

# Agriculture Finance Diagnostic

## Zambia



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1818 H Street NW  
Washington, DC 20433  
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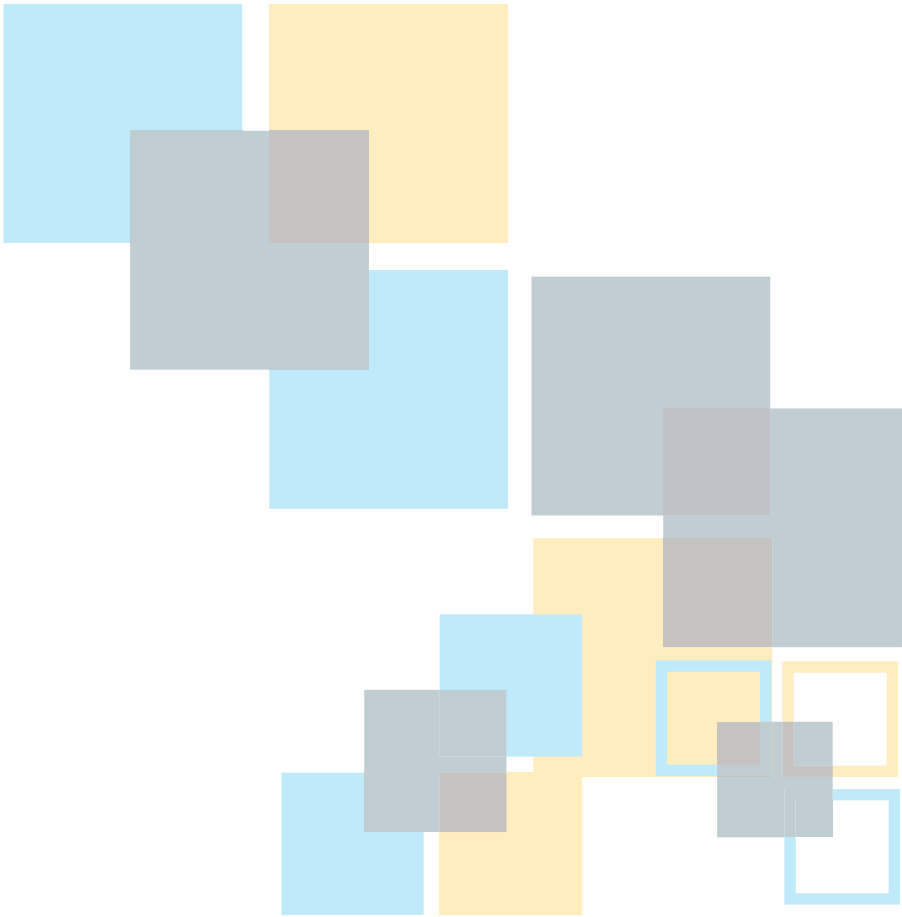
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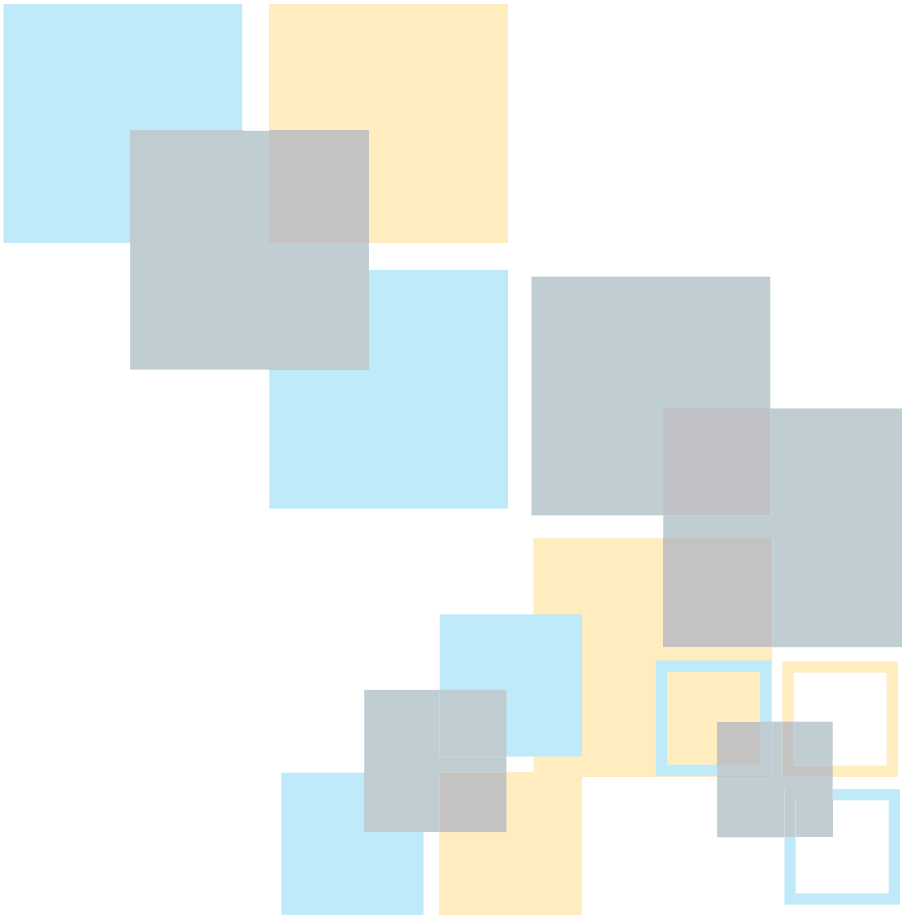
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## Abbreviations and Acronyms

<b>AFD</b>	French Development Agency
<b>AfDB</b>	African Development Bank
<b>AoI</b>	Agriculture Orientation Index
<b>AYII</b>	Area Yield Index Insurance
<b>BoZ</b>	Bank of Zambia
<b>CAADP</b>	Comprehensive Africa Agriculture Development Program
<b>CEEC</b>	CCredit Guarantee Scheme
<b>CMMR</b>	Credit Market Monitoring Report
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>CPI</b>	Consumer Price Index
<b>CSO</b>	Central Statistical Office
<b>DAZ</b>	Dairy Association of Zambia
<b>DBZ</b>	Development Bank of Zambia
<b>DFA</b>	District Farmer Association
<b>DFI</b>	Development Finance Institution
<b>DFID</b>	Department for International Development (UK)
<b>e-FISP</b>	Electronic Farmer Inputs Support Program
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization
<b>FARMAF</b>	Farm Agricultural Risk Management in Africa
<b>FI</b>	Financial Institution
<b>FISP</b>	Farmer Input Subsidy Program



<b>FMA</b>	Farm to Market Alliance
<b>FRA</b>	Food Reserve Agency
<b>FSDP</b>	Financial Sector Development Plan
<b>FSDZ</b>	Financial Sector Deepening Zambia
<b>GDP</b>	Gross Domestic Product
<b>GIIF</b>	Global Index Insurance Facility
<b>GIZ</b>	German Corporation for International Cooperation
<b>HH</b>	Household
<b>IFAD</b>	International Fund for Agricultural Development
<b>IFC</b>	International Finance Corporation
<b>LCMS</b>	Living Conditions Monitoring Survey
<b>LCS</b>	Lima Credit Scheme
<b>MFI</b>	Microfinance Institution
<b>MLNR</b>	Ministry of Lands and Natural Resources
<b>MNO</b>	Mobile Network Operators
<b>MoA</b>	Ministry of Agriculture
<b>MoF</b>	Ministry of Finance
<b>MoLF</b>	Ministry of Livestock and Fisheries
<b>MPCI</b>	Multiple Peril Crop Insurance
<b>MSMEs</b>	Micro, Small and Medium Enterprises
<b>MT</b>	Metric Tons
<b>MUSIKA</b>	Making Agricultural Markets Work for Zambia (Zambian non-profit organization)
<b>NAIP</b>	National Agriculture Investment Plan
<b>NAP</b>	National Agriculture Policy
<b>NFIS</b>	National Financial Inclusion Strategy
<b>NGO</b>	Non-governmental Organization
<b>NPCI</b>	Named Peril Crop Insurance
<b>NPL</b>	Patents and Companies Registration Agency

<b>PARM</b>	Platform for Agricultural Risk Management
<b>PIA</b>	Pensions and Insurance Authority
<b>PPG</b>	Public and Publicly- guaranteed
<b>RUFEP</b>	Rural Finance Expansion Programme
<b>SACCO</b>	Savings and Credit Co-Operatives
<b>SADC</b>	Southern African Development Community
<b>SEC</b>	Securities and Exchange Commission
<b>SIDA</b>	Swedish International Development Cooperation Agency
<b>SME</b>	Small and Medium Enterprise
<b>SRR</b>	Statutory Reserve Ratio
<b>SSA</b>	Sub-Saharan Africa
<b>TA</b>	Technical Assistance
<b>UAI</b>	Unit Areas of Insurance
<b>UK</b>	United Kingdom
<b>VAT</b>	Value-added Tax
<b>WB</b>	World Bank
<b>WBG</b>	World Bank Group
<b>WFP</b>	World Food Programme
<b>WII</b>	Weather Index Insurance
<b>ZABS</b>	Zambia Bureau of Standards
<b>ZAMACE</b>	Zambian Commodity Exchange
<b>ZATP</b>	Zambia Agribusiness and Trade Project
<b>ZCGS</b>	Zambia Credit Guarantee Scheme
<b>ZESCO</b>	Zambia Electricity Supply Cooperation
<b>ZIPSS</b>	Zambian Interbank Payment and Settlement System
<b>ZNFU</b>	Zambia National Farmers’ Union
<b>ZMD</b>	Zambia Meteorological Department
<b>ZSIC</b>	Zambia State Insurance Corporation





## Foreword

Agriculture finance in Zambia presents a picture of contrasts. The share of the agriculture sector's GDP financed by the banking sector is among the highest in Africa. However, over four-fifths of the institutional credit goes to the relatively small number of large commercial farms (approximately 1500) while less than five percent of small and medium scale farms (approximately 384,000) have any access to institutional credit. Similarly, Zambia achieved the largest outreach for agriculture insurance in Africa, reaching nearly 900,000 farmers in 2018, yet, design and implementation weaknesses seem to be severely limiting its benefits for farmers.

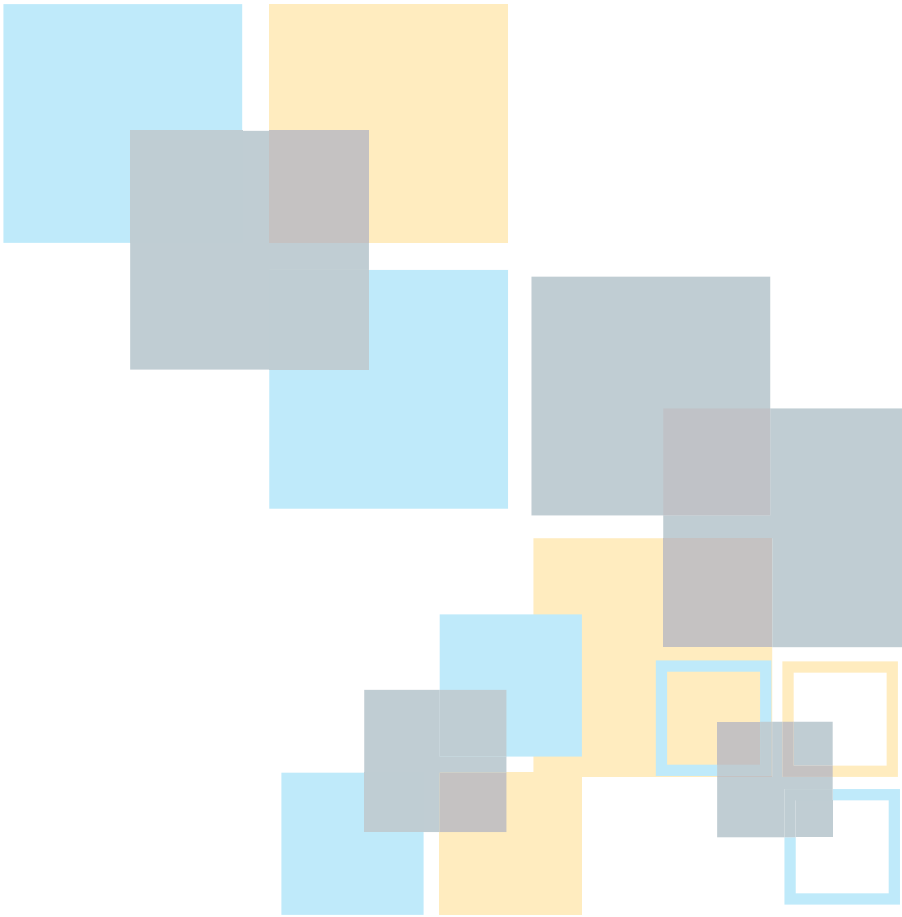
Given the critical role the agriculture sector plays in the Zambian economy, employing nearly half of the working population, it is critical that access to finance for small and medium-scale farms is increased and the effectiveness of the agriculture insurance program is ensured. These outcomes can make an important contribution to breaking the low productivity trap in the agriculture sector, protecting livelihoods, and strengthening the sector's contribution to economic growth and rural poverty reduction. The recent large gains in financial inclusion of farmers, driven by the rapid growth in access to mobile money, presents a key foundation on which to build.

The Zambia Agriculture Finance Diagnostic identifies several key actions the Government can take to realize these opportunities. The high priority actions include providing incentives to the private sector to deliver financial services in rural areas, strengthening the capacity of the recently-established Zambia Credit Guarantee Scheme to effectively serve the agriculture sector, and strengthening the design and implementation of the weather index insurance scheme. The report also recommends that the Government consider developing an agriculture finance action plan that is adequately resourced and allocates clear implementation responsibilities.

We sincerely hope this report makes a useful contribution to the national dialogue on how agriculture finance in Zambia can be strengthened.

**Sahr J. Kpundeh**  
Country Manager  
World Bank  
Lusaka

**Madalo Minofu**  
Resident Representative  
International Finance Corporation  
Lusaka





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Uzma Khalil (Senior Financial Sector Specialist), Ellen Olafsen (Senior Private Sector Specialist), Willem Janssen (Lead Agriculture Economist), Zano Mataruka (Senior Investment Officer), Ngao Mubanga (Consultant) and Rachel Sberro (Financial Sector Specialist) provided review inputs. Juan Buchenau (Senior Financial Sector Specialist) provided overall technical guidance. Barbara Balaj copy-edited, Aichin Lim Jones designed and Brew Creative Ltd provided production services of the report.

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The report was prepared based on extensive desk research of published literature and program reports, including analysis of key sources of data (including the World Bank Enterprise Survey 2013, Finscope 2015, Findex 2017, and Credit Market Monitoring data for 2016, 2017, and 2018); and information and insights shared by a wide range of public and private sector stakeholders in Zambia during a diagnostic mission undertaken in June 2018.

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## Executive Summary

**This report presents the main findings and a set of key recommendations based on the results of the Zambia Agriculture Finance Diagnostic.** The objective of the diagnostic was to assess key opportunities for and constraints to the development of a commercially viable agriculture finance market. This report also makes recommendations for the main public and private stakeholders with the goal of enhancing farmer and agricultural Small and Medium Enterprise (SME) access to and use of financial services.

**Agriculture is a critical sector in the Zambian economy, but it has not sufficiently supported poverty reduction in rural areas.** The agriculture sector employs 48 percent of the working population, but its contribution to the country's gross domestic product (GDP) averaged just 5 percent between 2014 to 2018. Labor productivity in agriculture, as measured by annual value added per workers, has deteriorated from US\$702 in 2004 to US\$584 in 2015. Accordingly, rural poverty increased from 73.6 percent in 2010 to 76.7 percent in 2015.

**Strengthening agriculture finance markets, complementing other policy reforms in the agriculture sector, could yield substantial achievements given Zambia's natural resources, an expected increase in demand in the near future, and its positioning in Southern Africa.** Domestic food demand is expected to increase by three-fold over the next 15 years. The country's membership in the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC) also provide access to the rapidly growing regional market. The favorable market prospect offers opportunities to achieve a more productive and commercial-oriented agriculture sector that would contribute to inclusive economic development. Among other factors, greater access to financial services is indispensable to enhancing resilience and increasing investments in transformational projects such as irrigation, storage, processing equipment, and high-quality inputs. The country's potential is still largely untapped, with only one-fourth of arable land cultivated, and only one-third of irrigable land irrigated.

**Increasing access to financial services for small-scale farmers and agricultural SMEs can help to achieve transformation of the agriculture sector, improve financial inclusion, and contribute to poverty reduction.** The 7th National Development Plan (2017-2021) and the National Financial Inclusion Strategy (NFIS) (2017-2022) include actions to support economic diversification for sustained growth and improve access to financial services in Zambia. The NFIS identifies agriculture finance as a priority area, and its implementation arrangements include a working group that focuses on rural and agriculture finance.

**Access to the formal financial sector for farmers seems to have substantially increased in recent years, including the use of payment services.** According to data from the Global Findex 2017, 58 percent of adults who received any income from the sale of agricultural goods had access to an account, up from about 35 percent in 2014. The increase was driven by an expansion in access to mobile money in Zambia. In this context, between 2014 and 2017, access to mobile money accounts among all adults increased from 12.1 percent to 27.8 percent, respectively. Findex data also shows that between 2014 and 2017, the percentage of agriculture payment recipients who received payment in an account more than doubled, increasing from 18 to 40 percent, respectively. This was also driven by payments received into mobile money accounts.

**However, the increased access does not seem to have translated into substantial gains in usage of savings and credit services.** While Findex data does not allow for the disaggregation of usage levels of savings and credit services among agricultural clients, the supply-side assessment suggests that increased levels of access are unlikely to have translated into proportionately higher usage of savings and credit services. In this regard, savings and

credit services delivered through mobile money accounts, including some tailored to the needs of farmers, are just being launched.

**Most of the formal sector credit to the agriculture sector flows to large commercial farms, whereas small and medium-scale farmers still depend primarily on informal sources for credit.** In 2017, 85 percent of the credit provided to the agriculture sector went to large commercial farms; non-farm agribusiness were estimated to have received 7 percent and the small- and medium-scale farms received 8 percent. The supply-side data from the Bank of Zambia together with demand-side data from Finscope 2015 suggests that less than 3 percent of small- and medium-scale farmers have access to formal sector credit. On the enterprise side, a 2016 survey of growth-oriented, agro-processing SMEs confirms that access to finance and the cost of finance remain impediments to growth for agro-processing SMEs.

**Interest rates are high and most credit is short-term.** Despite the central bank's policy rate declining from a high of 15.5 percent in 2015 to 10.25 in May 2019, average nominal bank lending rates remained stubbornly above 24 percent. In addition, the gap between the policy rate and the average lending rate widened between 2015 and 2019. With inflation hovering between 6-10 percent, the real interest rate has remained relatively high at 14-16 percent. Most loans to commercial farmers have tenors of less than 5 years, and those to small producers have tenors of less than one year.

**The country's agriculture credit portfolio suffers from high levels of Non-Performing Loans (NPLs).** The NPLs in the commercial bank lending to the agriculture sector have been steadily increasing since 2015, reaching an alarming 28 percent in 2018. Agricultural sector NPLs for the whole financial sector, which includes loans from banks as well as non-banks (but not investment

funds), increased from 16.4 percent in 2016 to 24.3 percent in 2018. Three key factors in 2015 are estimated to have contributed to the rapid deterioration of the loan portfolio. These include the severe drought, the export bans that were put in place following a reduction in production, and the devaluation of the Zambian currency, the Kwacha.

**Access to agriculture insurance increased exponentially in the 2017/2018 season, driven by the nationwide launch of an innovative weather index insurance (WII) product.** The exponential scale-up was achieved by adding an index insurance cover to the Government's Farmer Input Subsidy Program (FISP). The number of policies sold and the sum insured increased from less than 20,000 policies and US\$ 2 million in 2016/17 to over 900,000 policies and nearly US\$ 151 million, respectively, in 2017/18. A relatively small number of additional farmers are covered through other WII and indemnity products.

**However, the exponential scale-up also led to major implementation deficiencies.** The main deficiency was the failure of the program to make timely claim payouts to the farmers. Although a substantial number (412,000) and value (US\$ 5.9 million) of payouts were triggered during the 2017/18 season, payouts to farmers were not issued in a timely manner. Although the insurance company transferred the amounts to the Ministry of Agriculture in May 2018, the Ministry did not complete the payment payouts to the farmers until December 2018. Furthermore, the payouts were made in the form of e-vouchers that could only be redeemed for agricultural inputs in the 2018/19 crop season. Thus, the delay in claim payouts and the non-monetary nature of the payouts substantially reduces the benefits expected from an agriculture insurance program.<sup>1</sup>

**This report identifies several challenges to increasing access to financing within the agriculture sector.** These relate to the enabling environment (high levels of public sector borrowing leading to crowding out of private sector credit; limited availability and quality of agricultural and weather data); demand-side challenges (low levels of agricultural productivity and limited financial capability of farmers and producer organizations); and supply-side challenges (limited operational capacity among financial institutions to serve the agricultural sector, and limited availability of medium-to long-term liquidity necessary for the business of agriculture).

**That said, Zambia has several key financial sector foundations to help scale up agriculture finance.** These include a good mix of regulated financial institutions; a relatively modern payment system; three major financial regulators that supervise the banks and the microfinance institutions (MFI) sector, insurance providers and the investment funds, respectively and; a robust legal and institutional credit infrastructure, including a modern secured transactions framework and credit reporting law, as well as a functioning collateral registry and a credit bureau.

**This report identifies three major opportunities to further developing agriculture finance in Zambia, and recommends ten policy and institutional actions to realize these opportunities.** The three opportunities identified are: (a) expanding the financial inclusion of farmers; (b) broadening the agricultural credit market; and (c) enhancing the quality and effectiveness of agricultural insurance. Table 1 lists the recommendations, categorizes them by high or medium priority, and proposes lead and supporting entities to implement them.

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<sup>1</sup> The insurance program has been continued in the 2018/2019 crop season. However, information on the uptake of the product during the season, claims triggered, and the distribution of payouts, if any, was not available at the time of issuing this report.

**Opportunity 1: Expanding the financial inclusion of farmers.** The high priority recommendation to realize this opportunity is to incentivize delivery of financial services in rural areas. Incentives provided could be: (i) fiscal (lower taxation of services provided in rural areas and/or to target clients); (ii) policy-oriented (requiring that government and corporate agricultural payments, including agricultural insurance, be made directly into the farmer's accounts); and/or (iii) direct (funding for increasing banking agents in rural areas, electronic payments acceptance by rural merchants, building financial capability of farmers and agricultural SMEs, and developing new products). Actions that need to be taken in the medium term include strengthening the agriculture, weather and financial inclusion data ecosystem. The large gender gap in access (10 percent) also suggests the need for targeted actions to support financial inclusion among women farmers.

**Opportunity 2: Broadening the agriculture credit market.** Two high-priority recommendations are made to realize this opportunity, namely building the capacity of the Zambia Credit Guarantee Scheme (ZCGS) to effectively serve micro, small and medium enterprises (MSMEs) in the agriculture sector, and ensuring that the design and implementation of public sector credit lines follow good practice principles. Both these actions are critical to addressing the extremely low levels of access to formal credit among small and medium farms/farmers, including the high cost of credit both for farmers and agribusiness SMEs. In addition, strengthening the commodity exchange and warehouse receipts financing and enabling easier use of land as collateral are important actions that need to be taken over the medium-term.

**Opportunity 3: Enhancing the quality and effectiveness of agricultural insurance.** The high-priority recommendation to realize this opportunity is to strengthen the design and implementation of the FISP-linked weather index insurance scheme. The report recommends several actions under this recommendation, including: (a) addressing key program design-weaknesses; (b) appointing an independent third-party calculation agency; and (c) strengthening product information and client education. The report also recommends building the technical capacity of key public and private actors in agricultural insurance, as well as undertaking an in-depth fiscal and market assessment of options for supporting agricultural insurance markets.

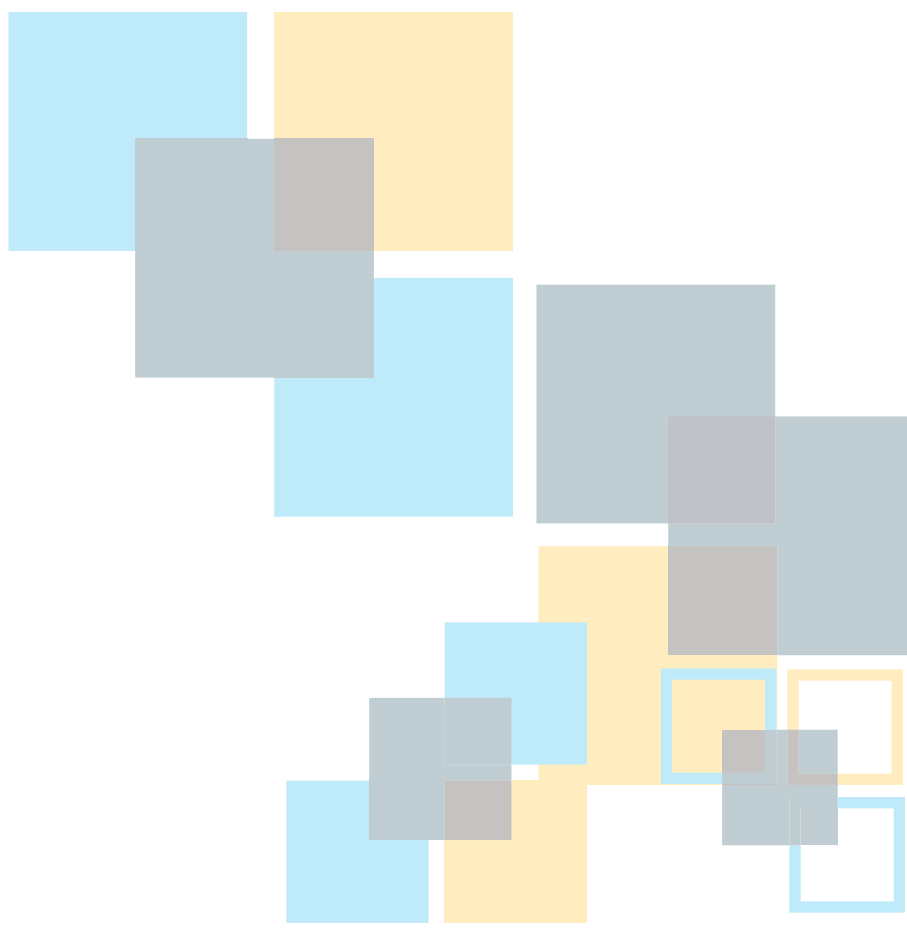
**The Government of Zambia may also want to consider developing an agriculture finance action plan to build on the recommendations of this report.** This can be done under the leadership of the Ministry of Finance with inputs and guidance from the NFIS Rural and Agriculture Finance Working Group. However, if the Government decides to develop an action plan, it is critical that the plan is adequately resourced, allocating clear implementation responsibilities.

**The report is organized as follows: Chapter 1 presents a country background and macroeconomic overview.** Chapter 2 provides an overview of the agriculture and financial sectors. Chapter 3 presents an analysis of financial inclusion of farmers and access to finance for agribusiness. Chapter 4 discusses the agriculture finance market, policies and programs. Chapter 5 identifies key challenges that are constraining the growth of agriculture finance. Finally, it also identifies major opportunity areas and provides key recommendations to capitalize on the identified opportunities.

**Table 1: Summary of Recommendations**

Action	Lead Entity(ies)	Supporting Entity(ies)	Priority
<b>Opportunity 1: Expanding the outreach of financial services in rural areas</b>			
Incentivize delivery of financial services and financial capability programs for farmers and agricultural SMEs.	BoZ, PIA, MoF	FSDZ, MUSIKA, RUFEP, WBG, GIZ	High
Improve the quality and availability of agricultural and weather data.	MoA, ZMD	CSO	Medium
Strengthen the quality and availability of data on financial inclusion of farmers, as well as access to financing for agribusinesses.	CSO, BoZ, PIA	FSDZ, SEC	Medium
<b>Opportunity 2: Broadening the agricultural credit market</b>			
Build the capacity of the ZCGS to effectively serve MSMEs in the agriculture sector.	MoF	WBG, AfDB	High
Strengthen the implementation of public sector credit lines	MoF	WBG, AfDB, EU, AFD	High
Strengthen the operations of the ZAMACE and warehouse receipts financing	MoA, MoF	PARM/IFAD	Medium
Enable the easier use of agricultural land as collateral	MLNR	PACRA, WBG	Low
<b>Opportunity 3: Enhancing the Quality and Effectiveness of Agricultural Insurance</b>			
Strengthen the design and implementation of the FISP-linked WII insurance scheme	MoA, PIA	WBG	High
Undertake an in-depth fiscal and market assessment of options for supporting agricultural insurance markets	MoF	MoA, WBG, FSDZ	Medium
Build the technical capacity of key public and private actors	PIA, MoF	FSDZ, WBG	Medium

Note: AFD= French Development Agency; AfDB= African Development Bank; BoZ= Bank of Zambia; CSO= Central Statistical Office; EU= European Union; FSDZ= Financial Sector Deepening Zambia; GIZ= German Corporation for International Cooperation; IFAD= International Fund for Agricultural Development; MLNR= Ministry of Lands and Natural Resources; MoA= Ministry of Agriculture; MoF= Ministry of Finance; MSME= micro, small and medium enterprise; MUSIKA= Making Agricultural Markets Work for Zambia (Zambian non-profit organization); PACRA= Patents and Companies Registration Agency; PIA= Pensions and Insurance Authority; PARM= Platform for Agricultural Risk Management; RUFEP= Rural Finance Expansion Programme; SEC= Securities and Exchange Commission; SME= small and medium enterprise; WBG= World Bank Group; ZAMACE= Zambian Commodity Exchange; ZCGS= Zambia Credit Guarantee Scheme; ZMD= Zambia Meteorological Department.





# 1. Introduction

**The Zambia Agriculture Finance Diagnostic was undertaken as an input to the National Financial Inclusion Strategy currently under implementation.** The strategy identifies agriculture finance as a priority area. Implementation arrangements include the establishment of a Working Group that focusses on rural and agriculture finance.

**The diagnostic was undertaken by the World Bank Group (WBG) in consultation with the Ministry of Finance (MoF) and the Bank of Zambia (BoZ) and benefitted from inputs from a wide range of public and private stakeholders.** In addition to the MoF and the BoZ, key public-sector stakeholders consulted included the Ministry of Agriculture (MoA), the Ministry of Livestock and Fisheries (MoLF) and the Pensions and Insurance Authority (PIA). Key private sector stakeholders consulted included the Zambia National Farmers Union, as well as select commercial banks, microfinance institutions, and investment funds. The full list of stakeholders consulted is included in Annex A.

**The objective of the diagnostic was to assess key opportunities and constraints to the development of a commercially viable agriculture finance market, as well as to make recommendations for the main public and private stakeholders.** The overall goal is to contribute to enhancing farmer and agricultural small and medium enterprise (SME) access to and use of suitable, competitive and sustainable financial services. To achieve this objective, the team collected data and information from stakeholders and interviewed key respondents. The findings and recommendations were then validated through further consultations.

**This report summarizes the findings from this analysis and provides a set of recommendations that are expected to benefit the stakeholders.** The rest of this chapter provides a brief country background and macroeconomic overview. Chapter 2 presents an overview of the agriculture and financial sector. Chapter 3 presents findings from a demand-side analysis regarding the levels of financial access and use of financial services by farmers, as well as access to financing for those firms engaged in business sectors most closely related to agriculture. Chapter 4 presents findings from a supply-side analysis of agricultural payments, credit and insurance. Lastly, Chapter 5 presents the key constraints

identified by the diagnostic. It also offers a set of recommendations to address these constraints.

## Country Background

**Zambia is a large, landlocked country in the center of southern Africa.** It shares several of its key geographic and economic features with its neighbors — including Victoria Falls, Lake Kariba (and its hydroelectric capacity), and a stretch of the Zambezi River with Zimbabwe. It also borders the southern tip of Lake Tanganyika with Tanzania, as well as the Democratic Republic of Congo. Other neighboring countries include Angola, Botswana, Malawi and Mozambique. Its population is estimated at about 17.4 million (2019) and, given its large size, the country is relatively sparsely populated.

**Zambia achieved lower middle-income status in 2011, following several years of robust economic growth; however, growth has slowed since 2015.** Zambia grew at an average rate of 7.4 percent during 2004-2014, benefitting from the commodity boom and a broadly stable macroeconomic environment. However, with the fall in global commodity prices and buffeted by weather shocks, economic growth has significantly slowed in subsequent years, averaging less than 4 percent. Further, poverty remains high, with a national average poverty rate of 54 percent and a rural poverty rate of 77 percent (2015).

**The government launched its 7th National Development Plan, 2017–2021, calling for a fundamental shift in the way resources are allocated.** Its five pillars include: (a) Economic Diversification and Job Creation; (b) Poverty and Vulnerability; (c) Reduced Developmental Inequalities; (d) Enhancing Human Development; and (e) a Conducive Governance Environment for Economic Diversification. The strategic goal of the 7th National Development Plan is to create a diversified and resilient economy for sustained

growth and socioeconomic development. It also includes a results-based performance management system to measure implementation progress.

## Macroeconomic Overview

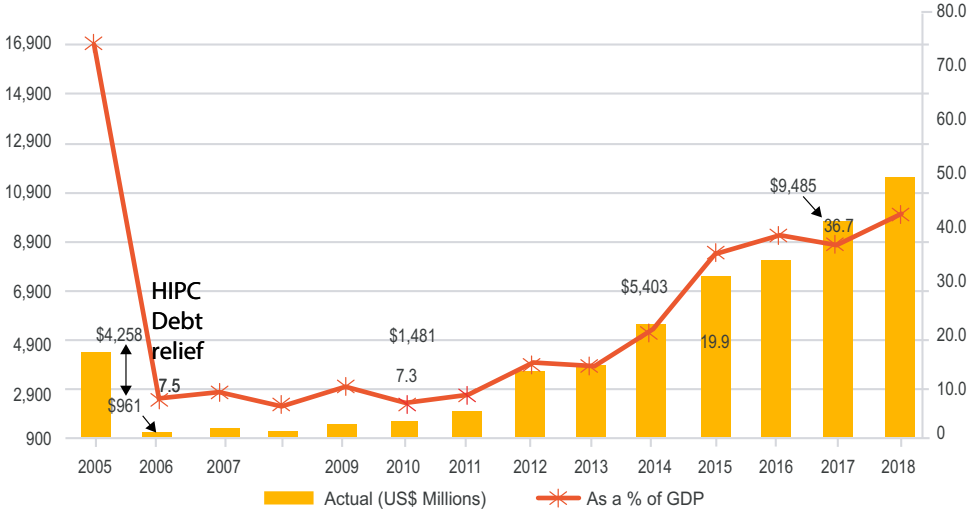
**Zambia's economy remains undiversified and vulnerable to both domestic and external shocks.** External shocks emanate from its dependency on copper, which accounts for about 70 percent of total exports. As such, it has direct and indirect linkages with the performance of other key economic sectors. Domestic shocks are traced to weather patterns, which also have a direct bearing on agriculture and electricity (for instance, 95 percent of Zambia's electricity generation capacity is linked to hydro-plants).<sup>2</sup>

**The global commodity price shock in 2015 highlighted Zambia's vulnerabilities to these shocks.** As global demand for copper decreased, copper export earnings (in US\$) contracted by 42 percent between 2011 and 2016. The impact of lower commodity prices was aggravated by El Niño-related droughts that decimated rain-fed agriculture and lowered hydroelectricity generation, which in turn affected mining production capacity. The current account balance deteriorated from a surplus of 2.1 percent of gross domestic product (GDP) in 2014 to a deficit of 3.3 percent of GDP in 2016, putting immense pressure on the Kwacha in late 2015. Meanwhile, procyclical fiscal policies pursued during the commodity boom proved to be unsustainable. Electricity, fuel, and agricultural subsidies, as well as growing interest payments could not be met with higher public revenues as economic growth slowed (to a low of 2.9 percent in 2015, 3.8 percent in 2016, and 3.5 percent in 2017). Thus, low copper prices undermined Zambia's tax collection performance, which was further exacerbated by a low tax base and low compliance.

<sup>2</sup> World Bank, "Powering the Zambian Economy," Zambia Economic Brief 6. (Washington DC: World Bank, 2015).



**Figure 1: Public Sector External Debt**



Source: International Monetary Fund (2017); Government of Zambia (Ministry of Finance) (2018); and World Bank (2018).

**The failure of fiscal policy to respond to the emerging revenue realities exacerbated Zambia’s copper and weather shocks.** An expansionary fiscal stance was maintained, with an average primary deficit of 6.0 percent of GDP between 2015 and 2018. These large deficits were largely financed by both domestic and non-concessional external borrowing, with the latter further worsening the fiscal situation as exchange rate depreciation over the years has increased the Kwacha value of the country’s external debt service. In addition, weak commitment controls led to a build-up in domestic payment arrears, which severely affected private sector development. In this context, arrears made the firms’ treasury situation more perilous, and the necessary tightening of the monetary policy crowded out banking credit to the private sector, which has been contracting since 2016. Meanwhile, climate shocks in 2015 and 2016 also affected the financial sustainability of the state-owned electricity utility, ZESCO. As such, it was forced to resort to more expensive energy sources not covered by corresponding tariff increases. This and other operational borrowing led ZESCO’s debt (including arrears) to nearly triple from US\$693 million in 2012 to about US\$1.8 billion by the end of 2018, presenting significant contingent liabilities and growth risks.

**Relative exchange rate stability and low inflation permitted a successive easing of monetary policy between November 2016 and December 2018.** Following reduction in Zambia’s inflation in 2017 to 6.6 percent from a high of 17.9 percent in 2016, the Bank of Zambia gradually reduced its policy rate from 15.5 percent in February 2017 to 9.75 percent at the end of 2018. In addition, it lowered the statutory reserve ratio (SRR) to 5 percent from 8 percent. However, exchange rate and food price pressures in 2019 have seen the Consumer Price Index (CPI) inflation rate breach the upper limit of the central bank’s inflation target range of 6-8 percent in recent months, thereby leading the Bank of Zambia to tighten its policy rate to 10.25 percent in May 2019 and to 11.50 percent in November 2019.

**Public debt vulnerabilities have heightened, and debt under the current policies is on an unsustainable path.** Public and publicly-guaranteed (PPG) debt has risen from 20.5 percent of GDP in 2011 to 78.1 percent of GDP in 2018, driven by accumulation of both external and domestic debt (Figure 1). External public and publicly-guaranteed debt is estimated to have

risen to US\$ 11.5 billion as of the end of March 2019 from US\$1.98 billion in 2011. The debt composition has also significantly shifted toward commercial and Non-Paris Club bilateral creditors, thereby exacerbating the country's exposure to exchange rate and market risks. At the end of 2011 (before the first bond issuance in 2012), the share of multilateral debt to total external public and publicly-guaranteed debt was 62 percent. This share has significantly declined to about 16.8 percent in 2018. In addition, total guaranteed debt and arrears of the state-owned electricity company, ZESCO, were above US\$1.8 billion at the end of March 2019. External PPG debt service obligations over 2019-21 are estimated to be US\$4.6 billion, roughly over 40 percent of domestic revenue per year. As a result, the 2019 World Bank/International Monetary Fund (IMF) Debt Sustainability Analysis concludes that Zambia's risk of overall and external debt distress remains very high. Furthermore, public debt under the current policies is on an unsustainable path.

**Fiscal consolidation and structural reforms, which were planned for 2017 and 2018 and which could have supported further monetary loosening and private sector lending, were only partially**

**implemented.** Reforms to reduce electricity and fuel subsidies and improve the targeting and effectiveness of agricultural subsidies were undertaken. Also, Kwacha 6.4 billion in domestic payment arrears (US\$668.8 million equivalent) were cleared in 2017, but new arrears accrued in 2018. The Public Finance Management Act was passed in 2019. A medium-term debt management strategy was approved in 2017, but was not updated in 2018. Moreover, critical bills are pending, including a move to improve legal and regulatory frameworks for financial supervision (Bank of Zambia Bill), reduce the costs of government procurement (Public Procurement Bill), improve public investment management (Planning and Budgeting Bill), and strengthen oversight of debt contracting (Loan and Guarantees Bill). In addition, delays in strengthening the quality, timeliness and comprehensiveness of debt reporting exposed Zambia to second-guessing of debt numbers and allegations of debt misreporting. These continue to severely undermine market sentiment and increase the cost of external borrowing.

Annex B presents latest available key macro-fiscal indicators.

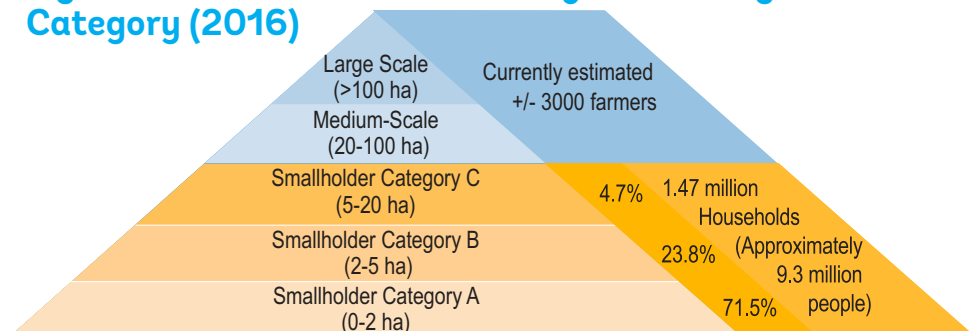


## 2. Agriculture and Financial Sector Overview

### Agriculture Sector

**Agriculture is a critical sector in the Zambian economy, but it has not sufficiently supported poverty reduction in rural areas.** The agriculture sector employed 48 percent of the working population in 2017. While employment in the sector remains high, the agriculture sector’s contribution to GDP declined from about 17.3 percent in 2004 to 8.2 percent in 2017 (World Bank 2018). This coincides with a decline in agriculture’s labor productivity — measured as annual value added per worker — from US\$702 in 2004 to US\$584 in 2015 (in constant 2010 US\$).<sup>3</sup> The low share of the agriculture sector’s contribution to GDP and the large share of labor force employed in agriculture indicate that most people remain locked into low-productivity subsistence agriculture, which is characterized by lack of access to productive assets, improved inputs and technologies, and markets, as well as a low level of agricultural diversification and skills (World Bank 2018). Most of the working population in agriculture is comprised of smallholder farmers: about 98 percent of farmers are smallholder farmers (see Figure 2), with 71 percent cultivating less than 2 hectares (ha); 24 percent cultivating 2-5 ha and 5 percent cultivating between 5-20 ha. A large share of the rural population lives below the poverty line. While urban poverty declined from 25.7 percent in 2015 to 23.7 percent in 2010, rural poverty increased from 73.6 percent in 2010 to 76.7 percent in 2015 (World Bank 2018).

**Figure 2: Distribution of Land Size According to Farmer Category (2016)**



Source: Chapoto and Chisanga (2016).

<sup>3</sup> Data are from World Bank’s World Development Indicators [accessed 21 June 2018].

**The agriculture GDP is comprised primarily of crops (69.6 percent), dominated by maize<sup>4</sup>.** The export of raw or semi-processed commodities is also notable. Within the crops sub-sector, maize accounts for more than 50 percent of the food crop. Cassava, vegetable, soybeans, groundnuts and wheat also contribute substantial shares. The main cash crops include sugar cane, cotton, and tobacco. The livestock sub-sector includes dairy, beef, and poultry. The livestock sector has contributed to the growth of crops, such as soybeans, due to the increase in demand for livestock feed. The fisheries industry employs over 300,000 people as fishers or fish farmers or indirectly along the value chain (Chapoto and others 2017). The agriculture sector contributes around 35 percent to total non-traditional exports (that is, all exports other than copper and cobalt) and about 10 percent of the total export earnings for the country (Zambia Development Agency 2015).

**Agriculture in Zambia is exposed to significant production risks.** Droughts, floods, and price volatility are the principal risks affecting crop agriculture in the country. Pests and diseases can also cause significant losses. Drought and outbreaks of animal disease are the principal risks affecting livestock. In addition, with the impact of climate change, cycles of severe drought are occurring more frequently than before, whereas the smaller localized droughts and dry spells average once every two to three years. The rain-fed agriculture and high poverty rates characteristic of smallholders have increased their exposure to frequent weather shocks and limited their ability to cope with them. In 2017/18, agriculture production for most major crops declined due to prolonged dry weather conditions across the southern half of the country (maize 33.6 percent, sorghum 24 percent, soya beans 13.9 percent, Irish potatoes 57.3 percent and

wheat (40.9 percent) (IAPRI 2019). The decline in the following production season (2018/19) was even more severe, with the maize crop dropping by an additional 16 percent (Ministry of Agriculture 2019).

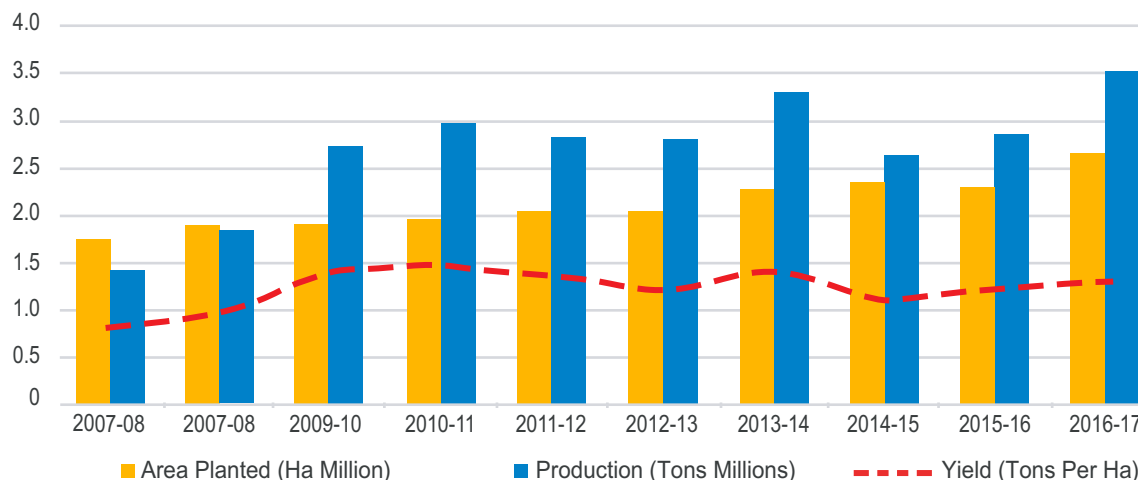
**Price volatility is the most significant market-related risk facing farmers and other players in the agricultural value chains in Zambia, thereby reducing the incentives to invest in agriculture.** Decreases in international prices are often rapidly transmitted to the local cotton market and affect production for the following year. The volatility of maize prices from one year to the next has lessened dramatically since the early 1990s, except in those years when the government intervenes in the market. This happened in the 2017-18 marketing season, for example, when maize prices crashed due to the introduction of an export ban. The unpredictable involvement of the Food Reserve Agency in procuring and disposing of the strategic maize reserves tends to cause price uncertainty as well (World Bank 2018).<sup>5</sup>

**While agricultural production of maize in Zambia has grown in past years, productivity has stagnated; furthermore, the focus on one crop has had several adverse consequences.** Between 2007 and 2017, national maize production increased by more than two million metric tons. At present, Zambia produces surplus maize. Maize continues to dominate crop production among smallholder households, with about 89 percent of households cultivating it. It also occupies about 57 percent of all arable land in Zambia. However, the production growth in maize stems from increasing the area under cultivation rather than significant increases in productivity (Figure 3). Maize productivity has improved only modestly and remains lower for poorer households (at 1.9 tons/hectare (t/

<sup>4</sup> Maize production suffered from additional challenges linked to the sporadic outbreak of the fall army worms, as well as bottlenecks in the launch of the electronic e-FISP.

<sup>5</sup> For a detailed and effective analysis of the potential of risk management practices in increasing agricultural resilience, see World Bank (2018).

**Figure 3: Trends in Maize Yields and Productivity**



Source: World Bank (2017), based on data from Central Statistical Office.

ha) compared to about 2.8 t/ha among non-poor households (World Bank 2017). In addition to low productivity, returns to maize production are low compared to horticultural and high-value crops (Hichaambwa and others 2015). Furthermore, non-diversified production systems are highly vulnerable to climate and market variability and lead to environmental degradation. An undiversified diet based primarily on maize also contributes to Zambia’s unacceptably high rates of malnutrition: indeed, 40 percent of children under five are stunted and 15 percent are underweight.<sup>6</sup>

### Opportunities and Challenges

**Zambia has great potential to increase and diversify agricultural production away from maize.** Zambia has a diversified agro-ecological environment, which permits the production of a wide variety of products. It also has reasonably favorable rainfall with one rain season in most areas, as well as opportunities for diversification in crop farming, livestock and fisheries. Of the 44 million hectares

of arable land, only around 11 million hectares are cultivated. Zambia is also home to 40 percent of water resources in southern Africa. However, while the country has 523,000 ha of irrigable land, only 155,890 ha (29 percent) are technically equipped for irrigation (SNDP 2017). Thus, only 30 percent of land is irrigated (World Bank 2018). Zambia has 12 million hectares of water bodies and 8 million hectares of wetlands, which are in principle available for fish farming. This is more than enough to produce fish to cover the demand gap of 35,000 metric tons. Lastly, Zambia shares borders with eight countries and is a member of regional bodies such as the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC), which provide access to the rapidly growing regional markets.

**Domestic food demand is expected to increase by three-fold over the next 15 years.** As income levels and urbanization increase, the composition of food consumed is also expected to increasingly shift to higher value commodities. The World Bank

<sup>6</sup> World Bank (2018).

(2013) estimated that urban food markets in Africa will increase fourfold and exceed a market value of US\$ 400 billion by 2030 (World Bank 2013). Trends toward a shifting dietary demand are visible in Zambia. For instance, demand for poultry tripled between 2012 and 2015 (that is, from 3 kg per capita to 9 kg per capita). Between 1996 and 2015, food expenditures for maize declined from 23 percent to 14 percent, and both urban and rural households increased expenditures for perishable and processed foods (World Bank 2018).

**There is strong potential for the development of the agro-processing sector in Zambia**, which in turn can become a driver of Zambia's structural transformation and economic development. The changing domestic demand, the abundance of agricultural raw materials, relatively low-cost labor, and access to regional markets indicate a strong potential to further develop the agro-processing sector. Animal feed processing, grain milling, edible oil production, meat and dairy processing, honey and nut processing, etc. are some of the key areas considered to be of high potential. The agro-processing sub-sector already contributes to over half of the non-service jobs in the formal sector. Likewise, it accounts for 60 percent of Zambia's manufacturing sector (Zambia Development Agency 2015). The development of the agro-processing sector is expected to allow for a reallocation of labor from the low-productivity sectors, such as agriculture, to more productive activities in the manufacturing sector. This would be a sign of an effective structural transformation and economic growth.<sup>7</sup>

**The sector also faces several challenges.** These include climatic challenges (the country suffered an El Niño in 2015); susceptibility to some major agricultural pests (fall army worms and stock borers) and livestock diseases (foot and mouth disease, contagious bovine pleuropneumonia and African swine fever); high transport costs to markets due to Zambia being landlocked; and low productivity of both crops and livestock compared to their potential contribution. The cost of seeds and fertilizers is high because they are mostly imported from other countries. The challenges faced by the livestock sub-sector include: heavy dependency on rain-fed pasture grazing (76 percent of national herd owned by smallholders); the high cost of good quality animal feed; the poor genetic performance of local breeds due to exposure to diseases; and limited access to knowledge regarding livestock management and agricultural extension services. Lastly, most farmers do not have formal lease documents, which limits their ability to use the land as collateral.<sup>8</sup>

### **Agricultural Policies**

**The Government acknowledges the important role of the agriculture sector and has shown a high level of strategic commitment to the sector.** [The 2013 Zambia National Agriculture Policy \(NAP\)](#) sets out the Government's policy commitments. The National Agriculture Investment Plan (NAIP) 2014–2018 identified specific areas of investment to help implement the NAP. The Zambian Government's commitment to the sector is also indicated by the increasing

<sup>7</sup> World Bank (2018). Structural transformation involves the reallocation of labor and capital from low-productivity sectors such as agriculture to more productive sectors or activities within a sector. The higher the productivity gap between the sectors, the larger the potential for aggregate productivity growth. Over time, the productivity gap between sectors declines and returns to labor, that is, wages, across sectors should be equalized.

<sup>8</sup> All land is held either under the customary law under traditional chiefs (94 percent) or is owned by the State (6 percent), and farmers can only have lease rights over their land.

budget allocated to the sector. In line with the Comprehensive Africa Agriculture Development Program (CAADP), Zambia gradually increased the share of agriculture in public spending from less than 2 percent in the early 2000s to 10 percent in 2010-11.

It has maintained this commitment to between 5.4 percent and 10 percent since then.<sup>9</sup> The Government also implements several donor-funded projects in the agriculture sector.

**In the past several years, national policies have emphasized the need for enhancing agricultural diversification.** Agricultural diversification and the development of private-led marketing systems were already major objectives in the Sixth National Development Plan (SNDP, 2011-2015), the NAP and its implementing strategies. It continues to be emphasized in the Seventh National Development Plan for 2017-21. A key component of the NAIP is improved crop diversification and the introduction of different varieties adapted to the country's agro-ecological zones and weather patterns to enhance resilience and food security. Additionally, it also includes the financing of improved extension services and increased facilitation of access to inputs for smallholder farmers through improved targeting of the Farmers Input Support Program (FISP).

**However, to support the agricultural sector to achieve its potential, there is a need to better balance the public spending on agriculture.** Between 2008 and 2018, an average of 79 percent was spent on the FISP and the Food Reserve Agency (FRA). The FISP is the Government's primary program to support small-scale farmers. Under the program, over 1 million farmers are provided with

agricultural inputs at highly subsidized prices. As such, the farmers receive inputs worth Kwacha 2000 against a contribution of Kwacha 300. The FISP and the FRA have helped to turn Zambia into a structural surplus producer for maize. However, they have not managed to enhance productivity, ensure food and nutrition security or sustainably reduce poverty. Zambia spends less than 1 percent of its agricultural GDP on agricultural research and development, a level much lower than in countries that have successfully transformed their agricultural sector. (World Bank 2017).

**In recent years, the Government has taken some steps to reorient public spending on agriculture.** Starting in the 2015/16 season, the Government initiated reforms in the FISP and the FRA to ensure that there is enough spending on other high-priority areas, and thereby ensure the sustainable and diversified growth in the sector. It reduced the number of beneficiaries under the FISP, and initiated a flexible electronic voucher system to move the program to a market-based and digitized system (Electronic FISP or e-FISP). The e-FISP aims at improving the targeting, efficiency, transparency, and input choice. It also incentivizes crop diversification toward higher-value and resilience-enhancing commodities. In addition, a weather index insurance (WII) program was introduced to compensate farmers in case of weather-induced losses (for example, early or late dry spells, excess rainfall). However, both programs have faced serious implementation challenges. The e-FISP and the WII are discussed in more detail in Chapter 4. The FRA reforms have capped the volume of maize to be procured at 500,000 metric tons. However, delays in payments by the FRA are reported to still be an issue.

<sup>9</sup> The CAADP is an initiative by African governments under the African Union/New Partnership for Africa's Development. The CAADP seeks to achieve a 6 percent annual growth rate for the agricultural sector, with an allocation of at least 10 percent of the national budget to agriculture.

**Table 2: Distribution of Financial Sector Assets, (September 2019)**

Sector	Number of Financial institutions (FIs)	Percentage share of total assets	Value of assets (Millions of Kwacha)
Banking Sector	18	73.3	88,047
Pension Funds	245	16.6	19,985
Microfinance Institutions	34	5.3	6,336
Insurance	29	2.0	2,460
Building Societies	1	1	1,170
Leasing and Financial Businesses	7	0.3	372
Development Banks	1	1	1,146
Savings and Credit Institutions (NatSave)	1	0.4	468
Other	75	0.1	87
<b>TOTAL</b>	<b>411</b>	<b>100</b>	<b>120,071</b>

Source: Bank of Zambia (2019).

## Financial Sector

**Zambia’s financial sector is dominated by the banking sector, but it consists of a broad array of financial institutions.** The banking sector holds nearly 70 percent of financial sector assets, of which over 80 percent are held by subsidiaries of majority foreign-owned banks. Other major financial sector institutions include pension funds, microfinance institutions, insurance companies and building societies (Table 2). Of the 18 licensed commercial banks, four are jointly owned by the government. The sector listed as “other” includes 75 currency exchange firms, 11 savings and credit cooperatives, 19 general insurers, 10 long-term insurers and 2 public insurers; 3 public pension funds and 245 private schemes; 2 payment system operators, 42 payment service providers (including three Mobile Network Operators [MNOs]) and 1 credit reference bureau. Additionally, the total market capitalization of the debt and equity capital market stood at Kwacha 56.8 billion (or US\$ 4.19 billion). There are 22 listed entities on the Lusaka Stock Exchange, including government bonds and 26 corporate bonds (LuSE, 2019).

**The financial access points have grown substantially and are supported by agents.** As of December 2018, there were 372 bank branches, 302 non-bank branches, and 14,916 other access points (primarily mobile money agents). The insurance sector had 32 insurance brokers, eight loss adjusters, and 169 insurance agents. Over the past three years, the number of active financial services agents, mostly mobile money agents, has increased exponentially to over 46,000.

**Mobile money usage has grown rapidly in recent years.** As of 2018, there were 3.9 million active mobile money accounts with services being provided by the three MNOs (including Airtel, MTN and Zamtel) (UNCDF 2019). The value of mobile money transactions increased to \$1.7 billion in 2018 compared to \$729 million worth of transactions in 2017. During the same period, the volume of transactions increased to 304 million from 172 million (BOZ Statistics 2018).

**Credit to the private sector contracted sharply since 2015, but it has since partially recovered.** From a high of nearly 20 percent in 2015, the credit-



to-GDP ratio fell sharply to 11.2 percent in 2017, but it recovered to 14.4 percent in 2018. The slowdown in the financial services sector was substantially impacted by the increase in non-performing loans (NPLs) which stood at 11 percent as of December 2018. The average nominal Kwacha bank lending rates decreased to 24 percent in May 2018 from a high of 29 percent in December 2016. Nonetheless, the real interest rate is relatively high at 16 percent. The high NPLs, high interest rates and increased domestic borrowing by the Government are likely to be limiting private sector credit growth.

**The insurance market in Zambia has a diverse set of industry players, but insurance penetration is well below the Sub-Saharan African (SSA) average.** After over two decades of the Zambia State Insurance Corporation (ZSIC) operating as a government-owned monopoly insurer, the insurance market was liberalized in 1992. Since then, foreign and domestic insurers are again permitted to operate (AXCO 2018). Currently, 20 insurance and 3 locally licensed reinsurance companies operate in Zambia together with a diverse set of industry players (including brokers, agents, adjustors, surveyors, and so on) (PIA 2019). The growth of premium income in the non-life insurance market in Zambia is slow, and insurance penetration is weak, reaching only 2.04 percent in 2017.<sup>10</sup>

**Zambia has a relatively modernized national payment system.** The Zambian Interbank Payment and Settlement System (ZIPSS) is the country's real-time, gross settlement system for the settlement of interbank activities in the financial system. The system has commercial banks and the central bank as direct participants. The ZIPSS is integrated into the Bank of Zambia Central Securities Depository, the Zambia Electronic Clearing House Lt, the

Zambia Revenue Authority, and the Ministry of Finance's Integrated Financial Management Information System (Bank of Zambia 2018). Key pending reforms include providing access to the payment system for non-banks and inter-operability of e-money.

**Recent secured transaction reforms have substantially strengthened Zambia's credit infrastructure.** In 2016, Zambia enacted the [Moveable Property \(Security Interest\) Act No. 3 of 2016](#) to enable the creation of security interests in moveable property, harmonize secured transaction laws, and minimize transaction costs. In 2017, in line with this Act, a web-based [Collateral Registry](#) for moveable assets was established by the Patents and Companies Registration Agency (PACRA). As of the end of February 2019, the registry reported over 4,000 registrations. Small- and medium-sized businesses accounted for most of the loans recorded in the registry. Vehicles, machinery and equipment, household goods, and agricultural equipment are the main types of movable assets used as collateral for loans.

**The recent passage of the Credit Reporting Act is expected to substantially strengthen Zambia's credit reporting system.** Zambia has a private credit bureau (TransUnion), and it is supervised by the BoZ. Both banks and microfinance institutions (MFIs) provide data to the bureau. Furthermore, the share of data provided by MFIs has steadily increased over the years. However, usage (inquiries) growth has been slower than expected, and the bureau still does not collect data on non-financial payments such as utility payments. The enactment of the [Credit Reporting Act of 2018](#) is a key reform and provides the legal framework to collect and make available such data to both financial service providers and users.

<sup>10</sup> Insurance penetration is defined as the ratio between Gross Written Premium (GWP) and Gross Domestic Product (GDP). In SSA, the highest insurance penetration rate is 16.99 percent (South Africa) and the lowest is 0.04 percent (Guinea) (Statista.com).

**The Zambian financial system is supervised by three major regulators.** Banks and non-bank financial institutions are regulated and supervised by the Bank of Zambia. The insurers and pension funds are regulated by the Pensions and Insurance Authority, and the capital market is regulated by the Securities and Exchange Commission. The Bank of Zambia has separate departments for supervising banks and non-bank financial institutions, and both departments carry out regular off-site and onsite inspections of the supervised entities.

**Zambia has made substantial improvements in financial inclusion over the past decade.** Data from Finscope surveys shows that the proportion of adults having access to the formal financial sector increased from 23.1 percent in 2009 to 38.2 percent in 2015. However, there is a large (25 percent) gap in access between urban and rural areas, and a substantial gender gap of around 10 percentage points between formal access levels of men and women. Data from the 2017 Global Findex Survey indicates that the adult population with access to the formal financial sector has further increased to 46 percent. This increase seems to be driven by

the rapid growth in access to mobile money, which rose from around 12 percent in 2014 to 28 percent in 2017.

**Zambia’s National Financial Sector Development Policy and National Financial Inclusion Strategy (NFIS) launched in 2017 identify policy priorities and goals for the financial sector.** The policy and strategy build on foundations laid by the previous Financial Sector Development Plans (FSDPs). The main goal of the NFIS is to “achieve universal access to and usage of a broad range of quality and affordable financial services that meet the needs of individuals and enterprises.” The overall, high-level targets for the NFIS are to have 80 percent of the population financially included (formally and/or informally) and 70 percent of the adult population formally financially included by 2022. The strategy is expected to help bring the unbanked and under-served populations into the formal financial system by exploiting technological advancements which have created opportunities for expanding access to and usage of financial services, among other measures.



## 3. Financial Inclusion of Farmers and Access to Finance for Agribusinesses

### Financial Inclusion of Farmers and Fisherfolk

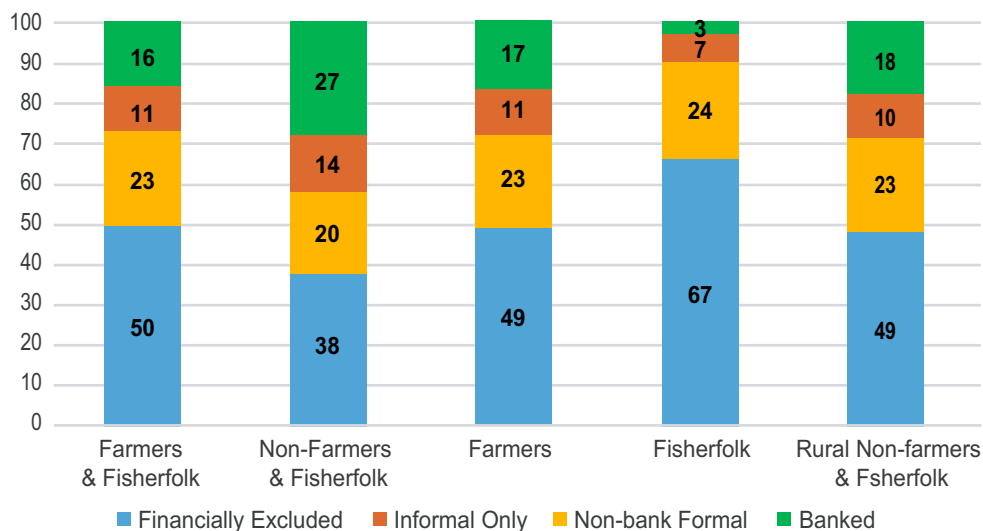
**The financial inclusion of individuals and enterprises in the agriculture sector is key to inclusive growth in the agriculture sector.** There is now a global consensus that financial inclusion of individuals and SMEs is critical to inclusive growth and poverty reduction. Indeed, the first step towards this goal is access to a transaction account (that is, a bank, non-bank, or an e-money account). Financial inclusion of individuals and enterprises engaged in the agriculture sector needs attention since traditionally their levels of inclusion have been substantially less than that of individuals and enterprises in other sectors of the economy.

**This chapter utilizes data from Financial Sector Deepening Zambia (FSDZ) 2015 Finscope Survey and the World Bank (WB) 2017 Global Findex Database to analyze levels of financial inclusion among Zambian farmers and fisherfolk.** The 2015 Finscope survey data allows for a detailed, comparative analysis of financial inclusion among those adults whose income derives primarily from farming and fishing and other Zambian adults.<sup>11</sup> The WB Global Findex 2017 data, though not directly comparable to the Finscope 2015 data, provides more recent data that allows for additional comparative analysis (World Bank 2017). Tests of association were carried out to evaluate the statistical significance of the differences between the farmers and fisherfolk segment and the rest of the population for the indicators analyzed. A similar analysis of enterprises in the agriculture sector was not carried out because the national enterprise survey that would allow for a similar analysis is not available.

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<sup>11</sup> The Bank of Zambia and Financial Sector Deepening Zambia conducted the Finscope survey in 2015, with input from FinMark Trust. The survey reflects 8,570 interviews with a 99 percent response rate. See FSD Zambia (2015), Finscope 2015, <http://www.fsdzambia.org/finscope-2015/> for the findings, and DataFirst, Open Data Portal: Zambia-Finscope (2015), <https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/619> for the data catalogue.

**Figure 4: Access to Financial Services by Population Segment (Percent)**



Source: Financial Sector Deepening Zambia (2015)

Note: Data description: Figure 4 categories within each population segment are mutually exclusive. The underlying variables are drawn from the FSDZ's access strand (fas) variable, which aggregates survey respondents who: (1) have or use banking services; (2) don't use bank services, but have or use non-bank formal services (for example, MFIs, Savings and Credit Co-Operatives [SACCOs], microlenders, insurance); (3) don't have or use formal services, but use informal services; and (4) are financially excluded.

Tests of significance: Proportional differences between each segment and its population complement are statistically significant. For example, differences between farmers and fisherfolk and non-farmers/fisherfolk are significant. Proportional differences between rural non-farmers/fisherfolk and rural farmers/fisherfolk are not statistically significant.

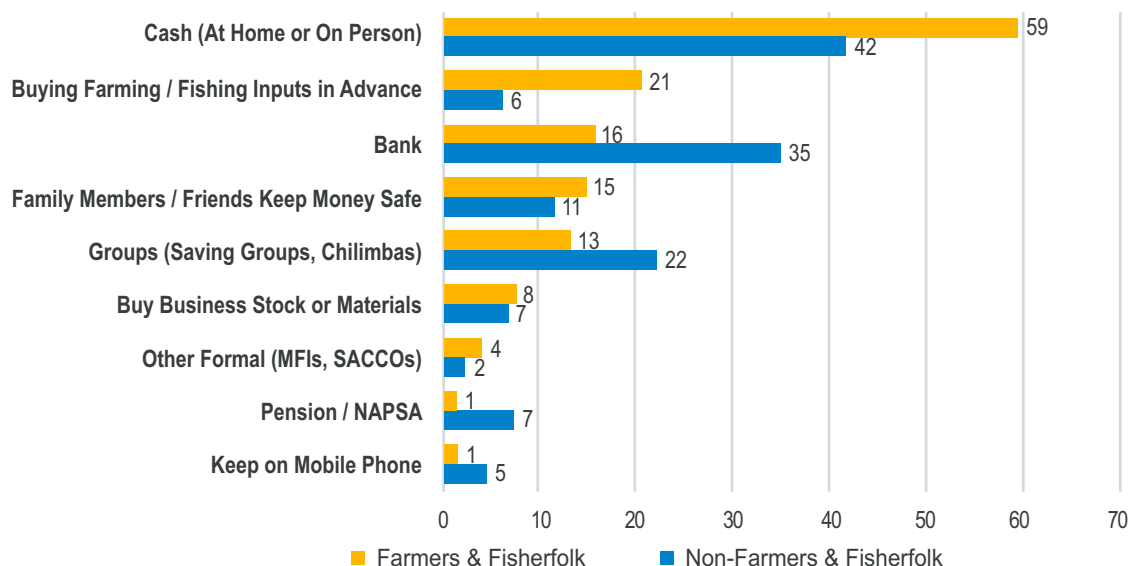
**The 2015 Finscope survey found that 21.5 percent (1.75 million) of the Zambian adult population's main source of income derived from farming and 1.3 percent (108,147) from fishing activities, whereas the 2017 Findex data finds that 29 percent (2.77 million) of Zambian adults report receiving agricultural payments.<sup>12</sup> While a larger proportion of the Zambian population (48 percent) is involved in agriculture than the groups on which the Finscope and Findex surveys focus, this chapter analyzes those segments addressed in the two surveys. In this regard, these respondents have a higher potential to be reached through financial inclusion interventions based in the sector.**

**The 2015 Finscope survey found substantial gaps in levels of financial inclusion of Zambian farmers and fisherfolk compared to the rest**

**of the population (Figure 4).** Farmers and fisherfolk had decisively lower access than other Zambians to formal financial services. Only about 27 percent of farmers and fisherfolk had access to formal financial services compared to 42 percent Zambians employed in other sectors. In 2015, the gap between farmers and fisherfolk and other Zambians in access to banking services exceeded 10 percent. In aggregate, 18 percent of farmers and fisherfolk had access to or used non-bank formal financial services compared to 32 percent of other Zambians. About 17 percent of non-farmer/fisherfolk had mobile money access in 2015 compared to less than 5 percent of farmers and fisherfolk. Access to other formal channels, including MFIs, cooperatives, and microlenders, was comparable between the two groups, at around 4 percent. Zambians generally have low

<sup>12</sup> Findex defines adults who received agriculture payments as "respondents who report personally receiving money from any source for the sale of agricultural products, crops, produce, or livestock in the past 12 months." World Bank (2017), Global Findex Glossary.

**Figure 5: Saving Mechanisms (Percent of Savers in Population Segment)**



Source: Financial Sector Deepening Zambia (2015)

Note: Data description: Figure 5 categories are not mutually exclusive. Underlying data are drawn from the FSDZ survey question 4.3, which asks respondents to indicate which savings products they have.

Tests of significance: Proportional differences between farmers and fisherfolk and non-farmers/fisherfolk are statistically significant for all saving mechanism categories, except buying business stock or materials.

access to MFIs and cooperatives. Unlike in many other African countries, the MFI and financial cooperative sectors do not have a large outreach in Zambia.

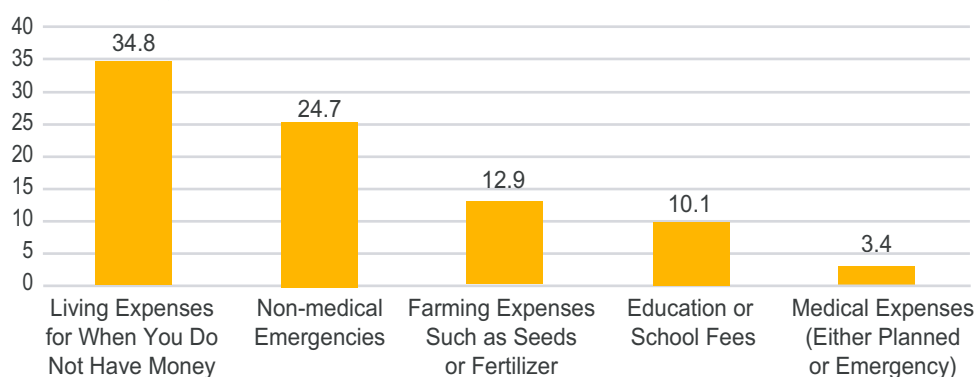
**Fisherfolk had strikingly low levels of financial access in 2015.** Although fisherfolk represent a relatively small proportion of the adult population (1.3 percent), the gap between their levels of financial access and even those with agriculture as their primary income source is striking. Only 10 percent of fisherfolk were formally served in 2015, which is nearly one-third the level for farmers, and one-fourth the level for others. Given the relatively small size of the fisherfolk population, disaggregated analysis for this group is only done for financial access (and not for usage of specific services). Financial access among farmers and other rural Zambians was largely indistinguishable, which suggests that the financial inclusion status of farmers may be strongly linked to their geographic circumstances.

**Farmers and fisherfolk saved more than the rest of the population in 2015, but they had much lower access to formal savings channels (Figure 5).** According to the 2015 Finscope survey, about 68 percent of farmers and fisherfolk saved as compared to 62 percent of other Zambians. Substantially more farmers and fisherfolk saved in cash at home or in person or with family and friends (59 percent and 15 percent, respectively) than the rest of the population (42 percent and 11 percent, respectively). In contrast, farmers and fisherfolk saved considerably less frequently through banks (16 percent) than other Zambian savers (35 percent). Among non-banks, farmers and fisherfolk saved less frequently through pensions and mobile money, but more frequently through MFIs and Savings and Credit Co-Operative (SACCOs) than the rest of the population.

The most common drivers of savings among farmers and fisherfolk were not farming related (Figure 6). Perhaps not surprisingly, living expenses and non-medical emergencies were much larger drivers than savings specifically for farming. This suggests the importance of increasing the general access to formal savings services for farmers and fisherfolk rather than savings products that are tied to farming activity.

As with other Zambians, farmers and fisherfolk primarily borrow from family and friends (Figure 7). Farmers and fisherfolk and other Zambians borrowed at a statistically indistinguishable rate of about 30 percent of the population in 2015. Among these, 81 percent of farmer and fisherfolk borrowed from family and friends, as compared to 68 percent of other borrowers. The access to formal sources of credit was generally very small, but it was marginal

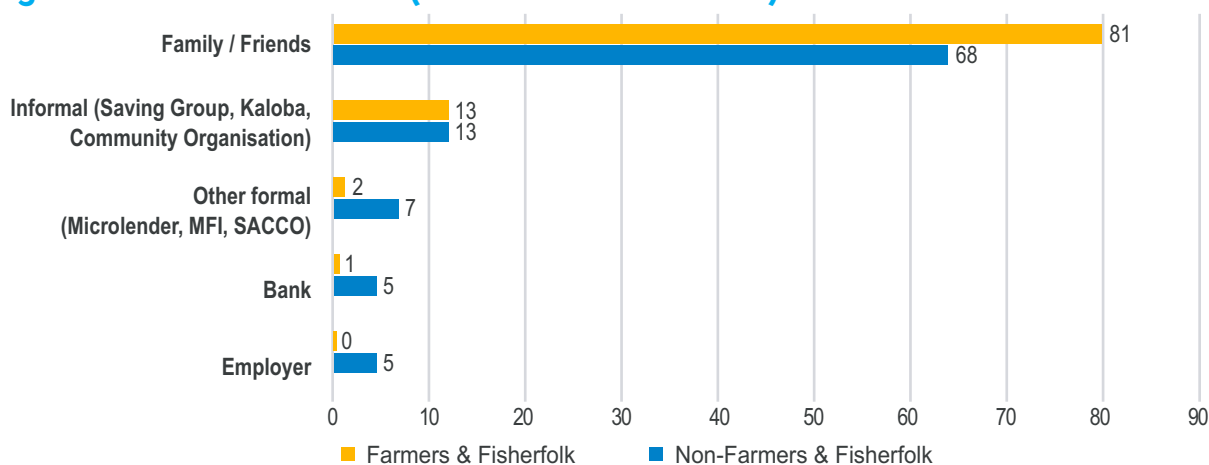
**Figure 6: Top 5 Drivers of Saving among Zambian Farmers and Fisherfolk (Percent of Savers)**



Source: Financial Sector Deepening Zambia (2015)

Note: Data description: Figure 6 categories are mutually exclusive. Underlying data are drawn from the FSDZ survey question 4.5, which asks respondents to indicate which one of a series of categories is the main reason they save.

**Figure 7: Source of Credit (Percent of Borrowers)**



Source: Financial Sector Deepening Zambia (2015)

Note: MFI= microfinance institution; SACCO= Savings and Credit Co-Operatives.

Data description: Figure 7 categories are not mutually exclusive. Underlying data are drawn from FSDZ survey question 5.4a, which asks respondents to indicate which loan sources they have accessed in the last 12 months.

Tests of significance: Proportional differences between farmers and fisherfolk and non-farmers/fisherfolk are statistically significant for all borrowing sources except informal sources.

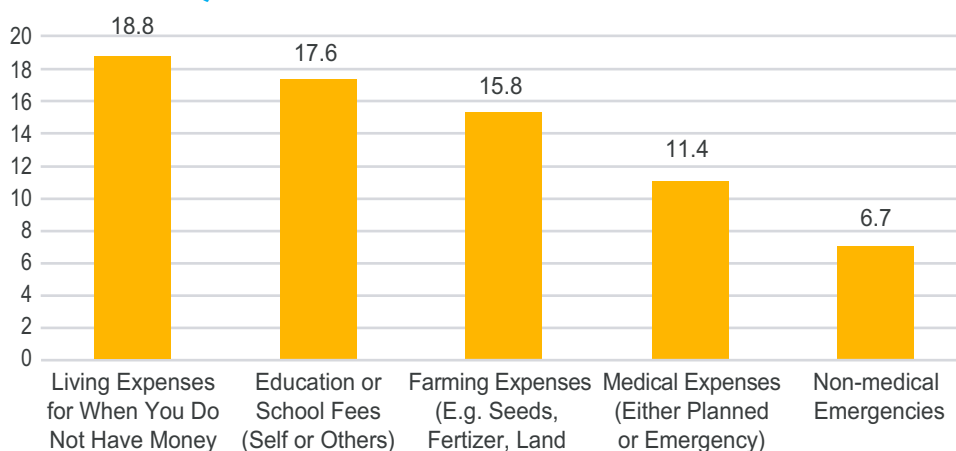
for farmers and fisherfolk. Only about 1 percent of farmer and fisherfolk borrowers accessed bank credit, and just 2 percent of farmers and fisherfolk borrowed from other formal sources, such as microlenders, MFIs, and SACCOs as compared to 5 and 7 percent of other Zambian borrowers, respectively.

**Farming expenses are the third largest driver of borrowing after living expenses and education (Figure 8).** As in the case of savings, this suggests that there is generally a greater need to increase access to credit from formal sources rather than just

credit for farming or fishing. Living expenses and school fees are the largest drivers of borrowings. This also reinforces the need to increase access to formal savings channels for farmers and fisherfolk.

**Although the usage of insurance and pensions are low among all Zambians, farmers and fisherfolk have particularly constrained usage levels (Figure 9).** In 2015, only 0.63 percent and 0.92 percent of farmers and fisherfolk, respectively, had access to or used insurance and pensions. The rest of Zambians had low but considerably higher

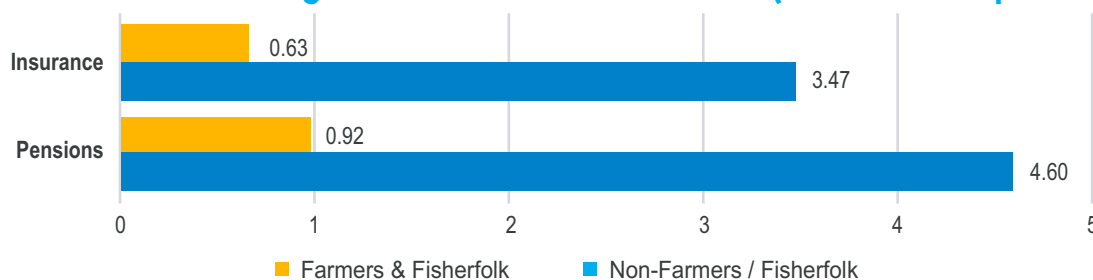
**Figure 8: Top 5 Drivers of Borrowing among Zambian Farmers and Fisherfolk (Percent of Borrowers)**



Source: Financial Sector Deepening Zambia (2015)

Note: Data description: Figure 8 categories are mutually exclusive. Underlying data are drawn from FSDZ survey question 5.6, which asks respondents to indicate which one of a series of categories their largest source of credit went toward.

**Figure 9: Access to or Usage of Insurance and Pensions (Percent of Population)**

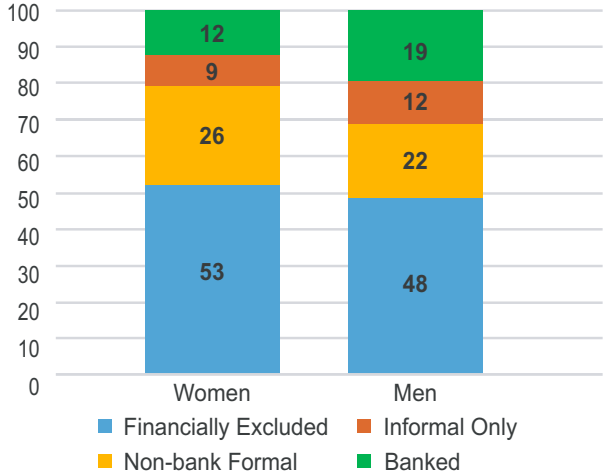


Source: Financial Sector Deepening Zambia (2015)

Note: Data description: Figure 9 categories are not mutually exclusive. Underlying data are drawn from FSDZ variables: insurance (have or use insurance); and pensions (have or use pension services).

Tests of significance: Proportional differences between farmers and fisherfolk and non-farmers/fisherfolk are statistically significant for insurance and pensions.

**Figure 10: Gender-disaggregated Financial Access Among Farmers and Fisherfolk (Percent)**



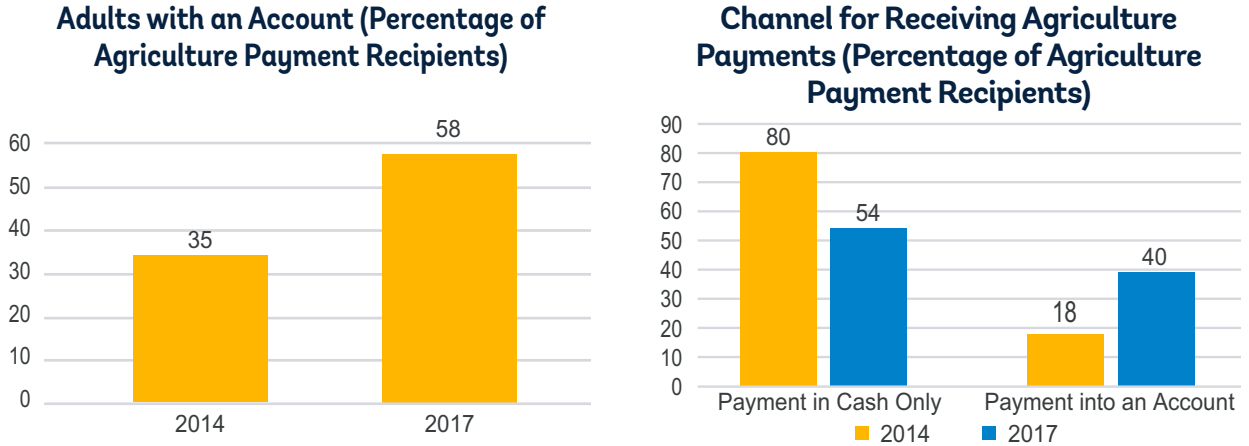
Source: Financial Sector Deepening Zambia (2015)  
 Note: Data description: Figure 10 categories within each population segment are mutually exclusive. Underlying variables are drawn from the FSDZ access strand (fas) variable, as described in Figure 1. Tests of significance: Proportional differences between financial access for women and men are statistically significant.

insurance and pensions usage in the same period. Among insured farmers and fisherfolk, more than 50 percent reported using agriculture insurance.

**Women farmers and fisherfolk had substantially lower levels of access to formal service providers than men in 2015 (Figure 10).** Only about 21 percent of women farmers and fisherfolk were formally included in 2015. They lagged men in access to formal financial services by about 10 percentage points.<sup>13</sup> The gap in banking access was particularly wide, at about 7 percent.

**The 2017 Findex data indicate considerable progress in expanding access for farmers over the past few years.** In 2017, 58 percent of adults who received agriculture payments had access to an account, up from about 35 percent in 2014 (Figure 11). The Findex data further indicate that 35 percent of adults who receive agriculture payments into a financial account opened their first account for that particular purpose. Additionally, between 2014 and 2017, the percentage of agriculture payment

**Figure 11: Access Trends among Agriculture Payment Recipients (2014 and 2017)**

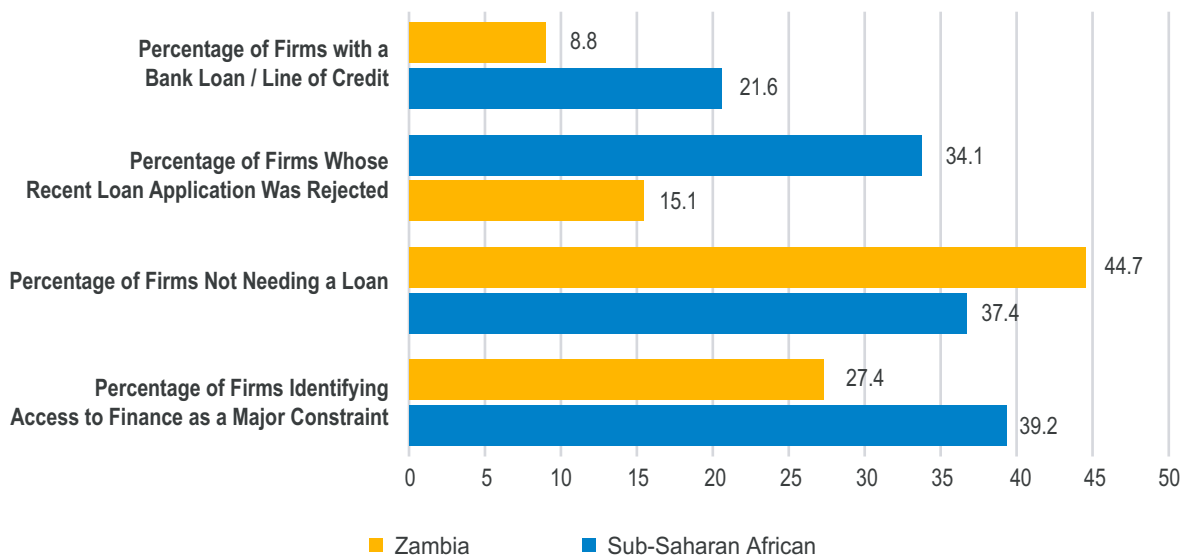


Source: World Bank Global Findex (2017)  
 Note: Agriculture payment recipients denotes “respondents who report personally receiving money from any source for the sale of agricultural products, crops, produce, or livestock in the past 12 months” (World Bank, Global Findex Glossary, 2017).

<sup>13</sup> The gender breakdown in Zambia is 51 percent female, and 49 percent male. The gender breakdown among farmers and fisherfolk is 41 percent female, and 59 percent male.



**Figure 12: Access to Credit Among Zambian Firm (Percent)**



Source: World Bank (2014)

recipients who received their payment in an account more than doubled, increasing from 18 to 40 percent. The increase was driven by an increase in access to mobile money accounts. The percentage of agriculture payment recipients who received payments in a mobile money account increased from 2.1 percent in 2014 to 27.2 percent in 2017, whereas payments into a financial institution account rose from 16.2 percent to 21.8 percent. This corresponds to an increase in access to mobile money in general in Zambia. Specifically, between 2014 and 2017, access to mobile money accounts among all adults increased from 12.1 percent to 27.8 percent.

### Access to Finance for Enterprises related to Agriculture and Forestry

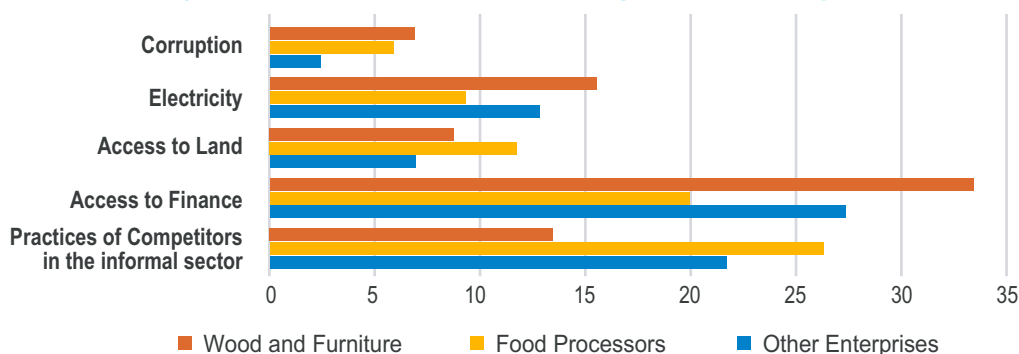
This analysis primarily utilizes data from the World Bank’s [2013 Zambia Enterprise Survey](#). The Survey is a firm-level survey of a representative sample of 720 Zambian enterprises. The analysis undertaken for this report focuses on the survey’s business sector classifications most closely associated with the economic sector ‘agriculture,

forestry and fishery.’ These include the food processing sector (62 enterprises) and the wood and furniture manufacturing sector (75 enterprises). The discussion below presents results for these two groups compared to the rest of the enterprises in the survey (under the category “other enterprises”).

**The 2013 Zambia Enterprise Survey results showed that Zambian firms have much lower access to credit compared to the average for Sub-Saharan African firms (Figure 12).** The proportion of firms in Zambia that reported having access to credit was less than half of the average for Sub-Saharan African firms. In addition, Zambian firms reported more than double the rate of rejection of loan applications. However, a much higher proportion of firms in Zambia reported not needing a loan, and a much lower proportion reported finance as a major constraint — an indication of key binding constraints outside of the financial sector.

**The 2013 Enterprise Survey reveals that Zambian agribusiness enterprises consider access to finance a substantial obstacle (Figure 13).** Access

**Figure 13: Most Significant Obstacle Affecting Business Operations (Percent)**



Source: World Bank (2014)

Note: Data description: The underlying data are drawn from the 2013 Enterprise Survey’s question m1a, which asks respondents to indicate the “biggest obstacle affecting the operation of this establishment.”

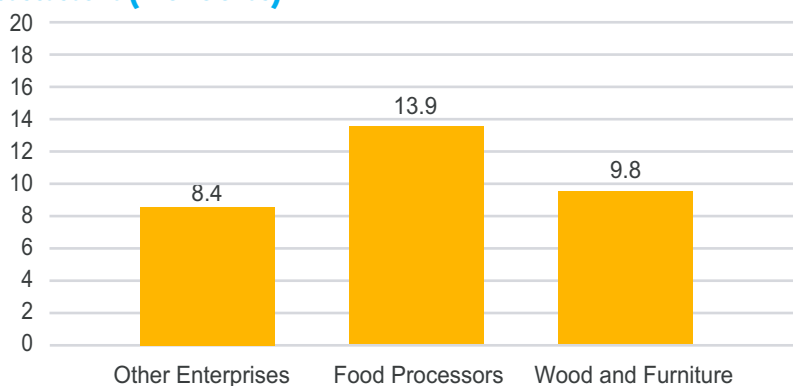
Test of independence: The assumption of independence between obstacle and enterprise sector cannot be rejected.

to finance is the most commonly reported ‘most significant obstacle’ among wood and furniture manufacturers, whereas food processors report this as the second most significant obstacle after “practices of competitors in the informal sector”. In total, more than a third of wood and furniture manufacturers and about 20 percent of food processors report access to finance as the most significant obstacle affecting the operations of their businesses. In terms of relative severity, 50 percent of wood and furniture manufacturers and 28 percent of food processors

report access to finance as a “major” or “very severe” business obstacle.

**Access to credit is low among all Zambian enterprises (Figure 14), including food processors and wood and furniture manufacturers; a relatively small share of enterprises applies for a loan.** About 14 percent of food processors reported having access to a loan or line of credit from a financial institution, whereas just under 10 percent of wood and furniture manufacturers reported having a

**Figure 14: Share of Enterprises with a Loan or Line of Credit from a Financial Institution (Percent)**

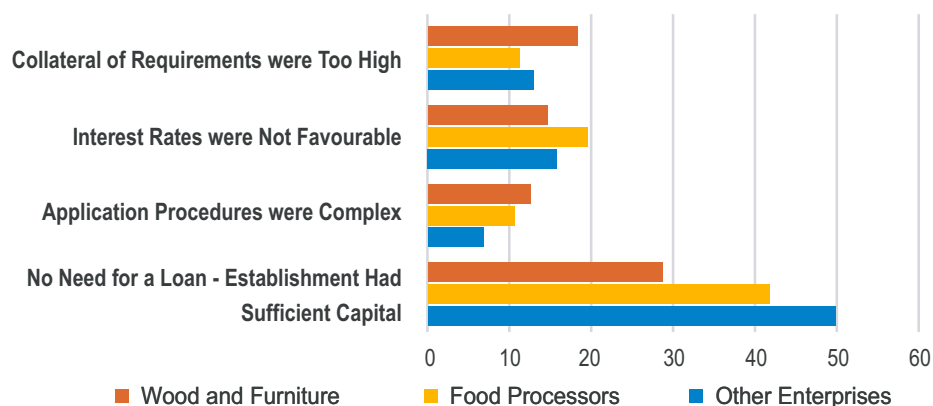


Source: World Bank (2014).

Note: Data description: The underlying data are drawn from the 2013 Enterprise Survey’s question k8, which asks respondents, “At this time, does this establishment have a line of credit or a loan from a financial institution?”

Test of independence: The assumption of independence between credit access and enterprise sector cannot be rejected.

**Figure 15: Main Reasons Enterprises did not Apply for a Loan (Among Those that Did Not Apply) (Percent)**



Source: World Bank (2014)

Note: Data description: The underlying data are drawn from the 2013 Enterprise Survey's question k17, which asks respondents, "What was the main reason why this establishment did not apply for any line of credit or loan?"

Test of independence: The assumption of independence between the reason cited and enterprise sector cannot be rejected.

credit line. For the fiscal year preceding the survey, 14 percent of wood and furniture manufacturers and 12 percent of food processors reported using bank loans to finance at least some share of their working capital. Less than 10 percent of enterprises in all three segments reported applying for a loan in the fiscal year preceding the survey. Among those enterprises that applied for a loan, over 40 percent in all three segments reported that their applications had been rejected.

**Many more agribusiness enterprises indicate not applying for a loan because they had sufficient capital as compared to those that cite other factors (Figure 15).** Among those enterprises that did not apply for a loan in the last fiscal year, all three enterprise segments report that the main reason for not applying was because they had

sufficient capital. This included over 40 percent of food processors and nearly 30 percent of wood and furniture manufacturers. By contrast, less than 20 percent of food processors and wood and furniture manufacturers cited high interest rates, collateral requirements and complex application procedures as the main reasons for not applying for a loan.

**A 2016 survey of growth-oriented agro-processing SMEs confirms that access to finance and the cost of finance remain impediments to growth for agro-processing SMEs.<sup>14</sup>** Forty-two percent of agro-processing SMEs cited the cost of finance as one of the three biggest obstacles to growth, and 20 percent cited access to finance as a constraint. The cost of finance was the second most widely cited impediment, behind utility problems.

<sup>14</sup> This was a World Bank survey of 50 purposively selected (non-representative) sample of agro-processing SMEs conducted in 2016 to inform the preparation of the World Bank's [Zambia Agribusiness and Trade Project](#).





## 4. Agriculture Finance Market, Policies, and Programs

This chapter provides a market overview of agricultural payments, credit and investments and insurance. The section on agricultural payments discusses the major payment initiatives that can lead to more complex financial products through accumulation of financial transaction information. The section on agricultural credit and investments discusses the recent trend and performance of bank and non-bank lending to the agricultural sector, as well as financing to the sector from investment funds. Lastly, the section on agricultural insurance discusses the growth and performance of indemnity and index insurance products in the agricultural sector. There is no dedicated section for savings as there are no major agriculture sector-specific products, apart from some examples mentioned in various sections in this paper.

### Agricultural Payments

Agricultural payments that have been digitized — or that have the potential to be digitized — deserve closer attention because of the potential benefits from digitization. In this regard, digitization of farmer payments can benefit the government, agribusinesses and farmers. For the government and agribusinesses, the digitization of payments reduces costs and provides transaction records that ensure that the recipients receive the full amount of intended payments within the expected time. For farmers, digitizing payments helps them to be compensated quickly and securely, thereby enabling access to value-added financial services.

Furthermore, electronic payment transaction information allows financial service providers to better estimate the potential demand for other financial products, such as savings, credit, and insurance. Thus, digitization of agricultural payments can help deepen financial inclusion among farmers. The major agricultural payment flows from the public sector and the private sector, and the extent of their digitization, are discussed in this section.

**Electronic Farmer Inputs Support Program (e-FISP):** Following pilots in the 2015/16 and 2016/17 seasons, the electronic FISP (e-FISP) was implemented

countrywide during the 2017/2018 season. Around 750,000 farmers were paid Kwacha 2,000 (including the farmer's contribution of Kwacha 300) through pre-paid Visa cards or mobile phone-based e-vouchers, for an estimated total of Kwacha 1.5 billion (US\$ 150 million). The farmers could use these cards or e-vouchers to obtain agricultural inputs of equivalent value from designated input dealers (for more details, see Kuteya and others 2018).<sup>15</sup>

**Food Reserve Agency (FRA):** FRA payments are the second largest source of government payments in the agriculture sector. In 2018, FRA reported procuring 174,685 metric tons of maize and 19 metric tons of soya beans from nearly 33,812 farmers.<sup>16</sup> Although the value of the payments was not reported, it is estimated to be nearly Kwacha 280 million (US\$ 28 million). All payments were made to the accounts of the farmers held at financial service providers. The main issue reported about the FRA payments is the delays in the payments being credited to the farmer accounts. In this context, providing the option to receive all or part of the payments into e-wallets can increase the ease of use of these payments.

**Payments by cotton ginneries are the largest of agricultural payments from the private sector.** Seven cotton ginning companies comprise about 90 percent of the cotton market, and together have about 250,000 – 300,000 out-grower cotton farmers. These ginneries are reported to make payments of about US\$50 million per year (AgriFin Accelerate Program. 2017). However, notwithstanding several efforts at digitizing these payments, nearly all these payments continue to be made in cash.

**The dairy sub-sector is the other major sub-sector with a substantial volume of agricultural payments.** There are around 67 dairy cooperatives with 6,300 members, most of whom are smallholders. The milk they produce is sold to cooperatives, which then sell to processors or to consumers. The milk producers are paid monthly for the milk supplied. In contrast to the payments in the cotton sub-sector, some portion of the payments to producers in the dairy sector – approximately one-fourth – is reported to be paid digitally through transfers to producers' accounts with the local banks, such as ZANACO, Atlas Mara, FNB and NATSAVE. The estimated valuation of producer payments in the dairy sector is US\$30 million. (Mwale 2018).

**All these agricultural payments, if digitized through bank and mobile accounts, could offer an effective entry point for formal savings products.** Such savings products can be a generic and used for various purposes. Alternatively, they could be tied to specific needs in the agriculture sector, such as a layaway savings product for the future purchase of inputs. myAgro, a layaway savings product developer and provider in West Africa, recently started a pilot in Zambia. Several financial service providers are exploring business models to offer holistic financial solutions starting from payments to savings and eventually credit. This approach would allow financial institutions to get to know their customers as records of financial transactions accumulate.

**The most innovative digital payments are occurring in the cassava value chain.** In 2018, Zambia Breweries started paying around 2,000 farmers through a blockchain-based digital platform (Box 1).

<sup>15</sup> The prepaid cards were distributed by eight financial service providers, and mobile phone e-vouchers were distributed by the three main mobile network operators.

<sup>16</sup> This is a substantial reduction from the previous year. In 2017, FRA reported procuring 517,959 metric tons of maize and 3,240 metric tons of soya beans from nearly 75,000 farmers.

## Box 1: Blockchain-based Agribusiness Payments to Farmers

A key challenge for most farmers in Zambia is that their produce is sold using cash, leaving them without an electronic transaction record. This means that they do not have an electronic payment history, which can be critical in obtaining access to savings, credit and insurance services from formal financial service providers.

A partnership between [AB InBev](#), the parent company of [Zambian Breweries](#), [BanQu](#), a blockchain-based platform, and [Musika](#), a local non-profit market development company, is aiming to change this. The platform creates a decentralized digital ledger of each transaction for the produce bought on the platform. Instead of cash, each farmer can choose to receive a digital payment through either Airtel or MTN, the two largest mobile money providers in Zambia. The platform also tracks the volume of goods delivered, the quality of those goods, and the prices paid. Both the agribusinesses and the farmers benefit from increased traceability and transparency in their supply chains.

In 2018, around 2,000 cassava farmers in Zambia began selling their harvests to [Zambian Breweries](#) through the platform. The company added a mark-up to the payment due to farmers to offset the cost of withdrawing cash from the mobile money agents. In 2019, all farmer payments in Zambia are expected to be made through the platform. Further, building on the [Zambian](#) experience, InBev is currently expanding its digital payment initiative to [India](#) and [Uganda](#).

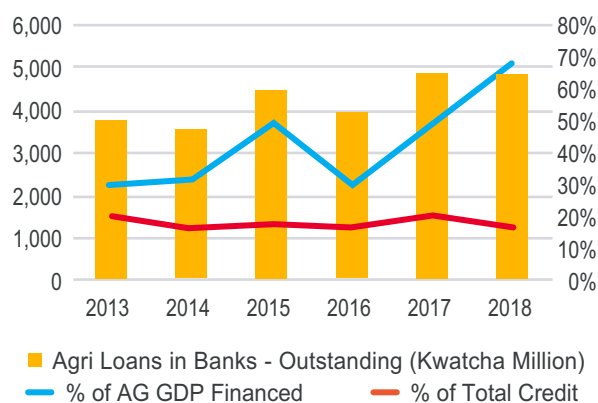
Source: <https://www.fastcompany.com/90328012/this-digital-ledger-helps-small-farmers-get-a-fair-deal> and communication with Katie Hoard, Global Director, Agricultural Innovation and Sustainability, AB-Inbev

## Agricultural Credit and Investments

**A relatively large share of Zambia’s agricultural GDP is financed by the formal financial sector.**

As Figure 16 indicates, over the past five years, nearly 30 percent of the agriculture sector’s GDP was financed by commercial banks.<sup>17</sup> This is nearly double the ratio of total private sector credit to GDP, which was about 16 percent during the same period. Data for 2016 and 2017 from the BoZ’s Credit Market Monitoring Report (CMMR) database suggests that the share of agricultural GDP financed by the formal financial sector will increase by 1.3 percentage points, if MFIs and other non-banks are added. It would be even higher if financing from investment funds is included. The share of banking

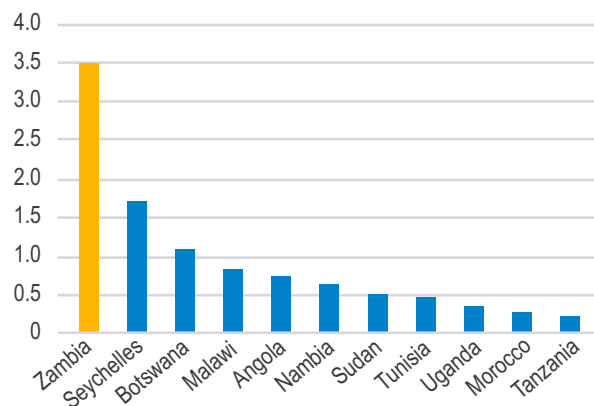
**Figure 16: Agricultural Credit – Share of Agricultural GDP and Share of Total Credit**



Sources: BoZ for Ag loans; World Bank for Ag GDP.

<sup>17</sup> Commercial bank lending to agriculture includes lending for agricultural production and non-farm agribusiness, including processing, trading, storing, and so on. The spikes in this ratio in 2015, 2017 and 2018 are caused by the substantial fall in the agricultural GDP, driven largely by the drought which reduced the production of major crops such as maize.

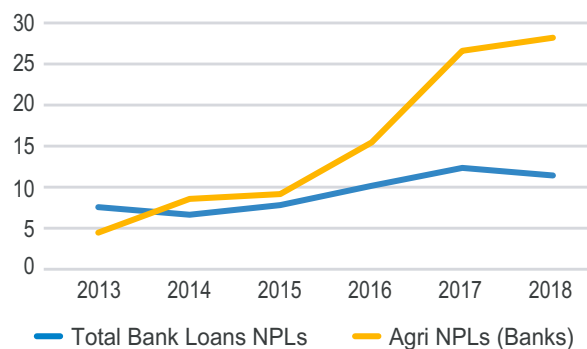
**Figure 17: Agriculture Orientation Index (AoI) for Credit in African Countries**



Source: FAO Statistics (2018)  
Note: All data for 2016, except for Uganda for 2015.

sector financing received by the agriculture sector relative to its contribution to GDP exceeds 3.5 and is one of the highest in the world according to the Food and Agriculture Organization (FAO) Agriculture Orientation Index (AoI) for Credit<sup>18</sup> (Figure 17).

**Figure 18: Agriculture Credit NPL Trends**

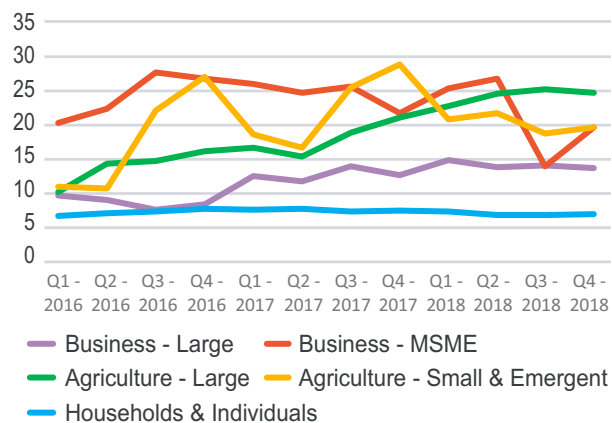


Source: Bank of Zambia (2018).  
Note: NPL= non-performing loan.

**The quality of the financial sector’s agricultural portfolio has been steadily deteriorating.** Non-performing loans in commercial bank loans have been steadily increasing and reached an alarming 28 percent in 2018 (Figure 18). The NPLs pertaining to agriculture loans from MFIs and other non-banks (for example, the Development Bank, NatSave and VisionFund, and so on) are also estimated to be relatively high. The CMMR data shows that NPLs for all agricultural production loans, which includes loans from banks as well as non-banks, increased from 16.4 percent in 2016 to 24.3 percent in 2018. In addition, the level of NPLs of agriculture loans from commercial banks became significantly higher than that of the NPLs on total bank credit in 2016, 2017 and 2018.

**The CMMR data shows that the loan quality of small agriculture seems to reflect the crop cycle of the major crops in the country.** The NPL ratio decreases during the harvest season and increases around the planting season (Figure 19). The NPLs in the large agriculture category presented a rather

**Figure 19: NPLs by End-user Category**



Source: CMMR database, Bank of Zambia (2018).  
Note: MSME= micro, small and medium enterprises.

<sup>18</sup> The AoI is calculated as the share of credit to agriculture over the agricultural share of GDP. An AOI of less than 1 indicates that the agriculture sector receives a credit share that is less than its contribution to the economy, whereas an AOI that is greater than 1 indicates a credit share to the agriculture sector greater than its economic contribution. Germany, Belgium and France are among the highest in the world, with an Index of 6.8, 5.1 and 3.8, respectively.



flat pattern from 2016 to the middle of 2017, which might indicate a higher level of diversification and risk management capacity of both lenders and borrowers. However, the NPL ratio increased since the second half of 2017.

## Credit Supply to Key Client Segments

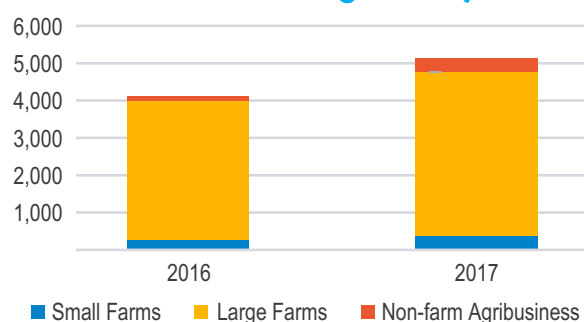
**Most agricultural credit goes to large commercial farms.** The data from the 2016 and 2017 CMMR database and BoZ annual reports suggests that most agricultural credit from the formal sector goes to the large commercial farms. In 2016 and 2017, this segment is estimated to have received about 91 percent and 85 percent, respectively (that is, Kwacha 3.7 billion and Kwacha 4.4 billion) of the total formal sector credit provided to the sector.<sup>19</sup>

**The credit supply to non-farm agribusinesses is surprisingly low.** Credit provided to non-farm agribusinesses from commercial banks is estimated at 3 percent and 7 percent (that is, Kwacha 124 million and Kwacha 379 million) for 2016 and 2017, respectively.<sup>20</sup> There are various possible explanations for this. For example, non-production agribusiness activities are indeed rather small in the economy. Other sources of finance, such as supplier finance and financing from parent companies, are available to agribusiness companies. In addition, some of the large farms are vertically integrated and financing is available to them for value-addition / processing.

However, this could also be an underestimate due to misclassifications in the reporting (lending to agribusinesses is reported under other categories, such as manufacturing and trade).<sup>21</sup>

**The share of credit flow to small farms is also very low.** Credit from the formal sector provided to small farms in 2016 and 2017 is estimated to be 7 percent and 8 percent (that is, Kwacha 267 million and Kwacha 386 million), respectively (Figure 20). This estimate includes credit reported to be provided to farms of sizes less than 50 hectares, as well as individuals and households, where the purpose is noted as farming. There could be some underreporting of agricultural credit going to the latter category.<sup>22</sup> Nonetheless, most of the financing

**Figure 20: Agriculture and Non-farm Agribusiness Loans (Kwacha Millions, Outstanding Loans)**



Source: Authors' depiction based on the CMMR database, and the BoZ Annual Report data Bank of Zambia (2018)

<sup>19</sup> The CMMR defines credit for agricultural production as "Corporate entities (large-scale farmers), households and individuals (smaller scale farmers) whose primary source of income is from farming activities and who receive credit for the purpose of agricultural production". The 2017 CMMR reports a portfolio of Kwacha 4.4 billion in lending to large farms, defined as farms above 50 hectares, as well as a portfolio of Kwacha 0.26 billion million in lending to small farms, defined as less than 50 hectares.

<sup>20</sup> The CMMRs disaggregate lending to small and large businesses, but do not identify the economic sector in which they operate. Hence, it is not possible to directly obtain credit being provided to non-farm agribusinesses from the CMMRs. Therefore, this report estimates credit allocated to this segment as the difference between commercial bank loans outstanding for agriculture production in the CMMRs (small and large agriculture) and loans outstanding with the agriculture sector data according to the BoZ annual reports (which define the agricultural sector to include lending for agricultural production, processing and trade). The difference indicates commercial bank loans outstanding to non-farm agribusinesses.

<sup>21</sup> If 10 percent of loans reported under the manufacturing and trade category are for agribusiness, the loans outstanding for non-farm agribusiness would increase from Kwacha 379 million to Kwacha 844 million.

<sup>22</sup> Data regarding the loan portfolio of individuals and households that identifies farming as the purpose is not directly available from the CMMR. However, it is estimated by multiplying the proportion of disbursements that report farming as the purpose with the total portfolio outstanding under the individual and household category. There could be underreporting of loans under this category. This may be the case if the purpose for some loans is not reported as farming even when all or a share of the lending is for farming. For example, the 2017 CMMR data shows that while Kwacha 61 million is reported in loan disbursements to individuals and households for the purpose of farming, Kwacha 2.7 billion is reported with the purpose of 'Other'.

**Table 3: Access to Credit (Disaggregated by Farm Size)**

	Estimated # of Farms	# of Loans (2017)	Access to Loans
<b>Small Farms</b>	384,000	13,982	3.6%
<b>Large Farms</b>	1,500	1,359	90.6%

Source: Authors' calculation based on the CMMR database (number of loans). The information about farm numbers was gathered from the field interviews Bank of Zambia (2018).

for small farms is likely to be coming from own-source financing and financing from informal sources, except for select sub-sectors, such as cotton, where off-takers (agribusinesses buying the product from farmers) are a major source of financing.

**Data regarding the number of loans and farms confirms that most small farms do not have access to credit from formal financial service providers.**

When taken together, the data regarding the number of loans outstanding from the CMMR database with estimates of the number of small farms from Horus (2015) shows that just 3.6 percent of these farmers have access to credit. By contrast, over 90 percent of large farms receive financing (Table 3). This data is also corroborated by demand side data discussed in Chapter 2 that shows that just one percent of farmers report borrowing from banks and two percent from non-banks. This suggests that lending from the

formal sector to this client segment is negligible as compared to the potential demand.

**Women farmers have much lower access to credit as compared to their male counterparts.**

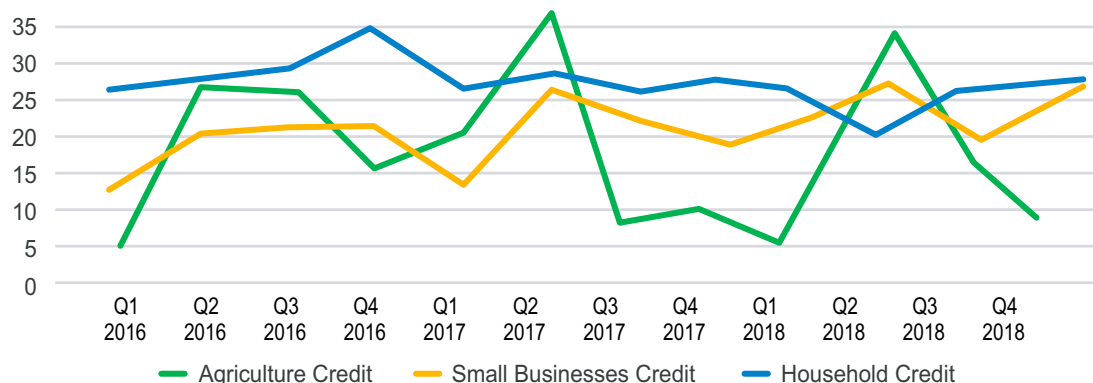
The CMMR database shows that, on average, female borrowers were less than 20 percent of the total borrowers in the agriculture segment (Figure 21). The ratio sometimes decreased to 10 percent or lower. The lower access to credit for women seems to be common in other loan categories as well.

**Major Providers**

**Commercial Banks**

**Commercial banks provided almost all the loans for large farmers, whereas MFIs and other non-banks dominated the small agriculture category in terms of numbers.** According to the CMMR 2016 and 2017 data, about two-thirds of the loans

**Figure 21: Proportion of Loans Accessed by Women (Percentage of Total Number of Loans Disbursed)**



Source: CMMR Database, Bank of Zambia (2018)

for small agriculture were from MFIs. However, in terms of the value of the small agricultural loans, commercial banks had the largest share, with over 70 percent, suggesting their involvement and interest in larger loans in this segment. Other financial institutions which occupied about 20 percent of the loan value were represented mainly by the Development Bank of Zambia (DBZ) and the National Savings and Credit Bank (NatSave).

**Several commercial banks are involved in financing commercial agriculture. Three commercial banks (Stanbic, FNB and ZANACO) together held about 60 percent of the total agricultural lending assets in 2017.** Others such as Standard Chartered and Barclays also lend to commercial agriculture. These banks mainly target a small number of large-scale farmers and offer various lending products (short, long and overdraft), most of which are in US dollars. For instance, one of the leading banks has 90 percent of its agriculture portfolio in US dollars. The borrowers engage in agricultural production and agribusiness activities such as processing, mostly in export-oriented value chains including cotton, soybean, sugar, macadamia nuts, passion fruits, and avocado. The loans can go beyond US\$5 million and the interest rate is around 8-10 percent for the US dollar loans as of June 2018. The smallest loans can be as small as a couple of thousand dollars, but typically they are much larger. The preferred collateral are land and buildings, although physical assets such as machinery are also considered. These banks generally have specialized agriculture teams comprised of loan officers with an agriculture focus.

The portfolio quality varies by lender. Some report suffering from high NPL ratios of as much as 50 percent, which seem to be caused by a small number of borrowers experiencing systemic problems, such as drought, devaluation of the local currency, and export bans as well as isolated issues. Some banks that had experienced an increase in NPLs in recent years reduced their exposure to the sector. One of

the limitations that the commercial banks face is the tenor of the loans. While commercial banks can offer long-term loans of up to 5 years and sometimes reaching 7 - 10 years, some interviewees mentioned that their agriculture clients would require even longer loans, especially for investments and crops that require longer periods for maturity.

**Compared to their lending operations for large commercial farmers, commercial bank exposure to smaller farmers is minor.** The Lima credit scheme used to be a promising entry point for commercial banks to provide credit to smaller farmers, but it collapsed several years ago (See Box 2). Nevertheless, some banks are currently reviewing the opportunities in this space. For example, Zanaco and Atlas Mara are exploring new approaches and partners to reduce the transaction costs in reaching out to dispersed small farmers.

#### **Development Banks**

**The Development Bank of Zambia (DBZ) and the National Savings and Credit Bank (NatSave) have substantial portfolios in the agriculture sector, but their share of total financing to the sector is negligible.** The DBZ and NatSave together had a share of just 2.6 percent of total financing to the sector in 2017. The DBZ lends to large farmers and agribusiness companies in select value chains, such as maize, sugar, and poultry. The size of its 2017 agribusiness portfolio was US\$25 million. However, it also had a high level of NPLs of about 50 percent. In addition to its direct lending, the DBZ partners with development finance institutions such as the African Development Bank and technical assistance (TA) providers such as RUFEP to provide wholesale loans to MFIs and other financial institutions for rural and agriculture lending.

NatSave provides savings products and smaller loans (of up to US\$5,000) to agricultural SMEs and small farmers. The bank covers all the provinces in the country with a total of 38 branches, of which 17 are in rural areas. Some of the financial services are provided through partnerships with the Food

## Box 2: Lima Credit Scheme

The Lima credit scheme started in 2008/2009 with 200 farmers, and it expanded to over 18,000 farmers with a loan portfolio of US\$13.7 million in the 2014/2015 season. Zanaco, the largest lender in the scheme, disbursed US\$15.5 million to about 14,000 farmers in 2014, of which 65 percent of the amount and 96 percent of the borrowers were from the Lima scheme. Under the scheme, the Zambia National Farmers' Union (ZNFU) organized farmers into District Farmer Associations (DFAs) and provided agronomic and management training. Zanaco and Banc ABC provided the input loans that were secured through cash collateral, equivalent to 50 percent of the input costs, as well as the joint guarantees between the farmers. The banks transferred the funds to input providers and the inputs were delivered to the DFAs. The loan duration was typically for 9 months. The ZNFU played a key facilitating role in the scheme by organizing and training the farmers, and the related costs were covered by the donor funds. Despite the early success of the scheme, anecdotal evidence suggests that the repayments declined significantly when the Food Reserve Agency delayed the payments for maize, resulting in lost credibility for the scheme. Other reasons for the failure included limited facilitation of market linkages, a concentration on maize, and governance issues at the ZNFU. In addition, increases in the interest rates were made without properly informing the DFAs and borrowers.

Source: Interviews with key respondents.

Reserve Agency (FRA), the Farmer Input Support Programme, MUSIKA and other partners. NatSave has a lower NPL ratio of 14 percent as compared to DBZ, but it is still higher than what is generally considered reasonable.

### MFIs

**Microfinance institutions (MFIs) in Zambia are not major providers of agriculture credit, but a select few are active in the sector.** The leading MFIs in the sector include Vision Fund, Madison Finance, Agora, and EFC. The MFI Loans are typically in the local currency with high interest rates ranging from 35 to 75 percent. The loans are secured mostly by movable assets and group guarantees, but immovable assets are required for larger loans. Details of the lending activities of the leading MFIs in Zambia are provided in Box 3.

### Agribusinesses and Equipment Suppliers

**The largest source of credit to smallholder farmers in Zambia, outside of informal credit, are cotton ginneries.** The out-grower scheme in the cotton sub-sector in Zambia is one of the largest input credit schemes in Africa. As previously described, the sub-sector mainly consists of seven cotton ginning

companies that comprise about 90 percent of the cotton market. Before the planting season, these companies advance high-quality inputs to cotton farmers, including seeds, fertilizers, and pesticides. Over 99 percent of cotton farmers receive inputs from ginning companies on credit under contracts (Kabwe and others 2018). The scheme is estimated to cover about 250,000-300,000 cotton farmers, and the value of in-kind credit is estimated to be around US\$20-25 million. This is four times the reported disbursements from the formal financial sector to small farms (about US\$5.3 million in 2018). While side-selling was once widely observed due to price changes and the absence of cooperation between ginners, in recent years the contracts are reported to be generally respected, and the repayment rate is reported to be close to 90 percent.

**The dairy sub-sector is another relatively well-organized sub-sector and some suppliers offer inputs on credit.** The Dairy Association of Zambia (DAZ) links milk producers with input suppliers that provide chemicals, equipment, medicines and animal feed, sometimes on credit. The main suppliers are Livestock services, CAMCO, SARO, National

### Box 3: MFI Lending Activities in the Agriculture Sector

Vision Fund has 15-20 percent of its portfolio allocated to the agriculture sector. It has three loan products for small-scale farmers (seasonal loans, irrigation equipment loans, and dairy sector loans). The average loan size is about US\$ 2500 for working capital loans and US\$ 1500 for investment loans.

Madison finance offers both working capital and asset financing products for farmers focusing on dairy and poultry, as well as agricultural SMEs such as agro input dealers.

EFC identified lending opportunities in livestock and dairy value chains, and it expanded its agriculture portfolio to about 8.5 percent of its portfolio in recent years. The agriculture loans are larger than other loans, ranging from US\$2,500 to US\$4,600.

Agora is developing an agriculture lending product that allows for seasonal repayments.

Source: Interviews with providers.

Milling and Rent-to-Own. In most cases, the Association facilitates payments, although in other instances farmers have had direct dealings with the suppliers. It facilitates payments in two ways. First, it facilitates payments through processors who pay milk collection centers for their milk sales, less the amount that needs to be paid to the supplier. Second, DAZ pays the suppliers on behalf of the members, and receives postdated checks in favor of DAZ. For example, if a farmer receives a chuff cutter to be paid in 3 months, DAZ pays the installments on behalf of the farmer when due, and it recovers money via postdated checks. The value of the credit provided by suppliers to farmers is estimated at about US\$300,000 annually (Mwale 2018).

#### Investment Funds

**Investment funds have emerged as a substantial source of financing for the agriculture sector in Zambia.** In 2018, AgDevCo, a United Kingdom Department for International Development (DFID)-funded agriculture-focused fund in Africa, had six investments totaling about US\$16 million. The investments range from US\$1 to US\$8 million with a mix of equity and debt. Most of the investee companies engage in the production of livestock and crops such as maize, groundnuts, and potato seeds. AgDevCo pursues development impact

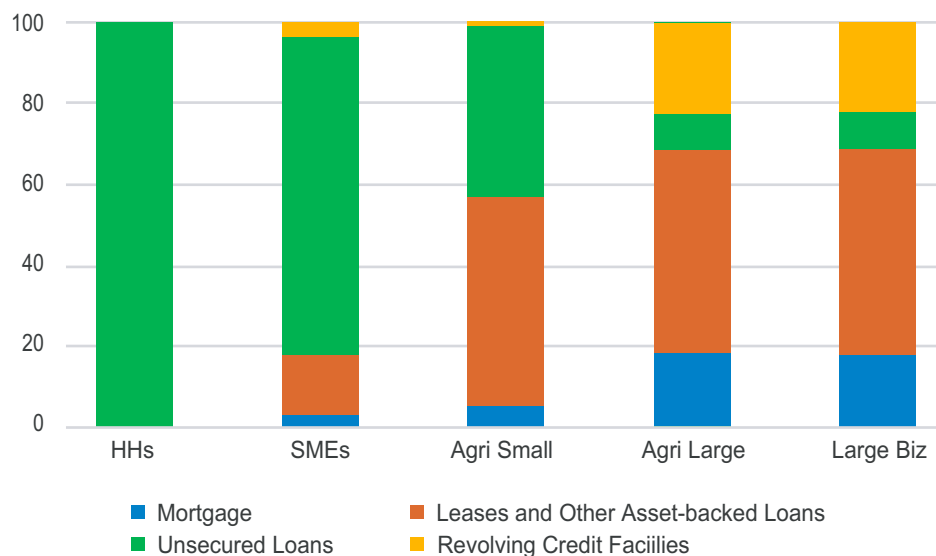
including the promotion of small-scale suppliers and employment generation as well as financial returns (Debt is about 8.5-10.5 percent, and equity is about 10 percent).

**GroFin, a sector-neutral SME fund backed by development finance institutions (DFIs) and private foundations, also has a substantial portfolio in the agriculture sector.** In 2018, nearly half of its Zambian portfolio was in the agriculture sector, mainly in the integrated operations combining livestock/crop production and processing. All of Grofin's agri-related investments of US\$4 million are in local currency debt. The investment size is about US\$100,000 to US\$1.5 million. GroFin charges an interest rate equivalent to that of commercial banks, currently at about 27 percent.

**Investment funds seem to prefer debt over equity.**

The reported reasons were reliable financial return and easier exit options. Their debt exceeds 5 years and requires lesser collateral coverage compared to that of banks. These funds provide a considerable amount of technical support to the investee companies, part of which is financed by donors. The funds report that such technical support is one of the most important tools for them to detect and address numerous business challenges their investees face.

**Figure 22: Types of Security by Number of Loans Disbursed (2016–2018, Percent)**



Source: CMMR Database Bank of Zambia (2018)  
 Note: HHs= households; SMEs=small and medium enterprises.

### Products and Terms

**Large farms enjoy a wide variety of loan products, whereas short-term loans dominate small farm lending.**

Financial institutions provide various loan products to large farms, such as short-term loans for working capital and medium-term loans for acquisition of fixed assets. The loan conditions including terms, repayment schedule and collateral requirement can be adjusted according to the creditworthiness of the borrowers and nature of the business. In contrast, most small farms are financed through household and consumption loans that require frequent repayments. Tailored loan products, including input loans and term-loans, are mostly confined to commodities in which risk and transaction costs in lending can be controlled. However, there are several ongoing efforts to broaden the financial products available for small-scale agriculture production (Box 43 and Annex C).

**Most agriculture loans from the formal financial sector are secured through movable and immovable collateral, as well as guarantees.** Immovable and movable assets (“mortgage” and “leases and other asset-backed loans” in Figure 22)

were used to secure (at least) about 70 percent of the small and large agriculture loans disbursed in terms of the total number of loans in 2017-2018. This figure is very similar to that of the large business loans. However, it is very different from the SMEs and household (HH) loans, where most loans were unsecured or relied on cashflows and/or other means of security. The same analysis in terms of loan values indicated that close to 60 percent of the SME loans and over 90 percent of the small agriculture loans are secured by hard assets. This suggests the potential for lending to small- and medium-scale agriculture clients to build on lending practices to SMEs. Revolving credit facilities, such as overdraft facilities, were mainly available for large farms and businesses.

**Loans for large-scale agriculture producers tend to have longer durations than those for small producers.** Some loans for large agriculture producers covered 5 years and occasionally up to 10 years, especially when they were secured by immovable assets. Most of the other loans (leases, asset-backed, unsecured and other loans) were either less than 12 months or from 2-5 years. The

**Table 4: Debt Financing Providers and Products**

Providers	Products	Target borrowers	Typical loan Size	Interest rate	Collateral requirements
<b>Commercial Banks</b>	Short and long-term loans (In US\$ and Kwacha)	Mostly large farms	US\$200,000 or larger. However, some banks provide smaller loans (as small as US\$1,000) for famers and SMEs.	8 – 10 percent (US\$) 20 – 50 percent (Kwacha)	Land, buildings and equipment
<b>MFIs</b>	Short-term loans in Kwacha	SMEs, small farms and farmer groups	Up to around US\$5,000	35 – 75 percent	Buildings, equipment, cash collateral
<b>Investment Funds</b>	Long-term loans and equity	SMEs and large farms (both processing and production)	Varies (US\$100,000– more than US\$5 million)	Debt: Similar to commercial bank rates. Equity: 10 percent <	Debt: Similar to commercial banks. Equity: NA
<b>Agribusiness companies</b>	Short-term loans	Farmers in certain value chains	Varies, but often limited to the value of inputs	Included in the transactions	NA

Source: Authors based on interviews with key respondents

Note: NA= not applicable; MFI= microfinance institution; SME= small and medium enterprise.

loans for small producers tended to be shorter. Most loans were for 12 months or less. Although the loans backed by hard assets could go up to 5 years or sometimes longer, the number of these secured loans accounted for only 3.5 percent of the total small agriculture loans in 2016-2018. Thus, these long-term loans were the exceptions.

**Interest rates for most borrowers, both nominal and real, are very high.** In 2018, the interest rates of commercial banks to the agriculture sector on local currency loans usually exceeded 25 percent and could reach 50 percent, depending on the risk profile. After considering inflation, the real interest rate is about 17-42 percent. The US dollar loans cost around 8-10 percent. Reflecting their higher unit transaction costs owing to smaller loan sizes and high-risk client profile, MFIs charge even higher

interest rates ranging from 35 to 75 percent (with a real interest rate of 27-67 percent). The major debt finance providers and their lending products and conditions are summarized in Table 4.

**The warehouse receipt finance system in the country is still in its infancy.** The Zambian Commodity Exchange (ZAMACE), a local commodity exchange and warehouse certification service provider, was launched in 2015 as a public-private partnership. Five leading commodity traders in the country allocated parts of their warehouses for the third parties including SME traders and farmers. They have a total capacity of 400,000 tons to store their crops. ZAMACE certifies these warehouses and the partner traders manage the warehouses. However, ZAMACE has so far failed to attract substantial participation from the stakeholders

including traders, farmers, and financial institutions. The trading was mostly conducted through small pilots. The warehouse receipts were issued for some of the transactions and some financial institutions provided finance. However, these cases remain as isolated attempts.<sup>23</sup>

**Some initiatives were undertaken to pilot leasing products for small farmers, however, they have not been up-scaled.** One notable example is a financing scheme involved NWK Agri-services (off-taker), commercial banks, a local farm equipment provider, and MUSIKA. The farmers selected by the off-taker received tractors through a leasing arrangement by the equipment provider and financiers guaranteed by MUSIKA. The scheme failed due to several factors, including the depreciation of the Kwacha and side-selling, which made it impossible for financiers to subtract the lease payments from the transactions between the farmers and the off-takers. Although leasing products are available for other industries, the application in the agriculture sector has been rather limited due to the high perceived risk among the financial institutions, as well as a lack of capacity and experience on the part of the stakeholders (Nathan Associates 2017).

## Agricultural Insurance

**Insurance is a key tool for transferring agricultural production risks.** Empirical evidence shows that risk is one of the key factors hampering investments in agriculture. If farmers are provided with insurance products that cover the main catastrophic risk, they can find resources to increase expenditures for their farms (Karlan and others 2014). However, a comprehensive risk management strategy should also include risk-mitigation and risk-coping solutions (World Bank 2018). Agriculture

insurance is best suited to production risks, but not to addressing price volatility issues, which are also very relevant in the Zambian environment. Agricultural insurance can also play a key role in facilitating access to credit due to its risk-transfer function. However, its ability to do so is strongly influenced by the type and the quality of the insurance coverage.<sup>24</sup> In general, agricultural insurance has the highest development impact when it is well integrated into the value chains (Mukherjee 2017).

**Agricultural insurance has been sold in Zambia since approximately 1980.** However, the bulk of growth has occurred in the last 10 years. The drivers of the more recent growth have been donor support, development of index insurance products, and the pro-active response by insurance industry players, including non-governmental organizations (NGOs) involved in promoting agricultural insurance. The main insurance companies participating in agricultural insurance are: Acacia Insurance; Africa Grey; Africa Pride; Focus General Insurance; Madison Insurance; Mayfair Insurance; Nico Insurance; Professional Insurance; and ZSIC General Insurance.

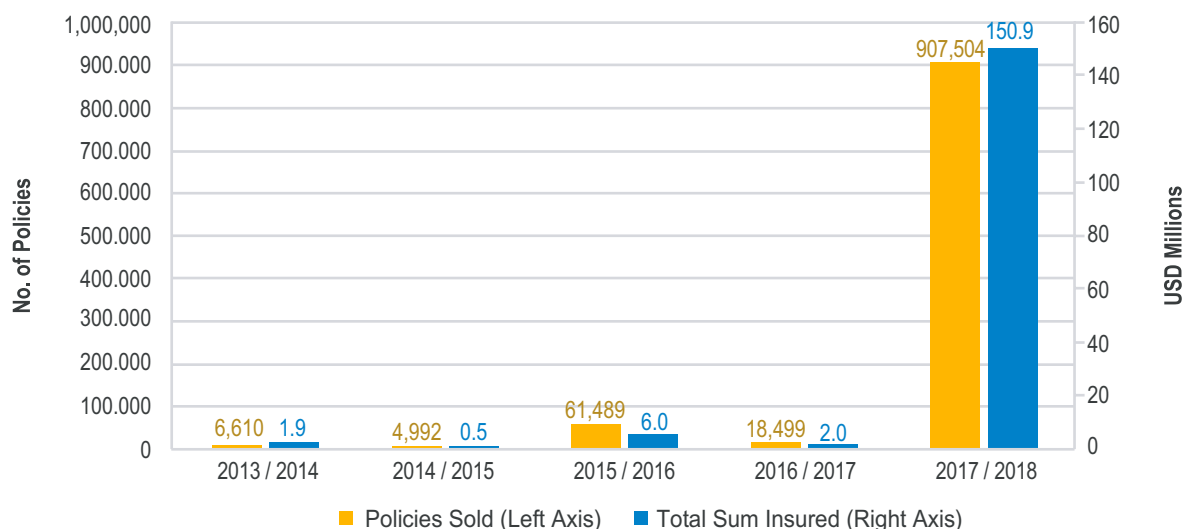
**Traditionally, the focus of agricultural insurance in Zambia has been on large commercial farms who are offered indemnity products, such as Named Peril Crop Insurance (NPCI) and Multiple Peril Crop Insurance (MPCI).** Crops covered by indemnity products are mainly maize, wheat, sugar cane, soybeans, tobacco and bananas. Risks covered in the NPCI policies are essentially hail (for tobacco, in particular), fire and lightning, whereas MPCI policies more comprehensively cover the main agricultural production risks (with some exclusions). The market size for indemnity agricultural insurance products in Zambia in 2017

<sup>23</sup> Since the inception and until mid-2018, the company traded about 30,000 tons of maize, wheat and soya beans. In 2018, the warehouse management fee consisted of a onetime handling charge of Kwacha 28/ton and Kwacha 48/ton per month. ZAMACE charged for the warehouse certification and the issuance of the warehouse receipts (Kwacha 4.2/ton).

<sup>24</sup> For example, in index insurance products, high levels of basis risk will strongly reduce the ability of the insurance cover to pay when required. Consequently, the confidence of lenders or of input retailers will be also reduced, impairing the potentially virtuous effects of the insurance transaction.



**Figure 23: Weather Index Insurance Policies and Aggregated Sums Insured in Zambia (2013/14 to 2017/18)**



Sources: Global Index Insurance Facility, Pension and Insurance Authority (Personal communication to Report team, 2018).

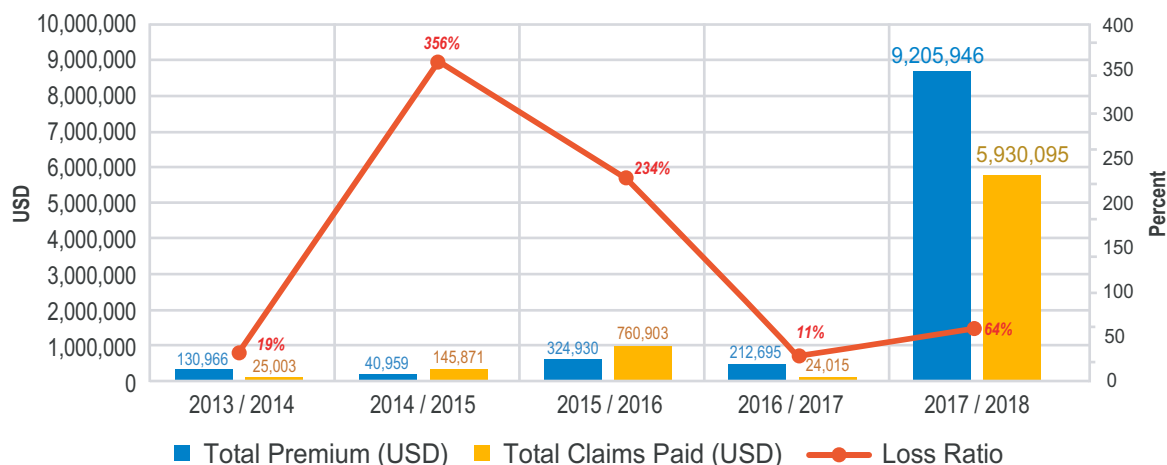
was estimated to be of 600-800 farms with an annual premium volume of Kwacha 40-50 million (US\$ 4-5 million).<sup>25</sup> Average premium rates ranged from between 1 percent to 4 percent of the value insured, depending on production activities and risks covered. Some insurance companies also offer livestock indemnity insurance products to large livestock production operations. Livestock insurance policies cover various causes of mortality loss such as accidents, diseases and, in some cases, epidemics. Policy extensions for calving risks, theft, transit risk and third-party liabilities are also available.

**Weather index insurance (WII) for small-scale farmers was piloted in the early part of this decade, but the coverage increased exponentially in the 2017/2018 season.** Figure 23 shows that the number of policies sold, and the sum insured increased from less than 20,000 and US\$ 2 million in 2016/17 to over 900,000 and nearly US\$ 151

million, respectively, in 2017/18. Figure 24 shows the premiums, claims and loss ratio trend for the same period. In 2018, this represented the largest coverage for WII in any country in Sub-Saharan Africa. The exponential scale-up of WII in Zambia was achieved by adding an index insurance cover to e-FISP, the digitized agricultural subsidies program. This “Drought and Excessive Rainfall” index cover (Box 4) was offered by Mayfair and represented nearly all (over 99 percent) of the agricultural insurance policies sold. In addition, Mayfair operated a WII project with the R4 initiative of the World Food Programme and Oxfam. This project covered 3,800 farmers during the 2017/2018 crop season. Focus Insurance has also been implementing WII by partnering with input suppliers and processors (such as NWK, Pioneer, and Monsanto), as well as with the Zambia National Farmers’ Union (ZNFU), reaching over 50,000 policies sold in the 2015/2016 crop season. However, business was reduced in the following crop seasons.

<sup>25</sup> These estimates have been developed on the basis of a partial set of market data that, together with specific knowledge of the Zambian agricultural insurance sector, have been used to roughly infer the actual size of the market for indemnity insurance products for agriculture.

**Figure 24: Premiums, Claims and Loss Ratios for Weather Index Insurance Policies (2013/14 to 2017/18)**



Source: Global Index Insurance Facility and Pension and Insurance Authority (Personal communication to Report team, 2018).

**While the linkage with the e-FISP helped exponentially scale-up WII insurance coverage, the rapid scale up also led to major implementation challenges.** In 2018, the Ministry of Agriculture prepaid the insurance company for the premiums of 900,000 farmers. However, only 805,000 farmers paid the insurance premium. Hence, only these farmers were effectively covered by WII. More importantly, although a substantial number of payouts were triggered, and the insurance company transferred the amounts to the Ministry

of Agriculture, the Ministry then transferred these payments to the farmers only at the beginning of the following crop season.<sup>26</sup> Furthermore, the payments were transferred in the form of e-vouchers, which could only be redeemed for agricultural inputs.

**The Zambia State Insurance Company (ZSIC), the public insurer, operated an Area Yield Index Insurance (AYII) product connected to the Lima credit scheme from 2008 to 2015.** Starting from 600 farmers and 600 hectares in 2008, it reached over 16,000 farmers and over 36,000 hectares by

**Table 5: Relative Strengths and Weaknesses of Area Yield and Weather Index Insurance**

Area yield index insurance	Weather index insurance
All perils covered (droughts, excess rainfall, floods, pest infestations, and so on).	Single peril (sometimes multiple peril) cover (droughts, excess rainfall, low temperatures).
Easy-to-design index (estimated aggregate yields in a given area).	Technical challenges in index design (peril, crop, farming practices, agro-meteorological zone, and so on).
Low start-up costs	High start-up costs
High loss assessment costs	Lower loss assessment costs
Slow claims settlement	Faster claims settlement

Source: Mahul and others, 2012.

<sup>26</sup> The implementation challenges facing the insurance program are reported to have continued in the 2018/19 season, although no detailed information about the performance of the product is available for this season, along the lines of that Kuteya and others (2018).

2014. The scheme was formally labelled a MPCII policy, but it operated de facto as an AYII scheme (Box 5). This experience is very relevant since the re-introduction of AYII in parallel with the existing WII programs is under consideration. As such, it would provide a more comprehensive insurance coverage against agricultural production risks. Table 5 provides a summarized description of the relative strengths and weaknesses of AYII and WII.<sup>27</sup> It should also be noted that use of technology has the potential to reduce the cost of loss assessment and shorten claim settlement time.

## Public Sector Support for Agricultural Finance

**Public sector support for agricultural finance can be broadly viewed as either fiscal, regulatory, or developmental.** The fiscal support relates to direct subsidies and tax incentives offered to individuals and enterprises. The regulatory support is typically provided by the relevant regulators, such as the Central Bank for agriculture credit and the insurance regulator for agriculture insurance. These kinds of support can be offered in terms of either providing special regulatory treatments of the agriculture finance business or in requiring service provisions to specific segments. In some countries, the regulators also take on a developmental role whereby they provide liquidity facilities or technical assistance financing.

**This section briefly discusses the fiscal role played by the Zambian government, as well as the regulatory role played by the Zambian regulators.** It also addresses market development activities supported by donor-funded projects. In addition, it describes a recent market development of the Government in supporting the establishment of the credit guarantee scheme. The support provided by the Government for scaling up agriculture insurance through the FISP-WII scheme was discussed in the previous chapter.

**Bank of Zambia (BoZ):** The BoZ is responsible for regulating agricultural credit provided by commercial banks, development banks, MFIs, and building societies. However, it is not responsible for regulating agriculture credit provided by investment funds, which fall within the regulatory mandate of the SEC. Zambia does not have any dedicated regulation for agriculture credit. Traditionally, the primary role played by the BoZ in agriculture credit was one of monitoring and reporting on credit flows to the sector, including its performance as part of its annual reports. However, since 2016, it has also been undertaking a more detailed monitoring of the credit market and has been publishing the Credit Market Monitoring Reports. These reports, referred to extensively earlier in this chapter, present an economy-wide, detailed analysis of credit. Taken together with the data available from the BoZ annual reports, it allows for further disaggregated analysis of financing of the agriculture sector from the formal financial sector.

**Pensions and Insurance Authority (PIA):** The PIA is responsible for regulating agricultural insurance. Agricultural insurance is covered under the regulations that govern non-life insurance. Up to 2016, the PIA did not collect specific data for this class of products. With the recent market growth following the expansion of index insurance products, the PIA has activated specific data collection procedures. However, there are no specific regulations targeting agriculture insurance or index insurance products.

**Fiscal Policies:** Zambia does not provide any direct fiscal incentives, such as interest rate discounts or premium subsidies to agriculture sector clients. It also does not provide any tax incentives specifically targeted at financial institutions providing services to agriculture sector clients. One fiscal measure that does seem to have had an adverse effect on

<sup>27</sup> The cases of India and Kenya are good references for the implementation AYII and WII. See Mahul and others (2012), Leach and others (2014) and Stoppa and Dick (2018) for information about the issues and lessons learned in the implementation of index insurance products for agriculture.

## Box 4: Weather Index Insurance for FISP Farmers (2017/18 season)<sup>28</sup>

The WII coverage retailed in connection to the FISP scheme was designed by Risk Shield Consultants Ltd. It was underwritten by Mayfair Insurance, and it was reinsured by Swiss RE in the crop season of 2017/2018. The WII policy covers droughts (“dry spells”) and excessive rainfalls. The index underlying the policy is based on remote sensing estimation of rainfall from the TAMSAT data base. The spatial resolution of TAMSAT rainfall estimates is approximately 4 kilometers (km) x 4km.

As is often the case with WII products, the policy linked to FISP has a “dynamic” start of the coverage period, meaning that the coverage starts automatically when a minimum of 15 millimeters (mm) of rainfall is recorded over a period of 10 days. The window for the dynamic start is between November 21 and December 20, whereas December 21 is the latest possible starting date for the insurance coverage (that is, if 15mm of rainfall in any 10-day period have not been recorded in the specified window, the coverage will nevertheless start on December 21).

The policy is composed of three kinds of sub-coverages, each of which have different coverage periods as follows:

- 1) Early dry-spell cover, from the “automatic start date” to January 10;
- 2) Late dry-spell cover, from January 11 to March 31; and
- 3) Excess rainfall cover, from the “automatic start date” to March 31.

The two dry-spell cover payouts are triggered if within a 20-day period the total rainfall recorded is below 60mm. The maximum payout is provided if no rainfall is recorded (0 mm). The initial payout is 5 percent of the sum insured, and it progressively increases as rainfall decreases, reaching a maximum of 30 percent of the sum insured at 0mm of rainfall recorded.

The excessive rainfall cover payouts are triggered if rainfall is above 150mm, up to a maximum payout if rainfall reaches 250mm. The initial payout is 5 percent of the sum insured, and it progressively increases as rainfall increases, reaching a maximum of 30 percent of the sum insured. Farmers can receive payouts from each of the three different sub-covers.

The unit area of insurance of the FISP scheme (that is, the specific area in which rainfall is recorded and payouts are triggered) is set at ‘Camp’ level, an administrative subdivision at which the Camp Extension Officers (CEO) operate. The premium cost is Kwacha 100 per farmer and the maximum possible payout is Kwacha 1700, that is, the value of the FISP subsidy. The premium payments are collected from the farmers and transferred to the Ministry of Agriculture as part of the contribution required to be paid by the farmers to receive the FISP subsidy. The Ministry then transfers the aggregate premium payment to the insurance company. If payouts are triggered, the insurance company makes the payment to the Ministry along with details of ‘camps’ where payouts were triggered. The Ministry is responsible for transferring the amounts to the farmers.

Source: Authors, based on review of documents interviews with key respondents

Note: TAMSAT stands for “Tropical Applications of Meteorology using Satellite data and ground-based observations” and is developed by the University of Reading, UK.

<sup>28</sup> A product description leaflet for the WII cover retailed in the FISP scheme is presented in Annex A. .

## Box 5: Crop Insurance Linked to the Lima Credit Scheme

To secure the lending operations of the Lima Credit Scheme (LCS), the Zambia State Insurance Company (ZISC) partnered with the Zambian National Farmers' Union (ZNFU) and the participating credit institutions to offer insurance protection to smallholder farmers enrolled in the scheme (see Box 2 for a description of the LCS).

The insurance scheme was formally considered a Multiple Peril Crop Insurance (MPCI) product. It offered coverage against droughts, floods and fires for food and cash crops (mainly maize). However, it operated as an Area Yield Index Insurance (AYII) policy since the loss adjustment was carried out by inspection teams composed of representatives of ZISC, ZNFU and the Ministry of Agriculture that randomly sampled crops of different farms in a specified area of insurance. Premiums paid by farmers were initially set at 5 percent of the loan amount, but they were later reduced to 4 percent.

According to stakeholders involved in the scheme, the strengths of the insurance product connected to the LCS loans were represented by the in-field loss adjustment procedures that, although carried out by samples in the reference areas, provided farmers with evidence of a direct assessment of the losses. The main weaknesses of the insurance product were the extended time required to settle the claims and the cost of the coverage (that, however, proved later to be in the same range or lower than for other insurance products offered to farmers).

Source: Farm Agricultural Risk Management in Africa (FARMAF).

some banks is the withholding tax of 15-20 percent charged to funds mobilized from overseas.

The fiscal treatment of insurance in Zambia has improved in recent years. Up to 2015, a 16 percent value-added tax (VAT) levy was applied on all insurance premiums collected. However, since 2016, this has been replaced with a 3 percent premium levy. In comparison with several other SSA countries, taxation treatment of insurance in Zambia is favorable.<sup>29</sup>

**Development banks and the State-owned insurer:** As noted, agriculture is among the sectors targeted by the development banks — including DBZ and NatSave. The scope of this diagnostic did not include a full assessment of the effectiveness of the market development role played by these institutions. However, a limited assessment

indicated by the relatively small contribution they make to total agriculture credit in Zambia and the high NPLs suggests that they have had limited success in this role. Again, as noted, ZSIC General recently implemented an area-yield index insurance program, and this experience is relevant to the future.

**Credit guarantee scheme:** The Government of Zambia, through the Ministry of Finance, recently established the Zambia Credit Guarantee Scheme as a private company. The company is tasked with developing a guarantee scheme for SMEs that will serve as “a platform for financial institutions to offer affordable financial products and services at reduced risk.”<sup>30</sup> The company will target the SMEs in the productive sectors with at least two years of operations and five or more employees. In this

<sup>29</sup> The taxation of insurance premiums for agricultural insurance and index products varies significantly across African countries. It goes from full tax exemptions (for example, Senegal), to double-digit tax rates as in Burkina Faso (12percent) or Malawi (16.5 percent). See, for example, FANRPAN (2016) for a discussion on taxation on WII in selected African countries.

<sup>30</sup> Zambia Credit Guarantee Scheme Limited. (2018). “Prospectus”.

regard, agro-processing and trading are among the sectors to be covered. However, primary agriculture is not expected to be covered, at least in the early years. The target loans are divided into two groups: Tier one (from Kwacha 500,000 to 10 million) and Tier two (from Kwacha 250,000 to 499,000). Rabobank, Netherlands has provided technical assistance to design the scheme including the risk coverage, the pricing of the guarantees, as well as the decision-making process and operational procedures. One distinctive feature of the scheme is the involvement of “business coaches” who provide tailored technical assistance and coaching to the beneficiary SMEs. The government has committed US\$5 million to establish the scheme, and it plans to raise US\$50 million from the development financial institutions and other public entities.

**Donor-funded initiatives.** [The Financial Sector Deepening Zambia \(FSDZ\)](#), a non-profit company supported by the United Kingdom (UK) Aid and the Swedish International Development Cooperation Agency (SIDA), is working to catalyze greater financial inclusion and deepening, plays a key role expanding agriculture finance. It has played an instrumental role in the production of the Finscope Surveys (which are the primary source of information on financial inclusion for agricultural households). It is also involved in [supporting the development of the agricultural insurance market](#), providing capacity development support to select financial institutions involved in [agricultural insurance](#).

The International Fund for Agricultural Development (IFAD) currently implements the [Rural Finance Expansion Programme \(RUFEP\)](#). Among other things, the RUFEP provides competitive grants to financial institutions and other service providers (MNOs, and so on) to facilitate improved delivery of financial services to agricultural producers. A key focus area for RUFEP is strengthening the use of mobile applications in agricultural payments.

The German Corporation for International Cooperation (GIZ) implements the project for the

“Promotion of agricultural finance for agri-based enterprises in rural areas”. On the supply side, the project supports selected financial institutions with the development of financial services adapted to the target group needs. It provides capacity building for the management and staff regarding the specifics of the agricultural sector. On the demand side, farmers and agri-based entrepreneurs are trained to economically analyze their businesses and to evaluate their financing options. The project is part of the Special Initiative “One World no Hunger” by the German Government, and it is one of five GIZ projects in the agriculture and food security sector in Zambia.

[MUSIKA](#), a non-profit company supported by the Government of Sweden, partners with agribusiness companies to involve smallholders in commercial agriculture. Digitization of agricultural payments and warehouse receipt financing are among the activities related to agriculture finance that MUSIKA supports.

The World Food Programme (WFP) is currently formulating the Farm to Market Alliance (FMA), a public-private partnership for market linkages and access to finance for smallholders for several crops such as soya. The FMA in Zambia builds on the early success in Rwanda and Tanzania. The program supported and linked farmer organizations with off-takers and financial institutions. However, in Zambia, the WFP plans to work with agribusiness SMEs as a conduit for channeling inputs to farmers and aggregating the produced crops. The WFP together with Oxfam is also supporting the linkage of their R4 Rural Resilience Initiatives with dedicated index insurance programs for smallholder farmers.

Lastly, the World Bank Group, through its Global Index Insurance Facility (GIIF), has also played a key role in the expansion of WII in Zambia. Specifically, it has provided technical and financial support to Mayfair, the insurance company providing the WII product, that is linked to the e-FISP.



## 5. Challenges, Opportunities and Recommendations

**The data and analysis presented in Chapters 3 and 4 shows that agricultural finance in Zambia is a picture in contrasts.** On the one hand, a relatively large proportion (over 30 percent) of the agriculture GDP in the country is financed by the formal financial sector. On the other hand, nearly 40 percent of farmers and fisherfolk do not have any access to an account, and less than three percent report receiving any credit from the formal sector. The extremely low levels of access and usage of formal financial services among farmers and fisherfolk call for high-level policy attention to addressing this issue.

**The growth in mobile money in recent years seems to have contributed significantly to an increase in access to and use of financial accounts, including among agricultural producers.** As discussed in Chapter 3, the 2017 Global Findex indicates that 58 percent of agricultural producers had access to an account, a steep increase from 35 percent in 2014. During the same period, the proportion of producers receiving payment for the sale of agricultural goods into an account more than doubled, increasing from 18 to 40 percent. The proportion of farmers with an account is likely to have further increased in 2018, given the continuing increase in the number of active mobile money accounts (UNCDF 2019).

**Access to formal credit for small-scale agricultural producers is however extremely low, as the cost of credit is very high; most of the available credit is short-term.** The demand-side data analysis in Chapter 3 and supply-side data analysis in Chapter 4 suggest that access to formal sector credit for small-scale agriculture is extremely low, at around 3 percent. Also, as discussed in Chapter 4, commercial banks charge about 20-50 percent (with a real interest rate of 12-42 percent) and MFI interest rates are even higher<sup>31</sup>. At these rates, borrowing would not be a viable financing option for most economic activities in the sector. Lastly, most of the limited amount of credit available for small-scale agriculture is for working capital (with tenors of less than 12 months).

<sup>31</sup> The annual inflation rate in 2017 and 2018 was 6.6 percent and 7.5 percent, respectively, according to the Bank of Zambia.

There is little availability of the kinds of longer tenor credit needed to make productivity-enhancing capital investments (such as for small machinery or micro-irrigation).

**Access to agricultural insurance was exponentially scaled up in the 2017/2018 crop season; however, key design features and significant implementation challenges are likely to have resulted in limited development impact.**

As discussed in Chapter 4, the rapid scale-up in agricultural insurance due to the country-wide roll-out of the e-FISP-linked WII scheme resulted in an over 40-fold increase in access. However, the in-kind nature of payouts and the extreme delays in paying the claims are likely to have resulted in limited development impact. The Government needs to urgently strengthen both the design and implementation of the WII program to ensure the intended development impact.

**This Chapter identifies key challenges that need to be addressed. It identifies three main opportunities and makes recommendations to leverage these opportunities.**

## Key Challenges

**The limited availability of good quality value-chain, enterprise and meteorological data is a key challenge at multiple levels.** Data on agricultural production, productivity, commodity prices, and profitability for major value chains is not available at a granular enough level. This prevents the data being used by financial institutions to establish unit costs of financing, as well as risk-premiums that reflect the actual risks to production in a homogenous agro-climatic area. There is also limited data available about farmer organizations and agribusiness SMEs — either survey-based or administrative. There seems to be no public database of active farmer organizations and agribusiness SMEs in Zambia, and no enterprise survey has been conducted recently. Lastly, since the existing network of weather stations would not allow for the

operations of weather index insurance schemes on a national scale, there is full dependence on remote sensing data for the WII insurance product. All these data limitations constrain the ability of the private sector to develop solutions that are tailored to the localized needs of geographic regions, value chains, and client segments.

**Weaknesses and gaps in key real sector infrastructure:** The limited coverage of road, telecommunications, and power infrastructure constrain the effective supply of formal financial services. Limited access to electricity is a constraint both for enterprises and individuals; access to electricity is the third largest constraint cited by enterprises in the 2013 Enterprises Survey. Indeed, only about 4 percent of the population in rural areas has access to electricity. The share of the rural population that lives within 2 km of a road in good condition is estimated at 17 percent, and it is estimated to take more than 1 hour to travel to the nearest input market. The penetration of Internet services has improved in recent years, but access remains low in rural areas (World Bank 2018).

Another key gap that is particularly relevant to agricultural credit is the limited availability of formal land records (both titles and lease documents), which limits the use of rural land as collateral. According to recent research, only about 6 percent of smallholder farmers in Zambia indicated having some form of land documentation. Most land in Zambia is under the traditional land regime, whereby village chiefs and their council of headmen exercise nearly exclusive power (granted through their tribes and system of succession) over customary land administration (Hall and others 2017). Financial institutions in Zambia do accept formal lease documents as collateral if the lease documents exceed the loan term, and if such leases are transferable. However, this still does not help much with the collateral issues since most of the customary land is not on title issued by the Ministry of Lands. Conversion from customary land to



statutory land is possible, but it is costly for most of the owners of this type of land.

**Capacity constraints in the private sector.** On the credit side, most financial institutions do not possess adequate capacity to finance small-scale farmers. The duration of the small agriculture loans is mostly limited to 12 months, with some exceptions. While the loans and repayment schedules are structured according to the crop cycles, they are too short for capital investments to promote business expansion. Further, the interest rates are very high, especially for local currency loans for small farmers. The commercial banks charge from 20 to 50 percent interest depending on the nature and size of the businesses, whereas the MFI interest rate ranges from 35 to 75 percent per year. Finally, the high NPLs in the agriculture portfolio are likely to be partially caused by the limited capacity among financial institutions to more effectively manage their credit risks.

After the failure of the Lima credit scheme, some financial institutions, including both commercial banks and MFIs, have been exploring new ways to re-engage with small farmers. Some of them have received or are receiving technical support from donor projects to develop tailored financial services, including lending products (see Annex D). However, such assistance is still limited.

On the insurance side, few insurance professionals have expertise in designing, underwriting, and implementing indemnity and index-based agricultural insurance products. This includes service providers, such as crop loss assessors and inspectors with experience in agricultural insurance. Such service providers are needed to support the offering of multi-peril crop insurance products, as well as expertise in designing and implementing index insurance products.

**Crowding out of the private sector credit due to high levels of domestic public borrowing:** As discussed in Chapter 1, the levels of domestic

public borrowing have increased rapidly in recent years. This directly impacts both the availability and cost of credit for the private sector. Given the relatively higher real and perceived risks of the agriculture sector, this impact is exacerbated for clients in the sector.

## Opportunities and Recommendations

### Opportunity 1: Expanding the Outreach of Financial Services in Rural Areas

Three key actions are recommended. The high priority recommendation relates to providing incentives to financial institutions to provide financial services to farmers and agricultural SMEs. Other recommendations relate to strengthening the availability of data for cost-effective market analysis and customer acquisition by financial institutions, as well as for improved monitoring and analysis of financial inclusion of farmers and agricultural SMEs. All three recommendations are expected to enable broader financial inclusion of farmers, providing improved access to both business and non-business-related financial service needs.

**Incentivize the delivery of formal financial services and financial capability programs for farmers and agricultural SMEs.** There are several actions that can be considered in this area. The first priority incentives should ideally be sector-wide and can be fiscal in nature (lower taxation of financial services provided in rural areas/to specific client-segments) and policy-oriented (requiring government and corporate agricultural payments, including agricultural insurance, directly into the farmer's financial accounts).

The second priority would be to scale-up capacity-building support to high potential service providers for increasing banking agents in rural areas, as well as electronic payments acceptance by rural merchants, new product development, client segmentation (including a needs assessment), the

development of client financial capability, and so on. There are several ongoing pilot initiatives funded by donors, such as the GIZ, IFAD/RUFEP, FSDZ and the Mastercard Foundation/AgriFin Accelerate (see Annex D). Additional pilots, including the scaling-up of successful pilots, need to be supported.

Direct support to financial institutions should target comprehensive capacity development of high potential institutions. Digital approaches will be required to effectively reach out to small-scale farmers while managing the risk and transaction costs. Commercial banks and MFIs in Zambia that already consider small-scale agriculture as viable businesses and that are strategically committed to the sector need to be identified and supported. Key areas of support include: (i) building institutional capacity to better leverage the information available about farmers and agribusiness SMEs from key financial infrastructure (including retail payment systems, moveable collateral registries, and credit bureaus); (ii) building adequate internal domain knowledge at the operational and management levels; (iii) developing products and services that meet business and non-business needs of the target clientele; and (iv) establishing partnerships with agribusinesses, MNOs, and Fintech's to leverage their respective strengths.

Lastly, the drivers of saving and borrowing among farmers and fisherfolk identified in Figures 6 and 8 in Chapter 3 clearly show the need to also provide saving and borrowing options for non-business needs, such as general living expenses, health, and education.

**Improve the quality and public availability of weather, agricultural, farmer and agribusiness SME data.** Better availability of granular data about agricultural risks, production and prices for major value chains could allow financial institutions to develop credit products tailored to specific value chains and regions based on expected profitability. This could also help financial institutions in better managing the risk in financing the sector, thereby

contributing to an increase in the financing available for agriculture. The weather index insurance schemes currently operating in Zambia are based solely on remote sensing estimations of precipitation. This orientation has been taken because of the lack of appropriate ground measurements for both weather variables and crop yields. The improved availability of weather data can provide synergies with remote sensing data, for example, it could allow for the development of insurance products with payment triggers that combine both sources of data. The availability of improved granular yield data could also facilitate the introduction of AYII programs.

Improved data about farmers and agribusiness SMEs is critical for the delivery of all financial services to these target segments. The farmer database of the FISP program in the Zambia Integrated Agriculture Management Information System (ZIAMIS) can be combined with the available databases of the agribusinesses and industry associations linked to specific value chains. This would help to build a robust, digitized database of agricultural producers in Zambia. Similarly, the database of the 1,300+ agricultural input dealers involved in the e-FISP program and the agricultural SMEs supported by MUSIKA and the World Bank-supported Zambia Agribusiness and Trade Project (ZATP) can be brought together as a national digital database of agribusiness SMEs with key performance metrics. These databases can be used by public service providers to better target public services, as well as private service providers. In so doing, they can better target the delivery of financial and non-financial services to farmers and agricultural SMEs. Such efforts can build on lessons learned from ongoing efforts in several countries to use digital platforms for improved service delivery (Box 1 provides an innovative example in Zambia).

Apart from technical advisory services, such databases can also be leveraged to build financial capability of farmers and agricultural SMEs. [The national demand-side assessment of financial](#)

[capability](#) carried out in 2017 provides a good baseline against which to measure the impact of such efforts. [The technical note on financial capability of SMEs](#) offers lessons that would be very relevant for developing and implementing a financial capability program targeting agricultural SMEs in Zambia.

**Strengthen the quality and availability of data about the financial inclusion of farmers, as well as access to financing for agribusinesses.** As Chapter 3 demonstrates, the Zambia Finscope surveys provide good data about the financial inclusion of farmers, which is supplemented by data available from the Global Findex. The next Finscope survey would be an opportunity to strengthen the coverage of small-scale farmers, possibly building on the segmentation used in BoZ's CMMR. However, since these surveys are focused on financial inclusion, it provides a limited amount of real-sector data. Such data is typically available from the national Living Conditions Monitoring Survey (LCMS) undertaken by the Central Statistical Office (CSO). Adding a comprehensive financial services module to the LCMS survey can substantially improve the quality of data and analysis about financial access and the use of financial services by farmers in different value chains. [The Economic Social Survey Report](#) produced jointly by the Ethiopian Central Statistical Agency and the World Bank is a good example. The LCMS survey should also collect data about inputs that small-scale farmers may be receiving from commercial farmers and agribusinesses, as well as the produce they may be selling to these entities. This information can be very useful for assessing the potential for financial services in specific geographies and value chains. The Ministry of Finance can support the CSO in this initiative through its Rural Finance and Financial Sector Policy Units.

To compliment efforts to strengthen data on financial inclusion of farmers, there is also need to

strengthen data on access to finance for agricultural SMEs. Inclusion of a comprehensive access to financing module in national enterprise surveys can provide such data. A key action that is needed is inclusion of formal enterprises involved in agricultural production, in addition to those engaged in agricultural processing.

Lastly, there is an urgent need to improve the quality and availability of supply-side data collected by the BoZ and the PIA to allow for better analysis of agricultural finance. The immediate opportunity is in improving the quality of data available from the Credit Market Monitoring Report, and in making the underlying data publicly available in an anonymized digital form. The CMMR is an excellent initiative, and it has produced very useful data regarding the Zambian agriculture credit market. However, the report can be further strengthened by improving the data related to small-scale agriculture (under the current individual and household section, as well as the small agriculture segment). In addition, it can be strengthened by identifying primary economic sectors of companies covered under the small and large agribusiness segments. This will help policymakers to better analyze access to finance for these important client segments in Zambia. The report should also include in its coverage credit provided by investment funds and agribusinesses. Neither entity type is regulated by the BoZ, but both provide significant credit to enterprises and farmers, respectively.

The PIA also has an opportunity to expand the data it collects about index insurance products in agriculture, including data on indemnity products. As such, it could offer a complete overview of the agricultural insurance market. As in the case of the CMMR, it should also aim to make the underlying data available to the market after anonymizing it as appropriate.

## Opportunity 2: Broadening the Agricultural Credit Market

Four actions are recommended in this area. The high priority actions relate to ensuring effective use of key public initiatives. This includes strengthening the institutional capacity of the Zambia Credit Guarantee Scheme and strengthening design and implementation of public credit lines. Other recommended actions are to strengthen the agricultural commodities exchange and warehouse receipts financing system that have been underperforming for several years now. This would also include putting into place the appropriate infrastructure, policies, processes and incentives that would allow for the effective use of land as collateral once the Government completes its ambitious land titling program.

**Strengthen the institutional capacity of the ZCGS to effectively serve MSMEs in the agriculture sector.** The recent government initiative to establish a partial-credit public guarantee scheme provides a good opportunity to promote lending to creditworthy MSMEs in the agriculture sector and small- and medium-scale farmers. However, for the ZCGS to be able to effectively and sustainably do this, it needs to have adequate capital. The ZCGS should also operate according to the international best practices summarized in the [Principles for Public Credit Guarantees for SMEs by the World Bank](#) (see Annex E). The scheme should carefully develop and implement an operational strategy that ensures a cost-effective guarantee origination and appropriate management approach necessary to achieve scale. It should also include risk-based pricing and appropriate portfolio diversification to ensure that risks are not highly concentrated. In addition, a transparent and speedy claim process is required.

The Government should consider bringing in international DFIs as investors, which can bolster the financial strength of the facility and contribute to strengthening its corporate governance. The aBi

Finance in Uganda and the Private Agriculture Sector Support (PASS) in Tanzania, which are partial credit guarantee facilities for the agriculture sector, have grown over the years in terms of the volume of guarantees and the number of partner financial institutions. Their experiences would be useful for the ZCGS in developing a transparent governance scheme, managing risks and expenses, building trust among financial institutions, and effectively serving the agricultural sector.

**Strengthen the design and implementation of public sector credit lines.** Given the extreme scarcity of formal-sector credit for small- and medium-scale agriculture, public-sector credit lines can play a key role in the short-to-medium run to fill these gaps and encourage private financial institutions to lend to the sector. However, to do so, it is critical that they are well designed and effectively implemented following generally accepted good practice principles. Key good practice principles to follow include: (i) publishing clear eligibility criteria for financial intermediaries interested in participating in the credit lines; (ii) publishing clear eligibility criteria for potential final borrowers; (iii) requiring financial intermediaries to fully or substantially share the final credit risk; (iv) allowing the financial intermediaries to fully recover their operating costs, risk-premiums, and profit margins; and (v) requiring regular and timely public reporting about the performance of the credit lines (Goldberg 2015). The effective implementation of public-sector credit lines may also require substantially strengthening the institutional capacity of the Development Bank of Zambia and re-defining its role as primarily one of a wholesale lender.

**Strengthen the operations of the agricultural commodities exchange and the warehouse receipts financing market.** As noted in the previous chapter, the warehouse receipt system and the warehouse receipts financing market in Zambia have not achieved substantial scale. In 2018, the Platform for Agricultural Risk Management

(PARM), an initiative managed by IFAD, conducted an in-depth assessment of the warehouse receipt system. The government and key stakeholders should follow its recommendations to address critical bottlenecks in the system including: upgrading the commodity trading platform; reviewing the timing of maize stock rotations, and aligning FRA with the commodity market and the warehouse receipt system; reviewing and amending the Securities Act of 2016 that fails to recognize trading of warehouse receipts as a legal transaction; unifying the standards of the Zambia Bureau of Standards (ZABS) and ZAMACE; strengthening the financial, managerial and operational capacity of ZAMACE; and raising awareness of the stakeholders about these issues, especially financial institutions.

**Facilitate the easier use of agricultural land as collateral.** A key constraint that will need to be addressed to enable the growth of the agricultural credit market in the long run, particularly for medium and long-term capital needs, is to ease of use of agricultural land as collateral. The Government's plan to title approximately eight million properties in the next five years, along with the planned associated measures (improving the Zambia Integrated Land Management Information System, updating and digitizing the cadastral map, and implementing a nation-wide sensitization program), is expected to lay the foundation to strengthen land-tenure rights. However, to effectively enable the use of agricultural land as collateral, these actions must be accompanied by infrastructure, policies, processes and incentives that would simplify procedures by which a security interest against land could be created, secured and executed. Given the recent establishment of the web-based moveable collateral registry, there is an opportunity for the Government to build on the lessons from these efforts in establishing/strengthening a registry of secured interests against land.

### **Opportunity 3: Enhancing the Quality and Effectiveness of Agricultural Insurance**

Three actions are recommended in this area. The high-priority recommendation is to strengthen the FISP-linked WII program; several specific actions are included under this recommendation. Other recommendations are to undertake a comprehensive assessment of options to support agricultural insurance in Zambia and build the capacity of key public and private sector actors involved in agricultural insurance.

**Strengthen the FISP-linked WII insurance scheme.** Notwithstanding the design issues and implementation challenges, this program still presents an immediate opportunity to reach many small-scale farmers in a cost-effective and potentially sustainable manner. However, to realize this opportunity, the Government needs to undertake some key actions.

- **Address key design-related weaknesses of the program.** As discussed in Chapter 4, several design-related weaknesses are likely to have limited the development impact of the program. These include the intermediation role of the Government in managing the collection and transfer of premiums to the insurance company; collecting and transferring claim payouts to farmers; and the in-kind nature of the payouts. The speed of the payout delivery is one of the major expected strengths of a WII insurance program. Delays experienced in the 2017/2018 season prevent the intended benefit from accruing.<sup>32</sup> The reported delays in transferring the premiums collected from farmers to the insurer in 2018/19 demonstrate the risk of having the Government play an intermediary role in premium payments. To improve the effectiveness of the program, it is critical that the Government is not directly involved in these functions.

<sup>32</sup> For example, payouts for the "early drought trigger" cannot provide the expected benefit if not transferred in real time, that is, shortly after the 10th of January.

Farmers can still make the premium payments together with the FISP matching contributions, but the financial service providers can separate the premium payments and deposit them directly into the insurer's account. The insurer should also be required to directly make the claim payouts to farmers within a reasonable time-frame when the claims are triggered. Lastly, the payouts should be made in a monetary form into the farmer's bank account or e-wallet. The full inter-operability of Zambia's retail payment system expected to be achieved on completion of the National Financial Switch project, combined with rapidly increasing access to accounts, makes this a feasible option. Also, the timely availability of the pay-outs will provide the much-needed additional liquidity to farmers during adverse weather events.

- **Strengthen product information and client education.** The multimedia marketing and dissemination materials for the FISP insurance scheme, developed in English and several local languages, are quite effective in illustrating the concepts underlying index insurance. However, they require further improvement. They should allow the customer to clearly identify the actual sum insured, and when and how the potential payouts should be provided, as well as who to contact with any complaints. Given that poor awareness of insurance tends to generate misunderstandings and dissatisfaction with insurance, the Government can support targeted initiatives to strengthen farmer understanding of the product, including their consumer rights related to the product. The PIA, as the relevant regulator, should also ensure that marketing materials present all relevant information and that the materials be delivered in an accessible form to all insured farmers.

- **Appoint an independent third-party calculation agency that, on behalf of the insured parties, can verify the accuracy of the payouts triggered.** In sophisticated insurance schemes, such as index products based on data collected via satellite, the stakeholders involved do not have the means to assess whether the settlement of the contract has been carried out correctly. Hence, it is a recommended practice to appoint an independent agency that can conduct the required calculations on behalf of the insured parties. This particularly applies to schemes that involve large numbers of clients and those in which the governments are facilitating the transaction.<sup>33</sup>

**Undertake an in-depth fiscal and market assessment of the options that the Government could consider for supporting agricultural insurance markets.** Agriculture finance can play a key role in the commercialization and transformation of the agricultural sector. As part of a broader support package from the Government to the agricultural finance sector, an assessment could be carried out to identify key areas of public support to agricultural insurance. Such an assessment would be based on the Government's policy priorities. The Government could offer additional support including the provision of yield data; the enabling of outreach initiatives; the facilitation of access to reinsurance; the development of technical capacity in country; and support for an enabling legal and regulatory environment. The assessment could also include a fiscal costing analysis that would assess the potential cost of public support to enable the Government to make an informed decision about potential options to be implemented. This would include an assessment of the interest of the insurance market in developing potential coinsurance pooling agreements.

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<sup>33</sup> An interesting reference case is the Kenya Livestock Index Program (KLIP).

The assessment should be informed by dedicated technical investigations to: (i) review the effectiveness of the FISP-linked WII product; (ii) support the private sector in assessing the value of potential alternative remote sensing indices for WII; (iii) assess the technical feasibility of implementing AYII (also in combination with WII) in terms of data availability and data collection procedures; and (iv) test the use of remote sensing methodologies for the identification of Unit Areas of Insurance (UAI) in index insurance programs. A technical review of the 2017/2018 and 2018/19 FISP-linked WII coverage is in order. It would be critical to assessing how effectively the product would have covered the weather risks they were exposed to, as well as addressing farmers' needs if it had not been constrained by the design weaknesses previously discussed.<sup>34</sup>

**Build the capacity of key public and private actors.** On the public side, the Pension and Insurance Authority can benefit from capacity building and knowledge sharing. This would help the PIA to be more proficient in handling the new set of index insurance products. Implementing capacity-building activities would also be useful at the ministerial level. As such, the Government would be able to more effectively interact with private sector players that participate in governmental schemes related to agricultural insurance. Similarly, on the private sector side, dedicated capacity-building activities for the design, underwriting, and implementation of both indemnity and index-based agriculture insurance products would significantly enhance the effectiveness and the sustainability of agricultural insurance products. A key aspect of capacity building for both the public and private sectors is the needs to strengthen the understanding of basis risk

and on how it can be handled.<sup>35</sup> Given the dramatic expansion in the number of farmers enrolled in index insurance products, and the past experience with basis risk events in Zambia, it will be important to raise awareness about basis risk. Developing guidelines on how to potentially prevent such events and how to deal with them once they have materialized would also be extremely relevant.

## Conclusion

**Increasing demand for high-value food products offers unprecedented prospects for the transformation of the Zambian economy; agriculture finance is one of the key factors for its potential success.** The demand for animal products, horticulture, and processed foods has been increasing due to population and income growth and urbanization, accompanied by a shift in dietary patterns in Zambia and neighboring counties. This shift provides significant opportunities for the Zambian agriculture and agribusiness sectors, which can serve domestic as well as international markets. The African urban food markets are forecasted to exceed US\$ 400 billion by 2030. Similarly, the Zambian food market is expected to grow to over US\$25 billion in the next 15 years.

**Access to financial services is vital, especially for small farms and agribusiness SMEs.** With greater financial inclusion, they can seize the growing business opportunities and enhance their resilience in the face of market and climate challenges. Financial services enable other transformational investments such as irrigation, high-quality inputs, storage, and processing equipment. In addition, they can contribute to risk management strategies, including climate-smart agriculture and insurance.

<sup>34</sup> As an example, see the review of the index-based weather insurance initiatives that Financial Sector Deepening (FSD) of Kenya commissioned to assess their pilot experiences between 2008 and 2012 (Leach and others 2014).

<sup>35</sup> Basis risk can be defined as the difference between the payout, as measured by the index, and the actual loss incurred by the insured when caused by the peril for which the policy is underwritten.

**Implementing the recommended actions would require concerted and coordinated action.** There are several challenges including resource constraints, conflicting priorities, a lack of coordination among key stakeholders, and the broader political economy. Many activities require financial and human resources backed by strong political will. In addition, given the cross-sectoral

nature of agriculture finance, close collaboration across key ministries and public agencies, as well as private stakeholders is critical. The Government may want to consider developing an Agriculture Finance Action Plan to be implemented under the leadership of the Ministry of Finance in consultation with the Ministry of Agriculture, regulators, the private sector, and development partners.





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- Credit Reporting Act of 2018 <https://zambialii.org/system/files/legislation/act/2018/8/The%20Credit%20Report%20Act%2C%208%202018.pdf> (2018)
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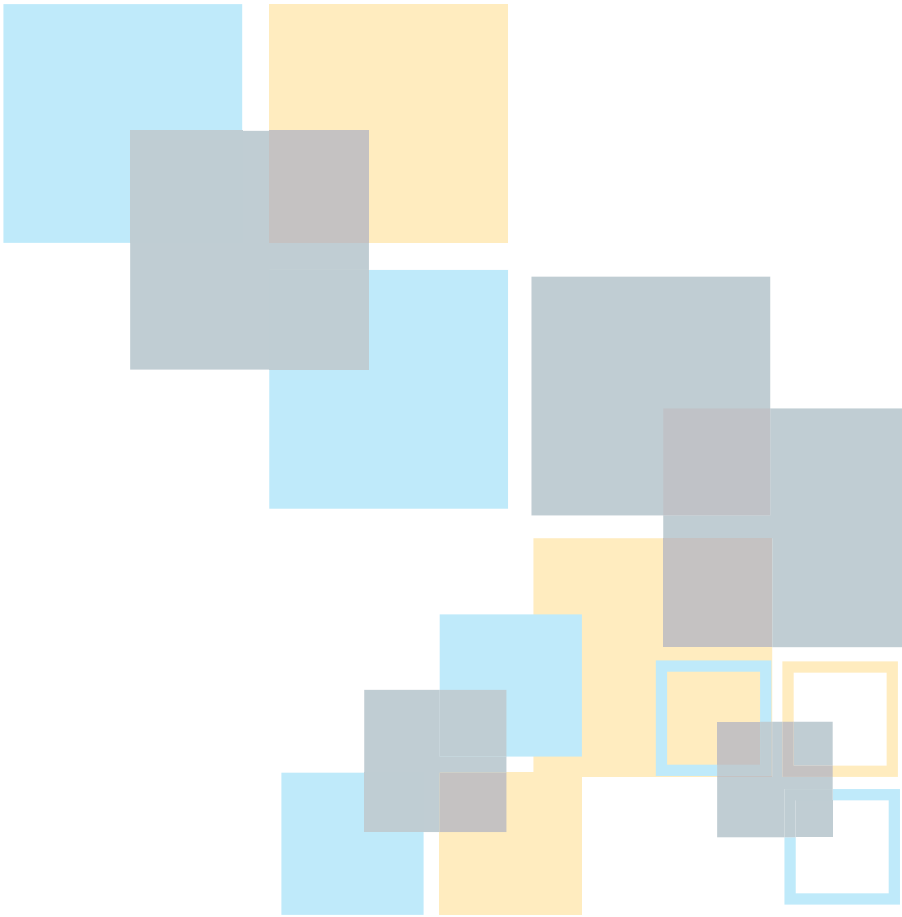
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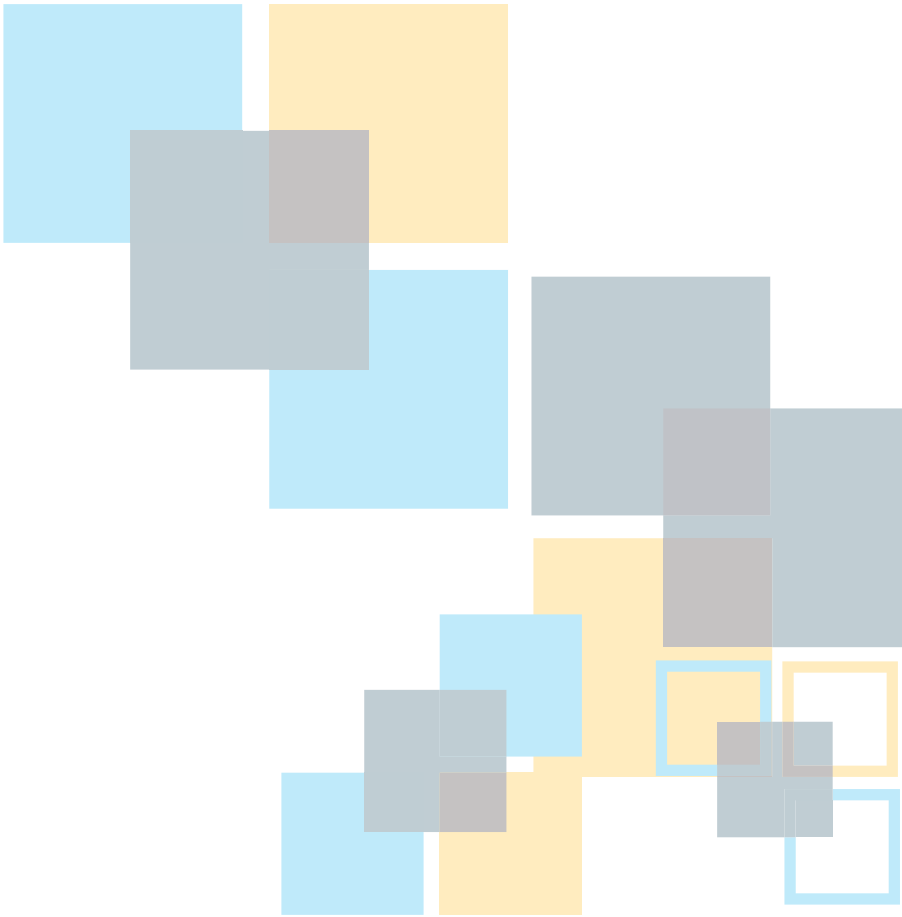
## Annex A. Institutions and Individuals Consulted

Providers	Organization Name	Name
<b>Farmer and Industry Organizations</b>	Zambia National Farmers Union	Ms. Ella Chembe
	Cotton Association of Zambia	Mr. Joseph Nkole
	Poultry Association of Zambia	Mr. Dominic
	Diary Association of Zambia	Mr. Kapoche Mwale Mr. Jeremiah Kasolo
<b>Business Service Providers</b>	Chase Resources	Ms. Nyeji Chilem
	eMsika	Mr. Gilbert Mwale
	ZAMACE Commodity Exchange	Mr. Jacob Mwale
<b>Payments Service Provider</b>	Zoona	Mr. Brett Magrath Mr. Randall Williams
<b>Commercial Banks</b>	ZANACO	Mr. Chali E. Mwefweni Ms. Kaluba Kaulungombe Inampasa Mr. Edwin Goli Mulega
	Barclays	Mr. Patrick Mutenda, Mr. Remmy Kantumoya Mr. Lance Sinkala
	AB Bank	Mr. Nurullo Mashrabo Ms. Muze Syachaba
	FNB	Mr. Cheyo Mwenechanya Mr. Chanda Busuma
	Standard Chartered	Mr. Theo Mukenani
	Atlas Mara	Mr. Betsy Nkhoma Mr. Nicholas Muneku
	Investrust Bank	Mr. Crispin Daka Mr. Simangolwa Shakalima Mr. Patrick Zimba

<b>Insurance Companies</b>	Mayfair	Mr. Mweene Moonga
	ZSIC	Ms. Bridget Mulenga
	Focus	Mr. Solomon Ngwenya
	Professional Insurance	Ms. Ndayanja Bola Majata
	African Grey	Mr. Benny Sakala
<b>MFIs</b>	Entrepreneur Financial Center	Mr. Beddah Salasini
	Agora	Mr. Abduqodir Sattorov Ms. Susan Chibang
	Madison Finance	Mr. Freddie Kandiwo
<b>Development Finance Institutions</b>	Development Bank of Zambia	Mr. Robert Mookola Malasha Mrs. Mwati Sike Mr Francis Musonda, Ms. Diana Mwendaweli_
<b>Investment Funds</b>	GroFin	Mr. Ernest Kando
	AgDevCo	Chris Bishop (Senior Agricultural Advisor)
<b>Ministries</b>	Ministry of Finance, Financial Sector Policies & Management Unit	Ms. Mercy Chiluba Munoni, Mr. Katongo Musonda, Mr. Mwale
	Ministry of Agriculture	Ms. Kezia Mbita Katyamba
	Ministry of Livestock	Mr. David M. Mundia
<b>Regulators</b>	Bank of Zambia	Mr. Chisha Mwanakatwe Mr. Richard Chirwa Ms. Mankolo Beyani Mr. Musapenda Phiri Ms. Beatrice Kalale Mr. Banji Milambo
	Pension and Insurance Authority	Ms. Namakau Ntini Ms. Yizaso Musonda



<b>Donor/Donor-funded Support Entitie</b>	MUSIKA	Mr. Joshua Munkombwe Mr. Dean Lihonde Mr. Rob Munro, Mr. Andrew Sinyangwe
	FSDZ	Ms. Betty Wilkinson Mr. Joackim Kasonde and Mr. Mauwa Lungu
	RUFEP - IFAD supported program	Mr. Michael Mbulo, Mr. Caiaphas Habasonda, Mr. Gareth Evans
	GIZ Agricultural Finance Project	Ms. Julia Kirya
	Mercycorps	Ms. Christabel Makokha
	World Food Programme	Mr. Stanley Ndhlovu
<b>Research Institution</b>	Indaba Agricultural Policy Research Institut	Mr. Chance Kabaghe Mr. Antony Chapoto Mr. Paul Chimuka Sambok Mr. Auckland Kuteya Namubi Ms. Rhoda Mofya-Mukuka





## Annex B. Key Economic Indicators

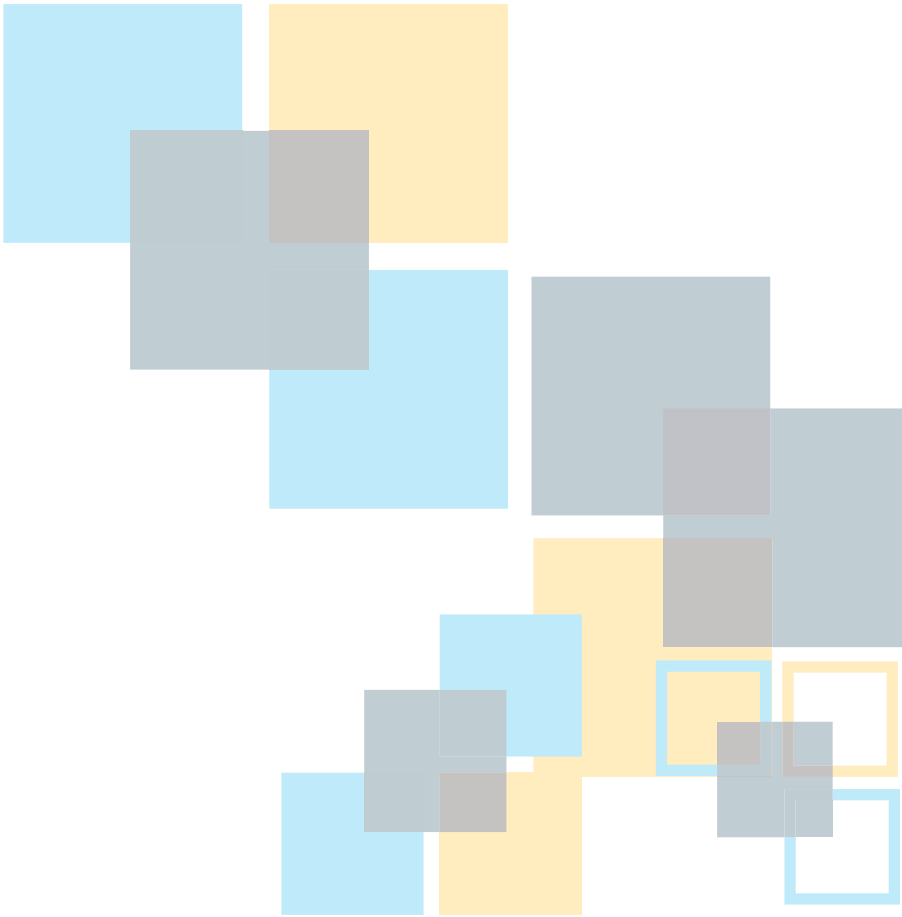
	2016	2017	2018	2019f	2020f	2021f
<b>Real GDP Growth, at Constant Market Prices</b>	3.8	3.5	4.0	1.8	2.6	2.6
Private Consumption	-2.5	12.5	1.2	2.3	3.1	3.6
Government Consumption	9.3	-8.6	-14.9	0.4	-2.9	-7.3
Gross Fixed Capital Investment	-1.7	10.2	9.9	-17.9	-2.2	2.5
Exports, Goods and Services	1.7	-3.8	8.7	10.5	10.4	10.3
Imports, Goods and Services	-14.8	10.9	4.9	2.2	6.4	10.5
<b>Inflation (Consumer Price Index)</b>	17.9	6.6	7.5	9.1	12.9	11.5
<b>Current Account Balance (% of GDP)</b>	-3.3	-1.7	-1.3	-3.2	-2.8	-2.3
<b>Net Foreign Direct Investment (% of GDP)</b>	2.0	0.9	-0.9	0.4	0.4	0.3
<b>Fiscal Balance (% of GDP): Cash Basis</b>	-6.1	-7.7	-8.3	-8.0	-5.5	-4.6
<b>Fiscal Balance (% of GDP): Commitment Basis</b>	-9.0	-7.0	-10.7	-9.7	-4.8	-3.9
<b>Debt (% of GDP)</b>	60.5	64.5	73.1	80.3	84.9	86.4
<b>Primary Balance (% of GDP)</b>	-2.4	-3.7	-4.0	-2.2	1.0	2.8
<b>Poverty Rate</b>						
<b>International Poverty Rate (\$1.9 in 2011 PPP)<sup>a,b</sup></b>	57.2	57.1	56.8	56.5	56.1	55.9
<b>Lower Middle-income Poverty Rate (\$3.2 in 2011 PPP)<sup>a,b</sup></b>	74.1	74.0	73.9	73.7	73.5	73.2
<b>Upper Middle-income Poverty Rate (\$5.5 in 2011 PPP)<sup>a,b</sup></b>	87.1	87.0	86.9	86.7	86.6	86.5

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.

Notes: e = estimate, f = forecast.

(a) Calculations based on 2015-LCMS.

(b) Projection using neutral distribution (2015) with pass-through = 0.87 based on GDP per capita in constant LCU.





## Annex C. Major Agriculture Value Chains in Zambia

**Maize is the primary food crop produced in the country and is grown in all the provinces of the country.** As noted, the small and medium-scale farmers contribute 80 percent of Zambia’s maize production. The commercial farmers involved in maize production grow it for production of livestock feed or to bridge production gaps. They grow it during the winter season. The maize value chain has a large number of actors in its value chain functions (including input suppliers, producers, millers, traders and consumers).

**Cotton is one of the most organized value chains, with exporters, traders, ginneries and farmers working as out-growers.** Over 350,000 farmers are estimated to be contracted to ginneries who provide inputs on credit in return for the farmers commitment to sell the crop at harvest time. For example, there are more than 100,000 farmers reported to form part of the out-grower’s schemes with NWK Agri-Services (Chitah 2016; Makokha 2017). However, while the tightly organized cotton value chain has traditionally provided access to inputs and assured markets to smallholder cotton producers, the Cotton Association of Zambia considers that the dependence on the ginneries has also had deleterious effects. These include pricing being fully determined by the ginneries, and the cotton seed not being available in the open market.

**Soybean production has grown in recent years, fueled by the demand from the livestock feed industry and oil extractors.** Soybean production is dominated by commercial farmers (85 percent), and Zambia is a net exporter of soybeans. The current production stands at 351,000 metric tons and the level of production is expected to continue increasing as the integration within the value chain continues to improve.

**The sugar industry is dominated by Zambia Sugar Plc (Illovo Sugar).** Zambia Sugar produces around 92.5 percent of the sugar in Zambia, followed by Kafue Sugar (Consolidated Farming Ltd.) and Kalungwishi Kasama Sugar. Sugar producers (independent producers and out-growers) have a highly managed relationship, and they have access to extension services and input supplies.

**The livestock sector accounts for about 30 percent of agricultural production.** The level of commercialization is relatively low, and most livestock is held by smallholder households. According to the Rural Agricultural Livelihoods Survey (RALS) survey (IAPRI 2016), more than 80 percent of the households reported having at least one chicken, 35 percent owned goats, 31 percent owned cattle, and only 16 percent reported owning pigs. In 2017, the Livestock and Aquaculture Census confirmed that among large livestock, cattle is the most dominant type (about 3.6 million heads) followed by goats (3.4 million heads) and pigs (nearly 1 million heads), of which more than 90 percent are held by households (Chapoto, Chisanga and Kabisa 2018). The smallholder livestock sector is characterized by limited disease management, low productivity, and relatively high livestock mortality. Also, the level of commercialization is low. The level of commercialization and participation in the cattle and pig markets seems to correlate positively with the level of the household head's education, and negatively with the level of commercialization in crops or off-farm income diversification (Lubungu, Chapoto and Tembo 2012).

**The livestock processing business is dominated by Zambeef.** It has a range of products such as meats, poultry products, dairy products, leather products, and animal feed (under Novatek). It also has a large marketing network in Zambia consisting of over 75 retail stores. In addition, it has franchise agreements with Shoprite supermarkets in Ghana and Nigeria (Zambeef

Products PLC 2018). Parmalat and Finta Danish Dairies are dominant players in dairy, but only less than 30 percent is consumed in Zambia.

**The horticulture sector has been growing rapidly in past years, but several improvements are needed to allow smallholder farmers to participate and reap the benefits from the sector.** It is estimated that about 20 percent of Zambian smallholder farmers engage in horticulture production (AgBIT 2015). There has been steady growth in the production, sales and consumption of horticultural products in Zambia over the years. A recent study estimated that annual consumption was 1 million metric tons (MT), worth over US\$330 million. This is expected to increase to 1.4 million MT worth, or US\$500 million, by 2020. Production is estimated at 1.4 million MT, worth US\$235 million, and is projected to increase to 2.2 million MT by 2020 (Chapoto, Chisanga and Kabisa 2018). Despite these trends and favorable production conditions, Zambia has continued to import vegetables and fruits, specifically through major retail stores. Local supply falls below the quantity and quality requirements of the major retail stores. The constraints are well known. Smallholder farmers often lack capital, knowledge and entrepreneurial skills necessary for production and marketing to participate in horticulture value chains (AgBIT 2015). The sector is also confronted with high supply inconsistencies, resulting in high price volatility and huge post-harvest losses due to limited cold chain facilities.



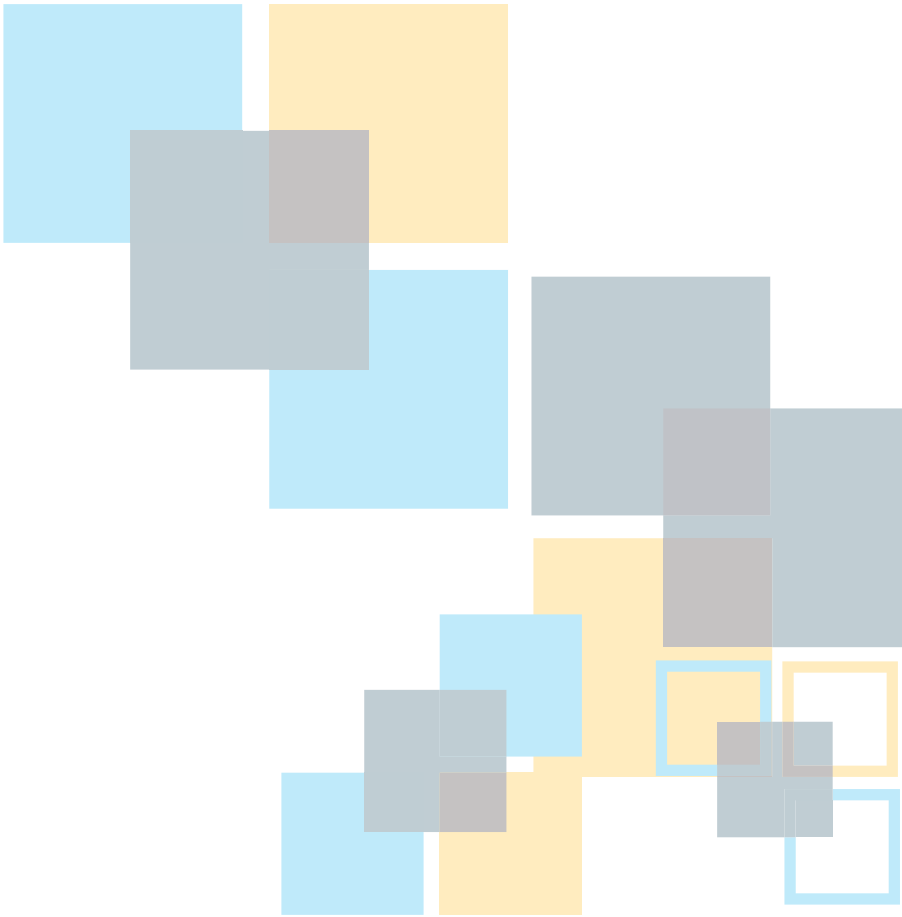
## Annex D. Innovation Pilots Supported by FSDZ, RUFEP and GIZ

FSDZ	
Partner	Pilot
Agora Microfinance	<b>Digitization of loan processes.</b> This involves the use of tablets and blue tooth portable printers that are linked by WiFi to the branches. This pilot intends to increase the efficiency of the credit officers in assessing, disbursing and collecting loans. It also increases trust and confidence among clients as loan repayment receipts are issued in real-time in the field.
Alliance Gineries Ltd.	<b>Advance cash payment:</b> Cotton farmers under the outgrower/contract farming scheme receive advance cash payments (Kwacha 200) during the hungry season (that is, the period between planting and harvesting). The advance cash payment is recovered through deductions from harvest sales. The intentions are to smooth consumption during the hungry seasons, increase yields, and instill loyalty. The rationale is that during the hungry season, farmers engage in desperate coping strategies that contribute to low yields and side-selling, for example, they abandon their financed field crops to go and work for food. In addition, they obtain cash credit at exorbitant interest rates.
IDE Zambia	<b>Invoice discounting bundled with credit guarantee:</b> The bank supports horticultural SME aggregators with working capital finance using invoices as collateral. The availability of working capital enables the aggregators to pay the suppliers (smallholders) on time, thereby not disturbing production and increasing incomes.

<p>Zazu Africa Ltd.</p>	<p><b>Digital financial education:</b> This entails the dissemination of financial education materials to low-income groups (smallholders and poor rural households) through SMS and voice using feature phones. FSDZ is working with agribusinesses, development organizations and other organizations that interface with low-income groups on a regular basis.</p>
<p><b>RUFEP</b></p>	
<p>New Apostolic Church Relief Organization (NACRO) and Atlas Mara</p>	<p><b>Free savings accounts for smallholder farmers:</b> The pilot aims to digitize payments to 5,159 smallholder farmers who are engaged in the tomato value chain in Chibombo. NACRO engaged Atlas Mara to act as the financial service provider for the project and to offer a cost-free savings account for the smallholders. NACRO provides training to the smallholder farmers regarding the use of improved tomato varieties, direct purchases of produce from the farmers, and processes to turn the tomatoes into a variety of products, such as tomato paste and dried tomatoes. Payment is made by NACRO to the smallholder mobile money accounts/bank accounts. There is potential to use the data from both the smallholder production yields and savings behaviors to develop additional products and services with Atlas Mara in the future.</p>
<p>Rent to Own, hire purchase company</p>	<p><b>Innovative asset-based lending to smallholder farmers:</b> RUFEP is supporting the company in improving its agent network and sales, distribution and maintenance of equipment including irrigation, milk production and agro-processing to smallholder farmers. The project has seen agent income more than double, enabling the agents to work full time with Rent to Own, and provide improved access to products and services for the smallholders in rural areas. RUFEP is also supporting Rent to Own to test a pay-as-you go model for solar products. Rent to Own intends to increase mobile money payments from 30 percent of all transactions at present to at least 70 percent in the coming years. Rent to Own has reached over 7,000 clients with their innovative asset-based lending approach.</p>



<p>Medeem Zambia, a land mapping company</p>	<p><b>Improving lending decisions using land data:</b> RUFEP has supported the company in testing how to utilize information collected during the land mapping process with 500 clients. Medeem works primarily with customary land in rural areas and charges customers around US\$50 to map (via the global positioning system- GPS) their land and provide customary land documents signed and recognized by the Chief, Headman, family members, their neighbors and other traditional leaders in the communities. When collecting the data, Medeem also collects a number of socioeconomic data points, including whether land has been improved, what crops are farmed, crop yield data, as well as household size and composition. Medeem is in the process of finalizing relationships with financial service providers to test the data in order to make better lending decisions.</p>
<p><b>GIZ</b></p>	
<p>VisionFund Zambia</p>	<p><b>Improving financial service offers to smallholder dairy farmers:</b> In Zambia, there are approximately 10,000 small-holder dairy farmers. GIZ is working with VisionFund Zambia on financial product development for the agricultural sector, as well as developing staff capacities to handle agricultural lending. VisionFund has redesigned their product offerings to the dairy sector focusing on the needs of the farmers, including loan products for irrigation of fodder production, improved breeds, as well as other small assets used in dairy farming. VisionFund is also piloting a loan product on synchronized artificial insemination.</p>
<p>MFinance</p>	<p><b>Agro input dealers as service providers beyond the provision of inputs:</b> There is a wide network of agro input dealers in Zambia providing services to the rural communities and especially farmers. GIZ identified and documented the business case for input dealers offering mechanized production and other value-added services for small-scale farmers. GIZ has worked with MFinance to develop specialized financial products for agricultural SMEs, such as aggregators. It is also supporting MFinance in strengthening the capacities of their staff and middle management.</p>



# Annex E. Illustrative Leaflets Developed by Mayfair Insurance for WII Linked to FISP

## HOW DOES WEATHER INDEX INSURANCE WORK?

### EVENTS COVERED

**WHAT IS COVERED?**

**DRY SPELL**

**EXCESS RAINFALL**

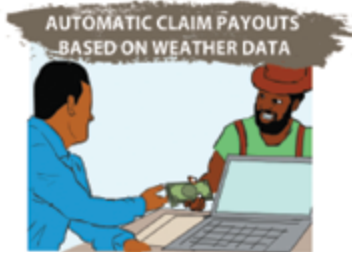
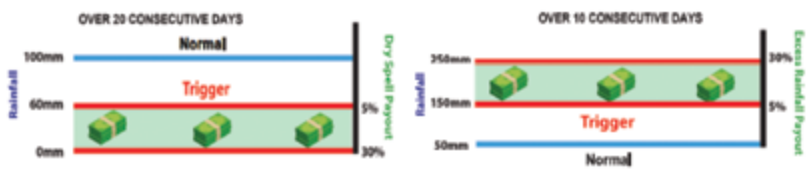
**WHEN DOES INSURANCE COVER START?**

21 Dec			
18 Dec	✓		
15 Dec		✓	
12 Dec			✓
09 Dec			
06 Dec			
03 Dec			
31 Dec			✓

### COVER PERIOD



### PAYOUT CALCULATION



### FURTHER QUESTIONS

CONTACT .....

## What you need to know about Weather Index Insurance

- 1 Weather Index Insurance pays out in case of bad weather conditions, such as drought, dry spells and excessive rainfall.
- 2 For this product, the premium is ZMW100 per farmer
- 3 The maximum possible payout is linked to the amount of the FISP subsidy.
- 4 Weather conditions are monitored using satellite technology, which measures rainfall based on the cloud cover and the type of cloud cover.
- 5 Insurance cover can start between 21 November 2017 to 20 December 2017. Cover starts automatically when a minimum of 15 mm of rainfall falls over 10 days during this period. The latest start date for insurance cover is 21st Dec
- 6 Insurance cover is from the automatic rainfall triggered start date to 31 March 2018.
- 7 Dry spells (usually over 20 days) and excessive rainfall (over 10 days) are insured over the insured period.
- 8 Dry Spell cover is split into early dry spell (from start date to January 10th) and late dry spell (from January 11th to March 31st). Over this period, if the actual rainfall over 20 days is less than the TRIGGER level for that location, then there is an automatic payout
- 9 Excess Rainfall cover is from the automatic start date to March 31st. Over this period, if the actual rainfall over 10 days is more than the TRIGGER level for that location, then there is an automatic payout
- 10 Excess Rainfall cover is from the automatic start date to March 31st. Over this period, if the actual rainfall over 10 days is more than the TRIGGER level for that location, then there is an automatic payout
- 11 Farmers can receive payouts for ALL 3 risks i.e. early dry spell, late dry spell and excessive rainfall
- 12 Weather Index Insurance covers these defined weather risks ONLY. It does not cover the actual crop or other risks, such as pest and disease.
- 13 Claim payments are done automatically based on the weather conditions. Information on weather conditions will be shared on a regular basis with the Ministry of Agriculture. There is NO need for farmers to report claims as the claim payments are on the basis of the weather conditions, as monitored by the satellite.
- 14 For further questions or information, please contact your local Agriculture Camp Officer or representative of the Ministry of Agriculture.



## Annex F. The Principles for Public Credit Guarantee Schemes (CGS) for SMES

<b>Legal and Regulatory Framework</b>
• Establish the CGS as an independent legal entity
• Provide adequate funding and keep sources transparent
• Promote mixed ownership and treat minority shareholders fairly
• Supervise the CGS independently and effectively
<b>Corporate Governance and Risk Management</b>
• Clearly define the CGS mandate
• Set a sound corporate governance structure with an independent Board of Directors
• Design a sound internal control framework to safeguard operational integrity
• Adopt an effective and comprehensive enterprise risk management framework
<b>Operational Framework</b>
• Clearly define eligibility and qualification criteria for SMEs, lenders, and credit instruments
• Ensure the guarantee delivery approach balances outreach, additionality, and financial sustainability
• Issue partial guarantees that comply with prudential regulations and provide capital relief to lenders
• Set a transparent and consistent risk-based pricing policy
• Design an efficient, clearly documented, and transparent claim management process
<b>Monitoring and Evaluation</b>
• Set rigorous financial reporting requirements and externally audit financial statements
• Publicly disclose nonfinancial information periodically
• Systematically evaluate the CGS performance and publicly disclose the findings

Source: World Bank (2015).

