP, therefore, can assist in harmonising and addressing the demand and supply-side concerns

- for investment and financing.
- ii. The SAFIN IP development pilot initiative is instrumental and can be leveraged to replicate and scale up the activity to develop more IPs for other value chains.
- iii. The SAFIN IPF, if adopted, could provide a clear stepping stone provided definitive ownership of the process is determined and adequately supported.

### 3.1.6 Relevance for Financial Sources

The IP should be of immense relevance to financial institutions and other financing sources in terms of;

- i. A broader understanding of the IP sub-sector, its key stakeholders, the efficiency of the value chain, the transactional tenure, the financing opportunities and needs, and at each level of the value chain, the transactional mechanisms, profitability and the approximate number of actors. Backed by precise financial analysis, existing incentives for the value chain could be established ways of leveraging them to lower lending risk and cost identified;
- ii. Evaluation of the appropriateness of existing financial products in tapping the opportunities identified in the IP, as well as addressing any gaps in the products and delivery processes;
- iii. A deeper understanding of sector support entities and programmes, the focus of their interventions, and how to enhance partnerships with other related programmes, apex associations and relevant government agencies. These partnerships could help diversify sources of liabilities and risk sharing incentives.
- iv. The IP identifying ‘enablers’ to addressing demand side gaps, and enhanced by support and targeted technical assistance for specific value chain levels, a bigger pool of bankable value chain actors is available to financial service providers. Value chain actors are enabled to make a clear and reasoned choice of the financial service provider who can provide the desired and appropriate

- financial services.
- v. Identifying and targeting the under-served but profitable actors in the IP sub-sector because of clear understanding of the agribusiness financial services competitive space (by impact investors), development finance, grants, subsidised credit schemes, among others.
- vi. Instituting risk mitigation options and opportunities, ranging from value chain actors’ compliance with policies and regulations not compromising on going concern issues as well as commercial contracting ability (e.g. quality, certification and environmental regulations). Accessing capacity building and other TA support (e.g. product development, skills enhancement, digital financial services outreach, etc.) to address supply-side gaps identified in the IP.

### 3.1.7 Conclusion

An IP is a powerful and desirable tool that should help to unlock the key constraints to access finance by smallholder farmers and other ASME actors in specific value chains or agricultural value chain. The analyses in the IP should assist in deriving informed decisions for investment and financing in the sub-sector from both investor and financier perspectives. The framework and approach to developing impactful IPs for value chains is available and well recognised and can be customised for adoption. However, the pertinent questions are; **‘Who takes charge or leads the development and dissemination of the IP?’ Are stakeholders willing to valuably use the IP, including harmonising their interventions/initiatives that should foster increased access to finance for the value chain actors?’**

Apart from the need for collective and coordinated effort amongst stakeholders, in validating IP findings and recommendations, it is important to address the following policy consideration and coordination issues;

- a) Prioritising the development of sub-sector IPs in the ASSP and other key policy documents

- and customising the IPF as a tool for sub-sector development support. This should be done jointly by the relevant sub-sector agencies and apex organisations;
- b) Addressing key policy and regulatory gaps that are identified by the IP and explicitly targeting of public investments along the value chain.
- c) Coordination and harmonisation of support initiatives for sub-sector investment and financing strategies and actions, based on researched IP information and data.
- d) Replicating the pilot IP activity (supported by SAFIN) to develop IPs for other vital subsectors such as dairy, aquaculture, fruits, vegetables, tea, maize and cocoa.

## Annex

**Table A: Generic Investment Prospectus Structure (IP Framework)**

Section	Items	Description
Section 0	Executive Summary	
Section 1: Introduction	<ul style="list-style-type: none"> <li>▪ Focus of the IP</li> <li>▪ Background: Purpose of the IP</li> <li>▪ Background: Overview the stakeholders involved in production of the IP</li> <li>▪ Actors targeted in the IP</li> <li>▪ Stakeholders: description and roles</li> <li>▪ Theory of change diagram, vision</li> <li>▪ Brief summary of “Country overview”</li> <li>▪ Brief summary of the sector in “Sector overview”</li> <li>▪ Advice on “action” i.e. contact point(s)</li> </ul>	Introduces what an IP is supposed to do (generally), and how this specific IP was developed and what it will focus on
Section 2: Country Overview	<ul style="list-style-type: none"> <li>▪ Brief description of country</li> <li>▪ Description of business environment, e.g. particularities interested investors in the sector should be aware of</li> <li>▪ Relevant investment laws and regulations</li> <li>▪ Government priorities, plans and strategies</li> <li>▪ Relevant government institutions (ministries, departments, agencies) and roles, and relevant contact points</li> </ul>	Provides overview of the country (how business is conducted and relevant opportunities and challenges)
Section 3: Sector overview	<p>For the IP sector or sub-sector:</p> <ul style="list-style-type: none"> <li>▪ Overview: description of industry stakeholders and associations, sector profitability, opportunities &amp; risks</li> <li>▪ Policies &amp; regulations relevant to the sector</li> <li>▪ Current programs and initiatives to support the sector (including by government and development partners)</li> <li>▪ Financial ecosystem around agri-SMEs (including development finance, commercial finance, public and private financial institutions, complementary institutions – e.g. specialised TA providers)</li> <li>▪ Investment opportunities (specific markets, sub-sectors, value chain or area-related projects &amp; programs) – overviews covering the following points:                             <ul style="list-style-type: none"> <li>○ Description</li> <li>○ Activities and their viability (return on investment)</li> <li>○ Financing needs, demand and gap analysis</li> <li>○ Financial sector players involved and respective roles</li> </ul> </li> </ul>	Provides an overview of sector under consideration and the financial ecosystem around it, including specific shortlisted opportunities
Section 4: Annexes	<p>Include Annexes, which may include information on:</p> <ul style="list-style-type: none"> <li>▪ Economic data, e.g. trade flows, growth trends, etc.</li> <li>▪ Laws and regulations concerning (foreign) investment</li> <li>▪ Details on programs and initiatives to support the sector</li> <li>▪ If applicable, (scientific) data on non-financial impacts of activates in target sector, e.g. baselines and targets</li> </ul>	Detailed information for investors interested in specific opportunities

Source: Adapted from SAFIN IP Framework

**Table B: Summary of Investment and Financing Opportunities in the Coffee Value Chain – Illustrative example**

Value chain level	Actor(s)	Investment and/or financing opportunities
<b>Inputs Supply</b>	Nurseries, Importers; traders	<ul style="list-style-type: none"> <li>Working capital for expanding nursery operations to increase availability of quality planting materials</li> <li>Trade finance for importers, distribution and traders</li> </ul>
<b>Production</b>	Smallholders; SMEs	<ul style="list-style-type: none"> <li>Production credit for smallholder farmers to step up good agronomical practices for higher productivity</li> <li>Primary processing (specifically wet milling) finance such as micro-leasing for pulpers</li> <li>Appropriate irrigation systems</li> <li>Structured savings such as for production inputs</li> <li>Household income smoothing credit</li> </ul>
<b>Bulking, trading and marketing</b>	Traders; farmers' cooperatives	<ul style="list-style-type: none"> <li>Short-term working capital or crop finance for coffee trading/ bulking operations</li> <li>Collective inputs purchase finance</li> <li>Infrastructure for storage and transport logistics</li> </ul>
<b>Processing</b>	SMEs	<ul style="list-style-type: none"> <li>Increasing wet and dry mill operations in areas where constrained and in production expansion areas</li> <li>Roasting and grinding coffee for local market</li> <li>Working capital for stocking unprocessed and processed coffee for processors engaging in buying unprocessed and/or processed coffee</li> <li>Financing for storage infrastructure and transport</li> <li>Inventory credit financing such as by WRS</li> </ul>
<b>Transport</b>	SMEs	<ul style="list-style-type: none"> <li>Asset financing (though the value chain level is not constrained)</li> </ul>
<b>Exporters</b>	SMES	<ul style="list-style-type: none"> <li>Pre-shipment finance for buying coffee</li> <li>Financing for storage infrastructure and transport</li> </ul>
<b>Non-actors/ stakeholders; enablers</b>	GOU and DPs (in partnership with value chain Corporate entities and SMEs, and private service providers)	<ul style="list-style-type: none"> <li>Replicating effectively functioning farmer organisations models for collective marketing, inputs supply</li> <li>Increasing availability, accessibility and affordability of quality coffee planting materials and other improved inputs, including stepping up competition for this level of the value chain</li> <li>Enabling policy and regulatory environment for the sector, including taxes relating to smallholders' operations such as withholding tax, and eradicating counterfeit inputs.</li> <li>Affirmative action to step up investments to increase local market for coffee (including by PPPs)</li> <li>Increasing BDS and TA capacity for the coffee sector</li> </ul>
	DPs and FIs	<ul style="list-style-type: none"> <li>Developing financial products appropriate for the respective value chain actors Value chain studies and dissemination of identified financing opportunities to FIs</li> <li>Capacity building for financial institutions to enhance agricultural and value chain lending skills</li> <li>Support interventions that incentivise appetite for lending to the target sector (such as credit guarantees, insurance premium subsidies, etc.)</li> <li>Support outreach efficiency of FIs to enhance cost-effective and convenience of access by smallholders, including by enhanced branchless digital financial services mechanisms</li> </ul>

Source: Adopted from Investment Prospectus for Uganda's Coffee Sector (2019)

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## Endnote

- 2 Including credit, insurance, leasing, remittances and payments, and others
- 3 Uganda's agricultural sector growth has stagnated at an average of 2percent per annum over the last five years (Uganda Economic Update 12 Edition 2018, World Bank)
- 4 As highlighted in the previous editions of the Agricultural Finance Year Book
- 5 SAFIN is an inclusive partnership of institutions that are committed to supporting the investment capacity of smallholders and ASMEs by strengthening the financial ecosystems in which they operate
- 6 Richard Meyer as referenced

## 3.2 FINANCING THE BEAN VALUE CHAIN IN UGANDA: LESSONS FROM aBi FINANCING MODEL

Okidi Geoffrey<sup>1</sup>



Photo by: aBi Development Limited

### 3.2.1: Structure of the Beans Value Chain in Uganda

Globally, beans are the most critical legume for human consumption, providing an essential source of protein and fibre (Kilimo Trust, 2012). Uganda is Africa's second-largest beans producer after Tanzania (Souza, 2019). At least 54 percent of the 5.94 million agricultural households in Uganda grow beans (UBoS, 2018). Bean production is characterised by smallscale farmers who cultivate an average of 0.25-1 acre with low inputs usage (aBi, 2015). During 2010 to 2017, there has been an increase in the production volumes from 949,000 MT in 2010 to 1.03 million MT in 2017 (FAOSTAT, 2019).

However, this production remains far below the target of 10 million MT by 2020 set by the previous Agriculture Sector Strategic Plan (2015/16-2019/20). Production was partly affected by ineffective public service delivery systems, limited access to credit and extension services. The 2018 Agricultural Survey conducted by UBoS indicates that the proportion of agricultural households that have access to credit, extension services and improved seeds stand at 10.5, 15.6 and 24 percent respectively. As such,

the productivity of smallholder bean farmers is low at 280kg/acre against the potential yield of 850kg/acre. Low productivity arises from low soil fertility, pests and diseases as well as poor agronomic practices, including the low usage of fertilisers.<sup>2</sup>

The Agricultural Business Initiative (aBi)<sup>3</sup> has been supporting the beans value chain since 2010 with a focus on commercialisation of the enterprise by extending matching grants and Business Development Services (BDS) support to Farmer Organisations (FOs) and Small and Medium Enterprises (SMEs). The contributions and BDS are intended to enhance planning and management, production and businesses infrastructure, and upstream and downstream market linkages of producers and agribusinesses. aBi interventions in the beans Value Chain (VC) have complemented government efforts and focused mainly on the promotion of Good Agricultural Practices (GAPs) including use of quality seeds; training on post-harvest handling (PHH) techniques and the collective bulking and marketing of produce (both for domestic and international markets); improved storage infrastructure and access to credit through support to Financial Institutions (FIs) and Village Savings and Loans Associations (VSLAs).

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Other than the pulses value chain, where beans are the essential commodity supported, aBi also supports the coffee, cereals, oils seeds, horticulture, and dairy value chains. All aBi investments address gender equity, green growth and human rights-based approaches as cross-cutting areas. In the period 2014 – 2019, aBi invested over UGX 128 Billion<sup>4</sup> in direct grant support to the six priority value chains. Figure 28 shows the proportion of investments in each of the aBi-supported value chains in the period. Although the investment in pulses (beans) value chain averaged only 3 percent during 2014 to 2019, beans remains a priority value chain for aBi given its contribution to nutrition and food security at household level as well as potential for income generation, especially for women.

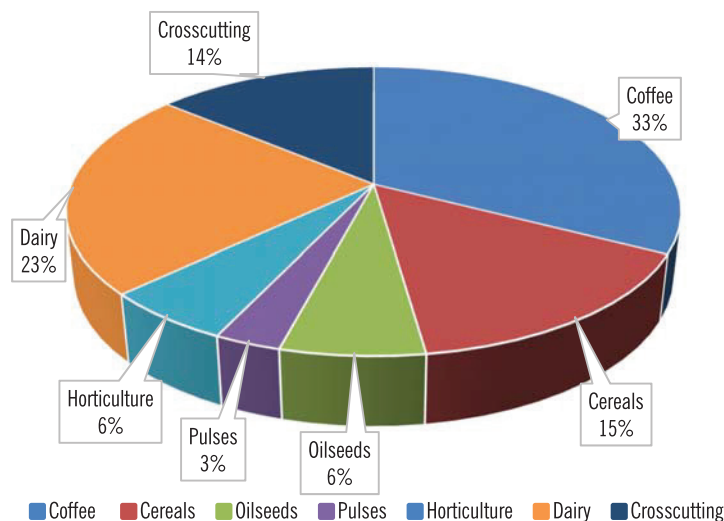
Against this background, this article seeks to share the experience of aBi in financing the beans value chain to increase competitiveness, incomes and job creation. The article provides critical lessons learned and makes recommendations for strengthening the value chain.

### 3.2.2 aBi Financing Model in the Beans Value Chain

aBi offers financial and technical support to various value chain actors with the overall goal of increasing competitiveness, income and employment of farmers and agribusinesses. In financing, the focus in the beans value chain is on improving opportunities for smallholder farmers and agribusinesses to enhance production and business infrastructure, and market linkages as well as access to financial services and markets. The aBi model’s strength combines BDS through the value chain development component and financing through financial institutions, in addition to grant support. Specific support to the beans value chain has mainly been channelled through cost-shared grants and BDS support to SMEs and Farmer Organisations. Identified opportunities and constraints for agribusiness development in the beans value chain—following a value chain analysis—guide investment decisions. Selected beneficiaries must have viable business proposals and the capacity to make a financial contribution to the intervention, which should be aimed at improving business competitiveness and sustainability.

aBi has promoted the Area Cooperative Enterprise (ACE) model and the VSLA model as the fundamental mechanism

**Figure 28: aBi Grant Investment by value chain (2014-2019)**



Source: Adopted from Beam Exchange

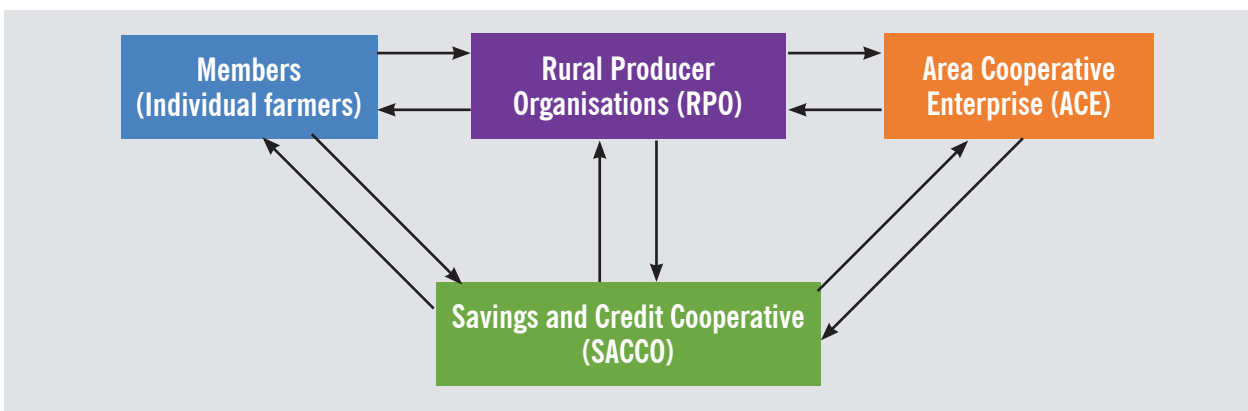
to facilitate access to financial services (savings and credit) to bean farmers. These are not new models but have achieved considerable success and growth. The VSLA model was extensively promoted by CARE since 1998 while the champion of the ACE model has been the Uganda Cooperative Alliance. Under this model, the ACE provides marketing and value addition services to the rural producer organisations (RPOs) while the SACCO offers financial assistance to RPOs and individual farmers. The RPO usually has 30 to 200 farmers and a mini-storage facility to handle bulking of produce at that level. At the ACE level, there is a central storage facility for all the RPOs that act as a quasi-warehouse receipt system to insure against access to loans for RPOs from the SACCOs. The SACCOs, provide agricultural credit of up to 60 percent of the value of the total production from RPOs at the prevailing market prices. In terms of performance, farmers have not only developed their production capacity but have also strengthened their linkage to the markets and financial institutions.

The ACE model (Figure 29) has been successful in Manyakabi Area Cooperative Enterprise Ltd (MACE) in Isingiro and Nyakyeru - Rukoni Area Cooperative Enterprise Ltd in Ntungamo. aBi evaluations of these projects indicate increased levels of savings and use of credit by the farmers for investment in beans production. In MACE, for example, 90 percent of the farmers were found to be saving and borrowing. Average savings in

2017 was UGX 1.5 million per farmer, which was 5 percent higher compared to the previous year. In terms of credit, the average loan size was UGX 1.6 million. As a result, farmers have been able to procure inputs to increase their production and productivity and ultimately, incomes. MACE linked the farmers with better markets for selling their outputs (MACE Draft End of Project Evaluation Report, 2019). The success registered in MACE validates the postulation made by Munyambonera *et al.* (2012) that having organised farmer groups linked to the markets and financial institutions are more effective at improving access to financial services by smallholder farmers in Uganda.

Regarding the VSLA approach, a recent study<sup>5</sup> conducted by aBi on the effectiveness of the VSLA methodology amongst its implementing partners revealed the following: i) Since 2014 savings have increased by 400-900 percent from a weekly average of UGX 1,000 per member to UGX 5,000 – 10,000; ii) Majority of member beneficiaries (86.2 percent) have registered an increase in profitability of their businesses through increased investment using savings and credit from VSLAs; iii) The enterprises of beneficiaries have been growing at 25 percent per annum compared to 18 percent for the non-target beneficiaries; and iv) Demand for agricultural inputs had nearly doubled from 23 to 43 percent before and after members joined the VSLA respectively.

**Figure 29: Structural linkages between, RPOs, ACEs and SACCOs (ACE framework)**



Source: Adapted from Munyambonera *et al.* (2012)



### 3.2.3 State and Non-State Finance Interventions to support the Bean Value Chain

Over the years, there has been a number of government and non-government interventions to boost the bean sub-sector. Critical government interventions include extension services by NAADS, bean seed input distribution under Operation Wealth Creation (OWC) and breeding of new higher-yielding bean varieties by NARO. OWC was started in July 2013 to create a system that facilitates significant national socio-economic transformation by raising household incomes for poverty eradication and sustainable wealth creation. The target is to ensure that all households are continuously engaged in commercial farming. While the OWC initiative has been active in distributing seeds to farmers, it lacks complementary extension and advisory services.

Other interventions in the beans subsector include the Government (through MAAIF) promoting the village agent model, which works through private sector intermediaries delivering demand-driven services closer to farmers, hence bridging the gap between extension workers and farmers. The model has been piloted and tested by Sasakawa Global 2000, USAID Feed the Future Commodity Production and Marketing Activity and NU-TEC, among others. The World Bank is currently working with MAAIF to intensify on-farm production of beans. Additionally, it is investing in improving post-harvest handling, storage and enhancing the capacity of farmer associations to market produce.

Other initiatives include the DfID-funded Commercial Agriculture for Smallholders and Agribusiness (CASA) programme, the World Food Programme (WFP)'s Purchase for Progress (P4P)—with its warehouse receipt system, and the UN FAO's Farmer Field School (FFS). The National Bean Programme (NARO), CIAT, the Pan Africa Bean Research Alliance (PABRA), numerous USAID initiatives, the Integrated Seed Sector Development Programme (ISSD Uganda), Harvest Plus, AGRA – Kilimo Trust and

Sasakawa Global 2000 are additional initiatives. USAID is investing in market development infrastructure projects that significantly benefit smallholder farmers, including improving bean storage, while also working to strengthen value chain management, service delivery and overall institutional knowledge. The above initiatives are similar to the interventions being promoted by aBi with the only difference being the additional element of BDS and access to finance that the aBi programme also addresses. Access to finance remains a fundamental input to the transformation of the agricultural sector in Uganda.

There are also initiatives such as the One Acre Fund, a non-profit social enterprise that serves 280,000 farmers across Kenya, Rwanda, Burundi, Tanzania, Uganda, and Malawi (Bank of Uganda 2015). The Fund's service-bundle includes financing in the form of farm inputs with a flexible repayment schedule, distribution of improved seed and fertiliser, agricultural training, as well as post-harvest and marketing support. Products offered to over 1,000 farmers in Uganda include seed, fertiliser, solar lights, harvest drying sheets, and crop insurance. This support generated around USD140 in incremental profit per farmer per acre and achieved a loan repayment rate of 96 percent (Bank of Uganda, 2015).

### 3.2.4 Impact of aBi Financing Intervention in the Bean Value Chain

aBi has promoted joint household decision-making as well as embraced the government strategy to tackle malnutrition through the promotion of the newly released bio-fortified, disease-resistant and high yielding bean varieties: NAROBAN 1, 2, 3, 4C and 5C. Additionally, aBi has promoted yellow beans, K132 (Nambale) and red kidney beans due to its market demand. Whereas aBi has been supporting the beans value chain over the last decade, Figure 30 shows the progress made by aBi in supporting improved technologies in the beans value chain in the previous six years (2014-2019) only. It is worth noting that the results presented are solely for aBi-supported projects and intervention areas. aBi's

investments in the value chain and the number of FOs and SMEs partnerships in existence explain the performance in the chart.

In 2017 more than 15,000 smallholder farmers benefited from aBi’s support, 60 percent of whom are female. In the same year, aBi invested (UGX 0.6 Billion) in the value chain compared to the UGX 0.2 Billion invested in 2016. This enabled aBi work with seven partners in 2017 compared to the other years where the average number of partners was five. Increased partnership translated into high outreach numbers and acreage planted, as farmers were encouraged to intercrop with beans as well as increase acreage under production.

Furthermore, the increased adoption of improved practices and the resultant increase in yield and income incentivised the farmers to increase acreage under production. In the subsequent year 2018, the number of partners supported reduced to five while in 2019, most of the beans projects wound up, leaving only one project hence a low outreach and adoption. However, aBi has since increased budget allocation to beans in 2020 to UGX 2.7 Billion. Some of the beans value chain partners aBi supported during 2014 – 2019 include Manyakabi Area Cooperative Enterprise Ltd, Nyakyera – Rukoni Area Cooperative Enterprises, Mbarara District Farmers’ Association, Solidaridad, Grow More Seeds, Kyazanga Farmers’ Cooperative Society and

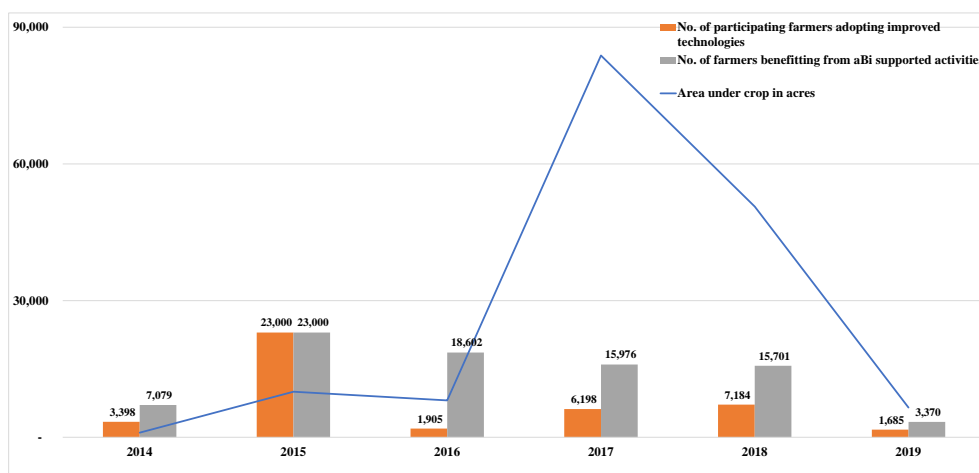
Kiboga District Farmers’ Association.

### 3.2.5 Lessons Learnt

The following lessons emerge from the implementation of the interventions in the beans value chain;

- a) Farmers need a minimum package of coordinated services for any meaningful transformation to happen. This package includes financial services, extension services, marketing and value addition services. The provision of these services is vital for forging more substantial relationships in the value chains and linkages with farmers;
- b) Provision of BDS ensures that agribusinesses supported with strategic planning, market research, feasibility studies, business promotional activities, institutional and organisational strengthening. Only then can they be in a position to attract investment; and
- c) To reach smallholders, farmer organisations or a system that aggregates small farmers are very beneficial. Overall, financing to smallholders in groups is more likely to be made compared to individual farmers due to the reliance on the joint liability of groups and close monitoring of farmer activities. Organised farmers have the advantages of lowering transaction costs and increasing the efficiency of reach for a variety of services such

**Figure 30: The impact of aBi interventions on Bean production (2014-2019)**



Note that the number of farmers reported in subsequent years from 2014 are new additional farmers  
 Source: aBi Annual Reports 2014 – 2019

as savings, provision of technical assistance/extension, insurance, input, marketing, etc. The inputs acquired through the ACEs are usually of high quality, and therefore, farmers are sure they will perform well. There is a lot of input adulteration in the open market, especially with seeds. The arrangements between ACEs and input dealers improve the reliability of supplies. Since some of these farmers belong to both the ACEs and SACCOs, they receive soft loans to procure improved inputs.

### 3.2.6 Challenges in Financing of the Beans Value Chain

Several challenges are encountered in implementing the aBi financing model;

- i. Weak institutions: In some cases, institutions have been ineffective in terms of governance and internal controls, posing a risk to the safety of organisational assets and investments, especially among Farmer Organisations. Weak institutions do not attract financing and in most cases are also not in a position to raise their cost-share contributions;
- ii. Limited access to BDS: The lack of BDS in Uganda is as one of the significant constraints for identifying investable SMEs for portfolio development. Farmer-Based Organisations and SMEs lack the business skills and capacities to manage their operations successfully. In many cases, they seem not to be aware of the importance of BDS;
- iii. There is limited post-harvest handling and storage infrastructure that is key to improving the quality of beans. Farmers experience high losses (up to 40 percent) due to poor harvesting and post-harvesting methods (MAAIF, 2018). Inadequate infrastructure is attributed to more extensive capital requirements as well as very high and interest rates. Ugandan loan interest rates average 23 percent in comparison with 9 percent for Kenya and 12 percent for Tanzania;

- iv. Lack of bankable proposals: Whereas financing may be available, many SMEs are not able to provide bankable business proposals. The projects or proposals presented do not demonstrate future cash flow or a high probability of success;
- v. Beans are often regarded as a women's crop—produced mainly to improve livelihoods, nutrition and incomes. With this mindset, there are no proper records kept that can provide information to lenders;
- vi. Poor road infrastructure in the rural areas increases the transport costs the farmers incur to market and the cost of doing business for other service providers. Poor transport networks also discourage large buyers from reaching out to the rural areas as well as financial institutions from establishing branches in these areas; and
- vii. There is still inadequate coordination and linkage between farmers and the other actors in the value chain. Bean trade remains highly informal with no contracts in place between buyers and farmers. A lack of contractual agreements limits access to competitive markets. Poor enforcement of contract farming disputes in Uganda, mostly by local governments, reinforces unstructured, informal bean trading, which often involves numerous profit-taking trading actors.

### 3.2.7 Conclusion and Policy Implications

The opportunities that exist in the beans value chain include; increasing demand of beans at domestic and international levels; availability of a wide range of improved bean varieties that are suitable to the different agro-ecologies; and the possibility of value addition. aBi's interventions have registered some successes, but a lot remains to be done to structure the beans value chain. Successful models like the ACE model should be replicated in other parts of the country to promote bean production. Efforts should focus on the expansion of the utilisation of proven technologies and improved seeds, particularly the newly released bean varieties that are nutrient-dense,

high yielding and disease resistant.

The performance of the beans value chain can further be enhanced through the following:

- i) Promoting structured trading systems for dry and processed bean products by linking organised collective marketing farmer groups to large buyers and storage handlers/warehouse operators. Farmer groups should be supported to access and use appropriate storage and post-harvest handling technologies.
- ii) Support for strengthening the capacity of commodity cooperatives/platforms, SACCOs and other lower-tier financial institutions as they have proven effective in financial intermediation, especially at the level of the smallholder farmers.
- iii) Use of BDS providers to strengthen farmer groups/SMEs to operate commercially with the ability to sign contracts with buyers and the ability to qualify for credit from financial institutions.
- iv) There is a need to explore alternative approaches to enforcing contracts, particularly between buyers and farmers. This could take the form of establishing small-claims courts or collecting and disseminating information on non-compliance on the part of farmers and/or buyers. Providing better information about non-compliance will increase the incentives for farmers and firms to comply and help each party avoid high-risk business partners.
- v) Development of the road infrastructure. Poor road infrastructure increases the transport costs the farmers incur to market.

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## Endnotes

- 2 Uganda Bureau of Statistics (UBoS). Annual Agricultural Survey 2018
- 3 aBi is a social enterprise with the overall vision of contributing to “a competitive and sustainable agriculture and agribusiness sector in Uganda in support of equitable wealth creation”. It uses mainly a mix of 3 instruments in its interventions namely: Grants and business development services, Lines of Credit and Agribusiness Loan Guarantees
- 4 aBi Annual Reports 2014 - 2019
- 5 Evaluation of Village Savings and Loan Associations as a VCD Approach, 2018 by aBi

### 3.3 INCREASING COMPETITIVENESS OF THE RICE INDUSTRY IN UGANDA: LESSONS FROM TANZANIA'S INCLUSIVE BUSINESS MODEL

Birungi Korotaro<sup>1</sup>



Photo by: KilimoTrust

#### 3.3.1 Agriculture in Uganda and the Status of the Rice Sector

Rice is recognised by the Government of Uganda (GoU) as one of the strategic and priority crops under the Agriculture Sector Strategic Plan (ASSP). The crop has the potential to improve food security and incomes of about 400,000 smallholder farmers (Kilimo Trust, 2019). The 2015/16-2019/20 ASSP notes the rice industry in Uganda has been growing at a rate of about 5-7 percent per annum. The Coalition for African Rice Development (CARD) through the Japan International Development Agency (JICA) partnered with the GOU to develop the National Rice Development Strategy (2008-2018) to double rice production within ten years—to meet rising local demand and significantly reduce rice imports from Asian countries.

Currently, Uganda has an estimated 250,000 rice farming households, with landholding averaging 2 hectares planted to rice (Rice Association of Uganda, 2018). However, Uganda's local consumption estimated at 346,309 metric tonnes (MT) far outstrips the local supply currently estimated at 238,000 MT. Precisely, for milled rice, this

gap is estimated to be at least 40,000 MT annually (USDA, 2017). This gap in production has been filled through the importation of rice. Indeed, annual imports of rice which amount to 37,731 MT outstripped rice exports—currently estimated at 12,737 MT annually to markets like South Sudan and the Democratic Republic of Congo (MAAIF, 2019).

Private investments in the sector are estimated at USD 540 Million mostly in milling facilities, warehousing and irrigation infrastructure. Other investments include i) production and harvest machinery like tractors, ii) drying equipment and iii) trucks for transportation of goods. Despite the enormous investments, challenges remain including low supply volumes to mills translating into capacity utilisation of 40 percent at most mills, high production costs of USD 304/MT against USD 193/MT in Pakistan (Kilimo Trust, 2019), poor quality of domestic rice—with a high level of broken grain, foreign matter and non-uniformity of variety owing to the large number of old mills used, low-quality paddy.

This article presents an inclusive business model that Kilimo Trust has implemented in Tanzania's rice sector to increase the competitiveness of the subsector. The

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model was implemented during phase 1 (2014 – 2018) of the Competitive African Rice Initiative (CARI) project. The model is built around smallholder rice farmers and provides critical lessons for Uganda.

### 3.3.2 The Inclusive Approach to Rice Value Chain Development

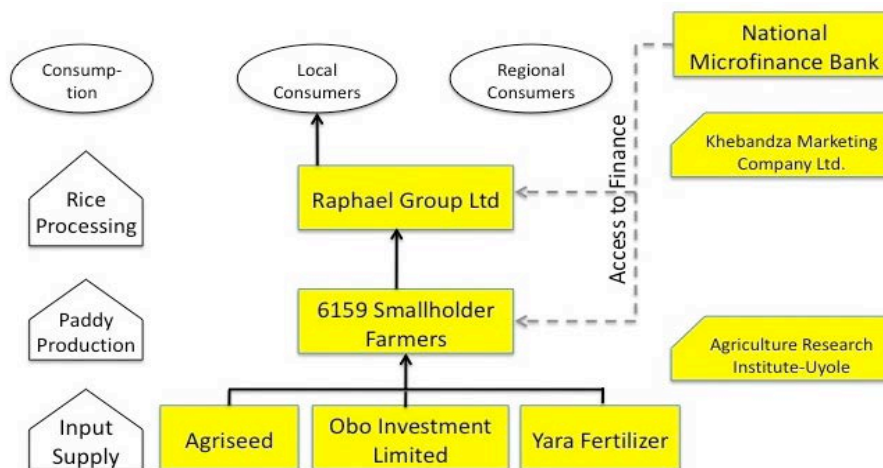
Kilimo Trust is championing a business model—the Consortium Approach—to value chain development which strengthens business linkages using high-quality knowledge and information on markets and demand characteristics, to support the development of market-driven business consortia. The business consortium is anchored on a “**Lead Firm**” (i.e. a processor, prominent trader or exporter). It gives participating smallholders the confidence to invest in increasing production, aggregation, and quality of marketable commodities and products. Other actors involved in the consortium include input suppliers, business development service providers and financial institutions. The main strength of this model lies in the ability to build strong private sector relationships based on trust between actors (e.g. input suppliers, farmers, lead firms, business development service providers and public institutions) along the value chain. Such partnerships guarantee sustainability because of the business opportunity for each actor. Besides, the model crowds in necessary and sufficient private and

public partners to invest in the relevant nodes of the value chain. In this model, the role of Kilimo Trust is to broker partnerships along the value chains, market assessment and capacity building to fill identified gaps.

The infrastructure necessary for the model to optimally operate should be available at each node of the value chain. At the producer level, fertile soils are critical—preferably blocked in large tracts—to ease mechanisation as well as the presence of well- functioning warehouses for proper local storage. At the processor/miller level, adequate storage coupled with modern processing equipment, skilled labour, adequate management systems and consistent supply of utilities are key. At the marketing level, timely market information, forward contracts and good road infrastructure are critical. At the Policy level, business-friendly laws and regulations governing contract farming are essential.

The Consortium Approach connects all actors along the value chain integrating small and medium scale farmers (SMSFs) into agribusiness in a way that enables smallholders to utilise the capacity building as well as financial and other business development services. Figure 31 shows as an example, the Southern Highlands Rice Consortium (SHIRCO) actors and operational support service providers.

**Figure 31: SHIRCO Business Partners**



Source: Author’s construct

In this consortium, the identified lead firm was Raphael Group Limited (RGL)—which had well-established links to national, regional (EAC) and global markets was identified as the off-taker. Together with the lead firm, the SMSFs formed the SHIRCO. This business consortium in the southern highlands of Tanzania that has integrated more than 7,500 smallholder paddy farmers into its supply chain. Before the consortium, the lead firm was working with only 500 farmers in an unstructured, informal arrangement. The other partners in the consortium consist of i) YARA Tanzania Limited which is a subsidiary of YARA International— the manufacturers and suppliers of blended fertilisers, ii) Agriseed Technologies Limited— producers and suppliers of improved SARO 5 seed and iii) Obo Investment Limited – a local agro-dealers offering plant protection products and other inputs to smallholder farmers. This business consortium attracted the National Microfinance Bank (NMB) as the financial services provider for the entire team of participating partners.

### 3.3.3 Performance and Impacts Achieved

The consortium has built strong businesses among its partners, resulting in increased quality and quantity supplied by farmers to the miller. Besides, farmers are investing by purchasing pre-financed inputs from input suppliers through tripartite contractual agreements between farmers, the bank and lead firm. At the same time, farmers are accessing guaranteed markets for their paddy, and the lead firm is accessing guaranteed supply of good quality paddy for their mill; thereby increasing utilisation capacity from 40 to 52 percent. At farmer level, notable results included the increase in yields—from 1.7MT/ha to 4.1MT/ha in the three years of the SHIRCO interventions in phase 1 (i.e. 2014-2018), improved quality of paddy supplied to the lead firm and increase in profitability of paddy production. Table 11 shows the farmers' yield achieved, which was attributed to the consistent investment by farmers in improved inputs accessed through pre-financing arrangements with NMB and input suppliers. Farmers from NMB accessed a total

of USD 270,000.

**Table 11: Increase in rice farmers' yields during CARI phase I project period**

Year	Yield MT/ha
2014	1.73
2016	2.60
2018	4.06

Source: RGL progress report 2018

Furthermore, the improved quality of paddy supplied by farmers to the miller RGL was as a result of concerted efforts by RGL in training farmers on post-harvest handling techniques and organised visits to the milling facility of RGL where farmers got to experience first-hand the effects of supplying poor quality paddy. Quality parameters were benchmarked on to EAC rice standards, as shown in Table 12;

**Table 12: Improvement of paddy quality standards**

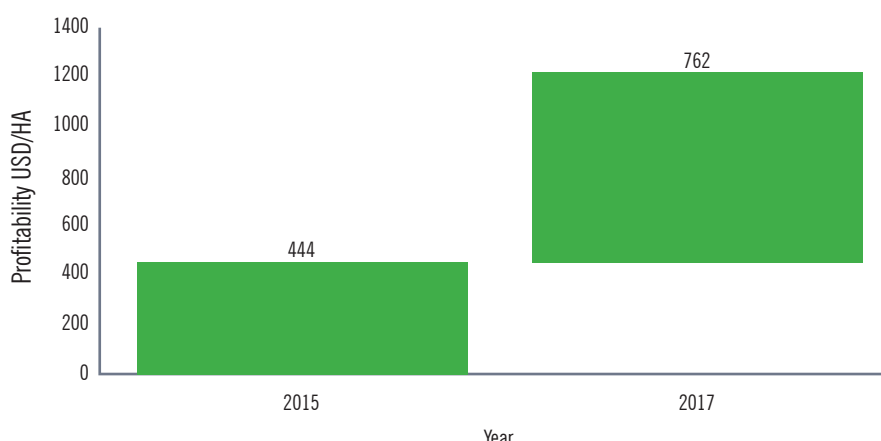
Parameters	EAC	Before CARI Interventions	After CARI interventions
Whole grains (%)	75 - 95	50	90
Broken grains (%)	5 - 25	30	5
Coloured (%)	White or Creamy Colour		-
Foreign contaminated (%)	0.1 – 0.5		
Moisture content (%)	12 - 14	18 - 25	

Source: RGL Progress Report 2018

Over 6,000 farmers under SHIRCO increased their profitability by 72 percent from working directly with the miller, as illustrated in Figure 32. The increased profitability are not only attributed to increase in yield and production volumes but also to improved quality which fetched higher prices.



**Figure 32: Change in farmers’ profitability under SHIRCO consortium**



Source: RGL progress report 2018

At miller level, RGL managed to secure larger volumes (Table 13) of paddy for purchase from smallholder farmers engaged under SHIRCO consortium; as a result of the trust that had been established with the farmers. RGL guaranteed market for the farmers’ paddy, and in turn, NMB was willing to take the risk to pre-finance farmers to produce for the company. As noted in the lessons section, commercial lenders are not willing to lend to smallholder farmers in the absence of a guaranteed market for the farmers’ produce.

engaging more farmers in consortium model approach by establishing other consortia across Tanzania, Uganda and Kenya. Based on the experience of establishing consortia that have achieved high outreach to small-scale farmers, the costs of installing new schemes, are expected to decrease – making the approach even more efficient. Additionally, USAID through AGRA is now working with Kilimo Trust to up-scale the project interventions across other regions of Tanzania and East African countries; proving that the model is scalable.

**Table 13: Volume and value of paddy purchased by RGL)**

Year	Volume (MT)	Value (USD)
2014	17,300	3.9 Million
2015	23,890	5.4 Million
2016	28,710	10.3 Million
2017	58,572	9.2 Million

Source: RGL progress reports

As a result of the increased volume of paddy purchased from farmers; RGL obtained working capital and financing to the tune of USD 1.7 million to purchase paddy. The company also increased its storage capacity from 5,000 MT in 2014 to 15,000 MT in 2017 (See Picture 1 for one of three 5,000 MT capacity warehouses constructed at RGL premises in Mbeya). Kilimo Trust and CARI are already

### 3.3.4 Lessons Learnt

Below are the lessons learnt from the Consortium Model;

- a) Smallholder farmers should have knowledge of and access to the buyer’s premises and be able to negotiate for favourable terms of supplying their produce;
- b) Smallholder farmers will not invest in productivity enhancement technologies and products unless they have quantifiable guaranteed markets for their product;
- c) The investment into understanding markets and buyers for farmers product is critical as this enables farmers to have the necessary motivation to engage in commercialised production;
- d) Financial institutions should be involved in project interventions from the get-go to ensure that the

**Picture 1: 5,000 MT capacity Warehouses - Raphael Group Limited (RGL) - Mbeya**



RGL warehouse (left) and mill (right).

financial products available are farmer and SME friendly;

- e) For financial institutions to work with smallholder farmers, they need guarantees that the Lead firms will provide markets for smallholder produce and hence repay the loans;
- f) Lead firms act as “gateway” for financial institutions to access more business from smallholder farmers and other partners. Therefore, relationship building needs to be supported by allowing financial institutions to monitor farmers’ activities regularly. These activities could include conducting annual general meetings, preparing season planning, conducting relevant training, bulking and marketing of produce. This capacity building will build confidence and trust among value chain actors and eventually develop suitable financial products for them; and
- g) Policies that enable contract farming business models to thrive need to be in place to galvanise private sector investments.

### 3.3.5 Conclusion and Policy Recommendations:

In conclusion, the Consortium Approach to value chain development is an innovative model that can be replicated across the value chain and can be scaled for an end-to-end services for value chain actors. This approach is sustainable as all partners involved are in it for the business opportunity, and the model inherently builds trust among partners since all stand to benefit.

Therefore the study recommends;

- 1) **Development of business-friendly policies and enactment of a law governing contract farming in Uganda;**
- 2) **Elimination of disproportionate concessions or waivers to millers** that creates uncertainty and dis-incentivises substantial investments in the sector;
- 3) **Abolishing of disproportionate tariffs, especially on imported rice**, which only favour specific traders at the expense of others, and introduces cheap rice into local markets that suffocates the local rice industry; and
- 4) **Investment in collection of reliable agricultural data** to support public planning and private sector investments.

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## 3.4 FINANCING UGANDA'S COFFEE EXPORTS TO BENEFIT FROM THE AFRICAN CONTINENTAL FREE TRADE AREA (AfCFTA)

Justine Luwedde and Aida K. Nattabi<sup>1</sup>



Picture credit: <https://www.secondopinion.co.ug/ugandas-coffee-exports-increase-23-17-percent-in-june-2020/>

### 3.4.1 Introduction

Agriculture remains an important source of livelihood for the majority of Ugandans. The sector contributes over 24 percent of Uganda's Gross Domestic Product (GDP) and employs about 72 percent of the population (World Bank, 2019). Uganda's largest traditional export crop is coffee—which accounts for 22 percent of total exports (Bank of Uganda, 2019). According to Uganda Coffee Development Authority (UCDA), Coffee exports for July 2019 to June 2020 equated to 5,103,771 bags in total worth USD 496 million in comparison to 4,168,408 bags valued at USD 415 million in 2018/19 which shows 22 percent and 19 percent increase in the quantity and value respectively. The increase in exports is attributed to increased area under coffee as a result of fruition of new coffee trees and conducive weather, irrespective of the low prices on the world market due to the COVID-19 pandemic.

In 2018, Uganda signed the agreement establishing the African Continental Free Trade Area (AfCFTA), and this presents an opportunity to expand agricultural exports with more profound integration. The AfCFTA will expand

market opportunities by creating a single African market of 1.2 billion people and a cumulative GDP of over USD3.4 trillion. According to the United Nations Economic Commission for Africa (UNECA), the AfCFTA will increase intra-Africa trade by 52 percent by 2022 in comparison to the volume of exports in 2010. African countries stand to benefit from the elimination of tariffs on at least 90 percent of taxable commodities and market access continent-wide. Besides, intra-African trade is projected to double by the beginning of the next decade. This expanded market access presents a trade opportunity for Uganda, whose agricultural economy is already liberalised and can benefit from further integration. Concerning coffee, the AfCFTA offers an opportunity to expand the number of export destinations beyond Sudan, Morocco, Algeria, South Africa and Kenya.

Despite the anticipated benefits from a broader African market, Uganda's coffee sub-sector still faces challenges such as; low input use, lack of improved technologies, insufficient business advisory and extension services, poor climate change adaptation and limited financing towards the sector (FAO, 2017). The above constraints imply that more investment in the sub-sector is required to enable the country to expand into the broader African market.<sup>2</sup>

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Also, the listed challenges constrain the sub-sector’s ability to meet targets set in Uganda’s Agricultural Sector Strategic Plan (ASSP). The current National Development Plan (NDP III) 2020/21 – 2024/25 targets to increase the total export of processed agricultural commodities (i.e. coffee, tea, fish, dairy, meat, and maize) from USD 1 billion to USD 4 billion in the next 5 years (National Planning Authority, 2020). The NDP III also projects an increase in coffee earnings from USD 472 million in 2019/20 to USD 618 million in 2024/25. Besides, coffee is one of the 14 commodities identified to push Uganda’s economic transformation amidst the COVID-19 pandemic and listed as part of the nine commodities under the Public Investment Management for Agro-industry (PIMA).

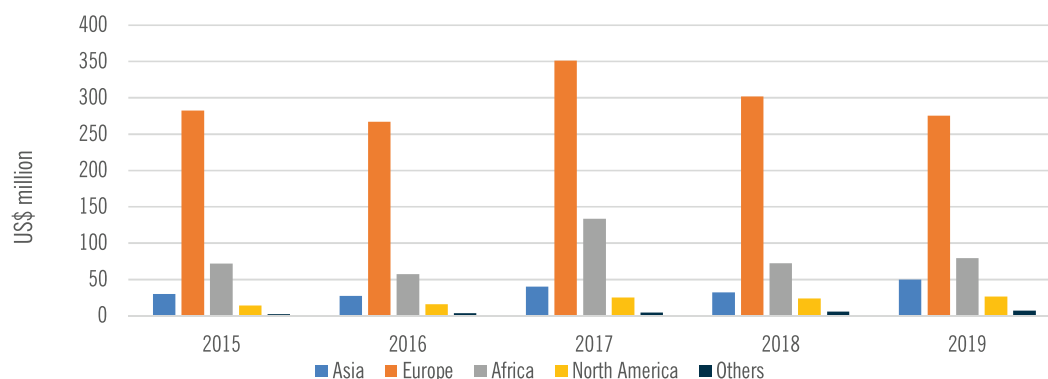
Accordingly, this article examines how Uganda can effectively finance its coffee sub-sector to benefit from the envisaged market expansion with the onset of the AfCFTA. The article discusses the existing financing models, their gaps, the primary coffee destinations within Africa and the financing requirements to penetrate them, and finally demonstrate a successful country study of how the coffee value chain was financed and draw lessons for Uganda to benefit from the AfCFTA. The article concludes with some policy actions that Uganda needs to take to finance her coffee sub sector effectively.

### 3.4.2 The Export Market for Uganda’s Coffee

Uganda exports both Arabica and Robusta coffee to various destinations worldwide. On average, the country exports USD 295.5 million to Europe, USD 82.9 million to Africa, and USD 21.1 million to North America. Asia also imports USD 35.9 million worth of coffee while other destinations comprise USD 4.7 million (see Figure 33). Uganda is currently the top coffee exporter within Africa, ahead of Ethiopia—the continent’s largest coffee producer. Thus with the continuing rise in Uganda’s coffee exports to Africa and other niche markets worldwide, the country offers vast opportunities for investment in large-scale coffee production and export.

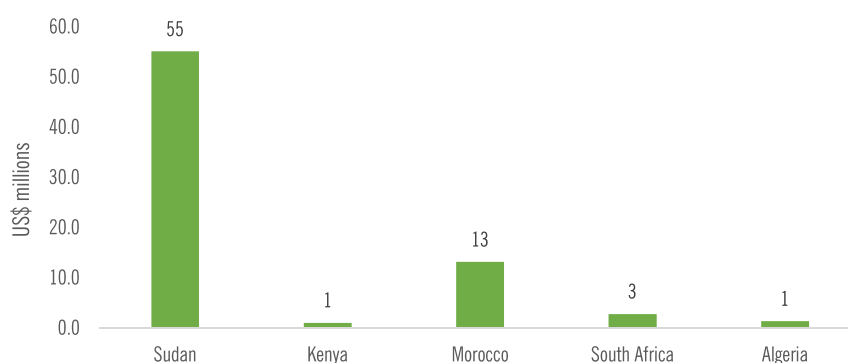
Figure 34 shows Uganda’s coffee exports to the top 5 African countries in 2018/19 and indicates that Sudan had the lions’ share of about USD 55.2 million, followed by Morocco USD 13.2, South Africa USD 2.8, Algeria USD 1.4 million and Kenya USD 1.1 million. Africa’s share of Uganda’s coffee exports hence reveals the export potential of the country to tap into the AfCFTA. However, some challenges still prevail in the sub-sector. For example, the country’s coffee exports have suffered from limited market visibility, brand recognition and product placement (Ntungire, 2018). Besides, most of the coffee is produced by smallholder farmers, who generally cannot afford to brand and market efficiently. The limited consumer/market awareness has, therefore affected the margins from coffee exports, regardless of its good quality (*ibid*).

**Figure 33: Ugandan Coffee exports by destination in USD millions (2015-2019)**



Source: Author’s presentation based on Bank of Uganda Statistics, 2020

**Figure 34: Uganda’s Coffee exports to Africa in USD millions (2018/2019)**



Source: Author’s presentation based on Bank of Uganda Statistics, 2020

### 3.4.3 Existing Financing Mechanisms for Coffee

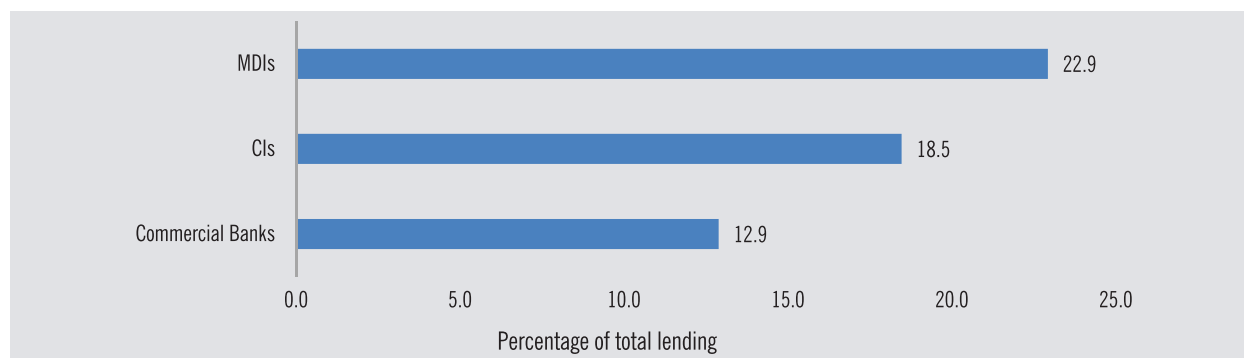
#### 3.4.3.1 Private financing

Financing remains a significant issue that cuts across all levels of production and agro-industrialisation, and lack of finance often results in uncompetitive exports in terms of low quality and limited quantity. Commercial banks, non-bank financial institutions, private investors funds, cooperatives/associations, local microfinance institutions/community organisations provide emergency loans and start-up of business activities, small loans and savings services for farmers and rural traders, and financing group investments. Commercial bank lending to agriculture during May 2019 to May 2020 was UGX 1.9 trillion. Credit institutions (CIs) and microfinance deposit-taking institutions (MDIs) advanced UGX 103.9 billion and UGX 81.3 billion during the same period. (BoU, 2020).

However, agriculture accounted for only 12.9 percent of commercial bank lending, much lower than either the MDIs share of 22.9 percent or CI’s share of 18.5 percent (see Figure 35).

Moreover, commercial bank lend more to the processing and marketing segments than to production, in contrast to MDIs and CIs. For example, for the period May 2019–May 2020, lending to the production segment equated to 17 percent for Commercial banks, 7 percent for MDIs, and 10 percent for CIs (*ibid*). Lower lending to production is due to uncertainties such as the unstable exchange rate and price fluctuations which exacerbate the risk of default; higher costs of operation; and low investment returns. Besides, accessing smallholders in rural areas is costly. MDIs that have attempted to reach the rural farmers are providing loans at relatively higher interest rates. High charges limit uptake and impact the overall performance of the agricultural sector.

**Figure 35: Financial institutions share of private sector credit to agriculture (May 2019–May 2020), (Percent)**



Source: Author’s presentation based on Bank of Uganda Statistics, 2020

Cooperatives/associations also provide a platform for pooling resources, and such platforms breed better bargaining power and are necessary for processors and exporters to take advantage of funding.<sup>3</sup> Notwithstanding, these cooperatives have challenges with marketing-related aspects such as branding, packing and visibility, due to the high costs of these aspects. Many cooperatives cannot pool these funds nor access to donor funding; hence marketing remains an expensive yet necessary burden (see Box 6). Additionally, farmer groups and other intermediaries from within the community, as registered entities, have also provided an avenue for collective purchase of inputs, processing, and marketing. However, farmers still sell cherries before the harvest because they need cash immediately thus foregoing selling under farmer groups, which can negotiate higher prices and on-time payments (Baffes, 2006).

#### **Box 6: Case study - The Central Coffee Farmers Association (CECOFA)**

*The Central Coffee Farmers Association (CECOFA), we are able to pool funds to purchase a coffee peeling machine, with the Belgian Technical Cooperation supporting upto 30 percent of the final cost (Englebert, n.d). CECOFA underwent market rebranding with a budget of 15,000, which was only possible through donor funds (ibid). The Association also attracted funding worth UGX 5.14 billion from the Yield Uganda Investment Fund (Fowler and Rauschendorfer, 2019)*

However, the numerous and varying (in terms of depth) stakeholders in the coffee value chain do not provide incentives for sustainable practices. For example, while intermediaries and farmer groups bulk coffee from several producers, the capacity of farmer groups to commercialise (their operations) is mainly dependent on the nature of their composition such as common interests of their members (Latynskiy and Berger, 2016). Farmer groups make a positive contribution to the capacity of their members to minimise risks and increase access to finance, which in turn, improves financial inclusion of

small scale production, value addition and transportation. Farmer groups are thus necessary for processors and exporters to take advantage of funding, and for improving farmers' bargaining power (see Box 7).

#### **Box 7: Case study - New Bukimbi Coffee Processors**

*Funding has enabled cooperatives such as New Bukimbi Coffee Processors to enhance their capacities, improve their processing facilities (washing stations) and improve their coffee's quality for subsequent export (Morjaria and Sprott, 2018).*

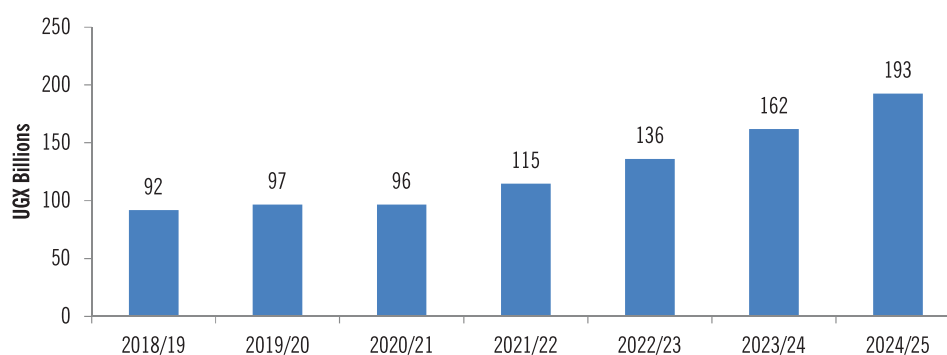
### **3.4.3.2 Public/Government Financing**

#### **a) Budget allocations to UCDA**

The Medium Term Expenditure Framework (MTEF) projections indicate that the annual budget of UCDA will increase by 19 percent per annum from FY 2020/21 up to 2024/25 (Figure 36).<sup>4</sup> Increased funding will empower UCDA to execute its duties, especially towards the promotion of quality coffee products. In the FY 2018/19, funds to UCDA facilitated the cultivation of coffee in Northern Uganda, coordination, seed and pesticide distribution, farmer training research activities, and quality assurance (MoFPED, 2019). UCDA's funding will facilitate value addition, marketing and promotion activities. Examples of such activities include training processors, farmers and merchants in value addition methods such as roasting, processing, storage, brewing, grading and standards compliance; as well as coffee shows/exhibitions (*ibid*).

Coffee receives limited external support in comparison to other agricultural commodities. Its budget is financed from the cess charged on coffee exports as well as earmarked budget allocations. Indeed, in FY 2018/19, the approved budget did not include any external financing, which points to the limited donor funding to UCDA ((MoFPED, 2019).

However, for FY 2020/21, only 5 percent is allocated to quality assurance and regulatory services activities (*ibid*).

**Figure 36: Medium-term budget allocations and projections to UCDA (UGX Billions)<sup>5</sup>**

Source: Author's presentation based on Background to the budget, MoFPED 2020

The limited focus and financing of quality assurance has curtailed efforts to enforce quality measures and to ensure that Uganda's coffee meets international standards. This has in the long run, been detrimental, to the upgrade of coffee export quality. Overall, inadequate funding of UCDA remains a challenge. Increased funding would enable UCDA to focus on upgrading the quality of coffee, branding, packaging and marketing. Sourcing external funds could not only ease budgetary spending pressures but could also be combined with transfer of knowledge, particularly in coffee value addition techniques.

#### b) **Production incentives**

UCDA, in partnership with Uganda Development Bank Ltd (UDBL), has also played a pivotal role in speeding up Uganda's coffee production and coffee exports. Launched in 2017, the coffee-roadmap targets to increase coffee production from 4.6 million (60 kg bags) in 2020 to 20 million bags by 2025. Increased coffee production will be achieved through; i) strengthening farmer organisations and cooperatives to advance commercialisation of smallholder farmers; ii) better access to extension and inputs; and aggregation and promotion of value addition (including primary processing); and financing to farmer organisations, smallholders, coffee businesses and investors.<sup>6</sup> Other initiatives proposed within the roadmap include addressing risk. In FY 2018/19, the Government in collaboration with Agro Consortium established a Coffee Drought Indexed Insurance scheme through NUCAFE, which has so far insured over 1,000 farmers with a 50

percent contribution from the farmers and 50 percent from Government.

Another avenue is through the Agricultural Credit Facility (ACF). The Government of Uganda established this facility in partnership with Commercial Banks, Uganda Development Bank Ltd (UDBL), MDIs and CIs. ACF operations started in 2009 and were aimed at supporting projects with medium and long term financing. Under the ACF, projects which are engaged in agriculture and agro-processing activities—with emphasis on commercialisation and value addition—are given preference. Loans are also provided to large scale farmers and agro-processors at relatively favourable terms, with the Bank of Uganda administering the Facility (BoU, 2019).<sup>7</sup>

As of June 2020, the total disbursements from the ACF amounting to UGX 520.4 billion (of which Government contribution equated to UGX 263.9 billion) had benefitted 772 projects (BoU, 2020). However, due to the mode of operation (mainly through commercial banks), which is characterised by lengthy and costly loan procedures, the Facility has mostly benefitted large companies as opposed to smallholders. Participating Financial Institutions (PFIs) have reported incurring higher monitoring costs due to the increased risk/likelihood of default. At the same time, returns on loans to small farmers are limited (MoFPED, 2017).



### 3.4.3.3 Alternative Sources of Financing

One of the existing initiatives to support the coffee sub-sector is the European Union in partnership with Farm Africa. Under this initiative, farmers are trained in coffee production, and the capacity of agribusinesses and cooperatives is strengthened to support coffee farmers and young farming leaders. Lead farmers and cooperative staff are trained in the sustainable production of high-quality coffee to target the demand for high-end markets. Lead farmers use smartphones, pre-loaded with interactive learning materials, to train over 4,800 farmers in sustainable production practices, including how to boost their coffee yields, when to harvest and how to handle coffee at post-harvest stage. This initiative has strengthened agribusinesses and cooperatives, improved goods and services available to smallholders and created employment opportunities for young people engaged in these businesses.

Government of Uganda, through the National Social Security Fund (NSSF) and in partnership with the European Union, launched the Pearl Capital Partners (PCP) Uganda fund to undertake investment in Small and Growing Agribusinesses (SGAs) located in agricultural supply chains in Uganda (MoFPED, 2019). The Fund caters for all agribusinesses and agro-processors; and provides business support in technology, innovation and market access (Fowler and Rauschendorfer, 2019). The Fund also set up financing with the European Union via the International Fund for Agriculture Development (IFAD) and NSSF, under the management of PCP (PCP, 2019).

### 3.4.4 Funding Gap

Funding to the coffee sub-sector remains insufficient and cannot accommodate the high coffee production and sales targets set out in the Coffee 2020 Roadmap. A decline in research funding has led to stagnation in productivity and quality upgrading in the agricultural sector. The National Agricultural Research Organisation (NARO) budget allocation reduced by 45 percent between FY 2016/17 and FY 2018/19 as donor funding to the organisation (with the

conclusion of various projects) declined (Ntungire, 2018). This negatively affects the Research and Development stage of product development and diversification necessary for the upgrade of Uganda's coffee exports and the consequent structural transformation of the sector. The research funding gap needs to be addressed with dependable financing from both the public and private sector.

Improving the productivity, the competitiveness of the farmers is incredibly essential. When leveraged with the expected integration of the African continent, the desired results (reduction in costs of production, affordability of intermediate inputs such as machines and fertilisers) can translate into cheaper costs of production and higher income for rural households (Green *et al.*, 2019).

## Financing Coffee in the Association of South-East Asian Nations (ASEAN)

### Box 8: Case study - Vietnam

*Vietnam is the second-largest coffee exporter in the world, and its coffee production has contributed to the flourishing coffee industry in ASEAN. Vietnam's coffee production is nearly 1,650,000 metric tons of coffee per annum which is about 5 times more than Uganda's coffee exports<sup>8</sup>. Vietnam produces Robusta and Arabica coffee its domestic consumption of coffee accounts for only about 6 percent, and the rest is for export to partners such as Germany, the US and Italy. Despite the large volume of exports, however, private investors in the coffee sub-sector have often faced challenges including: high transaction costs resulting from fragmented farming, and policy restrictions limiting direct sourcing of products from farmers by international firms (World Bank, 2018). In addition to low quality and product safety, inferior branding and decreasing productivity due to old coffee trees and climate change effects (ibid). Government concerns about the sustainability of the agriculture sector, increasing public debt, and competitiveness on the World market required specific actions to target the significant sub-sectors, particularly coffee which employs over 6 million farmers.*

*With support from the World Bank, the Government embarked on regulatory and institutional reforms to improve the coffee value chains by addressing the structural constraints, regulatory blockades and negative impacts on the environment arising from the over usage of fertilisers and chemicals. In 2015, the World Bank provided USD238 million to strengthening the competitiveness and sustainability of these value chains in the Central Highlands and Mekong River Delta. This was undertaken through the 'Vietnam Sustainable Agriculture Transformation Project' which supports "small farm-large field" production management models - where smallholders work collectively to reduce costs of production and improve product quality. The project also encourages contract farming, training and matching grants based on the condition that farmers' make an effort to reduce the usage of fertilisers, agro-chemicals to minimise post-harvest losses.*

*Also, the World Bank provides advisory assistance for capacity building and institutional reforms towards promoting private investments such as preparation of marketing materials, investor one-stop-shops, a management system for investor relations, and investor after-care services. The International Finance Corporation (IFC) has also invested directly in coffee exporting companies by providing advisory services on supply chain management, post-harvest and warehouse management, and product marketing. Moreover, the IFC Global Trade Supplier Finance program helps to minimise risks for international traders to expand their operations in Vietnam by enabling better access to financing at competitive rates to their local commodity suppliers. IFC is also creating partnerships with local banks to provide traders with better finance solutions using warehouse merchandise as security for the loans. By the end of 2020, development finance will increase by 20 percent. Farmers are expected to benefit from climate-smart farming for about 40,000 hectares for coffee production, 17,000 hectares of renewed coffee trees and increased exports owing to better regulations to motivate more private capital investment in coffee and value chains.*

### 3.4.5 Lessons for Uganda

The fact that the majority of farmers in Uganda are smallholder, the source of financing required to leverage the opportunities borne by the AfCFTA is critical. Investing in coffee exporting firms to develop the coffee sub-sector, and creating partnerships with local banks is one avenue to mobilise finance. Investment in coffee firms also calls for negotiations to accommodate aspects of investment and create a legal framework governing intra-African investments (Luke and Sommer, 2018). Furthermore, negotiations among African trading partners could boost the flow of FDI to Uganda from other African states<sup>9</sup> providing a viable source of financing for coffee farmers and for potential investments in agro-industries and agro-trade. Additionally, the private sector can leverage this FDI, by co-funding or forming partnerships for investment in agro-business.

A strategic focus on quality upgrading for Uganda's coffee is equally important. This can be facilitated by investing in agricultural research to stimulate coffee productivity and minimise the risks faced by smallholder farmers as a result of weather changes, pests and diseases. Easing trade for intermediate inputs (fertilisers and machines) used for value addition, is also essential (Gonzalez, 2018). Easing of trade would provide Ugandan coffee farmers with access to quality fertilisers from various African markets, and competitive prices.

Investing in infrastructure such as roads especially in the rural areas to link the farmers to the markets is also necessary. Feeder and tertiary roads to villages connecting to the primary markets need to be upgraded to support intermediate modes of transportation. The roads from the urban centres to the borders need to meet superior standards to take advantage of cross-border trade opportunities, first within the region and after that, the continental market opportunities. Hence before tapping into external markets, it's imperative to enhance Uganda's continental competitiveness.

### 3.4.6 Conclusion and Policy Recommendations

**There is need for stronger linkages between farmers and sources of finance** to promote agro-processing in coffee value chains.

Since SACCOs, and other microcredit institutions, are closer to the smallholder farmers, and are therefore, in a position, to increase access to affordable finance, **more support is needed to transform SACCOs and other member-based organisations into more effective and efficient financial intermediaries.** Performance-based Government support should be provided to such organisations

**The use of Public-private partnership (PPPs) as an avenue for achieving major industrialisation,** particularly for financing coffee exports should be promoted as articulated in Uganda's National Industrial Policy. Such PPPs could spur Research and Development and Innovations in the coffee subsector.

Government should focus on designing a suitable policy and regulatory frameworks and enforcement mechanisms that mitigate market risk and enable the exploitation of market opportunities

Passing of the Coffee Bill in August 2020 is expected to facilitate the growth of the coffee industry by consolidating the mandate and powers of UCDA to monitor and regulate all production and trade aspects of the sub-sector. **The law will eliminate duplication of work by different MDAs operating within the coffee sector since policy implementation, enforcement and regulation has been streamlined.** It will also allow for clear policy vision and create value-for-money which will translate into the transformation of coffee production and quality.

**To reap from the AfCFTA, there is a need to strengthen agro-industrialisation policies to increase competitiveness.** Amended procedures

should reduce existing gaps in; infrastructure, skills, regulations and institutions, value chains expansion, bulking and agricultural zoning. The onus, therefore, is on the Government of Uganda to create a collaborative atmosphere between the Centre and Local Governments so that through good governance and leveraging of the existing opportunities in coffee sub-sector, farmers can benefit from AfCFTA initiative. Government needs to put in place a holistic and comprehensive funding of the coffee road map. The current approach follows a piece-meal approach that limits the expected outcomes.

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## Endnotes

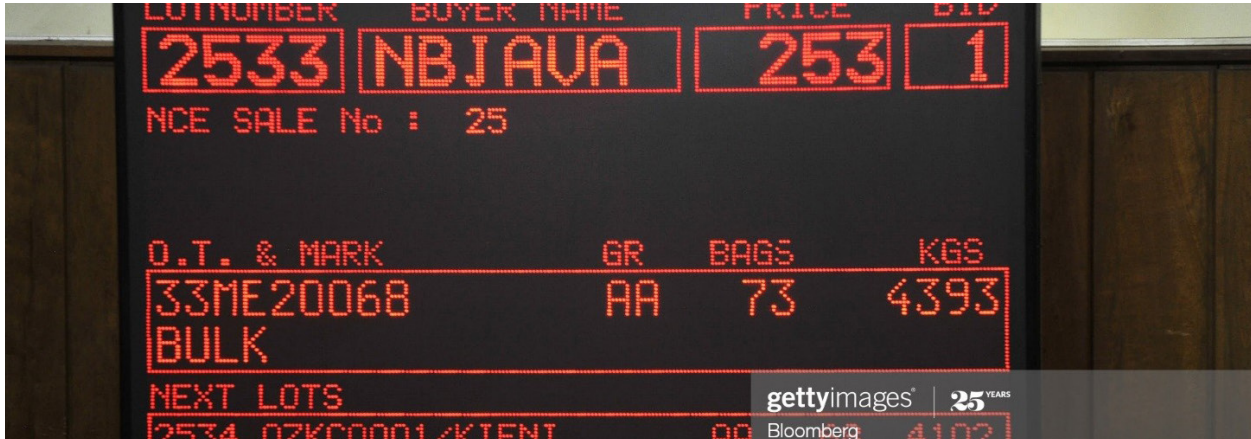
- 2 This can be via provision of equipment, working capital, subsidies, skills and knowledge.
- 3 Although many cooperatives collapsed following market liberalization, due to corruption and uncertainty.
- 4 See Ministry of Finance Budget Framework paper FY2020/21. The Budget Framework Paper FY 2020/21 shows that the budget allocation for FY2021/22 will be Ugx114.7 billion.
- 5 Budget allocations for FY2018/19 and FY2019/20 were approved; FY2020/21 is proposed; FY2021/22- FY2024/25 are MTEF budget estimates.
- 6 Smallholder farmers require finance in order to access to inputs and irrigation.
- 7 Other projects include acquisition of agricultural machinery, handling equipment, storage facilities.
- 8 See coffee export volumes worldwide in January 2020, by leading countries. <https://www.statista.com/statistics/268135/ranking-of-coffee-exporting-countries/>
- 9 South Africa for example is the largest regional source of FDI, and its firms often seek for opportunities in various African markets, such as banking/financial sector (see Macdonald et. al, 2018).



# CHAPTER FINANCING FOR AGRICULTURAL INVESTMENTS

## 4.1 LINKING MARKETS AND TRADE FINANCE IN UGANDA'S COFFEE SECTOR: THE CASE FOR A COFFEE AUCTION

Christian Baine<sup>1</sup>



Picture credit: <https://www.gettyimages.com/photos/inside-the-nairobi-coffee>

### 4.1.1 The Rationale for a Coffee Auction in Uganda

Many Ugandans have been intrigued by the government's decision to repeal the previous coffee regulatory framework and replace it with the 2018 National Coffee Act.<sup>2</sup> The timing, intention and content of the 2018 National Coffee bill raised varying opinions—ranging from those questioning to downright opposition.<sup>3</sup> Opposition to the bill came as a surprise given the economic importance of coffee to the country. Coffee remains the leading export crop in Uganda, employing over 7 million people or 1.7 million households in 108 coffee growing districts. Uganda is ranked the second largest coffee producer in Africa and the 8<sup>th</sup> largest producer globally.

The coffee bill seeks to repeal and replace the Uganda Coffee Development Authority (UCDA) Act of 1991 which mandated UCDA to promote and oversee the coffee industry by supporting research, promoting production, controlling the quality and improving coffee marketing. The legislation of 1991 became seemingly concerned

mainly with post-harvest activities like quality control, processing and marketing, excluding on-farm activities like planting materials, nurseries, extension services from the scope of the law.

In addition to addressing these exclusions, the new bill now seeks to put various concerns and developments in the coffee sector including climate change, quality assurance, farmer aggregation and improving market access and marketability of Uganda's coffee under the authority's regulatory framework. Many of those who are not happy with the new law argue that the coffee subsector needs to focus more on the needs of the markets by producing more coffee and building more and bigger processing mills as well as storage facilities. The Uganda Coffee Road Map of 2017, for instance, tasks the sector to increase production from 3.5million 60kg bags in 2014 to 20million 60kg bags in 2030.

While it is essential to increase the volume of coffee products and access to markets, the sector should also look at developing new speciality markets for coffee products. Beyond the processing infrastructure, there is a need put in place marketing institutions and platforms for trading speciality coffee grades. Also, there is need

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to increase access to credit by coffee producers through warehouse receipt systems, access to timely and reliable market information, automated trading systems linked to buyers, payment and settlement systems that guarantee payment to producers, and dispute resolution mechanisms. The above proposals are already in place in the emerging coffee countries of China, Vietnam and Singapore.<sup>4</sup>

The coffee auction is one such initiative that integrates many of these attributes with several potential market-wide benefits. Where the appropriate conditions are in place, a coffee exchange can facilitate price discovery, price risk management, and more efficient physical trade — all of which are critical to transforming the coffee marketing system for greater inclusiveness and private sector engagement.

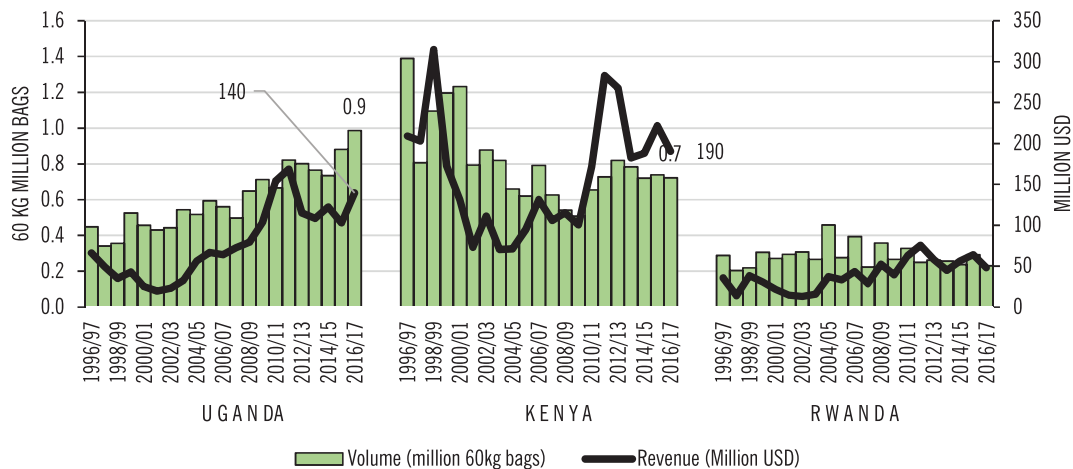
The development of a local coffee exchange, therefore, represents a compelling approach to tackling some of the challenges inherent in trading coffee and its by-products. The Exchange is defined as “*an organised marketplace*” — where buyers and sellers trade commodity-related contracts following set exchange rules. Coffee auctions are considered critical drivers of development for the coffee sub-sector – they can make economies more inclusive, and forge stronger links between agriculture and finance (Onumah, 2015). As such, they deserve further

exploration in the quest to ensure improved incomes for players in the Uganda coffee value chain. This article discusses the relevance of an exchange trading platform for the coffee sub-sector, operation, its benefits, and the likely challenges including but not limited to gaps in policy support to its implementation.

### 4.1.2 Why Uganda needs an Exchange

Coffee is an integral part of the Ugandan economy. During the past 15 years, the crop has contributed at least 15 percent of Uganda’s merchandise exports. A vital tenet of the 2017 Coffee Road Map is the focus on Arabica coffee because of its high value. Uganda produces 1 percent of the world’s Arabica output. There has been a gradual increase in export volumes in the past decade (Figure 37). Arabica makes up around 20 percent of coffee exports by volume and 25 percent by value. It is Arabica that is traded as a single-origin coffee and earns premiums in international markets. The higher the quality of Arabica produced and successfully marketed, the greater the margin available throughout the value chain and the easier it is for farmers to increase their incomes. The relative importance of Uganda’s Arabica is growing due to both growths in global demand and production declines in Arabica producing countries, e.g. Kenya (Figure 37).

**Figure 37: Trends in volumes and revenues of exported Arabica Coffee - Uganda, Kenya and Rwanda**



Source: Author’s presentation based on FAOSTAT and UCDA Statistics, 2018



While Ugandan Arabica production is increasing and is highly competitive, it has been overlooked by traders and consumers. Buyers view Ugandan Arabica as low quality, unable to compete in international markets, mainly suitable for blending, and sellable as a ‘regional product.’ Furthermore, Ugandan coffee has not been marketed in a way to build end consumer awareness and demand. Because of low awareness, Ugandan Arabica is not earning the same export margins as coffee of comparable quality from similar countries. Over the last two decades, Kenya’s Arabica has consistently fetched more per unit in the export market concerning what Uganda earns (Figure 38). The same applies to Arabica coffee from Rwanda since 2011. Uganda’s Arabica trades at a discount of up to 30 percent compared to benchmark trading prices.

To overcome the above challenges, the government has focused on improving market positioning and pricing. Improving market positioning means increasing direct contracting by local exporters with roasters and converting the sector to one that is pulled onto the world market by consumer and trader demand. Direct contracting with roasters will also help reduce Uganda’s dependence upon coffee exporters to finance the sector and further increase the value earned from Arabica through higher premiums for producers. Large scale marketing deals with roasters that have direct customer access with Nestle, Mondelez, Tchibo, or Starbucks can carry Uganda’s name in coffee

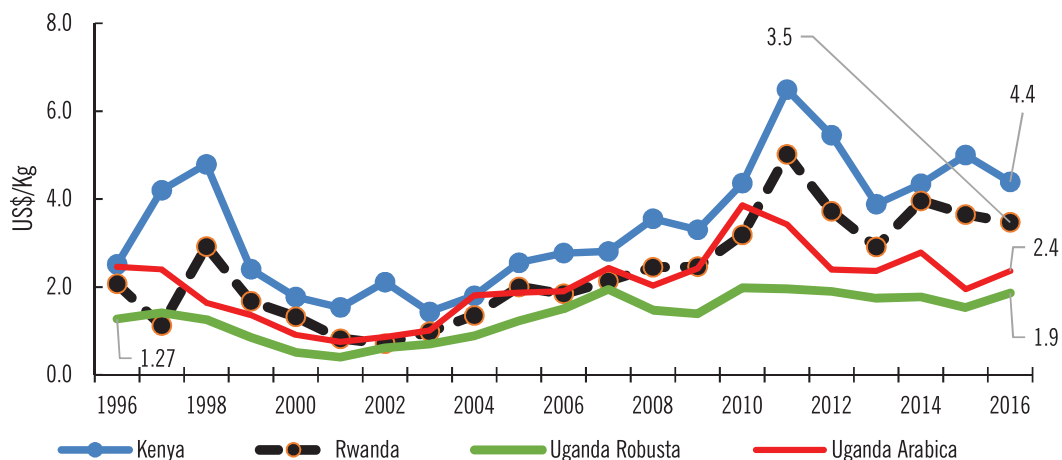
sales across the world.

Further, a coffee auction is proposed as one mechanism that could be used to drive awareness and international market access for Ugandan coffee. The auction can take many forms from an open competition through to a complete marketing platform. Light, competition-based auctions have been most successful in similar countries in creating market demand. The coffee auction would take on the role of market mediator between the local and international players in the coffee sector. This mediation serves the functions of connecting local producers with international roasters, ensuring production processes meet international standards, and supporting local players with the best possible contracting, payment and settlement methods.

### 4.1.3 Structure and Operation of Auction trading to the Coffee sub-sector

The coffee auction is essentially a neutral third-party that provides trusted service to the market in four significant ways. First, the auction certifies the quality of the coffee being sold warehouses the product on behalf of the seller. This guarantees the quality, quantity, and delivery of the commodity to the buyer of that commodity. Second, the coffee auction operates a payment clearing and settlement system which takes payment from the buyer and transfers

**Figure 38: Annual price trends for East Africa Coffees**

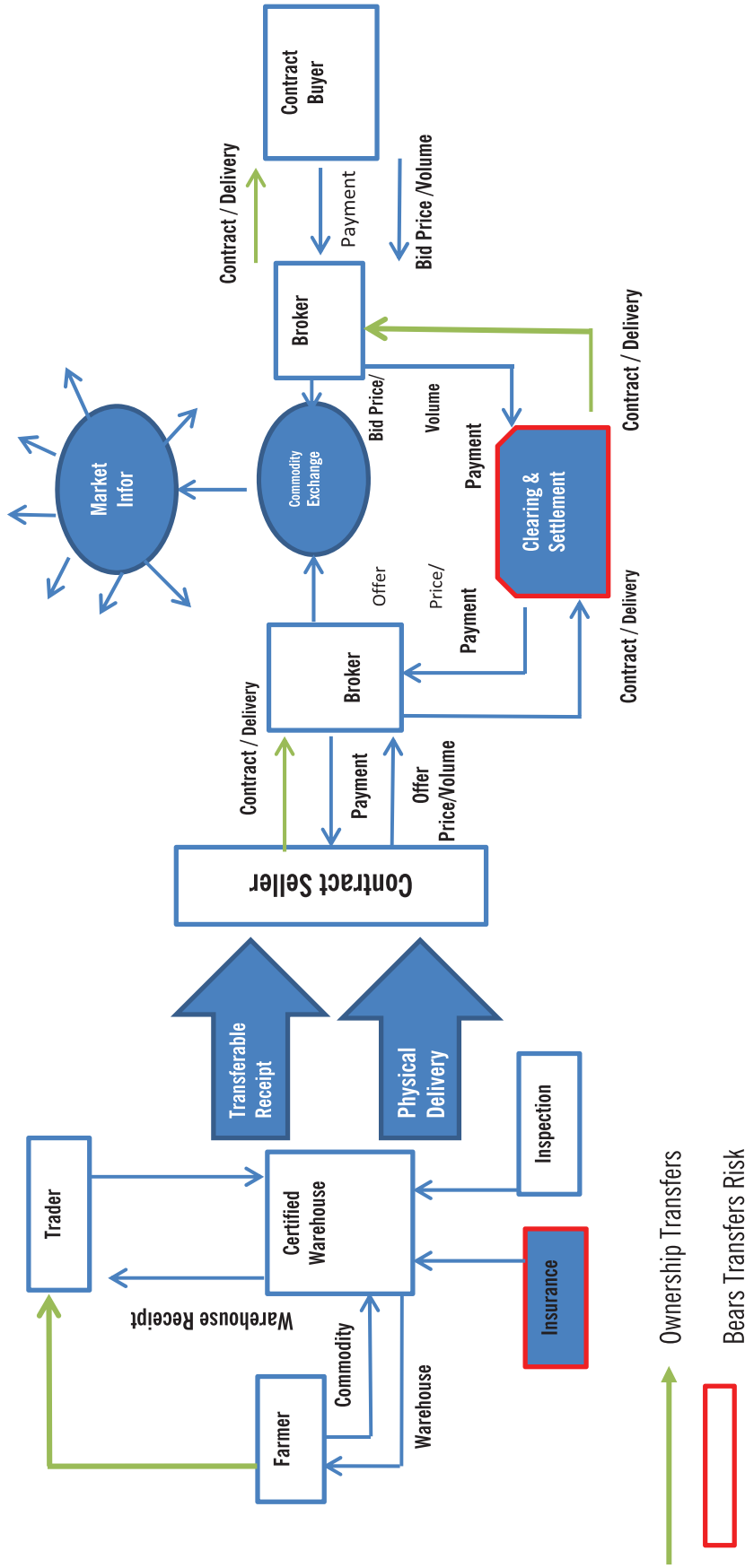


Source: Author’s presentation based on FAOSTAT and UCDA Statistics, 2018

it to the seller, guaranteeing that the payment will be made in the correct amount and on time. Third, a coffee auction provides a trading system which enables buyers and sellers to find each other when they need to trade. This trading system can be a physical trading floor where bids and offers are made in person by buyers and sellers (or their agents). It can also have an electronic trading platform which can be accessed remotely. Finally, a coffee auction disseminates information on prices as soon as trades are made to everyone in the market so that no one is at a disadvantage because they are missing market information. This price transparency helps everyone to plan their commercial actions better and thus make better deals.

The key players in a coffee auction system are illustrated in Figure 39. The ecosystem of a coffee auction practically starts with coffee producers bringing their produce to a warehouse facility licensed by UCDA to receive, manage and store coffee grades according to specified quality standards and rules prescribed by the authority. The licensed warehouse operator issues electronic warehouse receipts to the depositors, which can then be traded on a coffee auction. This receipting process is regulated and supervised by the Uganda Warehouse Receipt System Authority. This oversight role is achieved through regular monitoring and inspections of the activities at the warehouses and an all-risk insurance cover over the goods and bonding of the warehouse operator.

Figure 39: Structure of a Commodity Exchange



Source: Adapted from Feed the Future Enabling Environment for Food Security, 2017

The responsibility of selling the coffee or trading the receipt on the coffee auction lies with the producer. However, trades on the coffee auction are conducted through licensed brokers whose role is to the canvas directly for buyers and sellers, allowing the Exchange to remain independent. Their incentive in attracting as many buyers and sellers as possible is the commission they earn. The broker is expected to assure delivery of the coffee traded by ensuring that appropriate procedures are initiated for transferring title of the coffee to the buyer. They also guarantee payment to the seller by ensuring that buyers provide adequate funds in accessible accounts for settlement of deals.

While the majority of the requirements<sup>5</sup> required to set up a coffee auction in Uganda are already in place, UCDA is still bogged down at the establishment phase due to lack of the enabling legislation to legalise the coffee auction and its regulations. The Coffee Bill<sup>6</sup> is still “stuck” at the committee stage, two years after it was first tabled in Parliament. This process needs to be supported and fast-tracked. In addition to the services that will be provided by auction, there will be a need for specific sensitisation not only of the producers but also the other players listed above. Quality standards of speciality coffee will need to be agreed and harmonised between the markets and equipment and laboratories licensed by UCDA for a testing quality set up. The coffee auction will require a national network of efficient warehouses run by credible and technical operators to take samples, weigh, grade, and cup taste the coffee. They will also need to be trained and certified. There will also be a need for a supportive policy environment for auction trading to minimise any market distortions in the current liberalised coffee market environment.

#### **4.1.4 The Nairobi Coffee Exchange— What can Uganda learn?**

Following independence from the British in 1963, Kenya organised its coffee industry around a critical weekly government-run open auction system. This system

established a pricing hierarchy based on quality with more satisfactory lots fetching higher prices and increasing competition for the better-known estates and cooperatives and particularly for the AA grade beans. These grades which are similar to the Uganda Bugisu grades, are simply a measure of bean size, not of defect tolerance. AA is Bugisu AA; AB is Bugisu B with a tolerance for 10 percent.

Ahead of each auction, samples of each lot available from the producers are distributed to ‘members’ – of the Nairobi Coffee Exchange where they are cupped and sent on to their customers. The seller is then advised on the preferred lots by the buyer. An agent or broker then bids on behalf of the buyers at the auction to secure the necessary lots.

Since late 2006, some of the restrictions governing the compulsory auction platform have been relaxed. Farmers had hitherto complained that the auction system encouraged the existence of a long chain of intermediaries who erode the farmers’ income. Supporters of the auction, however, claimed that the auction promotes a price discovery mechanism. By 2018 the government had licensed over 70 independent marketing agents who were permitted to sell directly to foreign green coffee buyers and bypass the auction system to trade on the open market. This is the liberalised marketing system Uganda currently operates. It is important to note that the coffee bill allows both marketing systems to operate concurrently in Uganda and, without government interference.

It is also important to note that when buying through the auction system, it can be difficult to gather detailed information on the precise origin of the coffee. Traceability is becoming of increasing interest by speciality coffee customers worldwide. The situation is, however, changing as the market in Kenya – both through the auction and the newly licensed marketing agents – adapts to the needs and demands of the speciality coffee roasters and their customers.

The coffee auction system has been successful at

achieving the goal of promoting high prices for coffees in Kenya and buffering the instability of the prices fluctuating on the whims of the futures market. Kenyan coffee is physically graded before the auction, and many of the auction coffee lots are traceable down to the local washing station operated by a cooperative. The Nairobi Coffee Exchange is often viewed by neighbouring countries as an example to follow; its prices are regularly among the highest, pound for pound, for any weekly coffee auction anywhere in the world.

#### 4.1.5 Limitations and Possible Challenges of Auction trading of Coffee in Uganda

(a) **Attracting sufficient volumes of trades to make a coffee exchange financially viable.** The core role of a coffee auction is to provide a central trading platform for buyers and sellers to match their trades. This trading system results in what is known as “price discovery” which is the emergence of the competitively bid market price that reflects accurate supply and demand of a good at a particular moment. This is a crucial development away from the previous mandate for UCDA to set and publish minimum prices, which was scrapped in 1994 and replaced with UCDA publishing indicative prices. With the coffee exchange, real-time price discovery is easily.

However, to be a genuinely representative market price, the trading system needs a critical mass of sellers and buyers; otherwise the Exchange’s price is meaningless as an indicator of market supply and demand. In other words, if the exchange price represents only a small share of the actual market trading, then this price is not the correct market price. For this reason, UCDA should seek to integrate all trades within the coffee value chain players into the exchange trading system to encourage the formation of this critical mass of trading into a single trading system.

(b) **Weak linkages between the coffee exchange to the warehouse facilities.** While Uganda already has

a functional warehouse receipts system (WRS) which allows for licensing of warehouse owners who receive standardised coffee qualities and issue warehouse receipts as instruments that can be traded on coffee auction, the regulations therein must be adequately enforced to enable the auction guarantee delivery of the quality and quantity sold on the Exchange. The auction complements the WRS and collateral financing by not only providing a market and trading platform where speciality coffees can be sold to fetch premium prices for producers but also assuring secure and descriptive collateral, which can also be used by financiers to value their inventory linked “collateral” without the need for an export contract as is the current requirement.

(c) **State interference in the operation of the coffee exchange.** There are concerns that auction trading may interfere with the current liberalised marketing system. However, like in similar liberalised systems where these markets are operated, the coffee auction will be expected to work within the confines of detailed rules and regulations that will, among other things, require transparency and the absence of interference by third parties in the actual buying and selling of any coffee. In the proposed coffee bill, the auction marketing system, a voluntary marketing methodology is recommended to ensure that it does not replace the current liberal marketing system. Under this voluntary system, as long as the rules are followed, any coffee exporter can sell whatever they want to any roaster at any price, any time, and in any amount, and vice versa.

(d) **Formation of cartels among coffee buyers**  
There also exists fear among some sector players, especially those representing farmers and cooperatives that the current coffee buyers will form cartels to the disadvantage of farmers. This has been alleged in Kenya and Tanzania where farmers have reported that a small handful of international trading houses control the lion’s share of the auction volume and set prices to their detriment. In 2011, 76 traders were licensed in Kenya, but “only around 5 are really active.” This has caused

predictable collusion regarding prices. Condolifee *et al*, (2008) reported that «in the export stage, four companies — Neumann Kaffee, Volcafe, Ecom and Dreyfus controlled 40 percent of Kenya coffee exports. Similarly, four coffee roasters — Nestle, Kraft, Procter & Gamble, and Sara Lee held 45 percent of that market. The massive scale of purchasing power of these corporations is therefore deemed to create an imbalance at the negotiating table.

However, this is unlikely to affect the operation since trades on the coffee exchange will be through brokers or agents representing either the buyers and sellers and not the principals directly. Secondly, the advent of internet technology has enabled an entirely new type of auction, one that is based on an instrument, the warehouse receipt, created and traded electronically in which the buyers need not be in the same room or even on the same continent.

#### 4.1.6 Conclusion and Policy Recommendations

While commodity exchanges have led to market system transformations across many developed countries, their success has proven more elusive in sub-Saharan Africa. If UCDA and its implementing partners are to consider supporting investments in a coffee auction going forward, it is increasingly necessary to understand the underlying conditions for success, including conditions external to the auction, such as governance and market conditions, as well as those internal to the Exchange, such as operational design conditions and guarantees.

It is important to note that commodity auction systems will not necessarily create an environment where transformational market and governance conditions for the coffee industry will emerge for all the stakeholders. As stated in the document, various preconditions should be in place and experiences studied before investment in these marketing systems. Feasibility assessments are therefore needed to identify whether these conditions are in or can be put in place to inform UCDA and its implementing partners on the likelihood of success.

In light of the discussions and controversies raised by various stakeholders in the coffee industry on the proposed coffee bill, urgent policy steps must be taken to harmonise these conflicting interests.

1. **Sensitisation of coffee industry players on the coffee auction system** is an alternative to already existing systems but works within the liberalised coffee marketing system
2. **Government to institute a framework for coordinating the various actors, systems and legislation that will enable the regulation, establishment and operation of the coffee auction.** This may be in the form of a committee set up within UCDA.
3. **Partnerships should be sought with existing coffee auction systems, both regionally and internationally to leverage their expertise, experiences and speciality markets.** These include the Nairobi Coffee Exchange and the Moshi Auction in Tanzania. Particular emphasis in this regard should be placed on developing collaboration with the growing China coffee market, where Uganda already has links, especially with the Yunnan International Coffee Exchange (YCE).

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## Endnotes

- 2 National Coffee Bill 2018
- 3 Daily Monitor 30th July 2019; The Independent 29th & 30th July 2019a and The Nile Post 7th July 2019 and 8th Aug 2019
- 4 China Yunan Coffee Exchange 2014, Vietnam Commodity Exchange 2011, ad Singapore Robusta Coffee Contract 2011 respectively
- 5 A transparent trading system regulated by the Capital Markets Authority A reliable, cost-effective and fast clearing and settlement system; Uganda Warehouse Receipt Systems Authority
- 6 Ibid

## 4.2 INTEGRATING UGANDA'S DAIRY SECTOR IN THE GLOBAL VALUE CHAIN

Ronald Wabwire<sup>1</sup>



Photo by: aBi Development Limited

### 4.2.1 Uganda's Dairy Industry

According to the Annual Agricultural Survey 2018, at least 75 percent of 5.94 million agricultural households in Uganda keep livestock. Of the livestock households, at least 2.5 million are engaged in milk production from mostly indigenous breeds. Indigenous breeds account for 90 percent of the total national herd—estimated at 14.2 Million cattle (UBOS, 2018). Uganda has experienced steady growth with annual milk production growing from 460 million litres in 1990 to 2.5 billion in 2017 (DDA, 2018). Correspondingly, per capita consumption of milk has also primarily increased from 25 litres per person in 1986 to approximately 62 litres in 2017. Although it is still way below the FAO recommended standard of 200 litres per person per year.

Uganda is a net exporter of milk and the only one within the East Africa Community (EAC) regional block. In the last ten years, the value of milk and milk products exported from Uganda increased astronomically from USD 5 million in 2008 to USD 130 million in 2017 (DDA, 2018). However, the surge in Uganda's dairy exports to regional

markets specifically Kenya has attracted export bans. This was a wakeup call for Ugandan processors to look beyond the EAC regional market and also venture into more specialised high value products.

The biggest bottleneck to increasing her export volume into high-value markets is limited quality, which mainly arises out of the high somatic cell count and anti-microbial contamination.<sup>2</sup> The increasing demand for high-quality products and the need to ensure the safety of dairy products on the market, call for Uganda to build technical capacity in this area. This article, therefore, seeks to contextualise Uganda's dairy sector into the global dairy value chains. Specifically, it assesses Uganda's potential to penetrate high-value dairy markets and supply-side constraints. The article also shares a case study of how a particular country has successfully managed to penetrate global value chains and the lessons for Uganda's dairy sector.

### 4.2.2 Dairy Market Profile

Currently, the country's dairy processing capacity (installed capacity) stands at 2.7 million litres per day (DDA, 2018) and of the available capacity, only 66

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percent is utilised. While about 80 percent of the total milk produced is marketed, only 33 percent of the marketed milk is processed, and the rest is sold in the raw form. This implies that: (i) raw milk production is still low compared to processing capacity and ii) informal milk marketing is predominant. The informal channels are less regulated and characterised with various quality issues. This scenario portends a gap in processing volumes and calls for more investment in on-farm productivity enhancement technologies to boost milk volumes and adequate chilling infrastructure at milk collection centres to maintain the cold chain.

Globally, there is a growing demand for dairy products, fueled in part by growing consumer wealth and urbanisation, especially in South East Asia, China and Latin America. However, despite the growing trend, global dairy trade only represents 6.2 percent of global production and demand currently outstrips supply. In Africa, milk consumption is among the lowest in the world though it is on the rise. Annual per capita milk consumption in Africa is 37 litres, compared with the global average of 104 litres (World Bank, 2016). The low per capita consumption in Africa suggests an untapped demand for dairy products on the continent.

In East Africa, only 2 percent of production is traded beyond the region. However, between 2010 and 2017, the intra-regional dairy trade registered an eleven-fold increase (ICG, 2017). This impressive growth is partly attributed to capacity upgrading in the region's trade institutions, particularly the Single Customs Territory, 60 percent Common External Tariff on dairy products originating outside the region, and the harmonisation of regional standards for dairy products (Bingi and Tondel, 2015).

Until 2010, Uganda was a net importer of high-end dairy products such as butter, cheese and milk powders imported from Kenya and Europe. However, with the entry of Amos and Pearl Dairies into the domestic market, Uganda has become one of the few African countries that are leading

exporters of dairy products within the continent. Table 14 shows that Uganda's major dairy exports in the past three years have been UHT milk, milk powders (Whole Milk Powder & Skimmed Milk Powder), casein, whey protein, ghee and butter oil. Casein is exported to the USA, Ghee to India and other products markets to mainly EAC, COMESA countries, SADC, UAE, Nigeria, Syria, Japan, Oman, Nepal & Bangladesh. (MAAIF, 2019). From the export products indicated above, it has been noted that the product range is still limited and there is need to grow the product space to include high-value dairy products that are fortified, have less fat and are healthier to penetrate the lucrative markets in EU and Americas.

On the contrary, formal East African firms also struggle to reach consumers. Loosely connected networks of retailers, wholesalers, and transporters control about 80 percent of the dairy market, often buying milk from farmers and sell it directly to customers with little or no preservation or quality control measures (Makoni *et al.*, 2014)

**Table 14: Imports and exports of dairy products in the region (2018 - USD million)**

Dairy Product space	Milk and cream not concentrated	Milk and cream concentrated	Butter milk	Whey	Butter	Cheese and curd
<b>EXPORTS</b>						
<b>EAC Aggregate</b>	<b>53.7</b>	<b>22.7</b>	<b>0.7</b>	<b>0.0</b>	<b>3.7</b>	<b>0.4</b>
Kenya	0.6	0.2	0.2	0.0	0.6	0.3
Burundi	0.0	0.1	0.0	0.0	0.0	0.0
Rwanda	4.3	1.8	0.0	0.0	0.2	0.0
Uganda	48.9	20.7	0.5	0.0	3.0	0.0
Tanzania	0.0	0.0	0.0	0.0	0.0	0.0
DRC	0.0	0.0	0.0	0.0	0.0	0.0
South Sudan						0.0
<b>IMPORTS</b>						
<b>EAC Aggregate</b>	<b>81.7</b>	<b>43.7</b>	<b>0.5</b>	<b>0.2</b>	<b>4.0</b>	<b>2.4</b>
Kenya	73.6	28.4	0.0	0.1	2.4	0.9
Burundi	0.1	0.2	0.03	0.0	0.1	0.2
Rwanda	1.9	8.4	0.1	0.0	0.2	0.2
Uganda	2.9	0.9	0.1	0.0	0.4	0.4
Tanzania	3.2	5.8	0.3	0.0	0.9	0.8
DRC	2.3	20.3	1.3	0.0	2.4	3.4
South Sudan	0.2	0.3	0.2	0.0	0.0	0.1

Source: Authors compilation based on ITC Trademap database, 2020

### 4.2.3: Financing of the Dairy Industry

#### (a) Marketing Infrastructure

Since the 1990s, the Ugandan dairy sector has been experiencing continuous growth. However, the industry has mainly remained informal in terms of milk marketing. Out of the 2.5 billion litres produced annually, approximately 20 percent is consumed on-farm, and 80 percent is marketed. Of the marketed milk, 67 percent is sold through the informal sector, mainly as raw milk, and the remaining 33 percent is processed into value-added dairy products (DDA, 2018). Due to this, government through Dairy Development Authority (DDA) and other stakeholders such as Heifer, aBi development limited and SNV have been carrying out several activities to improve farm productivity and market access (SNV, 2018).

Despite the above initiatives, the infrastructure for rural milk collection remains mostly underdeveloped in most parts of the country except for the South-Western region and to a less extent in the Central region. The Eastern and Northern regions lack functional rural milk collection centres with cooling equipment. Besides, milk collection, milk transportation remains a bottleneck. Uganda has less than 100 insulated milk tankers used to transport milk from rural areas to the raw milk markets in the major urban centres (DDA, 2018). There is a need for the deliberate targeting of these milk sheds by strengthening the governance capacity of their farmer organisations and the provision of subsidised finance to enable them to access chilling and transport hardware. A classical model of Amul Dairy cooperative in India as highlighted in the case study below, and this could offer a solution to the dairy industry in Uganda.

## Box 9: A case study of India's Amul Dairy Limited

*Just like Uganda, demand for dairy products in India is likely to grow significantly in the coming years, driven by more consumers, higher incomes and greater interest in nutrition, especially in urban areas. Consumption of processed and packaged dairy products is increasing in urban areas. Because of the increasing competition from the private sector, several national and international brands have entered the market and expanded consumers' expectation of quality – although only among a small proportion of the population.*

*Amul Cooperative Model by the Gujarat Cooperative Milk Marketing Federation (GCMMF) is one of India's most successful supply chain model that has fully integrated into the global value chain. The model has a robust structure of milk procurement from village dairy cooperative societies, to district unions to the state milk federation and efficient system of supply of inputs at all the three tiers. In Gujarat, the price paid to farmers is based on fat content; there is regular testing of milk each farmer supplies. Amul markets a broad scope of items including milk powders, milk, ghee, chocolate, Shrikhand, Gulab Jamun, dessert, cream, making it the biggest sustenance brand in India with a yearly turnover in the region of USD1 billion (2006-07). Amul is the biggest exporter of dairy items in the nation, and it is accessible in more than 40 countries. The real markets are the US, West Indies, countries in Africa, the Gulf locale, Singapore, the Philippines, Thailand, Japan, and China. Amul impelled India's White Revolution, which made the country the world's largest producer of milk and dairy products.*

### **Lessons learnt from the Amul model**

1. *Strong organisational structures improve operational and business efficiency*
2. *Quality management is an essential aspect of maintaining brand power*
3. *A robust farmer extension delivery service and provision of other business development services are for preserving farmer loyalty.*
4. *Providing a support system to the milk producers without their agro-economic system and ploughing back the profits is a strong incentive.*
5. *A wide product range is necessary for increasing market share, both locally and internationally.*

## 4.2.4 Financing Access to Working Capital

Access to adequate and timely financial services for all actors in the dairy value chain is a crucial element for success in the agricultural sector in Uganda. Several efforts have been undertaken by state and non-state actors to advance finances for the dairy sector. Concerning donor support, in the last ten years, the industry has registered interventions from the aBi supported dairy value chain development, SNV Netherlands Development Organisation, the Gates-funded East Africa Dairy Development project, among others. These initiatives have recorded tremendous success and transformed the

sector by attracting significant private sector investments. For instance, DANIDA supported Agricultural Business Initiative (aBi) that have invested heavily in the dairy chilling and transportation infrastructure to improve market access. In 2013, aBi procured and placed 100 milk coolers with a chilling capacity of 500,000 litres per day and ten road tankers with a carrying capacity of 74,000 in south-western in Uganda. This investment alone changed the dairy landscape in the region. It dismantled the monopoly of Sameer Agriculture Limited that had taken over the bulk of the infrastructure inherited from the government-owned Dairy Corporation. Since then, the farm gate price has been steadily increasing from an average low of UGX 300 in 2013 to a maximum average of UGX

750 in 2017 (aBi, 2018). Despite these initiatives, there has been overconcentration in one milk shed, The South Western, creating a considerable surplus in one area and severe deficits in the rest of the country, especially in the Northern and Eastern region. There should be deliberate efforts by both government and development partners to reach the smaller milk sheds.

With regards to public sector intervention, recent efforts to address limited working capital in the sector has been the Agriculture Credit Facility (ACF). The ACF was established by the Government of Uganda in 2009 to facilitate the provision of medium- and long-term loans, on more favourable terms than is usually available from financial institutions, to agriculture commercialisation, agro-processing projects. Despite these efforts, the smallholder dairy farmers who form the bulk of the producers have been left out (Rinus, 2018). Table 15 reveals that only 5.8 percent of the total loan portfolio was advanced to smallholder farmers whose loan size is below UGX 20 million. The largest share (29%) of the portfolio is benefitting farmers who borrow at least UGX 300 Million—these are typically the large commercial farmers. Also, only 5.5 percent of the projects financed so far have been livestock-related (See Annex: Table C). The fund has mostly been accessed by medium to large scale farmers who have large cash flows and are well collateralised.

The smallholder dairy farmers who form the bulk of producers are excluded mainly because of the “*red tape*” associated with these institutions. Most of the

farmers in this category are illiterate and not well versed with the formalities of the banking institutions. The credit procedures for acquiring the ACF product or any agricultural product with the participating FIs is in itself a put-off for the majority of the dairy farmers.

Some of the stakeholders in this space especially the NGOs and civil society organisations have suggested that this facility should be rolled down to lower-tier Financial Institutions like Micro-Finance Institutions (MFIs) and SACCOs (Saving and credit cooperative organisations). MFIs and SACCO have flexible credit policies and directly interface with smallholder farmers. They understand the conditions and the needs of the smallholder farmer and lending is primarily based on someone’s social capital and trust among group members. They are also member-based organisations.

Considering private sector financing towards the dairy sector, SACCOs remain the most common source of financing. Dairy cooperatives use own funds, as well as funds from SACCOs and commercial banks to finance capital investments and operating expenses. Some of these SACCOs have established relationships with financial institutions to facilitate payments for milk intake as well as other inputs and services. Loans to the dairy sector constitute a tiny proportion of total loans for most formal financial institutions, except for SACCOs, which have a strong farmer base (SNV, 2017). Compared to commercial banks, SACCOs are better placed to serve dairy farmers and the cottage industry because of; closer vicinity; more flexible terms; and use of a mix of physical

**Table 15: ACF loans by size as at March 31, 2019**

Loan size (UGX)	Total Amount(UGX)	Refinance (UGX)	Projects (No)	Projects %
0-20million	571,170,990	359,985,495	34	5.8
Over 20 to -50 million	3,188,535,618	1,770,821,009	80	13.6
Over 50 to 100 million	13,328,071,999	7,555,574,552	164	27.8
Over 100 to 300 million	26,371,918,699	13,990,906,819	140	23.8
300,000,001 and above	348,449,480,855	174,408,100,788	171	29.0
Totals	391,909,178,161	198,085,388,663	589	100.0

Source: Bank of Uganda adopted from the Agricultural Finance Yearbook 2019

collateral and social pressure to recover. However, SACCOs charge higher lending rates than banks because they are constrained in their ability to raise long term deposits or even to attract funds from commercial banks or international/offshore sources of finance.

#### 4.2.5 Key Investments Needed and their Financing

##### (a) *Fodder industry/ markets*

Feed scarcity – the inadequacy of feeds in terms of quantity as well as quality- has been a long-standing technical constraint for productivity improvement of livestock in smallholder mixed farming, pastoral and agro-pastoral production systems in East Africa. In Uganda, smallholder producers own over 90 percent of the national herd, and the national average for milk productivity per cow is 5 litres per day. This is very low productivity to countries like Israel, where the national average is 40 litres/cow/day. Very high productivity in such countries is primarily due to superior dairy genetics and feeding regimes. Farmers in Uganda mainly depend on crop residues complemented with collections from and grazing of animals on communal land, forests, roadsides or fallow land in mixed crop-livestock systems and open grasslands in pastoral areas. Some producers also use small quantities of concentrates derived from milling byproducts of crops. Purchased concentrate and or fodder use is rare.

During the dry season, there is more than 50 percent decline in milk production, and in worst-case, significant animal mortality. The primary coping mechanisms by farmers during the dry season is to sell off excess stock as well as move animals to marshy areas around water sources like rivers and lakes. However, with increasing population and diminished wetlands, the option of shifting animals to other localities is no longer tenable.

Recently, some NGOs like SNV and Heifer supported a few fodder entrepreneurs in South Western Uganda to acquire fodder processing machinery. But these efforts were only limited to a few districts. There is need to develop fodder

markets, and agricultural entrepreneurs investing in fodder products need to be provided with low-interest loans to purchase equipment like feed mills, balers, slashers and compactors, to establish multipurpose commercial feed centres. **Some of the dairy cooperatives can take up feed production and processing as the sole enterprise instead of the usual milk chilling and marketing.**

**Dairy herd management should be separated from feed production and processing on farms if integration in the global value chain is to be attained.**

In advanced dairy economies like Israel, the Netherlands, Canada, etc., all farm feed requirements are outsourced. To achieve this in Uganda, **FIs need to develop unique concessional loan products tailored to feed companies. Multipurpose commercial feed centres can also be established and supported through dairy cooperatives to supply feed to members** using a tiered model as illustrated in Box 9 case study. Currently, the ACF could be handy in supporting these initiatives.

##### (b) *Processing and Handling infrastructure*

To increase milk volumes via formal channels, **added investment is required to improve the chilling infrastructure at milk collection centres. Farmer organisations and private firms should be supported to access affordable credit to improve the cold chain of milk storage and transportation.** It should be noted that the processing of high-value products requires high-quality raw milk. **Leading commercial banks need to use a credit facility under asset financing leasing where dairy cooperatives and individuals can assess this cold chain infrastructure in addition to the ACF product.**

Given the limited product space, **investment in the technology that is required to produce long life, high-value milk products like UHTs, Powders and Cheeses is necessary.** UHT treatment technology requires both a steriliser and an aseptic unit (for packaging the product). It is used for low acids (above pH 4.6) products such as UHT milk, UHT flavoured milk, UHT creams, soya milk and

other dairy alternatives. UHT treatment involves heating the product to over 135 °C. It destroys all microorganisms, making the end product suitable for ambient distribution. However, this process requires relatively high energy consumption but to minimise indirect heating using heat exchangers can be a remedy. What makes this method so cost-effective is that most of the heat energy can be recovered.

**Investments into low-cost evaporators and spray dryers for milk powder, especially among the medium – large scale processors** could be worthwhile for Uganda’s budding dairy industry. To finance these investments **Government can buy equity in the private firms to capitalise them given their social impact or venture capitalists should partner with private firms to pool resources** as is the case with Amos dairies.

c) *Quality based milk payment system*

**Investments through public-private partnership should be made to scale up a quality-based milk payment (QBMP) system as a tool to strengthen compliance with dairy quality standards.** By improving the raw milk quality, expansion into new export markets will occur, there will be an improvement in product shelf life, and production costs for most processors will go down. Food safety will improve, and general product quality will be enhanced. Introduction of a QBMP system will not change the price setting of milk, but only the pricing structure will change. **Bonuses for high-grade milk will be financed by the accruing benefits of value addition of the products and the reduced costs as a result of handling superior quality milk.**

QBMP System was initiated in 2016 with three processors in Mbarara, The Inclusive Dairy Enterprise (TIDE) project under SNV and the Dairy Development Authority (DDA). This pilot has been very successful, and there are various lessons to learn from it. However, the system calls for a robust extension structure and vigorous enforcement of milk quality standards. The supply chain is also burdened by a large number of intermediaries who need equipping

with basic laboratory kits able to carry out platform tests. Advanced parameters like chemical (total solids, antibiotic residues and adulteration) and microbial (total plate counts) traits can be carried out at milk collection, bulking and processor reception centres. **To finance this infrastructure, blended financing can be used through the processor, and the cost for the service checked off from milk sales at the time of payment.** Government through DDA can subsidise these items (as is the case with coolers) to ensure accessibility and affordability to concerned parties.

#### 4.2.6 Conclusion and Policy Recommendations

The achievements of the dairy sector notwithstanding, key stakeholders need to look at boosting on-farm productivity, increasing the volume of milk going through the formal channels, improving milk quality and safety, and increasing the product range to target high-end markets in the EU. Effective integration into the global dairy value chain will require more than improving livelihoods, infrastructure development and farmer institutional capacity building. As seen above the role of the private sector is very critical in growing the industry and **government should provide incentives in the form of tax waivers on necessary machinery to catalyse these investments.** There is a need to ensure that interventions address critical market failures within and across the chain to the broader business environment. Businesses that provide supporting functions, such as input supply, transport, storage and packaging, across the dairy sector will bring about a more sustainable transformation than current initiatives, e.g. operation wealth creation. The support functions will catalyse the demand and supply forces required to drive the sector.

#### The way-forward

Suggested intervention areas include the following among others:

- i. **Investing in productivity enhancement technologies**, especially quality dairy breeds

- suitable for the different milk sheds, improved feed resources and water for production.
- ii. Considering the limited supply of milk for processing, there is a need to adopt a **quality-based milk payment system (QBMPS)** as opposed to the current method that is based on volume. The QBMPS comes with dual benefits of promoting quality and guaranteeing premium payments for milk that meets local and international standards. In addition to QBMPS providing cash payments for milk deliveries in the formal channels will be a game-changer for processors. The present system of paying farmers twice a week is not attractive to smallholder farmers characterised with persistent cash needs.
  - iii. **Enhance access to UHT processing technology and spray dryers for high-value milk products** by providing affordable financing and incentives for the cottage, medium to large processors.

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## Endnotes

- 2 (SCC) (< 200,000 cells/ml recommended)

## Annex

Table C: ACF loan portfolio (disbursements as at March 31st 2019)

Funded Activity	No of Projects	%	Contribution in UGX		Total Disbursed
			PFI	GOU	
On-Farm Activities	327	62.2	39,002,176,313	41,035,042,938	80,037,219,251
Working Capital for Grain Trade	35	6.7	35,908,870,000	35,908,870,000	71,817,740,000
Livestock	29	5.5	2,798,699,900	3,076,299,900	5,874,999,800
Post-harvest Management	37	7.1	11,556,990,863	12,164,133,263	23,721,124,126
Agro-processing /Value Addition	93	17.7	74,571,564,307	75,055,154,447	149,626,718,754
Other (Block Allocation)	4	0.8	154,100,000	302,900,000	457,000,000
<b>TOTAL</b>	<b>525</b>	<b>100.0</b>	<b>163,992,401,383</b>	<b>167,542,400,548</b>	<b>331,534,801,931</b>

Source: Bank of Uganda adopted from the Agricultural Finance Yearbook 2019



## 4.3 THE USE OF BLENDED FINANCE FOR AGRICULTURE AND FOR AGRI-SMEs (ASMEs)

Bettina Prato<sup>1</sup>

### 4.3.1 Introduction

Blended finance is attracting much attention these days as an approach to mobilising commercial finance to support investments that contribute to sustainable development. Different actors use the term in different ways. For instance, the Organisation for Economic Cooperation and Development (OECD) understands it as the “*strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries,*”<sup>2</sup> with particular reference to the United Nations Sustainable Development Goals (SDGs). Many Development Finance Institutions (DFIs) and International Financial Institutions (IFIs) understand it as combining concessional finance with own account finance or other sources of commercial finance “*to develop private sector markets, address the SDGs, and mobilise private resources.*”<sup>3</sup> Others have different definitions, but for everyone blending is a capital structuring approach designed to attract commercial capital to investments or financial vehicles with high potential development impact but which face unfavourable risk/return features. Capital with a high tolerance for risk plays a crucial role in this context, as it is used to de-risk, redistribute risk, or increase the likely returns of a particular vehicle or transaction.

Based on the deal database of Convergence<sup>4</sup>, at least USD 15 billion was allocated to blended finance in 2018. Although this represents a small share of annual development finance, the figures for 2018 are almost three times the figure for 2007.<sup>5</sup> Furthermore, about one-fifth of transactions recorded between 2010 and 2018 were in agriculture and just over one-quarter of the “*target beneficiaries*” were small farmers. Also, the

2019 State of Blended Finance report noted a growing interest in blending in food and agriculture—with areas of investment with extensive business opportunities<sup>6</sup> co-existing with multiple sources of risk for all actors involved – from farmers to providers of commercial finance. Although agriculture may appear a natural fit for blending, there is no agreement on what is the appropriate scope for application of blended solutions to mobilising private finance in the sector, including mobilising finance for investments by ASMEs. This question was the focus of a joint research and outreach project by SAFIN and the OECD in 2018-2019, which informs this article.

### 4.3.2 Rationale for Blended Finance in the Agricultural Sector

The development significance of agri-food systems can hardly be overstated, even though the role of agriculture regarding economic growth, social inclusion and environmental sustainability varies at different stages of rural transformation.<sup>7</sup> As extreme poverty remains more prevalent in rural areas and 2-3 billion people depend on small-scale family agriculture for their livelihoods<sup>8</sup>, the importance of the sector for SDG1 and SDG2 is obvious. Moreover, the industry is a significant employer, has a significant environmental footprint, and underpins a wide range of social and cultural practices and institutions.

Following the food price spikes of the late 2000s, there was renewed interest to invest in the sector. Often this included a commitment to promoting private finance and investment. In the African context, for instance, promoting investment finance in the industry is the second commitment in the 2014 Malabo Declaration.<sup>9</sup> Meanwhile, the growing and more sophisticated demand for food and other agricultural goods across regions – have drawn attention from a range of private investors,

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from local and international agribusiness companies to private financiers.<sup>10</sup> Agricultural markets are experiencing significant changes in many emerging economies, and SMEs operating in production, input provision, aggregation, processing, and market distribution have often played critical roles in these processes. For instance, the 2019 Africa Agriculture Status Report indicates that about 80 percent of the population of processors and traders that have been mainly driving the transformation of the sector in recent years are SMEs.<sup>11</sup>

Despite growing interest from both entrepreneurs and financiers, access to finance by agri-enterprises, generally remains inadequate.<sup>12</sup> Lack of sufficient funds occurs for both debt and other financial products that are necessary to meet short and long-term investment needs – including equity, insurance, or leasing products. In a report commissioned by the SAFIN network in 2019, Havemann lays out the main types of risk that confront providers of agricultural finance (see Table 16),<sup>13</sup> identifying some commonalities despite the different exposure and vulnerability of different types of providers to specific risks, as well as the fact that risks are market, value chain, and generally context-specific. Three key points emerge from

this analysis: 1) several risks are either sector-specific or particularly prevalent in the sector—which can discourage the flow of private finance, particularly under the heading of “*business risk*”; 2) many types of business risk in the sector are underpinned by structural problems in agricultural markets<sup>14</sup>, and by inadequate information systems connecting agricultural operators to financiers; and 3) due to structural issues, many types of risks can best be addressed through different complementary tools – including, but rarely if ever limited to, blended finance. The analysis further suggested that business model, agronomic and price (or market) risks are those that most often lend themselves to blended solutions, in a broader package of remedial actions.

Many of the above risks also apply not to direct finance providers (and to agricultural market operators) but to investors who may provide equity, debt or other forms of capital to direct lenders. Both types of actors also face limited returns, high transaction costs associated with origination and monitoring of investments, fragmentation and small size of investment opportunities and limited options for exit. These challenges are due in part to the characteristics of many of the SMEs operating in the

**Table 16: An overview of types of risks that financial investors in agriculture may face**

Macroeconomic risks	Currency risk	Decline in the value of an investment due to adverse currency movements
	Interest rate risk	Decline in the value of an investment due to changes in global and local interest rate environments
	Political risk	International and local political risks, e.g. on agricultural trade, sanctions
Business risks	Business model	Risks from underlying business model, including new un-tested business models, includes supply chain risks introduced through dependency on other value chain partners, e.g. output (off-taker) and input price risk
	Agronomic	Reduced or unpredictable harvest (quality / quantity) due to agronomic practices, i.e. production and technical risks
	Natural hazards	Unpredictable weather events, earthquakes, landslides etc.
	Commodity price	Adverse movements of commodity prices

Source: Adapted from SAFIN (2019)

sector. The difficulties in financing ASMEs are documented in recent analyses on the portfolios of members of the Council on Smallholder Agricultural Finance, a group of impact-minded lenders operating in the sector.<sup>15</sup> High costs and limited returns – which of course vary depending on value chain and context – can also be part of the rationale for blending, but blending alone is unlikely to be the only response to these as well, in the absence of measures to improve either or both the “bankability” of ASMEs and the market and information systems in which they and private investors operate.

### 4.3.3 Case Studies on the Scope of Application of Blended Finance in the Agricultural sector<sup>16</sup>

Blended finance is not entirely new in the agricultural sector. Most countries have a history of using public finance to support private or semi-private financial institutions to integrate agriculture or smallholder farmers in particular in their portfolios. Such support is also part of the history of many international development finance providers. While not all such interventions may precisely fit current definitions of blended finance, they often feature a combination of public capital with assets owned by financial institutions, through guarantees, soft finance for dedicated credit lines or financial inclusion schemes, etc. What is relatively new today is both a sense of explicit intentionality around mobilising private finance (and doing so as efficiently as possible) and a sense of urgency, given shrinking aid budgets and limited domestic resource mobilisation capacity in many countries vis-à-vis the magnitude of the 2030 Agenda.<sup>17</sup> Explicit intentions about efficiently mobilising private finance have become evident among development institutions with long-standing portfolios in agriculture or concern about food security. Examples include the recent work of the European Union on blended finance and agriculture and the decision by the IFAD to develop dedicated instruments to co-invest or blend concessional resources with private and commercial capital.

Against this background, the case studies gathered by SAFIN and OECD offered examples of blending to unlock international commercial finance for projects in the sector.<sup>18</sup> The cases documented three main types of contexts – admittedly, not the only possible contexts – where a strong rationale for blending was identified by one or more initiating actors. These were generally providers or facilitators of deployment of concessional finance with explicit intentionality related both to development impact and efficiency of mobilisation of private finance.<sup>19</sup> In a few cases, market gaps or problems underpinning the primary rationale for blending were squarely addressed through the blended scheme or operation or alongside it. The three observed types of context and motivations are as follows:

*First – blending as part of strategies to address broad failings in the agri-finance ecosystem:* The context here is a mix of structural weaknesses in agricultural value chains and capacity gaps or conflicting priorities in the agri-finance system. The strategies in which blending plays a role revolve around schemes to de-risk or reduce transaction costs for a broad set of operators both in agricultural finance and in the value chains. Case studies examples are FINGAP in Ghana, PROFIT in Kenya, PASS in Tanzania and NIRSAL in Nigeria. In each of these experiences, business model risks facing financial institutions (and to a lesser extent technical assistance providers and ASMEs themselves) have been the main target of blending, in the form of schemes empowered to deploy a set of financial and non-financial instruments in tandem or sequence. The instruments funded through each project vary depending on need, theories of change, and the preferences of initiators. For instance, pay-for-result incentives directed to both financial institutions and technical assistance providers played a critical role in the USAID-funded FINGAP programme.

In contrast, guarantees underpinned by DANIDA funding have played a key role in PASS Tanzania. With different measures of success, all these initiatives have documented some impact both on the mobilisation of capital from targeted commercial finance providers and on ASME

access to finance. However, in all cases, the blended scheme has been one element (sometimes the central element, as in the case of NIRSAL) in a broad strategy. As similar approaches emerge in new countries, mainly in Africa, it is of critical importance to draw lessons from different models and to assess the specific contribution of blending both to mobilisation and development impact.

*Second – blending to build institutional capacity or de-risk new product lines:* This second type of situation is one where a specific agri-finance institution or group of institutions faces business model risks in deepening engagement with ASMEs or smallholders, and to meet particular needs (e.g. financial products for climate resilience, long-term investment capital, etc.). In such cases, blending can take place within the capital structure of the target financial institution, in a dedicated facility or system (e.g. a guarantee or risk-sharing facility), or around a specific product. It can also take place alongside a capital structure in the form of technical assistance – depending on how we define blended finance. Within our set of case studies, examples included the development of the ASME finance portfolio of CARD SME Bank in the Philippines, supported by the International Finance Corporation, the development of climate resilience financial products for non-bank financial institutions by Rabobank and USAID in India, and a guarantee programme for community-based non-bank financial institutions by FIRA Mexico. In all these cases, the main actors or sponsors of the blended intervention have set out to document the impact on access to finance by a target population in the short term. In the future, the key is to also track medium-term effects on the capacity of targeted financial institutions to engage with the ASME market when blending reaches its conclusion, as well as possible broader market impacts of this approach.

*Third – blending to de-risk investments that open up new product markets.* The third type of situation documented in the SAFIN-OECD initiative concerns blending to address risks faced by companies or other value chain actors when developing new business models around untested

products for which markets do not yet exist. In the case studies, this was exemplified for instance by the investment of a mix of concessional and semi-concessional capital and technical assistance by Inter-American Development Bank with private sector partners in Brazil, to develop a new value chain for *macauba* (an oilseed alternative to palm). A second example featured investment of quasi-equity by the International Financial Corporation into a hazelnut company scheme in Bhutan. A third example was the development of a local blended “solidarity fund” for the development of a chamomile value chain in Paraguay, initiated by Fundación Capital – a specialised non-government organisation – with local partners including government and private investors. In all three examples, blending has been designed with a time-bound strategy to recognise that the process of development of new value chains with high expected development impact entails risks that may deserve concessional development finance if a reasonable expectation of future market returns is also there. Worth noting is that in all the cases blending was also used as part of a broad set of interventions addressing both demand and supply-side issues, in two of the cases even with an explicit logic of seeking to secure financial exit. As is true of the two rationales mentioned above for blending, here too there remains a robust agenda of research to identify better the contribution of blending to both financial mobilisation (short and medium-term) and inclusive market development around a new product.

#### 4.3.4 Conclusion and Way Forward

The above draws from a research effort that is still underway, with many issues yet to be explored. As noted, some of the points where further research is much needed include:

- i. Developing concrete approaches to establishing the rationale for blending, to which the above identification of three possible types of contexts that may inform a decision about such motivation can represent one contribution;
- ii. Taking a medium and long-term perspective to understand the contribution of blending both

- to the mobilisation of commercial capital and development impact, given that in most contexts blending in agriculture is used to address risks resulting from long-standing problems in how agricultural markets and value chain work and how data and information relevant to investment decisions are generated and used;
- iii. Understanding the specific contribution of blending within packages of measures to address risks, transaction costs, and low return prospects. As noted, this mainly includes the contribution of blending in broad schemes designed to address overall market weaknesses, like those in the first group above.

- Africa alone. At <https://pathways.rafflearning.org/>
- 13 T. Havemann (2019). Landscape report: Blended Finance and Agriculture. SAFIN Working Paper. At <https://www.safinetwork.org/resources>.
- 14 Examples may include inadequate or conflicting regulations, weak property rights, weak contract enforcement, lack of transparency around price formation, etc.
- 15 See in particular USAID (2018). CSAF Financial Benchmarking. At: [https://www.agrilinks.org/sites/default/files/usaids\\_csaf\\_financial\\_benchmarking\\_final\\_learning\\_report.pdf](https://www.agrilinks.org/sites/default/files/usaids_csaf_financial_benchmarking_final_learning_report.pdf).
- 16 This section of the article draws upon a collection of case studies gathered by SAFIN and OECD in the summer of 2019. The case studies are of forthcoming publication at [www.safinetwork.org/resources](http://www.safinetwork.org/resources).
- 17 This sense of urgency was clearly articulated in the 2015 Addis Ababa Action Agenda and it has marked all editions of the United Nations Financing for Development Forum, though without little focus on agriculture.
- 18 The case studies do not include examples of blending within facilities or platforms that issue products to raise capital from investors, e.g. in the form of green bonds for agricultural investments. This is an area of research that SAFIN intends to pursue in the coming months.
- 19 Depending on the case study, initiating institutions included second tier financial institutions like FIRA Mexico, a bilateral aid agency like USAID or DANIDA, an NGO like Fundación Capital, an international financial institutions like IDB or IFC, and others. In some cases, the national Central Bank also played an early role in the decision to develop a blended structure – this has also been the case in most if not all examples of sector-wide risk-sharing platforms such as NIRSAL, which are emerging across Africa.

## Endnotes

- 2 The definition is taken from OECD (2018). OECD Blended Finance Principles for Unlocking Commercial Finance for the Sustainable Development Goals. At <http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/OECD-Blended-Finance-Principles.pdf>
- 3 DFI Working Group on Blended Concessional Finance for Private Sector Projects Joint Report, October 2018, at [https://www.ifc.org/wps/wcm/connect/3aaf1c1a-11a8-4f21-bf26-e76e1a6bc912/201810\\_DFI-Blended-Finance-Report.pdf?MOD=AJPERES&CVID=mpvbN7c](https://www.ifc.org/wps/wcm/connect/3aaf1c1a-11a8-4f21-bf26-e76e1a6bc912/201810_DFI-Blended-Finance-Report.pdf?MOD=AJPERES&CVID=mpvbN7c)
- 4 Convergence is a global network dedicated to improving knowledge and practice in blended finance.
- 5 This and the other data from Convergence in this paragraph are from Convergence (2019). The State of Blended Finance 2019. At <https://www.convergence.finance/resource/13VZmRUiK96hqAvUPk4rt/view>.
- 6 For instance, a 2016 study commissioned by the Business and Sustainable Development Commission estimated that annual investments of around 320 billion dollars between then and 2030 could unlock over 2.3 trillion dollars in business opportunities in food and agriculture by that date. See Business and Sustainable Development Commission and AlphaBeta (2016). Valuing the SDG Prize in Food and Agriculture. At <http://s3.amazonaws.com/aws-bsdc/Valuing-SDG-Food-Ag-Prize-Paper.pdf>.
- 7 IFAD (2016). IFAD Rural Development Report: Fostering Inclusive Rural Transformation. At <https://www.ifad.org/en/web/knowledge/publication/asset/39240288>.
- 8 Woodhill, J., Hasnain, S. and Griffith, A. (2020). Farmers and food systems: What future for small-scale agriculture? At: <https://www.foresight4food.net/wp-content/uploads/2020/01/Farming-food-WEB.pdf>
- 9 “Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods,” at <https://www.nepad.org/caadp/publication/malabo-declaration-accelerated-agricultural-growth>
- 10 At the international level, growing interest is also documented among impact investors in the annual surveys of the Global Impact Investment Network (GIIN), e.g. GIIN (2019). Annual Impact Investor Survey 2019, at <https://thegiin.org/research/publication/impinv-survey-2019>.
- 11 Alliance for a Green Revolution in Africa (2019). African Agriculture Status Report: The Hidden Middle. At <https://agra.org/wp-content/uploads/2019/09/AASR2019-The-Hidden-Middleweb.pdf>.
- 12 For instance, in Pathways to Prosperity: 2019 Rural and Agricultural Finance State of the Sector Report, experts at ISF Advisors and the Mastercard Foundation RAF Learning Lab find that of roughly 240 billion dollars of financing needs of small-holder households in South and Southeast Asia, sub-Saharan Africa, and Latin America only 70 billion dollars were being met at the time of publication (2019), and most of these by value chain actors. The authors also cited an assessment by Dalberg and KfW of a 100 billion dollars lending gap for agri-SMEs in sub-Saharan

## 4.4 ADVANCES IN AGRICULTURAL RISK MANAGEMENT IN UGANDA

Julius Segirinya<sup>1</sup>



Photo by EPRC

### 4.4.1 Introduction

Agricultural producers in Africa are routinely faced with risks that threaten on-farm production. Risk denotes a potential negative impact on an asset or some characteristic of value that may arise from some present process or future event. For example, at the time of investing, farmers are not sure about the harvest or the prices that they will receive for their produce. This form of uncertainty limits the farmers' ability to make proper plans. Without the incentive to make profits—which is a significant motivation behind most business undertaking—farming becomes an unattractive investment that people get involved in only for lack of better options. Consequently, a large part of the population is trapped in a low investment-low production cycle with production maintained at below-average levels over considerable periods. The low productivity underscores the critical importance of an integrated approach to agricultural risk management that goes beyond the individual farmer to all other stakeholders, including financial institutions, NGO and governments alike.

### 4.4.2 Overview of Agricultural Risks

Agricultural risk management is of particular interest to rural financial institutions and other financial institutions which lend to agriculture because it assures them that the high agricultural lending risks can be mitigated. The principal credit risks of agricultural lending are quite similar to those of micro and small business enterprises (MSEs). They spring from the high degree of informality of the potential borrowers and the lack of traditional collateral. As a result, there are severe information asymmetries<sup>2</sup> coupled with high costs of both screening and monitoring. This expensive undertaking is exacerbated by small loan sizes made to smallholder producers who comprise the largest number of farmers worldwide.

The two main agricultural risks that farmers and financial institutions have to grapple with include production and price risks. Production risks in agriculture stem from the high variability of production output as a result of external factors like weather, pests and diseases. Market price risks are more pronounced in agriculture than in other economic activities due to output price uncertainty and volatility in local, regional and international markets. Both risks are covariant<sup>3</sup> and are, therefore, difficult to manage.

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It is important to note that production risks and price risks are correlated since bumper harvests often lead to a price collapse, and the reverse is true.

In addition to this, the agricultural sector in developing countries is more prone to political risk, which comes in the form of political interference because of the strategic importance of agriculture for food security. The problem with political risk is that its frequency of occurrence and severity can neither be assessed nor predicted, making it difficult to transfer or manage this type of risk. Many financial institutions consider the political risk to be too high that they avoid lending to farmers, especially in areas with a history of failed government credit programmes.

Beyond the above risks, agriculture is affected by numerous other risks which may be individual or idiosyncratic.<sup>4</sup> The focus of this article is on three risks of, i.e. institutional capacity risk, limited collateral risk and farm management risk. Concerning institutional capacity, many financial institutions have not acquired sufficient technical ability to determine the creditworthiness of farmers partly because agricultural lending is relatively new and is still an evolving area of financing. On the other hand, farm management risk relates to the lack of technical skills required for proper management of the farming business. Variables such as weather, price and disease that most farming businesses face can be mitigated well if the farmer possesses adequate technical abilities to run the business and make decisions based on profitability. Finally, collateral limitation risk, on the other hand, is the situation where the farmers are unable to meet the collateral requirements of financial institutions. Collateral limitations particularly hit smallholder farmers due to their narrow asset bases and absence of formal collateral ownership.

#### **4.4.3 Understanding Agricultural Risk Management**

Risk and uncertainty are inherent to agriculture with smallholder farmers' livelihoods being especially

vulnerable. According to the IFAD Platform for Agricultural Risk Management (PARM) is an innovative approach for improving the resilience of vulnerable rural households and leveraging finance and investment.<sup>5</sup>

Whilst farmers have always been faced with risk; farming has over time become riskier because of liberalisation, globalisation and climate change. As such, a casual approach to agriculture, even for household food sufficiency purposes, is no longer tenable. Farmers need to acquire skills, not only in basic agricultural production practices but also in farm business management and agricultural risk management. It is worth noting that skilled farmers do not usually get involved in high-risk farming enterprises. Nonetheless, the high profits associated with such high-risk enterprises serve as an incentive for farmers to get involved. Good risk management practice consists in anticipating problems and doing the necessary planning to reduce their adverse effects.

Agricultural risk creates a situation where the outcome of a farming input is not assured, but the probabilities of the alternative outcome are known and can be estimated. In seeking to manage risks, it is thus always important to understand the risk event(s), the risk exposure and the cause(s) of the risk. The options for mitigating the risks include a) accepting the risk, b) avoiding or eliminating the risk, c) transferring the risk to another party, and d) controlling the risk.

#### **4.4.4 Traditional Approaches to the Management of Agricultural Risks**

Financial institutions have traditionally managed agricultural credit risks by employing certain "passive" institutional risk management practices and also by depending on farmers for on-farm risk management. The failure of a farmer to manage their enterprise according to standard farming business practices results in low yields, and this affects the lender through the farmers' inability to make loan repayments on-time. Some financial institutions endeavour to manage this risk by selecting

experienced farmers with demonstrable farm production skills. Table 17 outlines some traditional agricultural risk management approaches commonly used by farmers and lenders:

**Table 17: Traditional agricultural risk management approaches**

Farmers	Drought resistant varieties, disease-resistant varieties, crop diversification, channel irrigation practices, timely vaccination & deworming of animals, timely planting, fertiliser application, acceptable post-harvest handling practices
Financial institutions	Selection of farmers with technical skills, robust assessment processes, strategic collaborations, portfolio diversification, loan guarantee schemes, loan rescheduling, well-defined target group, rigorous appraisal of repayment capacity

Source: Author

#### 4.4.5 Innovative Approaches to the Management of Agricultural Risks

Innovative risk management approaches are proactive initiatives adopted by financial institutions to manage agricultural risks and reduce the risk exposure in financial institutions that lend to agriculture. Outlined below are some of these approaches;

##### (a) Corporate Governance and Monitoring of Agricultural Information

A sound risk management system in a financial institution includes a board of directors and management team that understands current issues, trends, and overall conditions in agricultural markets. Monitoring of various indicators such as commodity prices, production costs, weather information, etc., can be useful for managing agricultural risks in financial institutions. The tracking of commodity price movements using the information provided by different platforms such as FEWS NET can help predict future prices with reasonable accuracy.

##### (b) Index-based Agricultural Insurance

Agricultural insurance can protect financial institutions from covariate risks, thereby enabling them to increase their exposure to agriculture. Over the years, different approaches to the provision of agricultural insurance have been tried with limited success. Traditional crop insurance programs based on individual on-site loan assessments are beset by high transaction costs, asymmetric information and moral hazard.<sup>6</sup> As a result, premiums tend to be high, and they have to be subsidised even in developed countries. Early in the 2010s, a newer approach to the provision of agricultural insurance (known as index-based weather insurance) was introduced in which indemnity payments are triggered by deviations from an independently variable indicator (such as rainfall) that has a high correlation with farm yields. Unlike traditional insurance programs, index-based crop insurance is not subject to manipulation. The major obstacle to its implementation has been the lack of localised weather stations. This challenge is circumvented by the use of satellite weather information to obtain data on the proxies used to estimate crop losses and subsequent payouts to farmers.

##### (c) Partial Credit Guarantees

Partial credit guarantees (PCGs) are instruments which lower the risk on loans provided by financial institutions to individual borrowers through an agreement with a third party to partially guarantee or “share the risk” of defined types of loans. The third-party may be a government, donor, NGO, international financial institution or other parties. PCGs can encourage financing to the agricultural sector, especially if they are piggy-backed with technical assistance. One of the challenges in the past, for instance, was that organisations provided full credit guarantees that got plagued by all sorts of moral hazard problems. In the recent past, loan guarantee schemes have been redesigned with a reasonable degree of success. ABI Trust in Uganda is a case in point, with partial loan guarantees offered sustainably to different financial institutions.



**(d) Agricultural Value Chain Financing**

The approach to financing of the agricultural sector through value chains is a relatively new concept. Rather than relying on the creditworthiness of the individual farmer per se, value chain financing builds on business relationships within the value chain. Security models used are structured in such a way that the financial institution uses buyer contracts as loan security. The presence of a strong buyer in the value chain helps to manage risks of limited market access and price volatility, especially if the farmer has an off-take agreement with a trusted agribusiness buyer. Default risk is further lowered if the agribusiness buyer pledges to channel the farmers' payments through their accounts in the financial institution. Agricultural value chains also help to manage production risks by accessing information within the chain about the capacity of the farmer to produce. Such information is usually available from the buyer, extension agents or other players within the value chain.

**(e) Warehouse Receipts Financing**

From a finance perspective, warehouse receipt systems help to improve credit accessibility and reduce price risks. A warehouse receipts system can offer farmers a choice to either sell or store crops under proper conditions and benefit from price increases which occur later.<sup>7</sup> The product in-store can be used as loan collateral so that farmers access funds before the product is sold. It is important to note though that warehouse receipts financing provides only post-harvest finance, and it does not address the issue of demand for working capital to finance planting and other production activities. Warehouse receipt systems are essential for managing commodity price risk and lowering default risk since loan proceeds can be recovered from the produce that is collateralised in the warehouse.

**(f) Commodity Exchange Capacity**

Commodity exchanges essentially price discovery systems which improve the marketing efficiency of agricultural products and thereby open up new production and marketing opportunities for farmers. A commodity exchange reduces price risk faced by producers and

buyers by providing farmers with more certainty through the provision of better information on future prices, thus enabling them to make better management decisions. The commodity exchange in Uganda was more active almost ten years ago, but recently it is not being recognised as a significant stakeholder in the agricultural commodities market. As such, the Uganda Commodity Exchange (UCE) be empowered to function well in the commodities market.

**(g) Cash Forward Contracts and Minimum Price Contracts**

The cash forward contract or fixed-price contract is a financial agreement between the buyer and the seller whereby the seller pledges to deliver a specified commodity at a specific price and at a future point in time. The contract allows producers to establish a price for future delivery of their produce. These contracts only work well when crops are large. In Uganda, the World Food Program has used forward contracts to procure large amounts of maize from farmers in Kapchorwa. They are suitable for mitigating price risks and creating confidence and certainty among farmers. Minimum price contracts are also a type of forward-contract, but they only guarantee the seller a minimum price at the delivery of the agricultural produce. This type of arrangement is used with commodities to protect producers from price fluctuations in the market. Minimum price contracts are useful for mitigating price risks since a specific floor price is guaranteed. Their usage is commonly seen in cooperatives and other farmer groupings which may use them informally.

**(h) Mobile Payments Systems**

Financial technology offers an indirect means of reducing credit default. In particular, innovations, including mobile payment services, have strong potential to increase outreach in distant rural areas which many financial institutions are reluctant to serve. High transaction costs of formal credit are caused by high opportunity costs of lost working time and the long distances that rural borrowers have to travel to make loan payments at the branch. In addition to increasing the effective interest rate, high transaction costs tend to discourage

rural-based borrowers from making on-time payments, thereby resulting in default. Mobile payment systems benefit farmers by allowing them to make payments to the financial institution directly from their mobile-based phone account instead of having to travel to the branch. Any factor that reduces the cost of a financial transaction contributes to a reduction in the risk of default.

#### (i) Digitisation of Agricultural Loan Appraisal Process

The design of agricultural loan appraisal process is aimed at mitigating agricultural risks. However, long duration of loan appraisals often results in delayed disbursement to clients, which in turn affects their ability to catch up with agricultural production schedules/seasons. In addition, loan officers are prone to making errors in the loan appraisal process, which also increases the risk of default. To this end, various FINTECH solutions have been developed, including loan appraisal apps. These apps have agricultural loan appraisal and analysis processes built into them. They are loaded onto devices (tablets) and used for the collection of data in the field. Simultaneously, the data is analysed by the app so that the officer can produce a loan assessment report by the end of the field trip. The apps also have inbuilt features which enable the officer to collect accurate data, thereby reducing process risks that increase the likelihood of default.

#### (j) Modern Irrigation Practices

The benefits of irrigation as a risk management tool in agriculture are well known. Targeting of farmers with access to irrigation significantly reduces the risk of rainfall variability, thereby ensuring more stable yields. Efficient irrigation systems and water management practices have a direct bearing on-farm productivity and profitability. Farmers who practice irrigation can maintain production without relying on rainfall seasons. Off-season production of crops allows farmers to harvest during periods of scarcity, thus fetching reasonable prices for their products. Smallholder farmers in developing countries use mostly channel irrigation methods where water flowing in valley streams is directed to pass through channels built

around farming plots. Whereas it is affordable for low-income farmers, channel irrigation is wasteful in terms of water conservation, and it can only be used by farmers whose land is located in valleys with all-year-round streams. Access to modern, efficient irrigation systems (e.g. drip irrigation) enables farmers to utilise meagre water sources to supply sufficient water for production. Irrigation virtually eliminates the risk of crop failure due to weather variations.

#### (k) Greenhouse Agriculture

Greenhouse farming involves a process of cultivating crops in a controlled, greenhouse environment, thereby allowing farmers to increase their performance while improving the quality of products, creating a micro-climate that has ideal conditions for plant growth. Under greenhouse farming, plants are protected from unfavourable weather conditions and keep off pests and diseases. Even so, in risk management terms, greenhouse farming helps farmers to avoid the risks of weather and pests and diseases. The major limitation of greenhouse agriculture is that it does not permit large scale agricultural production, and it is a costly investment. That is the reason why it is used for the production of mainly high-value crops like flowers, fruits and vegetables. The technology has not yet been widely adopted in Uganda and many developing countries because of the lack of a policy to promote awareness and the age-old tradition of relying on natural weather conditions for production.

#### (l) Financing Farmers in Cooperatives and other farmer-based organisations

Smallholder farmers are relatively small players who have to deal with more powerful intermediaries, off-takers or even large agribusiness companies that buy their produce. Organising farmers into larger groups puts them in a better position to deal with these larger clients. Farmers who are organised in marketing cooperatives, for instance, are protected by the structures of the organisation which carry out input procurement and produce marketing functions in their behalf. In addition to this, cooperatives tend to offer some over the top services to their members

like training in business management and agricultural production practices which enhance the farmers' capacity to produce at optimal levels. As such, it is prudent for financial institutions to target farmers who are organised in cooperatives or other producer organisations as a risk management measure.

(m) Farmer

The process of profiling farmers according to the risks they pose is useful for managing agricultural risks. Farmer risk profiling is premised on the fact that different farmers have characteristics that can be used to determine the amount of risk in their farming business. The farmer risks are mainly associated with the frequency and regularity of their cash flows along with their level of technical skills and expertise with different crops. The farmers are categorised into low-risk farmers, medium-risk farmers and high-risk farmers. For instance, low-risk farmers are characterised by multiple harvests and access to irrigation. On the other hand, high-risk farmers generate only seasonal income and can only make lumpsum payments. The decision to extend financing to the farmers are then made according to the respective risk categories.

(n) Building Institutional Capacity

The risks of financing agriculture are usually viewed as being external to financial institutions, i.e., weather risks, price risks, insufficient collateral risks, etc. However, some internal factors within the financial institutions contribute to their inability to lend successfully to productive activities within the agricultural sector. Chief amongst these is the lack of capacity within the financial institutions to underwrite and deliver agricultural credit to farmers. In the past, development organisations channelled production credit through subsidised public sector banks. With time, however, the importance of building sustainable financial institutions through training, strengthening of internal controls, product development, client screening and appraisal, grants, etc., was recognised. These interventions can build the risk management capacity of financial institutions and thereby put them in a better position to provide agricultural credit

with low exposure to risks.

(o) Smart Subsidies

Subsidisation of financial institutions is considered improper owing to widespread, past failures of subsidised agricultural credit institutions. Financial institutions that do not charge market interest rates are likely to end up unprofitable and unsustainable. As such, they have to rely continually on external subsidised funding, and they operate inefficiently. Subsidies also distort the market as local populations become accustomed to "free money". Smart subsidies are those subsidies which subsidise infrastructure and capacity building in financial institutions but not borrowers directly.<sup>8</sup> They are used for improving the MIS of financial institutions, product development, partially financing the cost of opening new branches in rural areas, etc. These interventions have the overall effect of reducing the agricultural risk exposure of financial institutions. The institutions should, however, be cautious when deciding the subsidy that can contribute positively to the expansion of their agricultural lending programme.

#### 4.4.6 Policy Options for Agricultural Risk Management

Governments need to adopt a holistic approach to risk management, promoting the assessments of all risks and their relationships to each other, and avoiding focusing on a single source of risk, such as prices. In particular, agricultural risk management policies should focus more on relatively uncommon risks, but that cause significant damage to many farmers.

Governments can use various policy measures and instruments to reduce the level of systemic risk and strengthen the capacity of farmers and financial institutions to manage and cope with its impact. The steps below are suggested:

*Investing in public goods<sup>9</sup>*

Public investments in irrigation and flood protection have always been made to boost agricultural productivity through optimal use of land and water resources as well as increasing rural employment and food self-sufficiency. However, there is a need to invest in irrigation infrastructure as a means of mitigating agricultural risks. Uganda is a country that is well endowed with water resources in almost all parts of the country. These include lakes, rivers, streams, wells, etc., which can be harnessed for irrigation. Investment in irrigation reduces the inherent variability that results from the dependence on rainfall seasons which are becoming very unstable and difficult to predict. Irrigation equipment is costly and unaffordable for the average farmer. The Government can offer incentives to companies that import irrigation equipment to encourage more adoption of irrigation technology.

*Financial Systems Development*

During the 1960s and 1970s, the emphasis was placed on addressing market failures through massive public intervention in the form of directed and subsidised credit. In the 1990s, the focus shifted to the development of efficient and inclusive financial systems and markets. The development of strong rural financial institutions, competitive businesses and educated clientele is essential for risk mitigation. The central role of Government is to provide a conducive framework and an enabling environment for the development of competitive and transparent financial markets. Efficient financial systems result in strong rural financial institutions which can manage and control their exposure to agricultural risks. As such, the policy of Government should be to invest further in the strengthening of the country's financial system as part of the strategy to manage agricultural credit risks.

*Improved Crop Varieties*

Improved varieties include that are resistant to drought as well as pests and diseases. The adoption of drought-tolerant varieties has the positive effects of increasing productivity, improving yield stability and, more importantly, reducing exposure to weather risk. It also

has the potential to empower producers to undertake risky but high return investments. Although many disease- and drought-tolerant varieties have been developed in Uganda, it is still crucial that more financial support is directed towards research in this area to cope up with ever-changing soil and climatic conditions.

*Developing an Appropriate Policy Framework*

A common challenge facing agricultural finance is that the policies affecting agricultural and rural finance are from different policy-making areas. In other areas of the economy, it is often easier to identify the area in which a sector corresponds with a ministry or government department. Agricultural finance is affected by agricultural sector policies, financial sector policies and economic development policies.<sup>10</sup> The overlap of these policy areas may blur the needs that are specific to agricultural finance. There should be coordination of the policies that overlap both the financial and agricultural sectors to facilitate access to finance for farmers and also ensure proper planning for the management of agricultural risks.

*Strengthening the Input Supply Chain*

Agricultural inputs have a strong correlation with the level of on-farm production of agricultural commodities. However, farmers have poor access to inputs due to the inadequate supply chain and the flooding of fake inputs on the market. Many unsuspecting farmers in rural areas buy fake inputs that affect their ability to realise projected production levels. It is therefore essential that the input supply chain should be strengthened to enhance access of farmers to newly developed technologies and agrochemicals vital to agricultural production activities. In terms of risk management, the application of agricultural inputs increases crops vigour, enabling them to withstand harsh conditions like drought.

*Marketing Cooperatives*

Marketing cooperatives or producer cooperatives allow their members, who produce the same or similar products, to market their products cooperatively. In this way, the cooperatives can shield themselves from

intrusive middlemen who target and exploit hapless smallholder farmers. Cooperatives also protect farmers from sellers of fake inputs who traverse rural areas to cheat the smallholders. The Government of Uganda has encouraged the formation of savings and credit cooperatives (SACCOs), but there is no clear policy for marketing/producer cooperatives. Farmers in some parts of the country have formed area cooperative enterprises, but Government support is necessary to ensure their sustenance,

#### *Price Risk Management Instruments*

Government policies should not provide payments for the management of “normal risks” which should be the responsibility of the farmer. Minimum intervention prices triggered by low returns may be counterproductive, as they induce more risky farming practices.<sup>11</sup> Policies should also avoid crowding out the development of private insurance markets by subsidised insurance. Governments should instead provide an enabling environment for investments that strengthen resilience to risk by building farmers’ capacity to absorb, adapt and transform in response to weather, market or other shocks. While the Government’s role in the functioning of these markets should be regulatory, governments may need to adopt an active role in facilitating derivative markets and ensuring that the concerns of the poor are addressed.

#### *Innovative Crop and Livestock Insurance Schemes*

Crop insurance is a risk management tool that protects against losses and ensures motivation of farmers to continue with agricultural production as a profitable business. Two of essential benefits of crop insurance are that it provides a certain level of cash flow and allows flexibility in marketing plans. It solves one of the biggest threats to agricultural production, i.e., the uncertainty of the realisation of production. As already mentioned, traditional agricultural insurance approaches are discredited because of moral hazard shortcomings. The Government should promote the development of index-based weather insurance and also ensure that the necessary weather infrastructure is in place.

## Endnotes

- 2 Information asymmetry – situation in the market in which some participants (e.g. borrowers) have more information than others (e.g. financial institutions)
- 3 Covariant risk arises when many farms in one area are adversely affected by an event such as a natural disaster, collapse of local or regional prices, etc.
- 4 Idiosyncratic risk: refers to risk that is specific to a particular farmer.
- 5 PARM, A holistic approach to agricultural risk management for improving resilience
- 6 Scaling up access to finance for agricultural SMEs, GPF/IFC, 2011
- 7 Calvin Miller and Linda Jones, Agricultural Value Chain Finance, FAO
- 8 Scaling up access to finance for ASMEs, GPF/IFC, 2011
- 9 Public good: a commodity or service that is provided without profit to all members of the society either by government or a private organization.
- 10 Scaling up access to finance for ASMEs, GPF/IFC, 2011
- 11 Risk mitigation and management for agricultural investment, FAO

## 4.5 PROSPECTS FOR FINANCING AGRICULTURAL INPUTS IN UGANDA

Wilfred Thembo Mwesigwa<sup>1</sup>



Photo by: Uganda Agribusiness Alliance

### 4.5.1 Introduction

Uganda's land area is 241,000 square kilometres, of which 83,000 square kilometres are suitable for agricultural purposes. Only 41,000 or 49 percent of the arable land is cultivated (IFDC/AFAP, 2019). The average farm holding is 0.34 hectares, and there is limited land for expansion; which means any increases in production will have to emanate from agricultural intensification through the use of improved technologies, such as the inputs. With the current state of affairs, agricultural growth will have to come from intensification through increased adoption of yield-enhancing inputs and technologies.

However, the use of certified inputs such as improved seed, concentrate feeds, fertiliser, pesticides, irrigation technologies and machinery by farming households in Uganda is shallow. According to a study by Odokonyero and Mbowa (2017), only 11 percent of farming households grow improved crop varieties, 16 percent use organic fertilisers, 5 percent apply inorganic fertiliser while 4 percent grow improved varieties and apply fertilisers. Fertilisers have not played a role in boosting agricultural

production in Uganda due to extremely low adoption and application rates.

According to the Uganda Bureau of Standards (UBOS), Agricultural Component; 2015, only 6.5 percent of farmers in Uganda use both fertiliser and improved seed while only 1 percent practices irrigation. The Alliance for Green Revolution in Africa (AGRA), further, reveals, that fertiliser consumption rates in Uganda, at approximately 1 – 1.5 kg per hectare per year, are among the lowest in sub-Saharan Africa (SSA), compared to Kenya (32 kg/ha), Rwanda (29 kg/ha) and Tanzania (6 kg/ha) (AGRF, 2019). Fertiliser use rates in Uganda are the lowest in Africa and are far below the 50kg recommended by the Abuja Declaration. A study by IFDC found that Ugandan fertiliser consumption will need to increase fivefold from the current estimated consumption of 62,000 metric tonnes in 2016 to approximately 310,640 metric tons to meet the agricultural growth targets set in the Agriculture Sector Strategic Plan (ASSP).

Consequently, the current productivity levels, for most of the cultivated crops in the country are below the expected yield potentials. According to the strategic review of SDG2 by WFP and NPA (2017), there are significant crop yield

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gaps between on-farm yields and those attainable at research stations. For example, maize yield at research station is 5-8 tonnes per hectare against farmers' average yield of 1.83 tonnes per hectare registered for January-June 2015/17 season.

The limited use of yield-enhancing inputs is in part attributed to the inadequate private sector investment in the importation/processing, stocking and distribution of agricultural inputs, which in turn, is due to limited capitalisation and low access to credit. There is enormous potential for increasing productivity with increased agricultural financing and access to inputs. It is prudent that funding for development, purchase, distribution and access to improved inputs, by all actors in the inputs markets, need to be sufficient for Uganda to gain and score its targets in the agricultural sector and for overall national development.

This article discusses the financing options and mechanisms for agricultural inputs in Uganda. It highlights the role of government, the private sector and other key players, such as development partners and community development organisations, in facilitating commercial distribution of inputs across the country.

#### 4.5.2 A Review of existing Agricultural Inputs Financing Mechanisms in Uganda

##### Government input subsidy programmes

The National Agriculture Advisory Services (NAADS)/ Operation Wealth Creation (OWC) is essentially a Seed and Planting Materials Subsidy programme fully financed

and implemented by the Government. There has been a massive and growing level of investment in public provision of agricultural inputs directly to farmers in recent years through NAADS and the OWC. This financing by the Government is nearing the level of USD100 million per year. The program only distributes free seeds to farmers; no fertiliser is distributed. NAADS serves as the procuring entity and seeds are distributed directly to farmers and farmer groups by Uganda Peoples Defence Forces (UPDF) soldiers. Agricultural extension officers are recruited by local governments and deployed at sub-county level to advise farmers. For OWC, the country is divided up into 330 zones with each zone under the supervision of an army officer. The target is "economically active" farmers with an acre of land or above. The army officer collects information about the demand for the preferred inputs, consolidates this information into an order/requisition and transmits it to the national OWC command office. The national office then consolidates the zone orders into a national order.

NAADS has listed up national framework suppliers (contracted for 3-year renewable cycles) from whom quotations are solicited and inputs orders finally placed with. The successful inputs supplier delivers to the final farmer beneficiary. The program also distributes sweet potato vines, cassava cuttings, banana suckers, coffee seedlings and other vegetatively-propagated planting materials.

From Table 18, Government is gradually decreasing its contribution to the seeds and planting materials delivery system under NAADS/OWC. However, Government is

**Table 18: Government support to NAADS (2017 – 2020)**

FY	2017/18 (Billions)	2018/19 (Billions)	2019/20 (Billions)	Medium Term Projections (Billions)		
				2020/21	2021/22	2022/23
Budget Support (Development)	273.8	249.9	145.8	113.8	113.8	113.8
Total (Bn. UGX)	273.8	249.9	145.8	113.8	113.8	113.8

Source: Budget Framework Paper FY 2019/20

committed to continuing the support over the medium-term period. A shift is being made to supporting agro-industrialisation, and raw materials/inputs to agro-processing entities, as less and less funding is allocated to production inputs.

The current system of distribution of free seed is problematic. It crowds out and hinders the development of a would-be sustainable private sector input distribution system since importers/distributors of seed participating in the program “compete” with their agents, the rural agro-dealers. As a result, the seed subsidy program has resulted in the closure of agro dealer outlets in some regions and districts. For example, a baseline survey report of the performance of hub agro-dealers and the retail outlets they supply across selected areas of Uganda (AFAP, 2017) revealed that, in Busoga region, two-thirds of agro dealer outlets are estimated to have closed and there was over 60 percent reduction in the quantity of improved seeds sold by agro dealers. Other issues under this public sector inputs delivery mechanism are poor seed quality and late delivery of inputs. Going forward, it would be prudent to consider the participation of rural agro dealers in the NAADS/OWC-facilitated inputs supply exercise. Rural agro dealers are trained in seed characteristics and use and they can pass on this knowledge to the farmers. Inputs needs assessment exercises would also be faster and more exact if farmers are involved. Distortion of inputs market will be minimised, deliveries will be timely and sustainability of use of improved seeds by farmers will be achieved, even beyond the life of NAADS/OWC supplies.

The Uganda Cooperative Alliance (UCA) is promoting Area Cooperative Enterprises (ACEs) in ten districts across Uganda. Each ACE consists of a producer organisation (up to 30 farmers), a savings and credit arm and a marketing (of the farm produce) organisation. Currently, UCA is working with 152 producer organisations, 32 Area Cooperative Enterprises and 33 Savings and Credit cooperative organisations (SACCOs). Current initiatives by Area Cooperative Enterprise (ACE) arrangements through the Uganda Cooperative Alliance enable members

to acquire quality farm inputs, farm in a group and thus make it easier to access agricultural extension advice and, finally, bulk their products, process and add value together and still, through collective effort, bargain for better prices for their farm outputs. However, this model is limited in scope (only ten districts), is being promoted as a project (with its growth stagnating upon expiry of the project). Additionally, challenges of group dynamics associated with farmer institutions set in, failure to bulk farm outputs in sufficient quantities to attract premier buyers as well as other challenges, have kept the ACE model to be limited in geographical scope. While most ACEs continue to exist, their business focus has not been on inputs trade. Some ACEs have diversified into other business areas; mainly, grain trading and agro-processing.

#### **The Warehouse Receipt System (WRS) mechanism**

The current warehousing receipt system (WRS) is another innovation aimed at helping farmers with output marketing through the provision of storage facilities, monitoring prices. WRS also enable farmers to borrow for the purchase of agricultural inputs (and other items) using their warehoused produce stock as collateral. A warehouse receipt is a document that provides proof of ownership of commodities (such as farm produce) that are stored in a licensed warehouse. Warehouse receipts may be negotiable or non-negotiable. Negotiable warehouse receipts allow the transfer of ownership of that commodity without having to deliver the physical item.

Farmers can borrow funds from banks in exchange for their warehouse receipts so they can invest in improved seed, fertilisers, machinery, to be utilised in the next cropping season. The Ministry of Trade Industry and Cooperatives hosts the Uganda Warehouse Receipt Authority (UWRA); a body that is supposed to champion warehouse receipting, especially for the grain sub-sector. Furthermore, UWRA is not sufficiently funded for effective field operations. Only a limited number of warehouses are legally licensed to receive grain deposits, though some private sector farmers’ institutions are gradually coming on board. Access to finance has been a challenge too. The SACCOs



under the ACE model, which would have spearheaded warehouse receipting at the farmer level have suffered from low capacity to mobilise funds. They also lack links to larger sources of funds that can adequately complement their internally mobilised resources. These issues have combined to keep warehouse receipting business low and struggling.

#### **The ACDP Fertiliser Subsidy programme:**

The ACDP is a seven-year (2015 – 2022) USD248 million project funded by a loan accessed by the Government of Uganda from the World Bank to be implemented in 12 geographical clusters. This programme is another demonstration of a publicly funded and implemented agro-inputs delivery mechanism in Uganda. ACDP is implemented by MAAIF and provides support to intensify the production of maize, beans, cassava, rice, and coffee by 420,000 farm households over three years. Support to farmers takes the form of a subsidy via an e-voucher<sup>2</sup> to acquire a package of inputs; fertilisers, seeds, on-farm storage (including hermetic bags), tarpaulins, and access to technical and market information using ICT tools. The participating household pays for a portion of the cost of the inputs and uses the e-voucher to pay for the remaining amount. For each household, the support will be provided for three consecutive cropping cycles. The e-vouchers are expected to have an accumulated value of UGX 450,000 over that period with the amount distributed over three crop cycles. To date (second year of operation), the program has achieved about 37 percent of its intended target in terms of farmers reached and amounts of seed, fertiliser and other supplies delivered to the beneficiaries. Cost-sharing with the farmers is equally promising.

The project has suffered several challenges that include: a) the novelty of the implementation modality e-Voucher Management System causing delays in the deployment of the e-Vouchers and implementation of the programme; b) Farmers' mindset /attitude towards the purchase and use of inputs is still negative. They view the e-Voucher project as one of the "gifts" from Government; c) Project design/ implementation modality – use of electronic means and

farmer-led approach have been significant challenges; d) Limited stakeholder capacities for project implementation (Farmer Groups, District Local Governments, Agro-Input dealers are all weak and challenged); and e) Delays in project approval leading to reduced time for performance.

While the World Bank may have successfully implemented similar programmes in other countries, there was need to ensure that the capacity of implementers and beneficiaries in Uganda was adequately built for them to participate successfully. There is an urgent need to find ways of expediting operations since the project has only two years to reach its intended beneficiaries and to achieve its purpose and impact.

### **4.5.3 Private Sector Agricultural Inputs Financing Mechanisms**

#### **The Agro-dealers' Distribution Networks:**

Following Government liberalisation policy, all firms engaged in the agricultural inputs industry are private, of different categories, sizes and with varied experience in agro-input marketing. The marketing and distribution chain consists of, primarily, private estate importers mainly tea, sugar, coffee estates, tobacco, floriculture, rice, hybrid maize and vegetable seeds. These procure the fertilisers and specific categories of seed from overseas, mainly Europe, India, Kenya, South Africa and other countries where they have established trading houses. These are subjected to standard import regulations including 2 percent import duty and or 6 percent withholding tax.

The second inputs distribution category is 25 registered commercial importers who source their supplies from the EAC region, mainly Kenya and deliver goods to Kampala warehouses. Three of these firms (Balton, East African Seeds and Bukoola Chemical Industries) account for 87 percent of the market share, implying an oligopolistic market structure (Omiat and Diiro 2005).

The third level of the distribution network comprises of 25-35 wholesalers/distributors that pick seeds and fertilisers

from national importers and deliver it to district/regional centres where they sell to retailers and a small number of mid-sized farmers on a retail basis.

The fourth level comprises close to 3000 stockists who stock agricultural inputs in small quantities and sell to small-scale farmers. These form a vital link between inputs manufacturers, seed companies, national dealers and consumers/farmers. This network of rural stockists carries out the final distribution of agricultural inputs to the farmers. Since 1998, over 2000 rural stockists have been trained; out of these, an estimated 264 were identified as commercially active during the 2004 Input Dealers Census<sup>3</sup>. They mostly deal in crop seeds and tools; livestock products, crop protection products and public health chemicals. Out of these, only about 650 are distributing inorganic fertilisers and a little organic fertiliser. Despite all the training, the number of rural stockists is still small compared to the over 5600 stockists in neighbouring Kenya.

The stockist networks remain extremely limited in terms of number and geographic coverage. The vast majority of Uganda's farmers, and particularly those in non-market areas, do not have convenient access to inputs supplies. The distributors and stockists are poorly financed; and this scenario compounds the problem of agricultural inputs availability to farmers across Uganda. At the lowest level (e.g. that of the farmer who is the final rural customer), improved input distribution can lead to increased agricultural productivity, thereby contributing to increased rural incomes. Increased financial flows at the level of the Agro-retailers, , can enable greater bargaining power with suppliers, and improved efficiency and profitability. With better bargaining power and increased financial flows, farmers and agro retailers can benefit from reduced procurement costs, and increased sales volumes.

For the seed companies and agro-input suppliers, improved efficiency of the distribution network will enhance smallholder demand for inputs and improve the volume of business and profitability of the enterprises.

However the seed companies and agro-input suppliers must develop the capacity to reach deep into the smallholder sector. This can be done through an effective agro-dealer network that is well financed and resourced. It will take the concerted efforts of all stakeholders in the agri-input space to develop an efficient and commercial inputs delivery system

### **The Agro-Inputs Credit Guarantee Schemes**

UNADA, working in collaboration with AT- Uganda, implemented a Credit Guarantee Scheme (CGS) for a period of 3 years (2012 to 2015). Under this scheme, UNADA linked its agro-dealers (over 1000) to a range of credit opportunities offered by national, regional suppliers and distributors under a Credit Guarantee/Investment Fund. Implementation of the CGS for agro-dealers was complemented with skills training (e.g. credit management, business planning, seed science and technology). Deliberate efforts were made to link farmer groups and stockists to both regional wholesalers and national distributors. At the institutional level, UNADA's financing capacity was developed and enhanced to deliver services to its members more efficiently. The investment fund was used to finance income generation opportunities (once identified, analysed, and business plans developed). This CGS and other similar initiatives had two or more actors (farmer, agro dealer, supplier, financial services provider) working together to deliver quality inputs to farmers.

The scheme was, however, implemented over a short lifespan (3 years), and it did not include agrochemicals (yet they trade more than seed). Some national seed suppliers shunned it (due to being averse to offering credit for 60 days), others shunned the cumbersome documentation involved. The Scheme also suffered 10 percent credit default, a loss to the CGS. While it was expected that UNADA would inherit the fund from the donor project that had provided it, this expectation did not materialise and the Scheme was discontinued. Nevertheless, the CGS had played a role in demonstrating availability of inputs up to the retail level, within easy reach of the farmers.

#### 4.5.4 Development Partner Financing Mechanisms “Voucher-for-Work” Programmes:

Development partners working with the private sector actors (agro-dealers and national inputs suppliers) implemented “vouchers-for-work” programmes. The programmes targeted areas where demand had previously been distorted by long term relief efforts in Northern Uganda and West Nile. The programmes were supported by DANIDA under its RALNUC (Restoration of Agricultural Livelihoods in Uganda) programme, Uganda Red Cross’s Development Assistance for Refugees (DAR) programme and the Agricultural Livelihood Recovery Project (ALREP) financed by the Food and Agricultural Organisation (FAO). The programmes facilitated private sector input distribution of major farm inputs.

The above programmes stimulated demand for more than USD 5 million worth of inputs to 130,000 poor farmers. By the time of completion in 2009 (implementation began in 2006). The ALREP programme was implemented in the Acholi sub-region only. A total of 68 stockist businesses and five distributors were put in place and they served as ‘Voucher Redemption Points for the programmes. All the programmes aimed at kick-starting and thereafter, strengthening agro-dealer networks and commercial trade in farm inputs in the areas that had directly experienced the brunt of civil unrest and refugee-hosting for over 20 years.

The schemes were responsible for the restoration of commercial inputs distribution activities and agro-dealers in the West Nile region and Northern Uganda regions. Beyond the many years of refugee-hosting and Kony insurgencies in West Nile and Northern Uganda; respectively, commercial agriculture also needed to be restored. As a result of the programmes, horticulture, cereal growing and other crop sub-sectors are now vibrant and utilising improved seeds and associated products – fertilisers and pesticides. The Voucher for Work (VfW) schemes had an accompanying component of extension

service delivery and farmer training. It is encouraging to observe that the agricultural methods passed on during extension and farmer training are still being widely used in these regions.

#### 4.5.5 Innovative Agricultural Input Financing Mechanisms: - Views and Practices from across the World:

(a) **Expanding Access to Rural Finance:** To facilitate significant demand, community-based financial organisations (CBFOs) are linked to larger formal financial intermediaries. CBFOs are user-owned, user-operated intermediaries. Though some are informal – i.e. not registered – many can be described as semi-formal because they are registered as associations which offer financial services but they are not regulated. Examples include Rotating Savings and Credit Associations (ROSCAs) and Savings and Credit Cooperatives (SACCOs). CBFOs usually provide savings and credit facilities to members. They have several comparative advantages over formal financial intermediaries. Their lack of capital requirements and prudential banking regulations imply that CBFOs are relatively easy to set up and can enjoy considerable operational flexibility. Their operating procedures are relatively simple and suited to the needs of a population that may be mostly illiterate. Because they have intimate knowledge of their clients (members), CBFOs significantly reduce information asymmetry problems. However, they are not able to mobilise resources from non-members, thus limiting their intermediation capacity.

It is for this reason that some CBFOs have forged mutually beneficial links with mainstream financial intermediaries, which can channel excess loanable funds through local intermediaries, the latter being more able to enforce loan recovery. In Sri Lanka, a World Bank-supported programme is promoting links between rural banks and CBFOs “providing the banks with easy access to a large number of rural customers”. Rural and community banks have been promoted in countries in Asia (e.g. Philippines) and Africa (e.g. Ghana) since the 1970s as

regulated banking institutions with some of the informal features that characterise CBFs. For instance, capital requirements are relatively low, and community ownership is encouraged through floating low-priced shares. Their operating systems are quite simple and informal – for instance, thumbprints and photos replace signatures in authenticating transactions – a feature that allows access by illiterate clients. Deposit accounts are also quite liquid – they are interest-bearing, but customers are not penalised for frequent withdrawals – doing away with some of the withdrawal restrictions that most formal financial institutions impose on savings accounts. They are far less bureaucratic than mainstream banks; therefore, decision-making is quicker – they can do this because of the intimate knowledge they have of their clients as staff and managers reside in the communities in which the banks are situated. They, therefore, are placed to offer credit to the smallest and most rural farmer to purchase agricultural inputs.

**(b) Innovative Group-based, Mutual Credit Guarantee Schemes:** Credit guarantee schemes (CGS) have been used by governments, donors and NGOs to promote credit delivery to smallholder farmers as well as micro, small and medium-scale enterprises (MSMEs). In theory, by reducing collateral requirements and sharing the risk of default, these schemes enable farmers and MSMEs to access credit otherwise not available to them – that is they foster credit additionality. Sustainability of most CGSs has been in doubt primarily because of moral hazard problems – where beneficiary borrowers appear to have incentives to default – as well as adverse selection problems – where lenders finance high-risk borrowers with the assurance that losses will be covered in the event of borrowers default.

Mutual credit guarantee schemes (MCGS) appear to have the potential to overcome some of the major shortcomings of the traditional CGS. Under the MCGS, groups, including smallholder farmers' groups, set up funds to guarantee credit extended to members. The fund is established from contributions from members or levies on revenues

generated through collective marketing. The moral hazard problem is reduced through peer screening and peer pressure from members. The funded guarantee is a more robust supply of finance to private operators because there is a readily-available fund to cover loan default. In contrast, under the traditional group lending system, members-only mobilised resources to cover the cost of default after the event.

**(c) Easing Access to Collateral in Farm Households:** Smallholder farmers lack assets which can be collateralised, partly due to lack of valuation and liquidation of rural investments. For example land sales can be frustrated by lack of adequate legal/registration systems and missing markets for such investments. Even where suitable real estate in rural locations is mortgaged, there can be difficulties with liquidation as a result of culture-related opposition from the community. However, lenders can use stored commodities as collateral under warehouse receipt systems (WRS) or household inventory, an instrument closely related chattel mortgaging.

**(d) Delivering Financial Services via Mobile Technology:** The development of mobile telephony has an essential impact on transactions in rural communities. In the early 2000s, it transformed access to market information disseminating price data and other market-relevant information. In recent years, it has also opened up access to financial services. The mobile phone has revolutionised payments systems in many African countries since the launch of M-PESA in Kenya in 2006. The system facilitates money transfers (usually from urban dwellers to rural households); payment of bills, including school fees; payment of wages and salaries of rural-based workers and settlement of business bills. The system is gradually evolving into the provision of other financial services with the recent introduction of M-KESHO, which allows for deposits into and withdrawals from savings accounts. Initially, the main users were the “unbanked”, but the system has evolved to include the already ‘banked’ who are increasingly relying on the system for transactions involving small amounts.

(e) **Value Chain Financing:** Agricultural value chain financing is a broad term that includes flows of funds and financial services to and among various actors in an agricultural value chain. It encompasses *internal chain finance* occurring between parties in the chain – examples include; credit extended by input suppliers to farmers; advances from traders to farmers; and trade credit provided by producers to small/medium/large-scale traders and processors. Value chain financing also includes *external chain finance* – where credit and other advances are provided by financial intermediaries to actors in agricultural value chains. Value Chain finance is often based on integrity of relationships between various actors in the chain and the extent to which the links mitigate default or risk of non-performance.

#### 4.5.6 Conclusion and Policy Recommendations:

Increase in agricultural productivity and sustainable growth is possible if bold interventions in the production, processing and marketing segments are seriously addressed. A holistic approach to getting returns on investment is necessary and begins with easy access and affordable agricultural inputs. The strategy to reduce the high costs, transaction costs and to stimulate significant demand will get millions of farmers adopting improved seeds and fertiliser use.

Below are the recommended scenarios, options and areas of particular focus through which the government of Uganda and other actors may assure sustainable agricultural inputs distribution countrywide:-

**Use and application of Innovative Finance:** Lack of capital is often a problem for farmers and agro-dealers. Agro-dealers' access to capital can be improved using; consignment stock; targeted vouchers; and inventory capital. It is essential to understand that as input supply progresses along the value chain, the financial instruments will change according to the needs of the specific actor in that part of the value chain..

Stakeholders (financial institutions, agro-dealers, buyers, farmers and their associations) can collaborate effectively in a value chain finance arrangement to pursue common interests (KIT, 2012). For instance, when farmers have access to agro-inputs, their production levels are likely to improve, thereby attracting buyers looking for supply. Agro-dealers are also interested in increasing their sales. A financial institution can provide a loan to farmers, through the agro-dealer and recuperate the loan from the buyer. Such schemes can be developed with the help of a facilitator, such as the relevant arms of Government or NGOs, provided the scheme takes the needs of value chain actors into account.

**Creating Demand through Farmer Training:** Training of farmers should not only be limited to agronomic and husbandry skills but also how to deal with contracts, group formation, leadership selection and enterprise budgeting. The latter is also important in a market analysis exercise to determine the local demand for inputs. Building and strengthening the capacity of farmers to use inputs properly, remains critical. Farmers may lack adequate skills and knowledge in applying specific inputs, resulting in poor performance and low productivity. This affects their interest to buy and use these inputs, which affects input demand negatively.

**Strengthening Farmer Associations:** Organising farmers into farmer associations creates economies of scale in input supply, organising repayment of input credit, providing extension services and setting-up collective marketing of the farm output. Farmer associations need training in financial and business planning to successfully supply inputs to their members. Also, particular focus needs to be placed upon strengthening Lead Farmers. Lead Farmers should be assisted to sell inputs (mainly seeds) and to buy outputs if required. Such strengthened Farmer Associations and Lead Farmers will plan and host seed fairs, selling seeds and buying grain from all the member farmers. Lead Farmers could receive a commission from input distributors or even the local government extension service budget for seed sales, purchases and farmer

retention.

**Market Information:** Importers, wholesalers and distributors need to be knowledgeable in international/regional agricultural inputs market conditions and trade. Information on domestic stock levels, import arrival, price variations needs to be collected and stored in forms that clients can easily access for planning purposes and proper functioning of the inputs markets. The communications channels in the country have expanded overtime with broader coverage, including mobile phones networks, FM Radio stations, TV Stations, Internet facilities in most districts and on social media. This infrastructure should be fully utilised to disseminate market information to farmers and other inputs and commodity chain actors.

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## Endnotes

- 2 The design of the input voucher scheme for Uganda draws heavily on the Nigerian e-Wallet and TAP programs which demonstrated that a program of time-limited vouchers for inputs can be effective in the short-run at rapidly increasing production and encouraging adoption and sustained use of inputs after the project ends, as well as reducing the corruption and manipulation commonly associated with input subsidy programs.
- 3 Courtesy of the Agricultural Productivity Enhancement Program (APEP) of USAID, the Agricultural Sector Program Support (ASPS) of DANIDA and the Uganda National Agro-Inputs Distribution Association (UNADA)



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