



Agritech and Fintech Providers in East and Southern Africa

A LANDSCAPE ASSESSMENT

SUMMARY REPORT



May 2023



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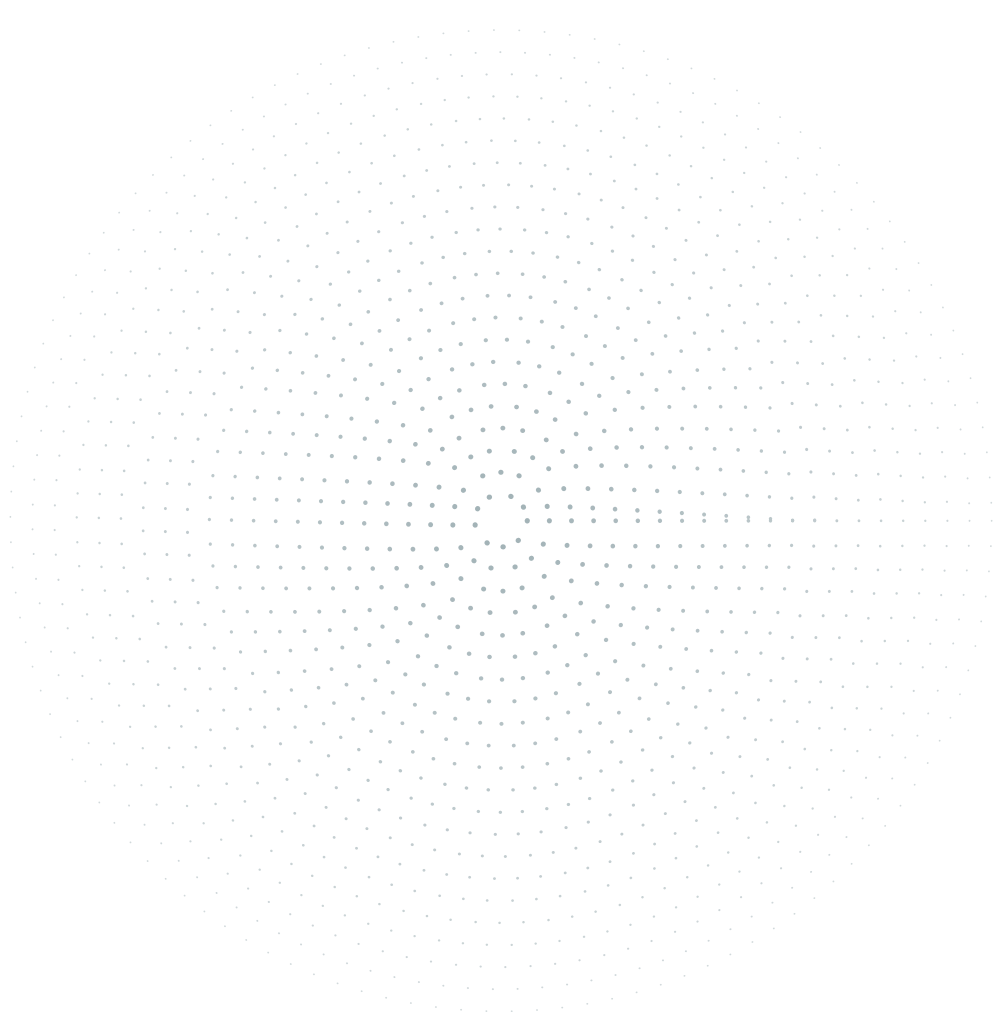
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Acronyms

Agri-SMEs – small and medium-sized agricultural enterprises

CCA – climate change adaptation

ESA – East and Southern Africa

FO – farmers' organizations

FI – financial institution

SHFs – smallholder farmers

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1 Introduction

Digitization is expected to become an important avenue for African economies to advance growth across different sectors. In agriculture, which employs over 65 per cent of the region's population, there has been a growing transition from government-led service delivery to the emergence and uptake of new digital platforms offering services in even the most remote locations. The most common offerings include extension advisory services, input supply, climate and agronomic information, digital marketplaces, e-payment platforms and digital financing.

Greater access to low-cost, fair and secure formal financial services can enable smallholder farmers (SHF) and farmers' organizations (FO) to become more resilient to the effects of climate change through the use of climate-smart technologies, sustainable practices, insurance and other products. Similarly, the greening of the agricultural value chain affects small and medium-sized agricultural enterprises (agri-SMEs), which need to adopt new practices and technologies to produce, process and market products more sustainably and can benefit from innovative agricultural and financing solutions. Indeed, such solutions often reduce risks and transaction costs for financial institutions (FIs), facilitating access to finance and more sustained growth of agri-SMEs, SHFs and FOs.

1.1 Scope

The purpose of this landscape assessment commissioned by IFAD and SAFIN and conducted by Palladium was to: (1) evaluate the situation of agritech and fintech solution providers in East and Southern Africa (ESA); (2) assess the challenges they face in accessing financing, scaling their offering and uptake of their solutions by FIs; and (3) identify and recommend business models that can effectively unlock access to climate adaptation finance for agri-SMEs, SHFs and FOs. The study was conducted through a combination of desk research and interviews with key stakeholders, including agritech and fintech providers, investors and industry experts.

An assessment of the main challenges, enabling environment, market trends and the role of concessional capital was performed to understand the broad context and market in which tech providers operate. Data was gathered on the existing ecosystem of tech solution providers, including their business models, target customers, climate adaptation focus, funding to date and investment needs to assess companies' ability to achieve scalability, social and environmental impact and commercial viability.

2 Market assessment

The assessment found that agri-SMEs, SHFs and FOs in East and Southern Africa face significant barriers to accessing finance. These commonly include cash flow volatility, agricultural risks, lack of sufficient collateral, lack of a credit history or personal data for credit assessment and limited access to FIs due to poor infrastructure to serve rural communities. Furthermore, they often lack access to a wide range of services across the agricultural value chain aimed at boosting their productivity and efficiency while improving their climate resilience and reducing agriculture’s environmental footprint.

However, these challenges also create opportunities for agritech and fintech providers in an underserved market. Through innovative digital solutions that allow for digitization, integration of climate-smart technologies and access to finance and markets, tech providers can help agri-SMEs, SHFs and FOs increase productivity, climate resilience and income while reducing their environmental impact.

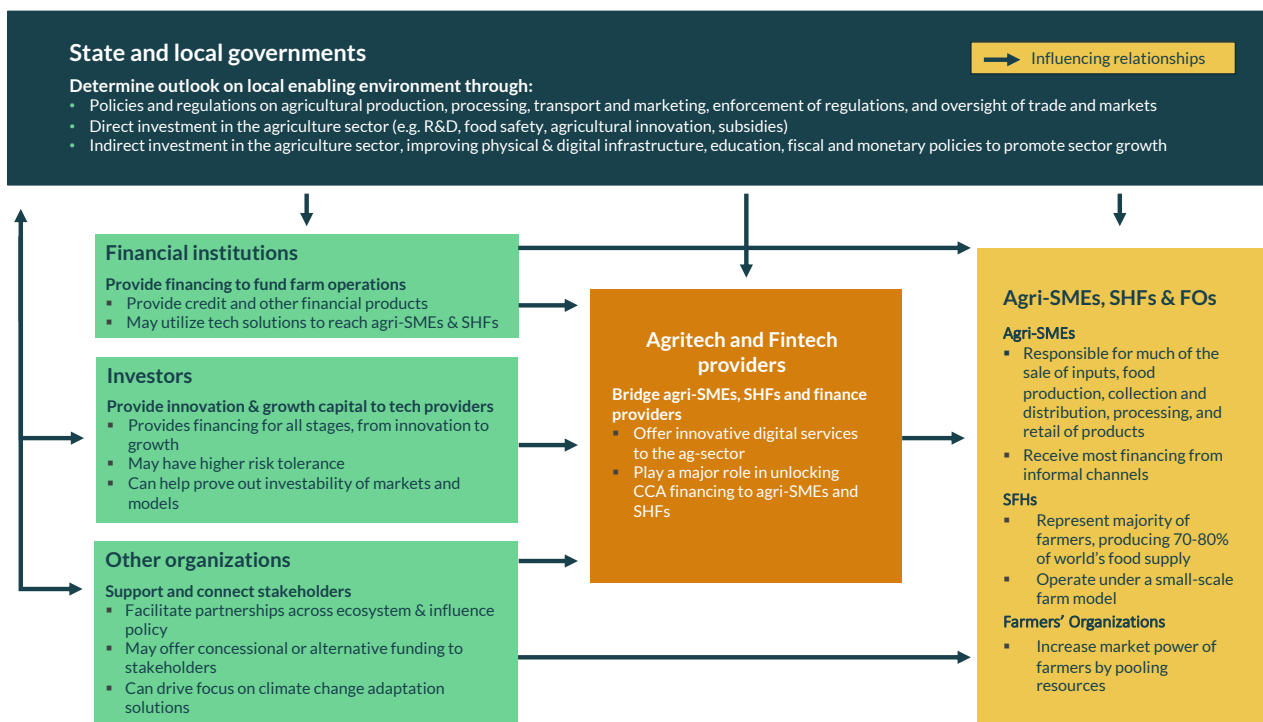


Figure 1. Ecosystem stakeholder map

2.1 Key barriers to scale for solution providers

Markets in the East and Southern African region vary with the level of economic, infrastructure and policy development, resulting in a diverse series of challenges to scaling digital innovations. Nevertheless, across these variations, the following factors were found to be the most consistent impediments to growth for tech providers:

Limited access to capital – Ready access to capital is a key driver for solution providers to achieve scalability and commercial viability. However, investors often view agricultural tech providers as riskier and less profitable than alternative investments and sectors, turning their attention elsewhere with little incentive to adopt new agri-focused technology solutions.

Lack of available data for credit assessments, for example, and difficulty aggregating large numbers of small customers further increase operating costs for FIs to service the agricultural sector.

The capital available to agricultural tech providers tends to be more expensive and difficult to obtain, reflecting the perceived risk of investing in agriculture among financial intermediaries.

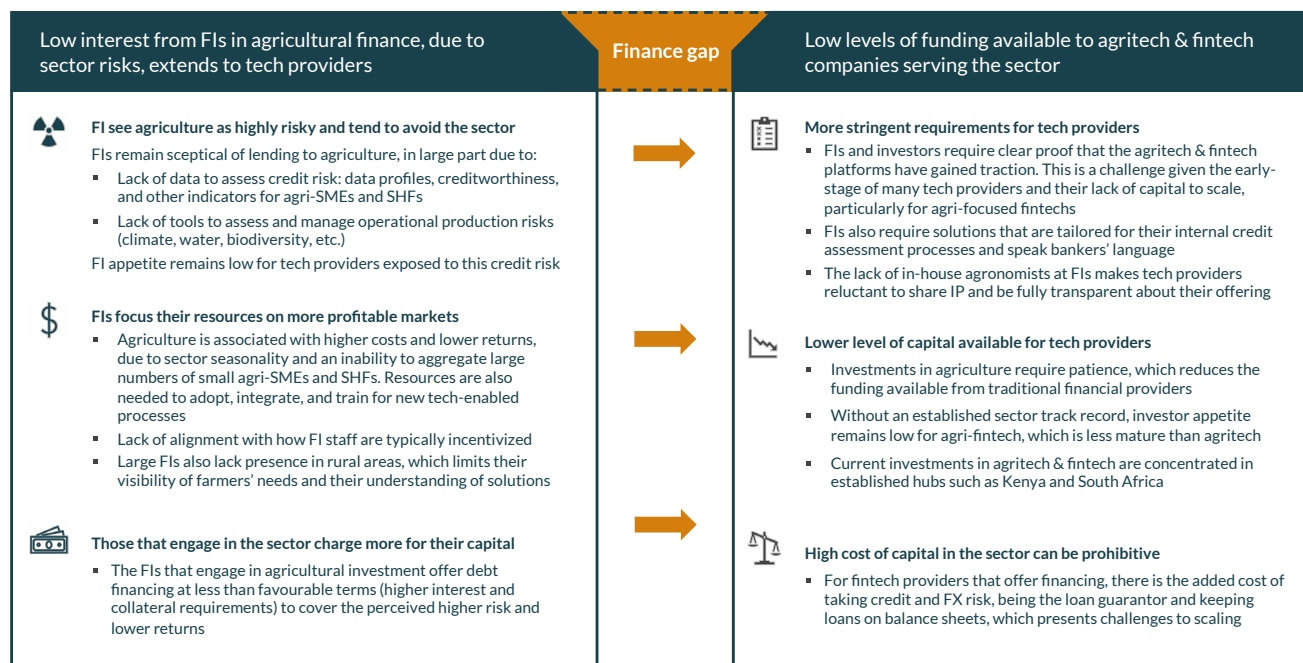


Figure 2. Access to finance gap

Need for the development of digital and physical infrastructure. Well-developed infrastructure is an integral part of the enabling environment for agricultural solutions. Low digital infrastructure coverage, common across the ESA region, exacerbates the typically low level of digital penetration in rural areas and limits the potential growth of tech solutions. It also results in a lack of consolidated data available to FIs and investors for their credit assessment processes, further limiting their interest and participation.

Despite the digital infrastructure challenges across much of ESA, one clear trend is the growth of feature phone solutions (i.e. unstructured supplementary service data [USSD], text messaging) and the adoption of mobile money. These technologies can provide a more accessible gateway to farming communities in rural areas with poor digital coverage.

The quality of physical infrastructure, such as roads, bridges and power lines, affects the efficiency of agricultural activities and remains a challenge across the region. Innovative tech solutions designed to boost agricultural productivity therefore face major infrastructure limitations.

Other factors found to impact the scalability of tech solution providers include:

- » **Lack of large addressable markets** due to the type of service, target customer or affordability of the solution.
- » **Unprofitable unit economics** in the absence of subsidies; for example, the high customer acquisition costs required to aggregate large numbers of low-income, geographically dispersed SHFs for certain business models.
- » **Vulnerability to external shocks** as a result of low margins or business models with single points of failure.
- » **Poor replicability in new markets**, often the result of differing regulatory environments, which reduces the market fit of certain business models.
- » **Low value provided to customers** – Many agri-SMEs, SHFs and FOs face multiple pain points across the agricultural value chain, and providers that offer a single product often have limited impact.

2.2 The role of concessional capital

Concessional capital has a key role to play in addressing the barriers to scale faced by tech solution providers.

1. First, **catalytic concessional capital** can be deployed to reduce the investment risk of agricultural funds in the form of first-loss capital, making them more attractive and catalysing more commercial capital for the sector.

2. Concessional capital can also take the form of **loan guarantees** to tech providers with a lending or insurance product. This reduces their portfolio risk and operating costs and enables more alternative finance to agri-SMEs, SHFs and FOs.
3. **Flexible debt capital** can be deployed with grace periods and longer maturities to better support earlystage companies, particularly with a climate and impact lens, allowing them to better serve target customers and prove product viability and scale. It also reduces the pressure on businesses to create exit opportunities, which equity investors typically expect.
4. Concessional funding for **technical assistance** can help build foundational data banks to improve data accessibility and analytics – e.g. of farm registries, soil mapping, agronomic and weather data. Centralizing this data and creating taxonomies can lower tech solution providers' costs, improve investors' understanding of the sector and increase their comfort level and investment appetite in the longer term.

Across all of these potential forms, concessional capital can be a driving force to unlock financing to the agricultural sector by improving the market conditions that facilitate more commercial capital flows. In doing so, it can also help embed a sharp climate impact lens through technical assistance and solutions that offer climate-smart technologies, education and training in sustainable agricultural practices, increasing the adoption of climate change adaptation (CCA) solutions.

2.3 Business models of tech solution providers

Palladium mapped out the existing landscape of tech solution providers in the ESA region to understand current trends and opportunities and provide a framework for identifying how and where SAFIN and IFAD can help businesses overcome barriers to scale.

The initial mapping of tech solution providers included 68 relevant companies that Palladium identified through secondary research of technology companies in the agricultural value chain, which it broadly grouped into three categories of business model:

- » **Agri-tech solutions (53 per cent of companies in the sample):** The largest and most established segment, with the majority of activity focused on boosting farmer and agri-SME productivity through data and analytics, farm management and solutions, increased access to markets and fair prices.

- » **Bundled services (26 per cent of companies in the sample):** A growing segment that is attracting more investment; it includes companies offering a comprehensive range of services that can span multiple agritech solutions (Ag bundled services) or fintech solutions (Ag & financial bundled services). These types of companies address multiple barriers across the agriculture value chain.
- » **Fintech solutions (21 per cent of companies in the sample):** Fewer players; a nascent segment due to scaling challenges driven by the inherent risks of the agriculture sector and high operating costs, with main offerings across lending, insurance and alternative credit scoring.

Each business model category was further segmented into more granular areas of focus, as in the figure below, with examples of companies that fit into these segments.

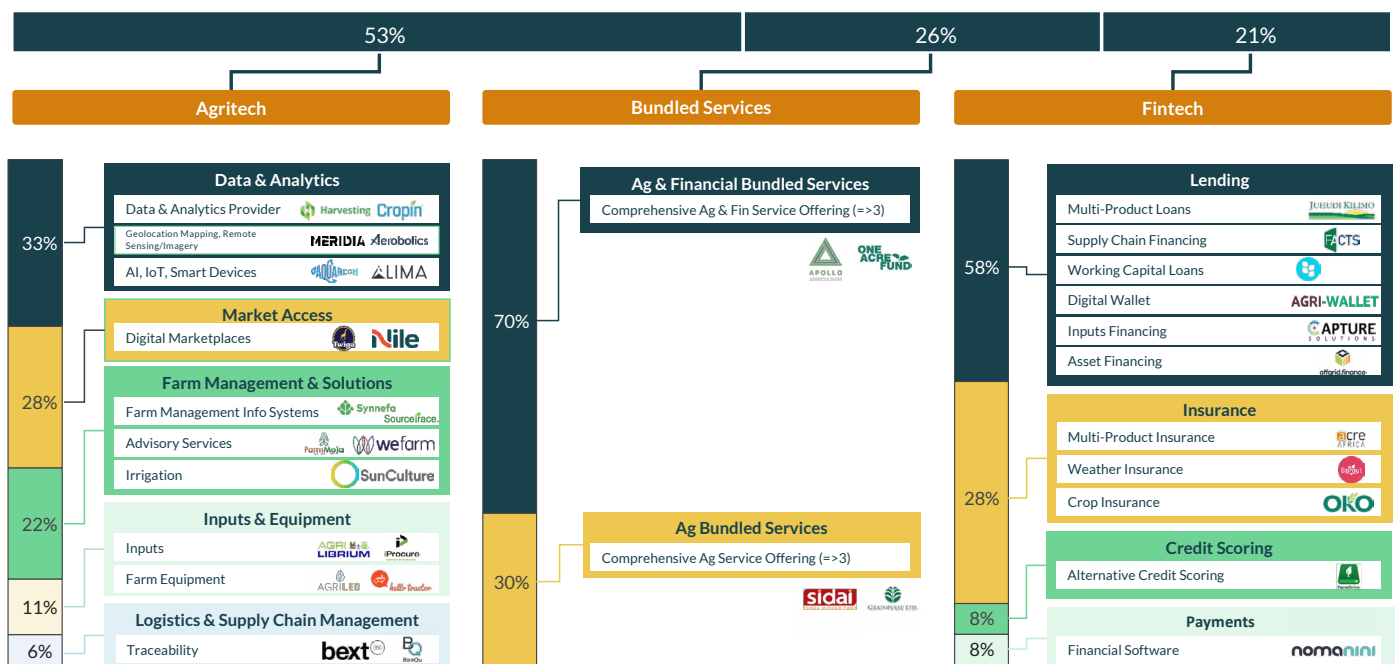


Figure 3. Agritech and fintech landscape segmentation

To determine key trends in business model growth and opportunities, Palladium further assessed the tech solution providers in the sample by business model, customer focus, funding stage and type of funding raised (i.e. debt, equity and grant), countries of operation and CCA focus, and other factors.

Based on the research, supplemented by interviews with stakeholders, Palladium found that:

1. **Very few companies focus solely on serving agri-SMEs as customers** (7 per cent of the total sample), with most serving SHFs. This was found to be the case, since SHFs represented a more numerous and homogenous customer base, making them easier to aggregate from a solutions provider's perspective, while agri-SMEs' needs were found to be more diverse, making tailored solutions more difficult.
2. **Some 32 per cent of companies in the sample have a CCA focus already embedded in their offering**, with their core offerings explicitly mentioning or focusing on CCA issues for customers. Within the data and analytics segment of agritech companies, those with a CCA focus tend to be at a more mature stage than those that do not yet have a clear CCA link. Similarly, Ag bundled services are also attracting more investment for CCA-related services.
3. **Agritech is the largest and most established segment in ESA in terms of funding activity** – Agritech businesses appear to have a clear roadmap for investment and are likely to be larger than bundled services and fintechs. Digital marketplaces providing market access to SHFs and agri-SMEs are especially attractive.
4. **Bundled services are receiving increasingly more funding** – A growing number of investors are focusing on business models that bundle multiple services across the agricultural value chain, attracting 33 per cent of total funding, with Ag & financial bundled services representing two thirds of that funding. Bundled services address multiple pain points, making them more attractive to customers, and can improve unit economics through economies of scale, making scaling more viable.
5. **Equity funding is the most commonly used instrument**, accounting for 58 per cent of transaction volume in the sample. However, both debt and equity are used throughout the investment cycle. Grant capital tends to be deployed during the early stages to fund pilots and innovation, but equity and flexible debt are needed at later stages to support growth and scaling.
6. **Kenya is the largest hub in the ESA region across all three categories.** Kenya accounts for 30 to 50 per cent of activity across agritech, bundled services and fintech, followed by South Africa (another major hub for agritech), and Uganda (an emerging hub across bundled services and fintech). These countries tend to have more favourable enabling environments for tech solution providers, based on factors such as local infrastructure, technology penetration, etc.

Identifying and increasing investment in the most scalable solutions that can unlock climate finance is key to boosting agri-SME, SHF and FO productivity and mitigating their climate vulnerabilities.

2.4 Business model prioritization

Based on the findings on trends and barriers to scale for tech solution providers in East and Southern Africa, Palladium used a prioritization framework to identify the most promising business models that could successfully scale and unlock climate-aligned financing for agri-SMEs, SHFs and FOs.

This framework assessed each business model in terms of:

- » **Investability**, as determined by:
 - **Scalability**. The potential to grow and obtain a share of a large addressable market with low capital requirements.
 - **Commercial viability**. The potential to be profitable (without subsidies) and adapt to changing market trends and external shocks.
 - **Replicability**. The likelihood and ease of successfully replicating the business model in new markets (e.g. new geographies).
- » **Impact**, as determined by:
 - **Unlocking finance**. The ability to unlock finance for underserved agri-SMEs, SHFs and FOs, as evidenced by financing value and number of customers.
 - **Climate resilience**. The potential to bolster the use of sustainable farming practices and climatesmart technologies by SHFs and agri-SMEs.

Based on this prioritization framework for the ESA region, the three most promising business models identified are:

1. **Agricultural & financial bundled services** companies, which offer the most compelling value proposition to customers by addressing multiple pain points across the agricultural value chain, often combining agritech (e.g. access to inputs and equipment, technical assistance and market access) with fintech offerings (e.g. lending and insurance). There is a growing number of such companies, which are attracting increasing interest from investors, as demonstrated by transaction activity.
2. **Market access** solution providers, which offer platforms that drive connectivity between agricultural supply and demand, creating value for both sides and helping SHFs and agri-SMEs maximize the value of their products. These companies reduce financing risk by helping agri-SMEs,

SHFs and FOs sell their products faster and more easily while often including off-taker arrangements to lower working capital constraints. They have demonstrated investability, raising larger amounts of capital at later stages.

3. **Data and analytics** companies have significant potential to unlock financing by providing data insights that boost productivity and efficiency and reduce waste, thereby increasing the profitability of SHFs, agri-SMEs, and FOs and improving forecasting abilities and risk management for finance providers.

Although these were considered the most promising business models in the ESA region overall, there are significant differences in local market contexts that may make some of them less attractive and other business models more suitable. These local considerations should be taken into account when assessing the potential of business models in specific markets.



3 Recommendations

This paper is intended to provide SAFIN members with insight into the core issues faced by tech solution providers in agriculture, with the ultimate goal of empowering the network to support the growth of these innovative companies and unlock CCA financing for agri-SMEs, SHFs and FOs.

Within this context, SAFIN can also play a critical role in connecting different ecosystem players, furthering their understanding of the space and offering guidance for them to address some of the key barriers to scaling solutions. Specifically, it is recommended that SAFIN:

1. **Encourages private-led investment in the sector** by reframing risks, raising awareness about the opportunities and needs at hand to drive more private capital to the sector while serving as a lever to incentivize collaboration across players.
 - SAFIN has the power to bring together private sector players including FIs and tech providers. Fostering action through focused workshops and webinars jointly attended by investors and tech providers can lower current barriers, particularly by including FIs in the conversation. Attracting more fintech and agritech companies to the network and holding larger mainstream conferences to bring these issues and opportunities to the fore is likely to unlock solutions from new players;
 - SAFIN can address key knowledge gaps by disseminating and discussing this work via publications, conference panels, webinars and other marketing materials across the network. Launching a series of workshops for SAFIN members to better equip them to identify scalable, commercially viable businesses and design investment instruments that are better aligned with the capital needs of agritech and fintech providers can unlock greater investment.
2. **Maps specific opportunities for innovative collaborative efforts** among its members, set measurable goals and track and promote progress to incentivize collaboration across players.

More broadly, SAFIN members and others in the field can further leverage SAFIN's support and findings to target their capital and programming more effectively to areas that can proliferate the unlocking of finance to agri-SMEs, SHFs and FOs.

The key recommended approaches to doing so from this learning note are to:

1. **Extend targeted support through concessional capital** to help reduce risk for tech providers and allow them to scale, while mobilizing traditional financial providers to increase their uptake of tech offerings and financing to the sector:
 - » Provide first-loss capital to blended structures, including concessional first-loss capital to funds developed by members of SAFIN or other partners, including solutions with a strong CCA focus, that target investment in recommended business models to reduce risk and attract commercial investors.
 - » Provide loan guarantees to recommended business models that mitigate key risks faced by these tech providers, particularly those with lending and insurance offerings, to improve their liquidity and reduce operating costs, as well as mitigate foreign exchange risks.
 - » Provide flexible capital with grace periods and long maturities through concessional vehicles to better support early-stage tech company needs in the recommended business models, particularly with a climate and impact lens, enabling them to serve target customers and prove product viability and scale more effectively.
 - » Provide targeted grants to agritech and fintech providers to:
 - Improve data gathering efforts, centralize fragmented data sets and ease access to higher quality data.
 - Support the creation of taxonomies and standardized definitions to ease integration with FIs.
 - Educate farmers about sustainable inputs and practices to increase the adoption, affordability, and awareness of solutions aimed at increasing their climate resilience.
 - Subsidize climate risk insurance premiums to increase affordability and access.
 - Provide technical assistance for FIs to integrate solutions and for tech providers to better design products tailored to their needs, helping banks digitize and embed data in credit analysis of the agriculture sector.
2. **Foster new partnerships between tech providers and FIs:**
 - » Advocate and offer direct facilitation of collaboration through workshops and other settings where the two stakeholder groups can develop solutions together. Consider launching a **Challenge Fund** that would incentivize tech providers and FIs to find solutions that best address farmers' needs and can be integrated in FI operations.

3. Drive policy advocacy to improve digital infrastructure and mobile adoption:

- » Influence the regulatory environment to create better incentives for FIs to adopt and integrate tech solutions, including in the areas of digital payment regulation, access to centralized data in the agriculture sector and regulation of insurance licensing – all levers that can help increase CCA financing and impact in the sector.

4. Focus on bundled services in programmes:

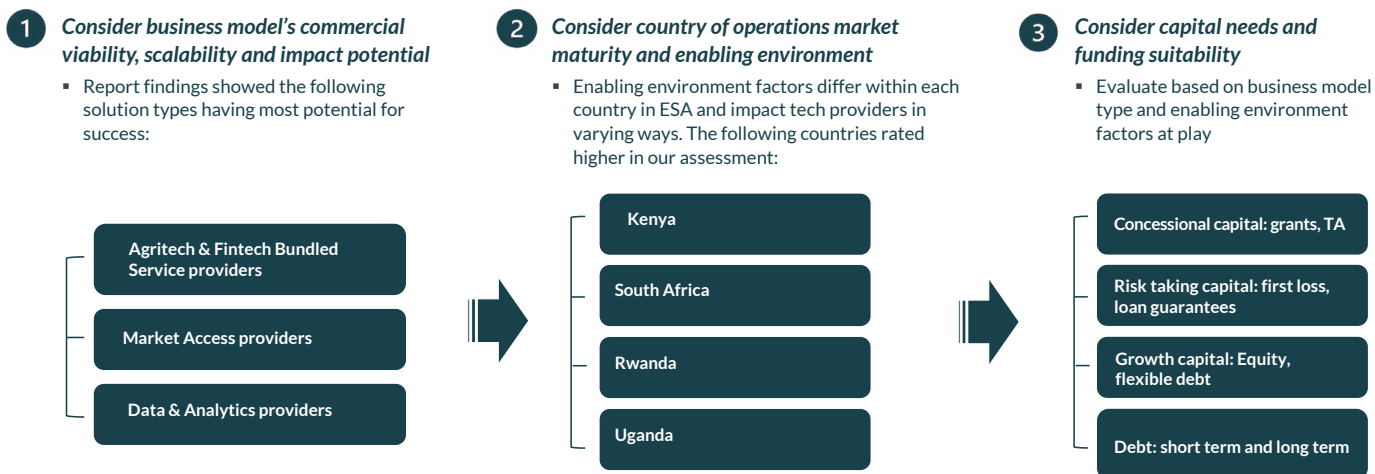
- » Drive programme support to scalable solutions prioritized in this study, including Ag & financial bundled services, market access and data and analytics.
- » Design results-based programmes and projects in-country, focused on strategic opportunities that integrate these types of agritech and fintech providers with FIs, developing long-term incentives for both.

5. Continue developing research, publications and learning tools to drive capital from philanthropic funders and investors and influence the behavior of tech providers and FIs.



4 Funding decision framework

The following framework can be applied as a guide to funding decisions for agritech and fintech solution providers:



Funding Type	Business model applicability			Use of proceeds
	Agritech & Fintech Bundled Services	Market Access	Data & Analytics	
Technical Assistance	x	x		Educate on sustainable inputs and practices to increase adoption, affordability, and awareness of solutions that aim to increase farmers' climate resilience
	x	x	x	Provide technical assistance support for FIs to integrate solutions and for tech providers to better design products tailored to their needs – help banks digitize and embed data in credit analysis of the ag sector
Grants	x	x	x	Grants to support creation of taxonomies and standardized definitions to ease integration with financial institutions
	x	x	x	Grants to improve data gathering efforts, centralize fragmented data sets, and ease access to higher quality data
	x			Grants that subsidize climate risk insurance premiums to improve affordability and access
First Loss capital	x	x	x	Provide concessional first loss capital to funds developed by members of SAFIN or other partners that target investment into recommended business models, to reduce risk and attract commercial investors, including to solutions with a strong CCA focus
Guarantees	x			Provide loan guarantees to mitigate key risks faced by these tech providers, particularly those with lending and insurance offerings, in order to improve their liquidity and reduce operating costs, as well as mitigate FX risks
Flexible Debt	x	x		Patient loans with grace periods and repayment tied to success milestones, allow providers to service customers more effectively and prove product viability before traditional debt is available
Equity	x	x	x	Early growth equity is needed by all providers to enable scaling of solutions and accessing debt
Working Capital Debt (Short term)	x	x		Working capital for input and inventory purchases and payments to farmers
Capex Debt (Long term)	x			Long term debt for equipment, machinery and CCA related investments

Figure 4. Funding decision framework





International Fund for Agricultural Development,
www.ifad.org

Smallholder and Agri-SME Finance and Investment Network
www.safinetwork.org

Palladium
www.thepalladiumgroup.com
