# Blended Finance Tools to Catalyze Investment in Agricultural Value Chains

*An initial toolbox*

# Disclaimer

This report has been commissioned by the African Development Bank (AfDB), the UK's Department for International Development (DfID), the Alliance for a Green Revolution in Africa (AGRA) and the International Fund for Agricultural Development (IFAD) in its role as the Secretariat for the Smallholder Agricultural Finance Investment Network (SAFIN).

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## Introduction and Executive Summary

**Context and a Mapping of Risks in Agriculture**
An overview of the challenges and risks in agricultural value chains and how they restrain the supply of finance to the sector

**An Overview of Blended Finance and Initial Toolbox**
A definition of blended finance, and how tools can be used to crate catalytic transactions and vehicles

**Stocktaking and Recommendations for Scaling Blended Finance**
The track record for Blended Finance so far in agriculture, lessons learned, and emerging recommendations for scaling

**An Ecosystem Approach to Putting Blended Finance into Practice**
How Blended Finance tools can and are being used in de-risking cash and food crops

# Introduction

- **There is an exciting opportunity, as well as an imperative, to drive an inclusive and sustainable transformation of agriculture in Africa.** Today's agriculture and agribusiness sector is characterised by pervasive bottlenecks, low productivity, a lack of competitiveness, and widespread poverty, malnutrition and food insecurity. Continuing on this trajectory is unsustainable: imports of food would reach $111bn by 2025 versus $35bn in 2015[1], and pressure from climate change and increased populations would only serve to exacerbate today's problems. However, a way forward to drive a transformation in agriculture that could deliver inclusive and sustainable economic growth, end net exports, while delivering food security and nutrition to the continent has been charted out that could be achieved in 10 years[2].
- **More investment than supplied today will be needed to realize this transformation.** Today, investment in agriculture and related value chains is primarily investment of financial and other resources of economic operators – farmers, cooperatives, agro-processors, input providers, traders amongst others. Estimates[4] for smallholder finance demand alone[5] suggest that of the $33bn a year needed in Sub-Saharan Africa only $6bn is met by formal and informal sources of finance with the rest coming from farmers own resources or not met at all. Beyond this, up to $7bn is available across traditional sources of development capital, investments by government and financial investors[6]. Estimates from the African Development Bank suggest $32-40bn sustained over a 10 year period are needed to make Africa a net food exporter, and end hunger and malnutrition across the continent – there is therefore a substantial gap in the level of financial resources required from economic, financial and development actors to realize the potential for transformation.
- **This scale of investment requires going beyond the traditional sources of investment, both due to the scale of the challenge and also the nature of the opportunity.** Current sources of finance account for $8bn of the total needed, with $5bn from ODA. ODA for agriculture is growing more slowly than before, at approximately 2% per annum since 2009 and cannot be expected to fill the gap. Sufficient private sector capital exists from commercial investors, but today the cost to serve the sector and the risks – both perceived and real – are too high for many investors to supply sufficient finance to the sector.
- **The way in which development and private sector actors invest has been changing**, with more experimentation from development actors in using innovative approaches to leverage private sector capital, and a growing interest in socially sustainable investment both in the form of new vehicles and socially responsible investing. New structures, including 'impact first' funds and 'frontier funds' or 'social lenders' have emerged to be a source of almost $20bn in equity, debt and grants in the last few years. Foundations and philanthropic actors have been particularly forward leaning in the use of innovative approaches to leverage their existing resources to crowd-in private sources of finance for agriculture.
- **Blended finance, in which philanthropic and public capital is used to catalyze investment by the private sector seeking commercial risk-adjusted-returns, offers a way to bring these types of capital together to address the financing gap.** Blended finance has been growing ~20% CAGR per year over the last ~4 years by value, and mobilized $51bn in capital from 2000-2016. Within this, agriculture has accounted for only 3% of the value and 11% of deals. So, while blended finance offers potential, there needs to be a step change in overall activity to meet the financing levels required.
- **This report, commissioned by IFAD (in its role as Secretariat of the Smallholder Agricultural Finance and Investment Network – SAFIN), the AfDB, AGRA and DFID[3], focuses on understanding how blended finance can be used to catalyze private investment – from the financial sector, development actors as well as economic actors in agriculture**. It aims to support policy-makers, potential providers of finance, and developers of blended finance projects and vehicles, with latest thinking on what tools exist (especially less frequently used or more theoretical tools) for blended finance interventions, and considerations on how they should be brought together. We bring together a clear conceptual framework of how to develop these tools, with empirical insights from a stocktaking of what has been tried and tested, what results have been observed, and what lessons can be learned from the experience to date. Finally, this report also puts these concepts and learning into practice through the lens of applying this initial toolbox to a cash crop and food crop in Kenya.
- **Blended finance offers a tantalizing prospect of mobilizing a substantial amount of the capital needed to support agricultural transformation, but a step-level change in capital mobilized is required.** We hope that this report contributes to the sharing of experience and insights that can support making this a reality.

(1) Based on figures from "Feed Africa: Africa's Agricultural Transformation Agenda", AfDB, 2016; (2) ibid. 1; (3) The International Fund for Agricultural Development, the African Development Bank, the Alliance for a Green Revolution in Africa and the Department for International Development, respectively; (4) from 'Inflection Point: Unlocking growth in an era of farmer finance', April 2016, Dalberg; (5) i.e. not including commercial farmers, processors, traders, inputs dealers, agro-logistics and other agro-industry players; (6) potentially $1-2bn of this $7bn figure can be taken to overlap with the previous estimate of $6bn of formal and informal sources of finance supplied to smallholder farmers in Sub-Saharan Africa in 2016.

# An overview of this report

## Overview of Chapters

This report is divided into four sections:

1. **Context and a mapping of risks in agriculture:** this section outlines the rationale for considering blended finance in the first place. We outline the high level case for agricultural transformation in African agriculture, the financing gap that exists to realize this and the challenges – especially risks - that constrain the supply of private capital to the agriculture sector.
2. **An overview of blended finance and an initial toolbox:** a working definition of blended finance, and a high level view of what kinds of actors and risks are being addressed is provided. This is then followed by an overview of the kinds of tools that can be used to create blended finance interventions and vehicles, how interventions should be brought together, and a deep dive into a selection of 12 key blended finance instruments.
3. **Stocktaking and recommendations for scaling blended finance:** this section outlines the summary of findings on blended finance overall from OECD and Convergence, as well as the key insights of a review of 63 specific deals and vehicles conducted by Dalberg for this study; this is followed by 6 detailed case studies to identify success factors, challenges, what is working and lessons learned. Finally, some high level recommendations on how to scale blended finance are shared.
4. **An ecosystem approach to putting blended finance into practice:** having outlined the above, this final section puts the theory and lessons learned above into practice using the examples of one food crop (maize) and one cash crop (coffee) to show the process of developing blended finance interventions and how a risk-led and value chain approach that takes into account the full ecosystem can develop effective responses

## Scope and Focus

Blended finance is only one amongst a set of levers that can (and often must) be pulled to catalyze investment. This report therefore focuses on some specific areas, along the following lines:

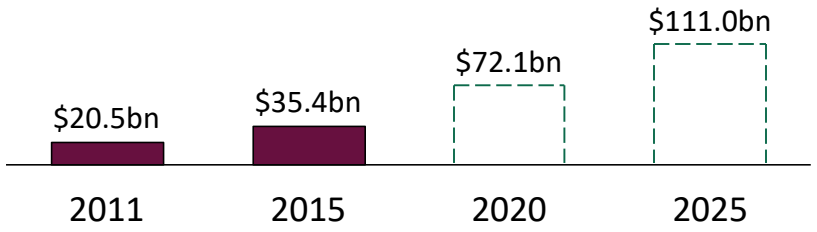
- **Taking a risk led lens:** there are a broad set of challenges that constrain the supply of finance to agriculture. Real, and perceived, risk on the side of prospective investors is one of them. Others include: market risks that affect investors, farmers and enterprises; very high costs to serve the agricultural sector, especially small and medium sized enterprises; information and knowledge gaps, and more. However, this report focuses primarily on risks, and how risks can be more efficiently redistributed and reduced.
- **Focusing on blended finance's role in risk management:** there are multiple ways to address risk. In particular, technical assistance to both financial intermediaries (e.g. banks that want to enter / expand their agricultural lending) and recipients of finance (e.g. small enterprises that aim to scale) can help in fundamentally de-risking agricultural value chains. This report focuses on blended finance and not other mechanisms to reduce or shift risk.
- **Focusing on risk management, amongst other benefits, of blended finance:** blended finance interventions can play a role in addressing more than just risk; well designed interventions that include other actors within value chains can use their ability to reach potential investees and knowledge to de-risk, reduce costs and better align actors, amongst other benefits. This report focuses on risk first ('risk-led') and acknowledges the other benefits that come from well designed interventions.
- **Focus on financial investors and the 'missing middle' of farmers and enterprises:** this report focuses on the case for catalyzing investment from financial investors and larger private sector actors in agricultural value chains. The target for investment is primarily small and medium sized farmers and SMEs that could benefit from finance but typically face a significant undersupply, often called the 'missing middle.'

# To successfully achieve agricultural transformation in Africa, we need to mobilise substantial additional capital from the private sector

## There is an opportunity – and imperative – to transform agriculture in Africa

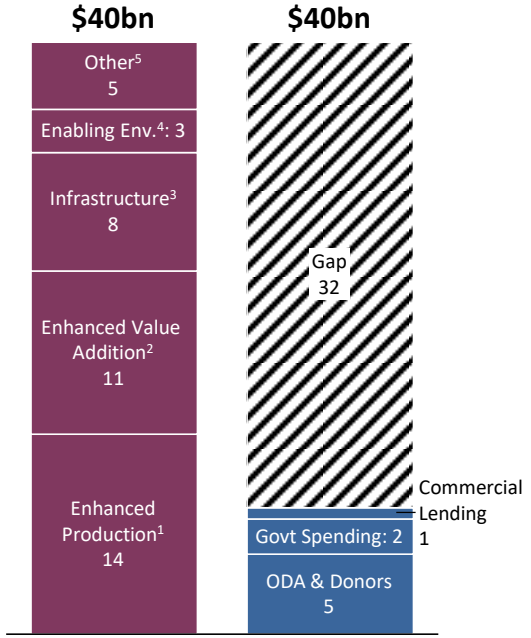
- Africa's agriculture sector today is characterised by low productivity, fragmented and poorly organized value chains and as a result deteriorating competitiveness leading to rapidly rising imports. This will only get worse – African Development Bank estimates[6] suggest food imports could rise from $35bn in 2015 to $111bn in 2025
- At the same time, there is an opportunity to transform agriculture, in a way that delivers broad-based and inclusive economic value, able to support environmental sustainability, climate resilience, and food security plus adequate nutrition to the entire continent.
- What is required is substantial improvements in productivity and downstream activities to absorb and add value to agricultural production, the right regulatory conditions and sufficient liquidity to finance this transformation.

**Example: Net imports of food – total Africa**, $bn, 2010-2025




## Substantial extra funding is required to achieve this; current main sources are unlikely to scale

**Estimated Financing Gap For Agriculture**
$bn/year, 2016-2025 for finance required; 2016 for estimate of current sources




## Sufficient sources of private capital exist to address the financing gap

*NOT EXHAUSTIVE*

| | |
|---|---|
| **Institutional Investors (e.g. Pension Funds, SWFs)** | In Africa, Pension Funds and Sovereign Wealth Funds have **$160bn** and **$360bn** AUM respectively. Beyond Africa, pension funds in Europe are starting to increase exposure to African agriculture |
| **Commercial Lenders** | Currently lending **$660m** annually, **4.8% of ~$14bn**; room to increase exposure further, especially given ag sector share of GDP |
| **Conventional PE & VC** | **$25-35bn** is available across commercial returns seeking PE and VC funds with a regional focus on Africa, representing <2% of the emerging market industry |
| **Impact funds** | **~$8bn** targeting Africa, raised across 80 funds in recent years[3] |
| **Value Chain Actors, Other** | **>$3bn**[4] from value chain actors, other non-traditional sources (e.g. remittances) |

(1) Based on CGIAR proposal for the 'Technology for African Agricultural Transformation' clearinghouse 2016, IFPRI supply projections as part of the AFDB's *Feed Africa* strategy; (2) includes opex and capex for storage and processing; (3) Includes estimates from rural roads from FAO report "Achieving Zero Hunger: the critical role of investment" 2015 at a 25% rate which is the investments estimated directly to agriculture for the priority value chains in the total of Africa's agriculture; (4) Includes estimates for land titling, tenure security and food safety related regulations from FAO report; (5) high level estimate of cost of initiatives for inclusivity, nutrition and technical assistance for sustainability(6) 'Feed Africa – Africa's Agricultural Transformation, African Development Bank, 2016; Source: IFPRI; IITA, AFDB, Dalberg analysis

# But providers of finance observe a range of finance-related bottlenecks and challenges, leading to a perception of the sector as high risk and constraining their appetite to supply finance

## Real and Perceived Challenges to Investing Agricultural Value Chains

| | | *Example Challenges* | *Example Interventions* |
|---|---|---|---|
| *Challenges in the* **Enabling Environment** | **Policy / Regulation** | Regulation and/or unpredictable policy interventions constrain liquidity, prevents market formalization | Increase alignment in policy & regulation to meet investor requirements; incentivise good policy |
| | **Enabling Sectors** | Insufficient interface with surrounding sectors (e.g. physical & digital connectivity, technology, data) | Identify & build links between investments in enabling sectors (e.g. technology) |
| *Challenges in* **Serving Agriculture as a Sector for Investment** | **Awareness** | Lack of knowledge across value chains and typical agri-business economics | Technical assistance on value chains, how to identify & assess / underwrite opportunities, and product design |
| | **Capacity** | Investments processes optimised for other sectors and cannot support agri-businesses | |
| | **Product Terms** | Prohibitive material collateral requirements; lack of trust in financial reporting for cash flow lending | ***Focus of this report:*** Offer supporting mechanisms to efficiently redistribute risk and support returns (e.g. guarantees, concessional capital) |
| | **Risk Management** | Lack of understanding drives inflated risk perception; lack of appropriate risk mitigation tools | |
| | **Liquidity** | Low allocation of liquidity for agribusinesses; higher returns often available from lower risk sectors | |
| | **Cost to Serve** | Rural MSMEs are widely dispersed, supported by poor infrastructure and & expensive to serve | Find aggregators / work with value chain actors; use technology to reduce costs |
| *Challenges affecting the performance and investment-worthiness of* **Underlying Farmers and Agribusinesses** | **Awareness** | Insufficient agronomic, business, market and/or financial knowledge | Technical assistance |
| | **Capacity** | Farmers and agribusinesses unable to meet lender standards | |
| | **VC linkages** | Poor access to inputs; volatile volumes for each stage in chain; volatile prices; too many intermediaries | Engage and link actors in the value chain; offtake agreements |
| | **Agronomic / Climate** | Changing productivity and inputs required; unpredictable volume | Support introduction of resilient practices; offer supporting mechanisms (e.g. insurance) |

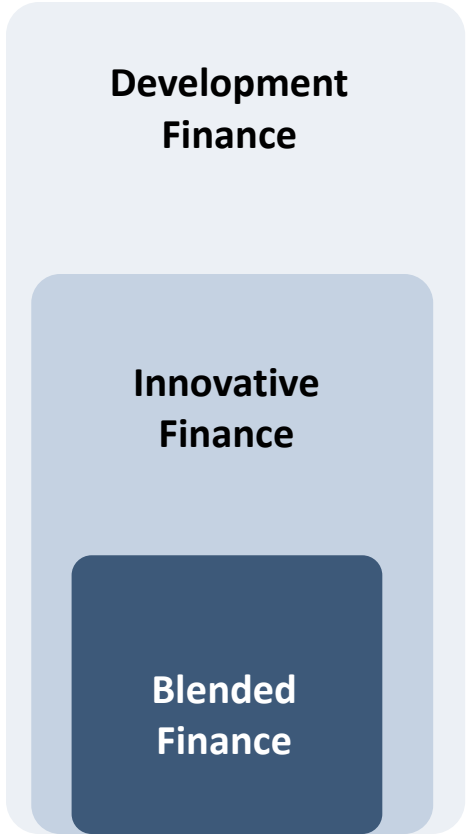
A broad set of interventions are needed to address these challenges, including:

- Policy & advocacy
- Supporting sector investments
- Technical assistance to providers of finance and underlying farmers & agribusinesses
- Using technology and other methods to reduce costs to access farmers
- Innovation in inputs
- Supporting financial mechanisms

**This report focuses on financial mechanisms, but this is only one of a broad set of interventions needed.**

Source: interviews; Dalberg analysis

# For our purposes, Blended Finance can be defined as the use of sub-commercial or philanthropic capital to mobilize private capital flows for SDG-related investments




| | Definition | Scope |
|---|---|---|
| Development Finance | • Resource flows to promote sustainable development in developing countries and to support development enablers or address global challenges at regional or global levels | • All financial instruments and resource flows (including ODA) captured by the emerging Total Official Support for Sustainable Development (TOSSD) metric |
| Innovative Finance | • A range of approaches to mobilize additional resources ("more financing") and/or to increase effectiveness and efficiency of financing ("better financing") to address sustainable development challenges | • **Direct funding** (e.g., grants, debt, equity)<br>• A broad set of mechanisms that can be used for **risk mitigation** (e.g., risk underwriting, market incentives, securities and derivatives)<br>• **Results-based finance** and voluntary or compulsory contributions |
| Blended Finance | • **The strategic use of development finance and philanthropic funds to mobilize private capital flows in support of SDG-related investments in developing countries** | |

Notes : 1. The Leading Group on Innovative Financing for Development describes Innovative Finance as comprising all mechanisms for raising funds for development that are complementary to official development assistance, predictable and stable, and closely linked to the idea of global public good. 2. The World Economic Forum definition of blended finance is "the strategic use of development finance and philanthropic funds to mobilize private capital flows to emerging and frontier markets." An emerging OECD definition is :"the commercial mandate to support SDG-aligned investment in developing countries."

Source: World Economic Forum, "Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders" (2015); UN, "World Economic And Social Survey: In Search of New Development Finance" (2012); Dalberg, "Innovative Finance for development" (2014)

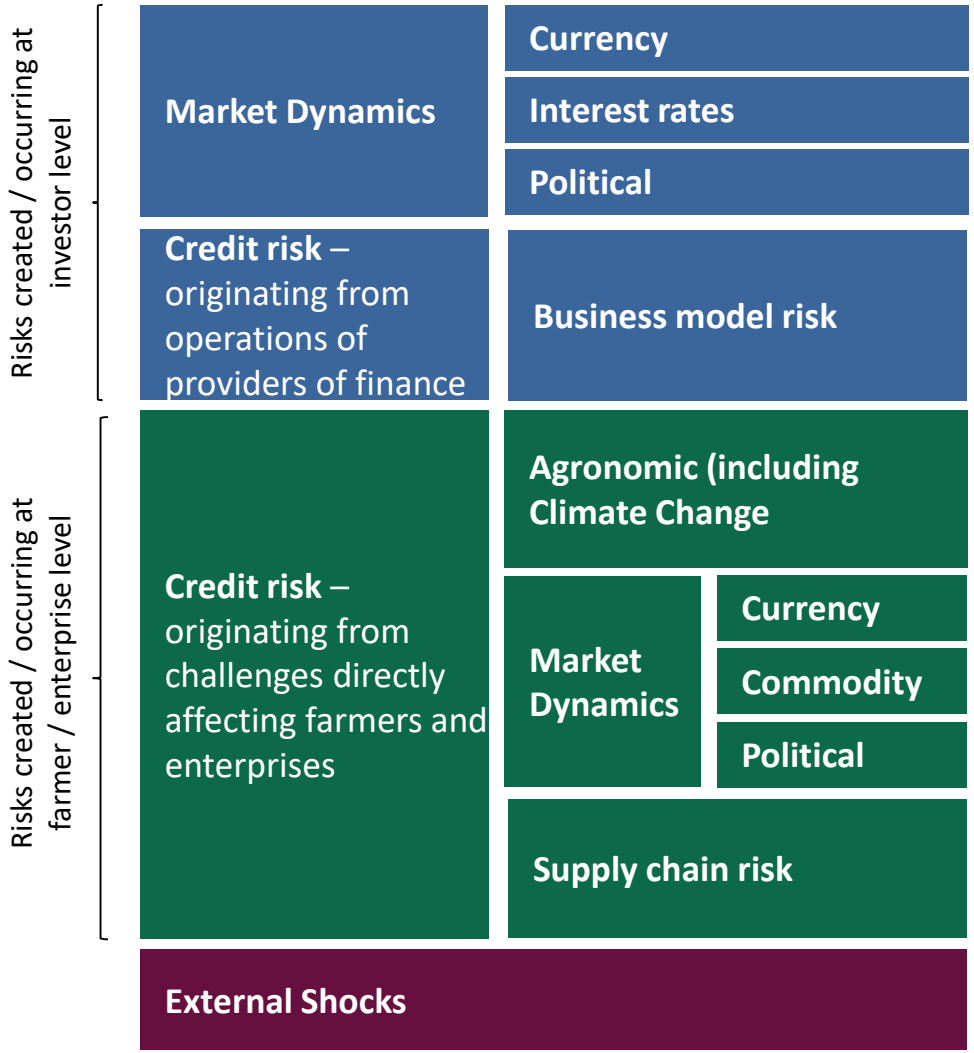
# Blended finance creates possibilities to bring multiple different types of providers of finance together, with different objectives, and risk-return appetites

| | Finance providers | Description | Examples |
|---|---|---|---|
| *Typically* seeking (near) commercial returns | Institutional investors | • Includes resources from pension funds, unclaimed financial assets authorities, insurance funds, HNWIs wealth managers. Usually have a cap on investments outside capital markets | • Pædagogernes Pensionskasse (PBU), PKA and PensionDanmerk into the Danish Climate Investment Fund |
| | Commercial Lenders | • Financing by formal financial institutions whose core business includes lending; primarily commercial banks and micro-finance banks. | • KCB, Equity Bank, Cooperative Bank, JP Morgan |
| | Private Sector Funds (PE and VC) | • Provides investment capital, usually in form of equity or debt with expectations of a return. Includes private equity, venture capital funds. | • Standard Chartered PE; Carlyle Group; Leapfrog; Shore Capital |
| | Corporates, Value Chain Actors | • Private companies typically participating in value chains themselves and providing value chain financing, or otherwise able to derisk finance (e.g. offtake agreements) | • Buyers / traders: Cargill, Olam, Ecom<br>• Food companies : Starbucks, Nestle |
| | Financial Instrument Providers | • Focused providers of specific instruments to support the reallocation of risks; includes insurers, hedging platforms / swaps providers, and players that either solely or mostly focus on providing guarantees | • Storebrand Life Insurance, TCX, Guarantco, US Development Credit Authority |
| *Can take diverse range of positions across risk-return spectrum* | Farmers Organisations | • Formal and informal entities that organize farmers and provide multiple services, which may include the provision of or on-lending of credit to individual farmers as well as collective investments | • Faso Jigi (Mali) |
| | Government | • National government public funding either through budget allocations or ministerial allocations to programs/initiatives | *Most national governments* |
| | Impact Investors & Catalytic Funds | • Private funds offering debt or equity, with a focus on the effectiveness of their investments in driving impact, and with typically a secondary interest in return. Includes impact-first funds, high net-worth individuals or family offices | • Larger pooled vehicles: AATIF, AgriFI<br>• Niche / local: Althelia, African Ag Fund<br>• Impact / frontier funds: LafCo |
| | Development Finance Institutions | • Provide financing for development, usually at terms that are significantly concessional versus commercial providers | • Multilaterals: AFDB, EIB, IFC<br>• Bilateral: FMO, KfW, OPIC, Proparco, BIO, CDC |
| *Typically* seeking nil returns | Philanthropy & Foundations | • Seek to achieve impact, primarily through provision of grants, for private philanthropy and charities. Foundations may deploy a range of financial instruments | • BMGF, Omidyar Network, Lundin Foundation |
| | Multi- & Bilateral Donors | • Provide resources for development, usually in the form of grants. Majority tends to be provided with no expectation of return of capital. Can also provide conditional funding (e.g. performance based) and seed grant funding | • USAID, DFID, DEG, SIDA |

Source: Dalberg analysis

# From the perspective of providers of finance, the challenges across value chains and different actors manifest as needs to manage external shocks, market dynamics and credit risk

## Risks from a provider of finance perspective




Risk of decline in value of investments arising from fluctuations in currencies

Risk of decline in value of investments arising from fluctuations in interest rates

Unpredictable or cyclical (e.g. pre-election) policy interventions, such as import bans, unpredictable input subsidies, unpredictable debt forgiveness

Risk resulting from requirement to develop (new) business models to reach new investees, associated with lack of information on creditworthiness and lack of familiarity with ag lending

Risk of low quantity and/or quality of output e.g. low harvest by producers due to bad weather/pest and diseases. Includes the progressive effect of climate change on normal agronomic risks as well as fundamentally changing potential productivity and locations for cultivation

(as above, but through the recipient of finance)

risk of adverse (or positive) price movements for price of output at time of selling

(as above, but through the recipient of finance)

Risk arising from non-performance of other players in the commodity/supply chain e.g. producers failing to honor contractual supply agreement to processor (side selling) or vice versa

Risks resulting from changes in political decisions, events and conditions. May include adverse changes in trade regulations, taxes, legislation, political instability

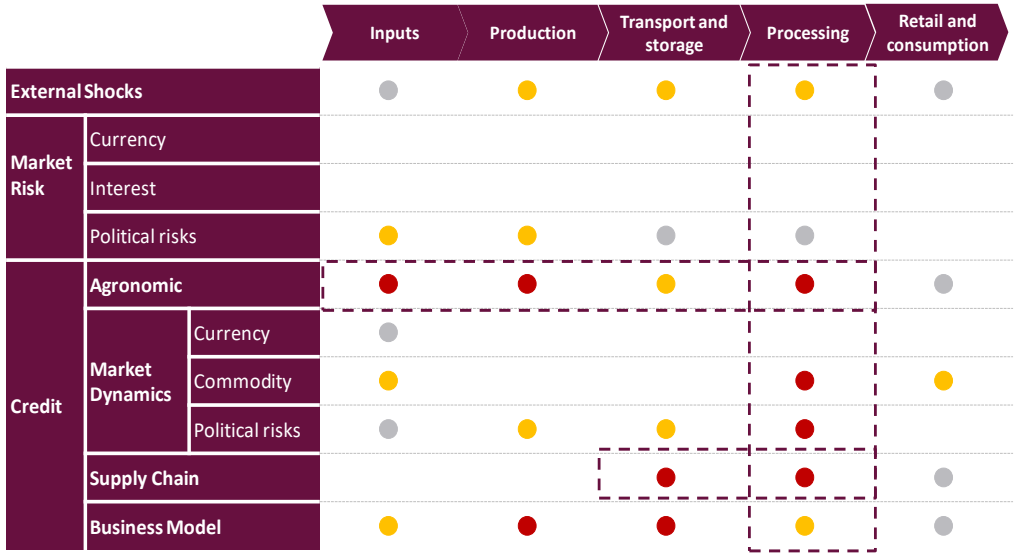
Source: Interviews; Dalberg analysis

# Risks vary across specific agricultural value chains, and across stages in value chains

They way risks manifest themselves, and which risks matter most to potential providers of finance, will vary based on a number of factors. Staple food crops are often critical to overall food security, and the factors that affect stability and affordability of supply – such as agronomic risks, and the integrity of local supply chains – are often the most critical to address, while cash crops are particularly exposed to currency and commodity risk. Country-specific conditions matter, both in agronomic as well as political economy conditions. Finally, different risks also affect different stages in value chains – and the associated actors – differently. Agronomic risks directly affect farmer productivity, but processors may be able to source supply from multiple sources. Regulations that affect processors may impact them more than producers, which may find alternative off takers for their produce. As a result, different economic actors across value chains face different risks, and the tools required to transfer them will vary.

## Food Crop Example: Maize in Kenya

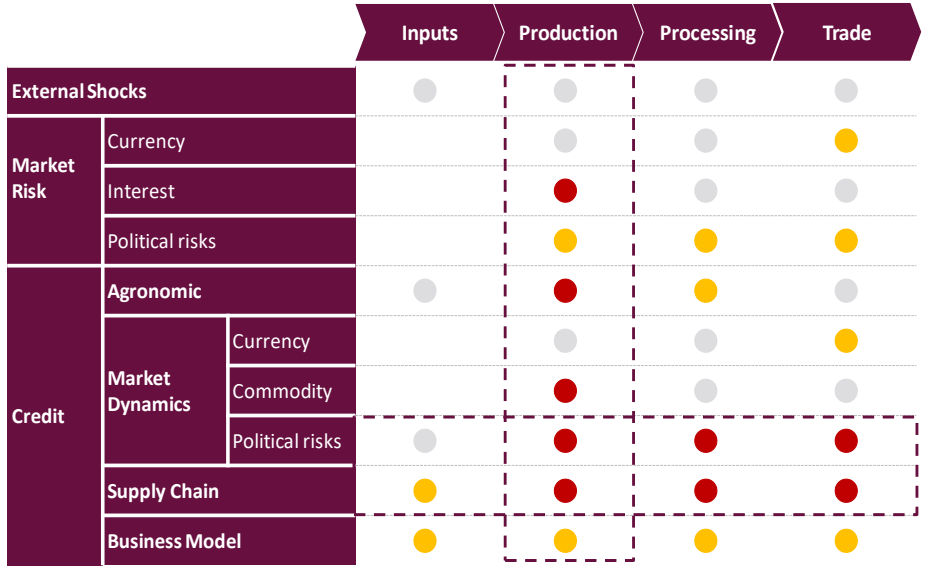
### Overview of key risks by stage in value chain




- Agronomic and supply chain risks are particularly critical, and affect security of supply
- Processing could be a key anchor for organising the value chain, but faces most risks

## Cash Crop Example: Coffee in Kenya

### Overview of key risks by stage in value chain




- Political risks plus challenges across the supply chain affect supply
- Farmers also face challenges in volatile commodity prices and growing agronomic risks

**Extent of risk:** How much is the risk constraining financing? ● **High** ● **Medium** ● **Low**

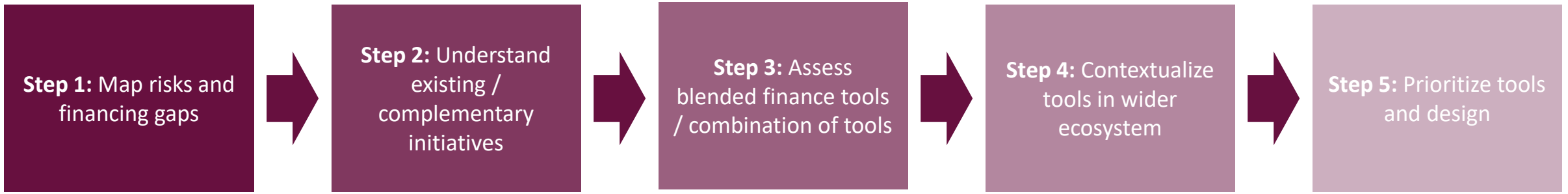
SOURCE: interviews; Dalberg analysis

# The landscape of blended finance tools is diverse; we focus on 3 main categories

| Categories | Description | Typical tools used | Main risks addressed |
|---|---|---|---|
| **Risk mitigation tools[2]** | • Instruments that aim to reallocate risks in investments into agricultural value chains. Can make projects viable for investors by shifting the risk-return ratio and reducing the cost of capital<br>• The most frequently used tools are guarantees, which ensure that if a negative event occurs, the guarantor will take action – within this, credit guarantees are the most common. Guarantee instruments that address specific risks – such as the World Bank's Multilateral Investment Guarantee (MIGA) – also exist, but are less common in blended finance for agriculture<br>• Insurance policies – especially weather and crop insurance – are less common but growing. Currency hedges and interest rate swaps also protect against specific risks<br>• Securitization, especially in the form of warehouse receipts are also growing, and provide alternative sources of collateral to improve bankability | ✓ Guarantees<br>✓ Insurance<br>✓ Securitization<br>✓ Derivatives | • **Often address general credit risk,** especially through credit guarantees and securitization<br>• Derivatives and specific insurance and guarantee products **target specific risks** such as political, currency, interest and commodity price risk |
| **Direct funding** | • Provide capital for target enterprises, usually with a tiered structure that allows more junior capital to support the realization of commercial risk-adjusted returns of senior or commercial investors<br>• Addressing more fragmented, often smaller and higher risk agri SMEs and farmers often requires using patient and highly concessional capital and/or grants, plus risk mitigation tools and technical assistance<br>• Addressing larger investment opportunities (often further downstream to production, e.g. in logistics, warehousing, processing and international trading) may require addressing real and perceived business model and market dynamic risks, typically using mezzanine finance, subordinate loans / long-tenor loans, and may include guarantees | ✓ Structured debt capital and grants<br>✓ Structured / long-term equity and debt<br>✓ Other Direct Debt instruments (e.g. local currently, contingent liquidity)<br>✓ (Climate finance[1]) | • **Typically combine a set of instruments in a pooled investment vehicle to address a broad set of risks** required to catalyze private sector finance<br>• Seed / early stage & patient capital can specifically target **business model risk**<br>• **Currency risk** |
| **Results based financing** | • Provide incentives to guide specific behaviors by providing financing/rewards based on attainment of pre-defined results<br>• Typically used to support investment when normal market fundamentals do not exist, providing visibility on pricing and revenue to create new markets<br>• In ag, a cluster of off-take agreements can be considered an adv mkt commitment. | ✓ Performance based contracts<br>✓ Development impact bonds<br>✓ Advance market commitments<br>✓ Challenges, prizes and awards | • **Usually focuses on business model risk** specifically related to catalyzing learning and innovation to catalyze sustained financing post the intervention |

1. Climate adaptation finance cuts across other sources of direct funding, but typically also requires specific TA and capacity building to be able to ensure projects and/or funds can access such funding; 2. Some risk mitigation tools – especially hedging instruments such as swaps – are not necessarily blended finance themselves but form part of a blended finance intervention overall
Source: OECD / WEF "A primer on blended finance" 2015; interviews; Dalberg analysis

# Risks play out differently for individual value chains and country contexts; a full value chain assessment of risk and the ecosystem is therefore critical before designing interventions




***Risk-led:*** *We identify the main risks and gaps faced by actors across the value chain, as well as providers of finance*

***Additive and complementary:*** *We look to understand financial (and non-financial) initiatives to contextualize any new intervention and learn from them*

***Tools / combinations:*** *Based on the risks and gaps identified, we assess which tools can address them*

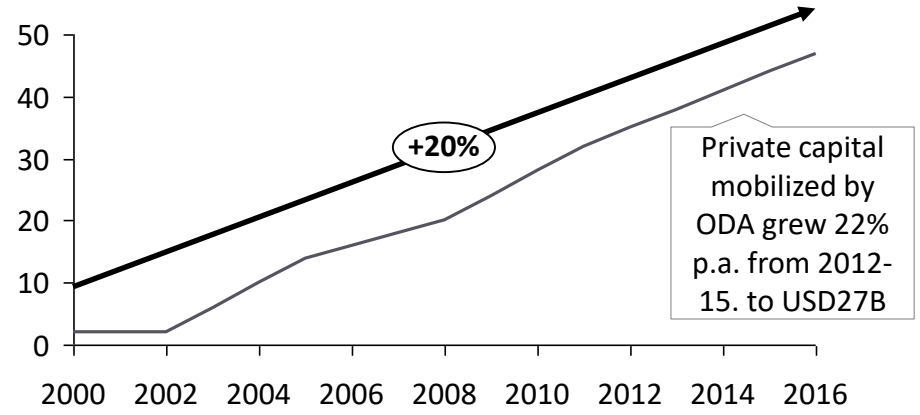
***'Ecosystem' approach:*** *Our approach focuses on the main risks and gaps faced by actors across the value chain, as well as providers of finance*

***Looking forward:*** *We prioritize blended finance interventions that balance cost, effectiveness, and complexity*

# Blended finance overall is growing rapidly, but agriculture has accounted for a small share of deal value

## Blended finance overall is growing rapidly…

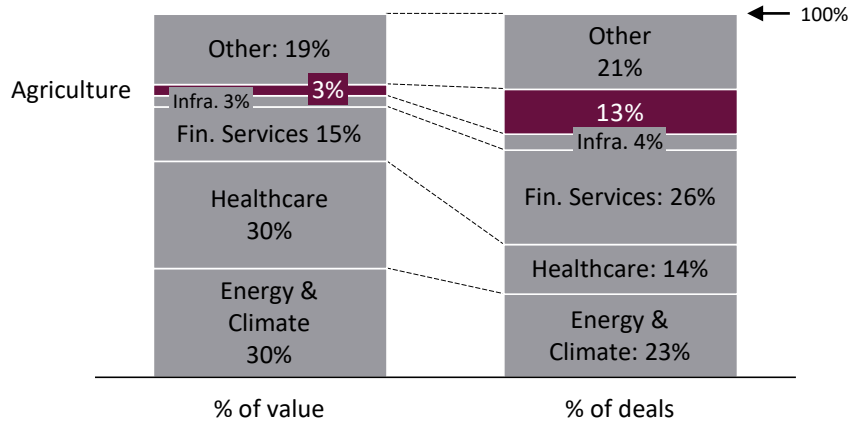
**Number of blended finance deals**
# deals in Convergence sample, 2000-2016




- Blended finance has been growing rapidly, both in terms of the amount of private capital mobilized, as well as the number of deals.
  - A survey by OECD DAC found that $81 billion was mobilised in 2012-2015, growing 21% per year on average during this period.
  - A subset of deals assessed by convergence mobilized ~$51 billion in 2000-2016, with the number of deals growing ~20% per annum over this period

## ….but agriculture has accounted for a small share of deal value

**Blended finance deals and capital mobilised by sector**
% of capital in sample, % of deals in sample, 2000-2016




- Sectors which tend to have fewer key players that need to be coordinated (esp. financial services, energy & climate) to structure a blended finance deal account for ~75% of the capital mobilized by blended finance
- As opposed to energy, financial services and healthcare opportunities, where there is typically a single key project developer, for agriculture there is typically the need to coordinate a broad set of financial and non-financial actors to make a transaction work, which can be complex, costly and time consuming

SOURCE: OECD DAC & World Economic Forum "Insights from Blended Finance Investment Vehicles & Facilities", 2016; Convergence "Blended Finance Trends and Case Studies", 2017; Dalberg analysis

# To scale blended finance in agriculture, we need to address at least three types of challenges

**Designing blended finance interventions is slow, difficult and expensive**

- **Lack of clarity and consensus on definition**. 5+ definitions exist, with varying interpretations on the nature of the finance provided (e.g., ODA vs. other); requirements for mixing/blending various sources of finance and on what terms; whether blending should mobilize additional finance; and the nature of the project beneficiaries targeted through blending
- **High transaction costs**. New mechanisms often have high start-up costs, which can extend timelines and reduce momentum. For a DFI, annual costs on blended funds can be 2-3 times as high as on non-blended private funds
- **Limited organizational capacity**. Many potential 'lead arranger' organizations do not have sufficient knowledge and/or training to develop and/or respond effectively to blended finance opportunities
- **Coordination and roles of key actors, including government / policy makers, often under-defined**: blending inherently requires bringing together actors with different objectives, finding acceptable trade-offs is time consuming; without norms on roles and what trade-offs are usually made, this process can be protracted

**Success is constrained by conflicting agendas, unintended consequences and dilemmas**

- **Additionality and/or effective leverage**. Blended finance does not always mobilize additional resources. Moreover, deals that have particularly high leverage ratios may not have required any blending (e.g., public or philanthropic contribution) to unlock private investment and therefore crowd out investment that would have happened anyway
- **Market distortion.** Although blended finance transactions aim to correct market failures and/or to develop new markets, there is a risk of distorting functional markets –or creating new markets that are not viable –due to the subsidy inherent in blended finance transactions
- **Lack of coordination**. Duplication of efforts and insufficient information sharing across private, public, and philanthropic actors

**Blended finance interventions are not solving (enough of) the right problems in agriculture**

- **Lack of innovation**. Over-reliance on existing and proven solutions rather than experimentation with new instruments and approaches tailored to the country & value chain specific challenges that need to be addressed
- **Failure to take a 'total ecosystem view':** often blended finance instruments or vehicles solely focus on the 'financial value chain' aiming to redistribute risk; lack of sufficient involvement of key economic actors within value chains means that underlying challenges (e.g. fragmented and dysfunction-ing supply chains, lack of resilience to volatile & shifting climate conditions) don't get resolved; these actors have the long-run interest in success and potential to provide cheaper cost to serve to make interventions sustainable and scalable
- **Narrow focus on point solutions:** focusing on only one challenge or constraint, rather than a total value chain view

SOURCE: interviews; Dalberg

# Going forward there are three sets of activities that could support greater scaling of blended finance for agriculture moving forwards

**Knowledge agenda** to build norms on what works and how to do blended finance

- **Develop practitioners guide** which captures norms on how to undertake the development of blended finance for agricultural value chains, how to develop terms and product designs that are responsive to market needs, and is agreed across practitioners
- **Establish a regularly refreshed factbase of benchmarks** on what transactions and vehicles have been developed, what parameters are being used and performance; to inform the sector on what emerging norms are, and what 'works' from the perspective of all different actors involved in blended finance
- **Reduce the costs of developing and running interventions by creating commonly accepted / templated approaches and methods**, such as standardised and accepted due diligence standards that are accepted across different key investors in blended finance

Create conditions for **structured dialogue** between actors

- **Create a common understanding of what blended finance is** especially amongst typical 'lead arrangers' such as development finance institutions, key private sector investors, and government / policy makers, so that there is a common foundational starting point
- **Establish a precedent base** on how blended finance interventions are structured, to support coordination across actors and accelerate negotiations by creating anchor points around what roles and structures typically exist
- **Address challenges of individual incentives** within institutions which dis-incentivize development of blended finance approaches except for the highly motivated, given they are typically small and require challenging prudential investment practices of financial institutions
- **Support the adoption of common guidelines**, such as the OECD principles on the application of blended finance, to reduce practices of market distortion and achieving high leverage through low additionality interventions

**Create a pipeline** for future, scalable deals

- **Support the development of more smaller, experimental designs** that can never be economic given their scale and uncertainty, but which push the frontier of learning; potentially can be supported through specific funds (e.g. philanthropic, grant / trust funds at development finance institutions) that allow lower returns and/or greater risk taking
- **Actively support investment in small scale farmers and enterprises that may attract low levels of leverage** from the private sector, but can feed larger concessional facilities in the future



SOURCE: AGRF workshop on blended finance; interviews; Dalberg analysis

Introduction and Executive Summary

**Context and a Mapping of Risks in Agriculture**
**An overview of the challenges and risks in agricultural value chains and how they restrain the supply of finance to the sector**

**An Overview of Blended Finance and Initial Toolbox**
A definition of blended finance, and how tools can be used to crate catalytic transactions and vehicles

Stocktaking and Recommendations for Scaling Blended Finance
The track record for Blended Finance so far in agriculture, lessons learned, and emerging recommendations for scaling

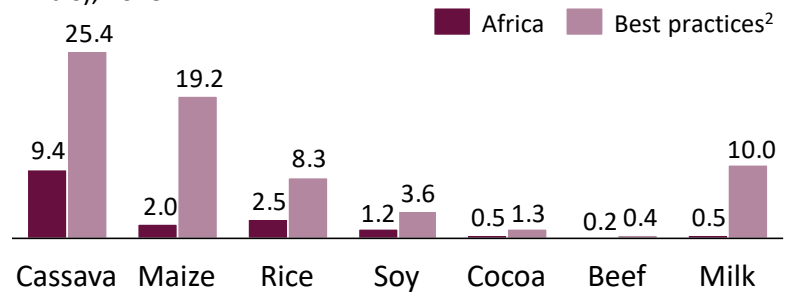
An Ecosystem Approach to Putting Blended Finance into Practice
How Blended Finance tools can and are being used in de-risking cash and food crops

# There is an exciting opportunity, as well as an imperative, to drive an inclusive and sustainable transformation of agriculture in Africa

- **Africa's agriculture sector today is characterised by low productivity, fragmented and poorly organized value chains. As a result, this is leading to deteriorating competitiveness and rapidly rising imports.** This will only get worse – African Development Bank estimates[1] suggest Africa's food imports could rise from $35bn in 2015 to $111bn in 2025, which will be both fiscally difficult for African economies to sustain, and creates increased exposure to foreign exchange risks and food insecurity. At the same time, climate change is changing agronomic conditions impacting the growing potential of agro-ecological regions and changing the practices and inputs that farmers need to cultivate.
- **There is an opportunity to transform agriculture, in a way that delivers broad-based and inclusive economic value.** The role of agriculture as a way of life is now shifting to a source of broad based economic development. Critically, this is a transformation that not only delivers sustainable economic returns, but is also able to support environmental sustainability, climate resilience, and is able to provide food security and adequate nutrition to the entire continent.
- **There is an opportunity to deliver this transformation within 10 years. While this is ambitious, much of what is required is known and there are already specific examples of success in specific value chains in African countries.** The African Development Bank, in it's *Feed Africa* High 5 strategy[1], charted out an approach to move Africa from a net importer to net exporter, end hunger and end malnutrition in Africa by 2025. Examples of such transformation have already emerged in various countries, across specific value chains, such as: Ethiopia's success in moving from $13m in 2005 to ~$550m in 2016 of exports in floriculture, or large scale digital registration of Nigerian smallholder farmers, reaching over 10million within 2 years. These examples and others critically involve the public sector to supply concessional finance to catalyse private sector investment, support in orchestrating activities, and the involvement of key participants in the agricultural sector such as apex farmer organisations, agro-dealers etc to deliver.
- **What is required is substantial improvements in productivity and downstream activities to absorb and add value to agricultural production, the right regulatory conditions and sufficient liquidity to finance this transformation.** There is a key role for the public sector to take on a coordinating and catalytic role, in particular to ensure that sectors that are less able to attract the external finance and other non-financial resources required – especially SMEs and individual farmers which are typically the hardest for commercial investors to serve – are able to attract sufficient resources for growth.

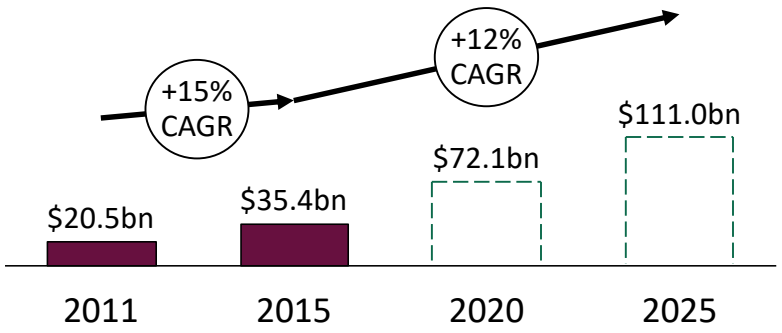
## African agriculture faces a broad set of challenges, including (but not limited to) low productivity

**Average yields across Africa versus best practice[2]**; mT/(hectares or animals), 2013




## If left unaddressed, the trajectory is likely to be unsustainable – for example in terms of imports

**Net imports**, $bn, 2010-2025



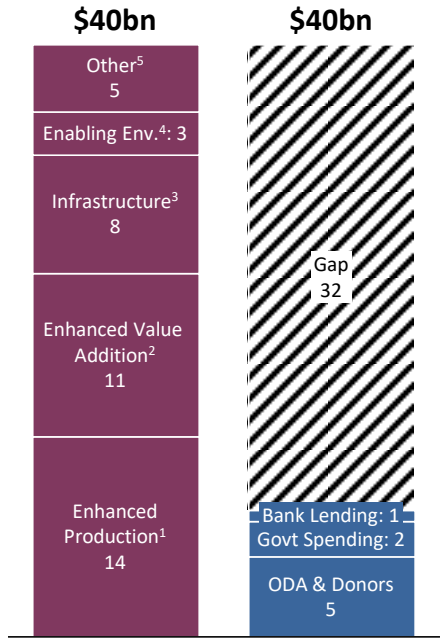

((1) 'Feed Africa – Africa's Agricultural Transformation, African Development Bank, 2016; (2) Best practices = average of top 10 countries in the world by yield in the commodity; Notes: Figures in Billions USD and exclude intra-African trade; . Source: IFPRI; IITA, AFDB, Dalberg analysis

# Doing this will require mobilising at least $30bn of additional finance per year for agricultural value chains versus that which is supplied today

**Estimated Financing Gap For Agriculture**

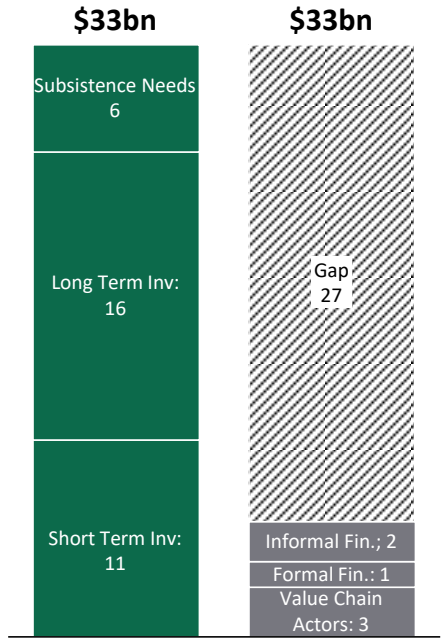
$bn/year, 2016-2025 for finance required; 2016 for estimate of current sources

## Financing gap for transformation of selected commodities in Africa: $32bn




- **Achieving this agricultural transformation will require mobilizing ~$40bn a year over 10 years, agaionst a gap of $32bn a year**
  - Approximately 65% of this is investment directly into value chains required by producers, input providers, agro-dealers processors etc, while the rest involves investment into agro-allied infrastructure and enabling environment factors (policy, ensuring inclusion and nutrition-sensitive growth)
  - This is a 'total Africa' figure, but focussed on a set of key value chains: **total demand for finance is likely substantially higher**

## Financing gap for smallholder farmers[6] in all commodities: $27bn



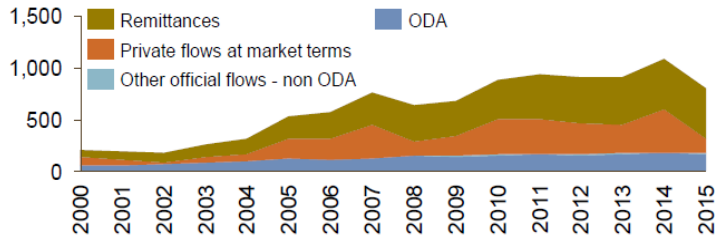

- **There is also a substantial level of unmet demand for finance from economic actors within value chains.**
- **Estimates[6] of direct demand from smallholder farmers engaged in production indicate a need of $33bn a year**, of which only $4bn is met by formal financial institutions and value chain actors, $1bn by informal sources such as local credit cooperatives and money lenders, and a remaining $26bn are met with farmers and SMEs own resources or not at all.
- This is a figure for all crops, but is just for Sub-Saharan Africa, and only focuses on smallholder farmers – therefore total demand for finance is higher.

Notes: (1) Based on CGIAR proposal for the 'Technology for African Agricultural Transformation' clearinghouse 2016, IFPRI supply projections as part of the AFDB's *Feed Africa* strategy; (2) includes opex and capex for storage and processing; (3) Includes estimates from rural roads from FAO report "Achieving Zero Hunger: the critical role of investment" 2015 at a 25% rate which is the investments estimated directly to agriculture for the priority value chains in the total of Africa's agriculture; (4) Includes estimates for land titling, tenure security and food safety related regulations from FAO report; (5) high level estimate of cost of initiatives for inclusivity, nutrition and technical assistance for sustainability; (6) Smallholder farmer (="SHF") demand for finance in sub-Saharan Africa, from "Inflection Point", Dalberg, 2016. Sources: IFPRI; IITA; FAO; OECD DAC CRS database; http://www.governmentspendingwatch.org/spending-data; Initiative for Smallholder Finance, "A Roadmap For Growth: Positioning Local Banks For Success In Smallholder Finance," 2013; Dalberg, "Catalyzing Smallholder Agricultural Finance," 2012; IFC, "Closing the Credit Gap for Formal and Informal Micro, Small, and Medium Enterprises; EY, "Africa 2015 Making Choices"; IFC, "Private Equity and Emerging Markets Agribusiness: Building Value Through Sustainability," 2015; Dalberg analysis

# Addressing this gap requires moving beyond traditional ODA, and mobilizing sources from the private sector

## Across all sectors (including agriculture) private sources of finance for development far exceed and are growing faster than ODA

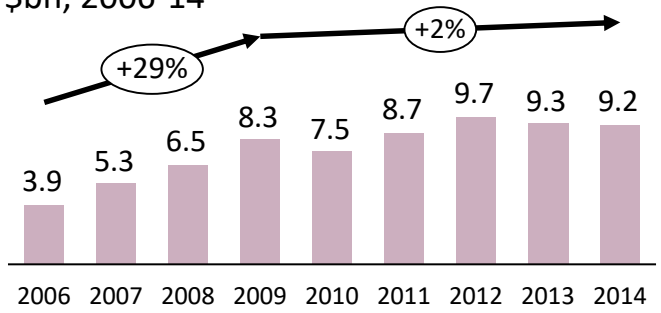
**Select financing flows to developing countries**
$bn (current prices), 2000-15




- Overseas Development Assistance has been growing at 2% per year since 2008 to reach ~$170bn[2] by 2016, compared with ~12% per year from 2000-2008. Going forwards, the outlook for this slower level growth is expected to continue.
- Conversely, private flows (at market terms) and remittances are increasing. Excluding the downturn in 2015, private flows have been growing 20% per year since 2008. Combined, these sources have reached ~$600bn

## ODA for agriculture is slowing down, and is not sufficient to meet the gap in financing needs

**Global ODA for Agriculture**
$bn, 2006-14




- These trends are also true for agriculture: ODA for agriculture globally grew relatively rapidly, at almost 30% per year from 2006 to 2009, but since then has grown only 2% per year.
- While specific data for Africa is not readily available, the trends for the region are broadly similar, with the exception of a step up in agricultural finance from the AFDB from $600m to $2.4bn per year from 2017 onwards
- As a result ODA cannot be expected to fully meet the financing gap

## Sufficient sources of private capital exist, even just in Africa alone, that could potentially be mobilised to address the financing gap

*NOT EXHAUSTIVE*

| | |
|---|---|
| **Institutional Investors (e.g. Pension Funds, SWFs)** | In Africa, Pension Funds and Sovereign Wealth Funds have **$160bn** and **$360bn** AUM respectively. Beyond Africa, pension funds in Europe are starting to increase exposure to African agriculture |
| **Commercial Lenders** | Currently lending **$660m** annually, **4.8% of ~$14bn**; room to increase exposure further, especially given ag sector share of GDP |
| **Conventional PE & VC** | **$25-35bn** is available across commercial returns seeking PE and VC funds with a regional focus on Africa, representing <2% of the emerging market industry |
| **Impact funds** | **~$8bn** targeting Africa, raised across 80 funds in recent years[3] |
| **Value Chain Actors, Other** | **>$3bn**[4] from value chain actors, other non-traditional sources (e.g. remittances) |

(1) Data is preliminary, does not include FDI; (2) Includes other official flows, although the total figure is dominates by ODA; (3) assumes 40% of impact funding is focused on nor can be leveraged for Africa investments, out of a total of $19bn; (4) $3bn is amount of lending to smallholders, does not include financing to other actors in value chains (e.g. to agro-dealers, processors etc)
Sources: OECD stat; World Bank "Migration and Remittances Data" 2015;

# But providers of finance observe a range of finance-related bottlenecks and challenges, leading to a perception of the sector as high risk and constraining their appetite to supply finance

## Real and Perceived Challenges to Investing in a Value Chain Actor

| | | *Example Challenges* | *Example Interventions* |
|---|---|---|---|
| *Challenges in the* **Enabling Environment** | **Policy / Regulation** | Regulation and/or unpredictable policy interventions constrain liquidity, prevents market formalization | Increase alignment in policy & regulation to meet investor requirements; incentivise good policy |
| | **Enabling Sectors** | Insufficient interface with surrounding sectors (e.g. physical & digital connectivity, technology, data) | Identify & build links between investments in enabling sectors (e.g. technology) |
| *Challenges in* **Serving Agriculture as a Sector for Investment** | **Awareness** | Lack of knowledge across value chains and typical agri-business economics | Technical assistance on value chains, how to identify & assess / underwrite opportunities, and product design |
| | **Capacity** | Investments processes optimised for other sectors and cannot support agri-businesses | |
| | **Product Terms** | Prohibitive material collateral requirements; lack of trust in financial reporting for cash flow lending | ***Focus of this report:*** Offer supporting mechanisms to efficiently redistribute risk and support returns (e.g. guarantees, concessional capital) |
| | **Risk Management** | Lack of understanding drives inflated risk perception; lack of appropriate risk mitigation tools | |
| | **Liquidity** | Low allocation of liquidity for agribusinesses; higher returns often available from lower risk sectors | |
| | **Cost to Serve** | Rural MSMEs are widely dispersed, supported by poor infrastructure and & expensive to serve | Find aggregators / work with value chain actors; use technology to reduce costs |
| *Challenges affecting the performance and investment-worthiness of* **Underlying Farmers and Agribusinesses** | **Awareness** | Insufficient agronomic, business, market and/or financial knowledge | Technical assistance |
| | **Capacity** | Farmers and agribusinesses unable to meet lender standards | |
| | **VC linkages** | Poor access to inputs; volatile volumes for each stage in chain; volatile prices; too many intermediaries | Engage and link actors in the value chain; offtake agreements |
| | **Agronomic / Climate** | Changing productivity and inputs required; unpredictable volume | Support introduction of resilient practices; offer supporting mechanisms (e.g. insurance) |

A broad set of interventions are needed to address these challenges, including:

- Policy & advocacy
- Supporting sector investments
- Technical assistance to providers of finance and underlying farmers & agribusinesses
- Using technology and other methods to reduce costs to access farmers
- Innovation in inputs
- Supporting financial mechanisms

**This report focuses on financial mechanisms, but this is only one of a broad set of interventions needed.**

Source: interviews; Dalberg analysis

# This report focuses on the way Blended Finance can be used to help address some of the challenges faced by providers of finance, with a particular focus on risk management

## A range of approaches exist to address risks and other challenges in agricultural value chains

**Systemic / Sector Supporting Interventions**

- Can fundamentally de-risk agricultural value chains or increase the underlying expected return available by removing constraints and barriers
- e.g. technical assistance for policy reform; investment in agro-allied industries and infrastructure

**Non-Financial Instruments / Approaches**

- Can fundamentally de-risk agricultural value chains, reallocate risks more efficiently, and/or increase the underlying return available especially by addressing factors such as cost to serve
- E.g. technical assistance to providers and recipients of finance; development of / use of technology to acquire and disseminate data for better underwriting decisions and reduced cost to serve; contractual arrangements to transfer risk to buyers rather than producers – e.g. offtake agreements

**Financial Instruments**

- Primarily achieved through direct investments (equity, debt, grants), risk mitigation tools and results-based finance
- Can include sources of finance from economic actors within value chains, private investors and development actors
- Can reallocate risk, support / incentivise coordination of actors and market building behaviours and subsidise / reduce costs to serve.

## This report focuses on Blended Finance, within the context of this broad set of approaches

Development Finance

- Resource flows to promote sustainable development in developing countries and to support development enablers or address global challenges at regional or global levels

Innovative Finance

- A range of approaches to mobilize additional resources ("more financing") and/or to increase effectiveness and efficiency of financing ("better financing") to address sustainable development challenges

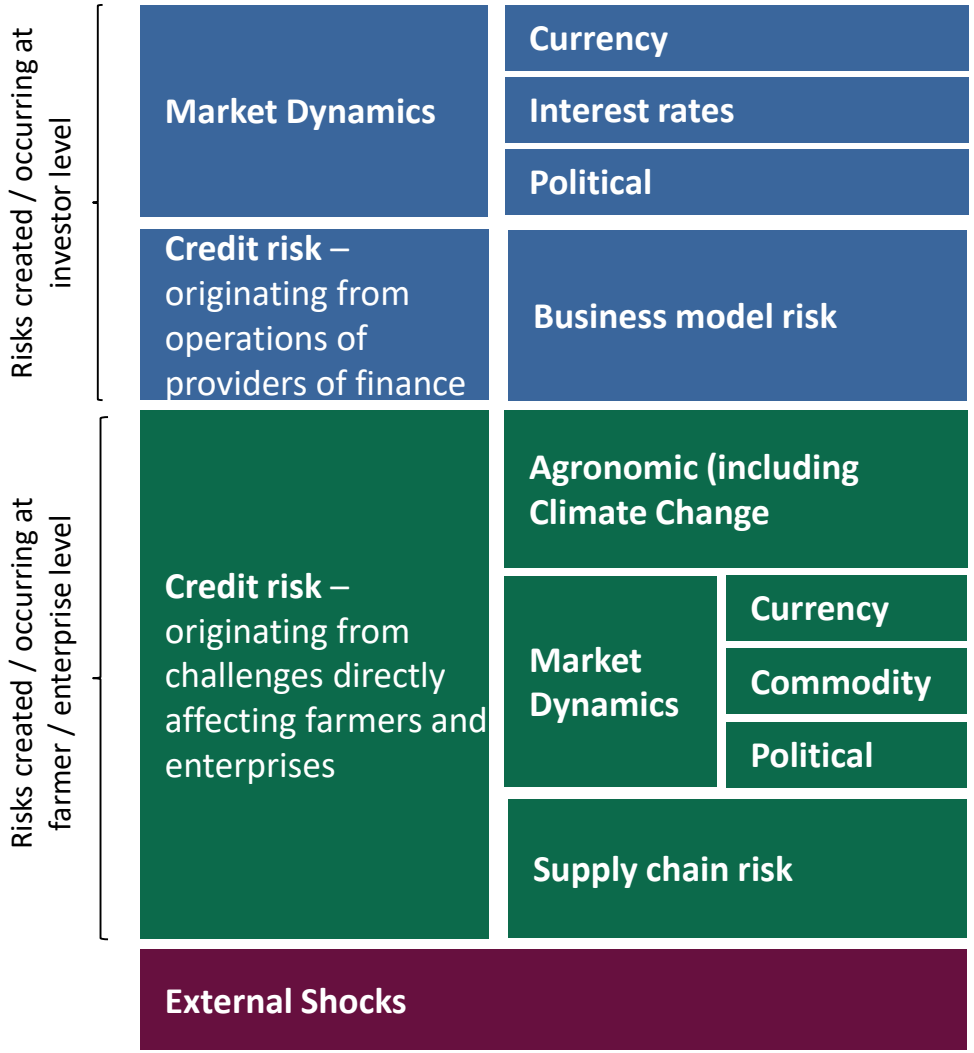
**Blended Finance**

- **The strategic use of development finance and philanthropic funds to mobilize private capital flows[2] in support of SDG-related investments in developing countries**
- **Report focuses on blended finance as an approach to de-risk, but we also take into account opportunities to capture other benefits**

Source: World Economic Forum, "Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders" (2015); UN, "World Economic And Social Survey: In Search of New Development Finance" (2012); Dalberg, "Innovative Finance for development" (2014)

# From the perspective of providers of finance, the challenges across value chains and different actors manifest as needs to manage external shocks, market dynamics and credit risk

## Risks from a provider of finance perspective




Risk of decline in value of investments arising from fluctuations in currencies

Risk of decline in value of investments arising from fluctuations in interest rates

Unpredictable or cyclical (e.g. pre-election) policy interventions, such as import bans, unpredictable input subsidies, unpredictable debt forgiveness

Risk resulting from requirement to develop (new) business models to reach new investees, associated with lack of information on creditworthiness and lack of familiarity with ag lending

Risk of low quantity and/or quality of output e.g. low harvest by producers due to bad weather/pest and diseases. Includes the progressive effect of climate change on normal agronomic risks as well as fundamentally changing potential productivity and locations for cultivation

(as above, but through the recipient of finance)

risk of adverse (or positive) price movements for price of output at time of selling

(as above, but through the recipient of finance)

Risk arising from non-performance of other players in the commodity/supply chain e.g. producers failing to honor contractual supply agreement to processor (side selling) or vice versa

Risks resulting from changes in political decisions, events and conditions. May include adverse changes in trade regulations, taxes, legislation, political instability

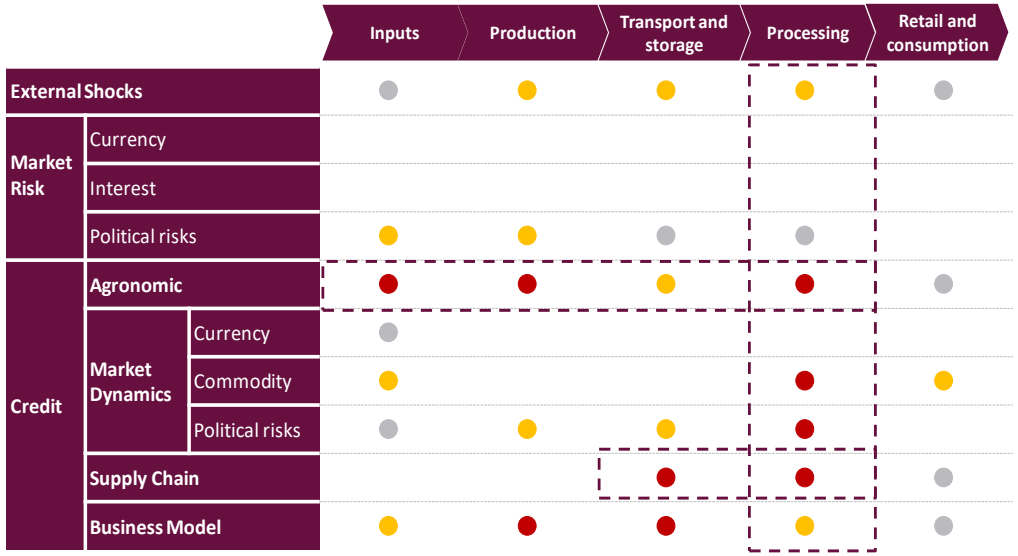
Source: Interviews; Dalberg analysis

# Risks vary across specific agricultural value chains, and across stages in value chains

They way risks manifest themselves, and which risks matter most to potential providers of finance, will vary based on a number of factors. Staple food crops are often critical to overall food security, and the factors that affect stability and affordability of supply – such as agronomic risks, and the integrity of local supply chains – are often the most critical to address, while cash crops are particularly exposed to currency and commodity risk. Country-specific conditions matter, both in agronomic as well as political economy conditions. Finally, different risks also affect different stages in value chains – and the associated actors – differently. Agronomic risks directly affect farmer productivity, but processors may be able to source supply from multiple sources. Regulations that affect processors may impact them more than producers, which may find alternative off takers for their produce. As a result, different economic actors across value chains face different risks, and the tools required to transfer them will vary.

## Food Crop Example: Maize in Kenya

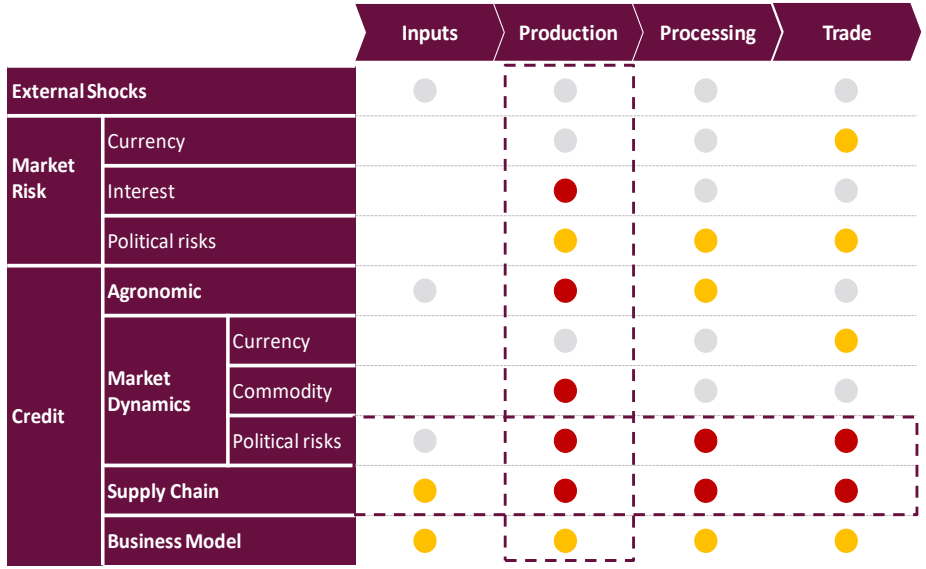
### Overview of key risks by stage in value chain




- Agronomic and supply chain risks are particularly critical, and affect security of supply
- Processing could be a key anchor for organising the value chain, but faces most risks

## Cash Crop Example: Coffee in Kenya

### Overview of key risks by stage in value chain




- Political risks plus challenges across the supply chain affect supply
- Farmers also face challenges in volatile commodity prices and growing agronomic risks

**Extent of risk:** How much is the risk constraining financing? ● **High** ● **Medium** ● **Low**

SOURCE: interviews; Dalberg analysis

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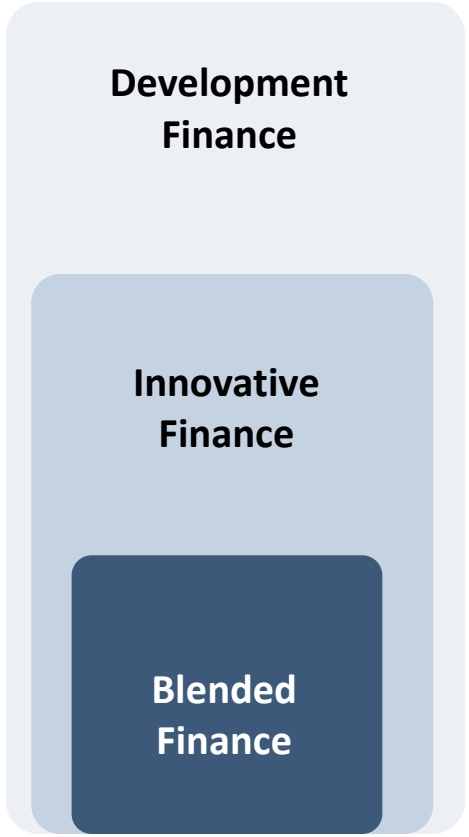
# For our purposes, Blended Finance can be defined as the use of sub-commercial or philanthropic capital to mobilize private capital flows for SDG-related investments




| | Definition | Scope |
|---|---|---|
| Development Finance | • Resource flows to promote sustainable development in developing countries and to support development enablers or address global challenges at regional or global levels | • All financial instruments and resource flows (including ODA) captured by the emerging Total Official Support for Sustainable Development (TOSSD) metric |
| Innovative Finance | • A range of approaches to mobilize additional resources ("more financing") and/or to increase effectiveness and efficiency of financing ("better financing") to address sustainable development challenges | • Direct funding (e.g., grants, debt, equity)<br>• A broad set of mechanisms that can be used for risk mitigation (e.g., risk underwriting, market incentives, securities and derivatives)<br>• Results-based finance and voluntary or compulsory contributions |
| Blended Finance | • **The strategic use of development finance and philanthropic funds to mobilize private capital flows in support of SDG-related investments in developing countries** | |

Notes : 1. The Leading Group on Innovative Financing for Development describes Innovative Finance as comprising all mechanisms for raising funds for development that are complementary to official development assistance, predictable and stable, and closely linked to the idea of global public good. 2. The World Economic Forum definition of blended finance is "the strategic use of development finance and philanthropic funds to mobilize private capital flows to emerging and frontier markets." An emerging OECD definition is :"the commercial mandate to support SDG-aligned investment in developing countries."

Source: World Economic Forum, "Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders" (2015); UN, "World Economic And Social Survey: In Search of New Development Finance" (2012); Dalberg, "Innovative Finance for development" (2014)

# Blended finance creates possibilities to bring multiple different types of providers of finance together, with different objectives, and risk-return appetites

| | Finance providers | Description | Examples |
|---|---|---|---|
| *Typically* seeking (near) commercial returns | Institutional investors | • Includes resources from pension funds, unclaimed financial assets authorities, insurance funds, HNWIs wealth managers. Usually have a cap on investments outside capital markets | • Pædagogernes Pensionskasse (PBU), PKA and PensionDanmerk into the Danish Climate Investment Fund |
| | Commercial Lenders | • Financing by formal financial institutions whose core business includes lending; primarily commercial banks and micro-finance banks. | • KCB, Equity Bank, Cooperative Bank, JP Morgan |
| | Private Sector Funds (PE and VC) | • Provides investment capital, usually in form of equity or debt with expectations of a return. Includes private equity, venture capital funds. | • Standard Chartered PE; Carlyle Group; Leapfrog; Shore Capital |
| | Corporates, Value Chain Actors | • Private companies typically participating in value chains themselves and providing value chain financing, or otherwise able to derisk finance (e.g. offtake agreements) | • Buyers / traders: Cargill, Olam, Ecom<br>• Food companies : Starbucks, Nestle |
| | Financial Instrument Providers | • Focused providers of specific instruments to support the reallocation of risks; includes insurers, hedging platforms / swaps providers, and players that either solely or mostly focus on providing guarantees | • Storebrand Life Insurance, TCX, Guarantco, US Development Credit Authority |
| *Can take diverse range of positions across risk-return spectrum* | Farmers Organisations | • Formal and informal entities that organize farmers and provide multiple services, which may include the provision of or on-lending of credit to individual farmers as well as collective investments | • Faso Jigi (Mali) |
| | Government | • National government public funding either through budget allocations or ministerial allocations to programs/initiatives | *Most national governments* |
| | Impact Investors & Catalytic Funds | • Private funds offering debt or equity, with a focus on the effectiveness of their investments in driving impact, and with typically a secondary interest in return. Includes impact-first funds, high net-worth individuals or family offices | • Larger pooled vehicles: AATIF, AgriFI<br>• Niche / local: Althelia, African Ag Fund<br>• Impact / frontier funds: LafCo |
| | Development Finance Institutions | • Provide financing for development, usually at terms that are significantly concessional versus commercial providers | • Multilaterals: AFDB, EIB, IFC<br>• Bilateral: FMO, KfW, OPIC, Proparco, BIO, CDC |
| *Typically* seeking nil returns | Philanthropy & Foundations | • Seek to achieve impact, primarily through provision of grants, for private philanthropy and charities. Foundations may deploy a range of financial instruments | • BMGF, Omidyar Network, Lundin Foundation |
| | Multi- & Bilateral Donors | • Provide resources for development, usually in the form of grants. Majority tends to be provided with no expectation of return of capital. Can also provide conditional funding (e.g. performance based) and seed grant funding | • USAID, DFID, DEG, SIDA |

Source: Dalberg analysis

# The landscape of blended finance tools is diverse; we focus on 3 main categories

| Categories | Description | Typical tools used | Main risks addressed |
|---|---|---|---|
| **Risk mitigation tools[2]** | • Instruments that aim to reallocate risks in investments into agricultural value chains. Can make projects viable for investors by shifting the risk-return ratio and reducing the cost of capital<br>• The most frequently used tools are guarantees, which ensure that if a negative event occurs, the guarantor will take action – within this, credit guarantees are the most common. Guarantee instruments that address specific risks – such as the World Bank's Multilateral Investment Guarantee (MIGA) – also exist, but are less common in blended finance for agriculture<br>• Insurance policies – especially weather and crop insurance – are less common but growing. Currency hedges and interest rate swaps also protect against specific risks<br>• Securitization, especially in the form of warehouse receipts are also growing, and provide alternative sources of collateral to improve bankability | ✓ Guarantees<br>✓ Insurance<br>✓ Securitization<br>✓ Derivatives | • **Often address general credit risk,** especially through credit guarantees and securitization<br>• Derivatives and specific insurance and guarantee products **target specific risks** such as political, currency, interest and commodity price risk |
| **Direct funding** | • Provide capital for target enterprises, usually with a tiered structure that allow more junior capital to support the realization of commercial risk-adjusted returns of senior or commercial investors<br>• Addressing more fragmented, often smaller and higher risk agri SMEs and farmers often requires using patient and highly concessional capital and/or grants, plus risk mitigation tools and technical assistance<br>• Addressing larger investment opportunities (often further downstream to production, e.g. in logistics, warehousing, processing and international trading) may require addressing real and perceived business model and market dynamic risks, typically using mezzanine finance, subordinate loans / long-tenor loans, and may include guarantees | ✓ Structured debt capital and grants<br>✓ Structured / long-term equity and debt<br>✓ Other Direct Debt instruments (e.g. local currently, contingent liquidity)<br>✓ (Climate finance[1]) | • **Typically combine a set of instruments in a pooled investment vehicle to address a broad set of risks** required to catalyze private sector finance<br>• Seed / early stage & patient capital can specifically target **business model risk**<br>• **Currency risk** |
| **Results based financing** | • Provide incentives to guide specific behaviors by providing financing/rewards based on attainment of pre-defined results<br>• Typically used to support investment when normal market fundamentals do not exist, providing visibility on pricing and revenue to create new markets<br>• In ag, a cluster of off-take agreements can be considered an adv mkt commitment. | ✓ Performance based contracts<br>✓ Development impact bonds<br>✓ Advance market commitments<br>✓ Challenges, prizes and awards | • **Usually focuses on business model risk** specifically related to catalyzing learning and innovation to catalyze sustained financing post the intervention |

1. Climate adaptation finance cuts across other sources of direct funding, but typically also requires specific TA and capacity building to be able to ensure projects and/or funds can access such funding; 2. Some risk mitigation tools – especially hedging instruments such as swaps – are not necessarily blended finance themselves but form part of a blended finance intervention overall
Source: OECD / WEF "A primer on blended finance" 2015; interviews; Dalberg analysis

# Beyond these categories, there are also a range of other, often critical, non-financial or supporting interventions that can support blended financing

| Categories | Description | Typical tools used | Main risks addressed |
|---|---|---|---|
| **Other non-financial instruments and approaches** | • For the deployment of blended finance for specific value chains and projects, there are a range of non-financial tools that can also be used<br>• These typically aim to reduce rather than simply reallocate the fundamental risks or costs to serve agricultural finance opportunities, looking at various bottlenecks and challenges across the providers of finance, recipients of finance and government / other ecosystem actors | Includes, but is not limited to:<br>✓ Technical assistance to providers & recipients of finance<br>✓ Technology providers to collect data for underwriting and/or accessing farmers & SMEs<br>✓ Contractual arrangements such as offtake agreements between producers and buyers | • **Can be tailored to address specific risks** such as through technical assistance to lenders to address business model risk and facilitate better product design; offtake agreements<br>• **Policy focused instruments do not yet exist**, but could support reductions in political risk for providers as well as recipients of finance<br>• **Both sets of approaches can also broadly reduce credit risk**, especially through the appropriate use of technical assistance |
| **Supporting sector activities** | • There are a set of broader, sector-level activities, that can be critical or have substantial synergy with other blended finance interventions that target specific value chains | Includes, but is not limited to:<br>✓ Investments in related sectors – especially hard (e.g. roads) and soft (e.g. ICT) infrastructure – that reduce risks and transaction costs for commercial investors in the agri-food sector<br>✓ Advocacy and technical assistance to drive policy and regulatory reform<br>✓ Specific approaches aand incentives to promote good policy design<br>✓ Knowledge sharing on blended finance best practices | |

Although critical, these approaches are not the focus of this report

1. Climate adaptation finance cuts across other sources of direct funding, but typically also requires specific TA and capacity building to be able to ensure projects and/or funds can access such funding Source: OECD / WEF "A primer on blended finance" 2015; interviews; Dalberg analysis

Introduction and Executive Summary

**Context and a Mapping of Risks in Agriculture**
An overview of the challenges and risks in agricultural value chains and how they restrain the supply of finance to the sector

**An Overview of Blended Finance and Initial Toolbox**
**A definition of blended finance, and how tools can be used to crate catalytic transactions and vehicles**

Overview of Blended Finance

**An Initial Toolbox**

**Stocktaking and Recommendations for Scaling Blended Finance**
The track record for Blended Finance so far in agriculture, lessons learned, and emerging recommendations for scaling

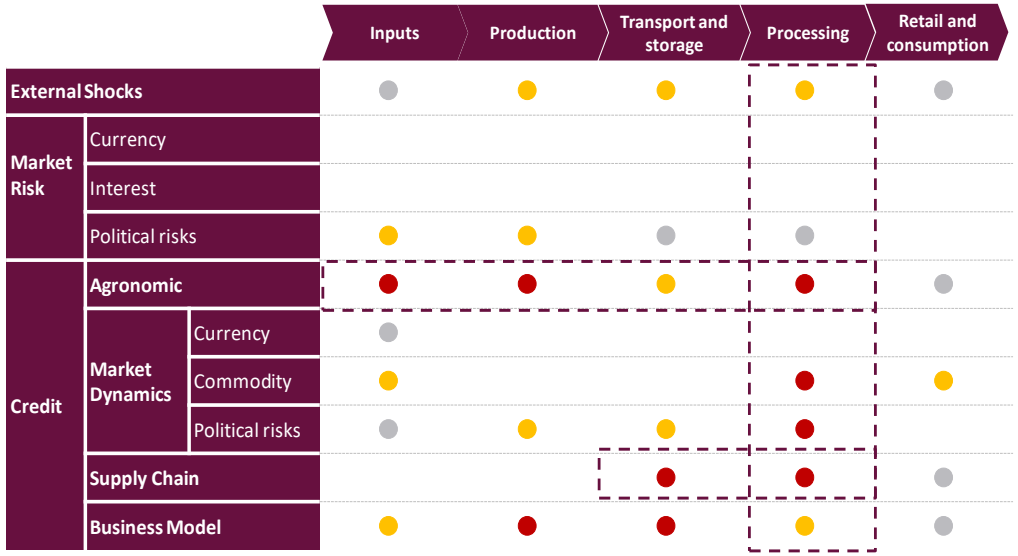
**An Ecosystem Approach to Putting Blended Finance into Practice**
How Blended Finance tools can and are being used in de-risking cash and food crops

# Recap: Risks vary across specific agricultural value chains, and across stages in value chains

They way risks manifest themselves, and which risks matter most to potential providers of finance, will vary based on a number of factors. Staple food crops are often critical to overall food security, and the factors that affect stability and affordability of supply – such as agronomic risks and the integrity of local supply chains – are often the most critical to address, while cash crops are particularly exposed to currency and commodity risk. Country-specific conditions matter, both in agronomic as well as political economy conditions. Finally, different risks also affect different stages in value chains – and the associated actors – differently. Agronomic risks directly affect farmer productivity, but processors may be able to source supply from multiple sources. Regulations that affect processors may impact them more than producers, who may find alternative offtakers for their produce. As a result, different economic actors across value chains face different risks, and the tools required to transfer them will vary.

## Food Crop Example: Maize in Kenya

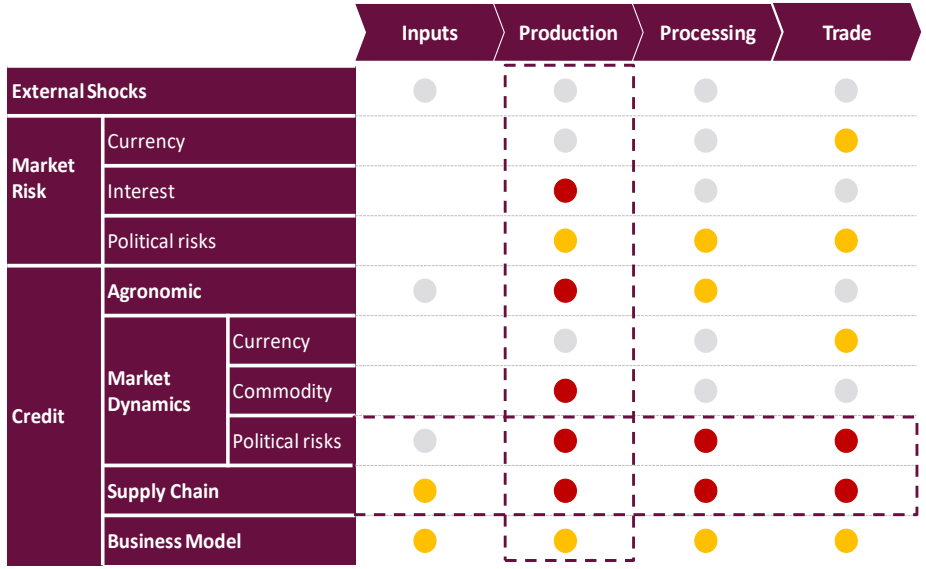
### Overview of key risks by stage in value chain




- Agronomic and supply chain risks are particularly critical, and affect security of supply
- Processing could be a key anchor for organising the value chain, but faces the most risks

## Cash Crop Example: Coffee in Kenya

### Overview of key risks by stage in value chain

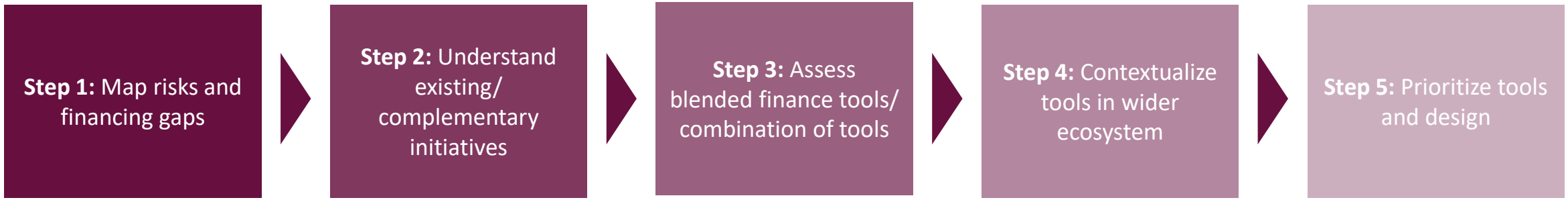



- Political risks plus challenges across the supply chain affect supply
- Farmers also face challenges due to volatile commodity prices and growing agronomic risks

**Extent of risk:** How much is the risk constraining financing? ● **High** ● **Medium** ● **Low**

Source: Interviews, Dalberg analysis

# Since risks play out differently for individual value chains and country contexts, a full value chain assessment of risk and the ecosystem is critical for identifying which tools to use




***Risk-led:*** *We identify the main risks and gaps faced by actors across the value chain, as well as providers of finance*

***Additive and complementary:*** *We look to understand and learn from financial and non-financial initiatives before developing any new intervention*

***Tools:*** *Based on the risks and gaps identified, we assess which tools can address them*

***'Ecosystem' approach:*** *Our approach focuses on the main risks and gaps faced by actors across the value chain, as well as providers of finance*

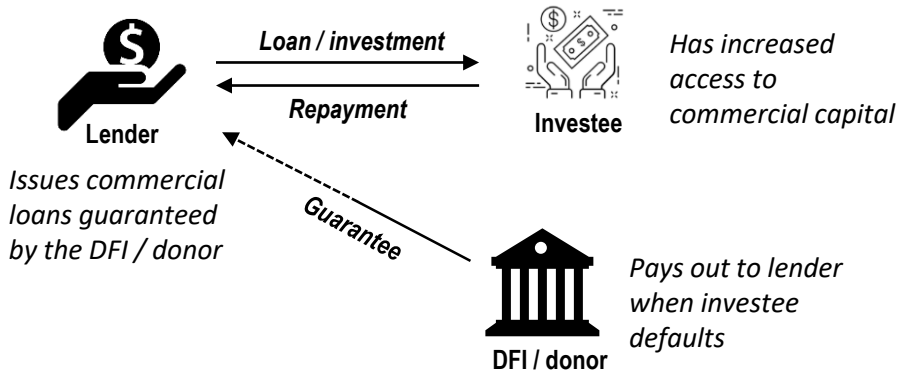
***Looking forward:*** *We prioritize blended finance interventions that balance cost, effectiveness, and complexity*

# In general, blended finance interventions tend to take two main forms; either a specific instrument that is deployed, or as a blended investment vehicle

## *Specific instrument through an intermediary*

In this case, a specific instrument (or occasionally a combination of instruments) are deployed, often to target either a specific risk or to shape the behaviour of an intermediary. An example of the former is bundling of crop insurance with the provision of input credit. In this case, the insurance reduces the risk of extending input credit to farmers. An example of the latter is the use of credit guarantees through local banks; typically the intention is to increase banks' exposure to the agriculture sector, subsidising business model risk and resulting in increased sustained lending after the guarantee is removed.

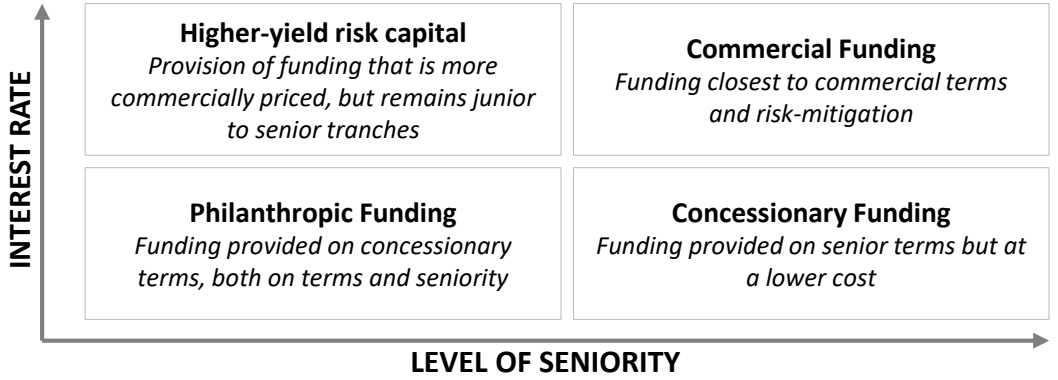
### *Credit risk guarantee example*




## *Blended investment vehicle*

This approach brings together multiple sources of capital with different interest rates and seniority matching the risk tolerance and return aspirations of different finance providers. These structures can be developed for an investment vehicle such as a fund that is intended to make multiple investments, or for a specific project.

This is often the most commonly considered form of blended finance, and can be combined with other forms of risk mitigation (e.g., credit guarantees for some tranches of capital; technical assistance to investees).



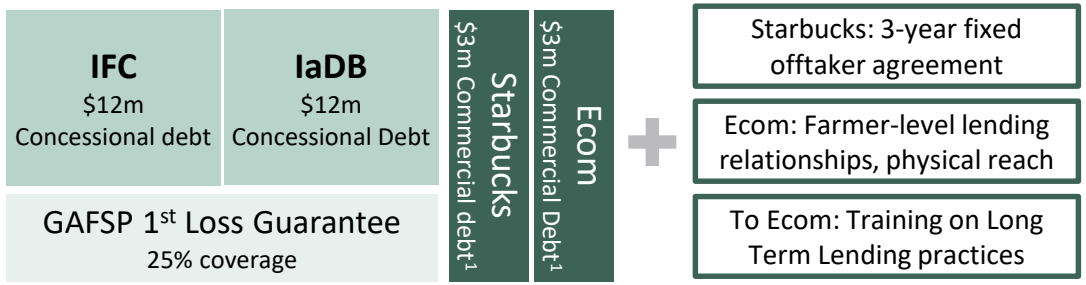

Source: Interviews, Dalberg analysis

# Involving economic actors in agricultural value chains, and using technical assistance appropriately, is almost universally key to ensuring blended finance is effective

While the majority of blended finance tools can be thought of as redistributing the risks of agricultural investment more efficiently, in many cases they become more powerful when combined with other approaches. Working effectively with economic actors *within* value chains, for example farmers organisations, buyers or processors, can help to improve investment decisions and reduce costs of reaching and serving potential recipients. Providing technical assistance to both intermediaries (to ensure they have appropriate operational and market knowledge, as well as effective products) and recipients of finance (to ensure they make the most effective use of funds) is often critical to ensuring potential returns are realised.

## Example: Using economic actors (plus technical assistance to them) effectively

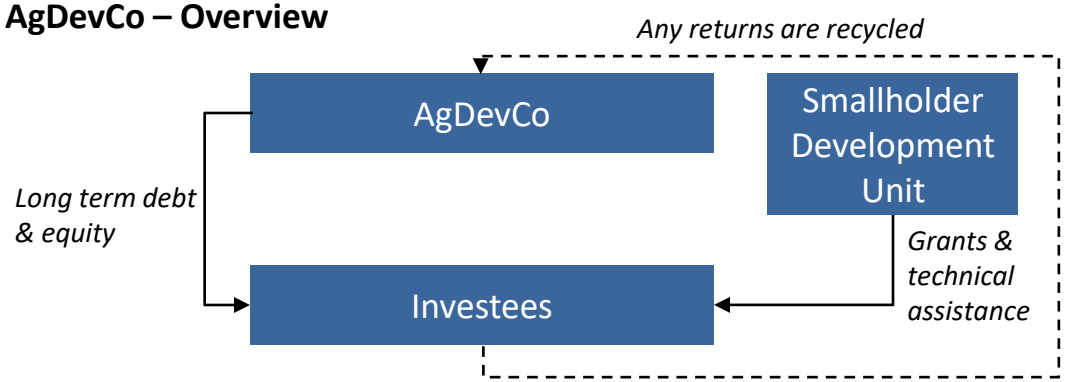
**$30m Coffee Renovation and Rehabilitation Project for 500 coffee farmers in Nicaragua**




- Financing facility targeted renovation of trees affected by coffee rust disease for c.500 farmers in Nicaragua.
- Tree crop renovation has a short-term adverse impact on cashflow as the existing tree, which is producing coffee cherries, is then replaced with a sapling that will only produce after several years, requiring long-term lending and concessional rates.
- DFI concessional capital (with a first loss guarantee) was critical to make loans affordable.
- **Starbucks provision of 3-year offtake agreement addressed commodity risk for farmers.**
- **Ecom's existing granular farmer-level data and the training they received on long-term lending addressed business model risks for lenders.**

## Example: Using technical assistance to recipients effectively

**AgDevCo – Overview**




- Long-term investment vehicle, largely funded by DFID.
- Provides long-term (5-10 year) debt and equity with investments sizes typically between $250k and $10m.
- Sponsored the creation of LAFCo, managed by Root Capital, which can provide short-term working capital loans.
- Also provides technical assistance and grants to investees through its smallholder development unit. **This has been critical in both increasing farmer productivity, as well as organising and connecting farmers to markets, to be able to drive long-term returns**

Notes: (1) Corporate debt, priced at broadly commercial levels based on the weighted average cost of capital from their balance sheet (and not at the price of commercial debt in Nicaragua).

Source: Interviews, Dalberg analysis

# There is usually more than one way to deploy the right tools to address the specific risks of a given value chain; decisions between options are typically made based on pragmatic principles

| Design Principles | Key Questions | Considerations |
|---|---|---|
| Minimum sufficiency to be **effective…** …in **scope** | **Does it cover all key risks effectively?** | • Often requires addressing not only a specific target area in a value chain, but also the related upstream and downstream areas<br>• Some key risks – esp. political – may need non-financial tools |
| Minimum sufficiency to be **effective…** …in **scale** | **Is the tool/vehicle of a sufficient size to be effective and feasible (especially versus the implementation costs)?** | • Requires analysis of the finance gap to assess minimum sufficient scale<br>• Requires addressing whether design can achieve sufficient leverage |
| **Market distortion** (minimally distorts markets) | **How much will this distort efficient market functioning?** | • Concessional capital and risk mitigation tools deliberately influence capital allocation incentives<br>• Need to assess whether design crowds out investment that would have occurred anyway |
| **Complexity** (implementation risk) | **Will the number of key actors involved make it too difficult to launch, coordinate actors, or operate?** | • Typically a broad set of actors across the public sector, commercial and concessional capital, and actors within value chains need to be included in design and be coordinated<br>• Aligning may take substantial time and raise costs to launch |
| **Cost** (cost of operating the tool) | **Is there a cheaper way to get a comparable result?** | • 'Next best' alternatives beyond blended finance interventions, or alternative more creative designs, may be more effective, especially if general risk reduction approaches are used without targeting specific key risks |
| **Sustainability** (impact post-shutdown) | **Will private investment be sustained after this intervention ends? Should, and can, this intervention be permanent?** | • In some areas, there may be a case for a permanent subsidy if the impacts are worthwhile (potentially in very early stage enterprise support)<br>• Where not appropriate, exit strategies need to be defined |

Source: Interviews, Dalberg analysis

# In the following section, we present an overview of a selection of tools, some that generally subsidize risks and some that are targeted for specific issues

*NOT EXHAUSTIVE*

| *What to use to address…* | *Go to…* | | |
|---|---|---|---|
| **Overall risk** through general subsidy | **A** **Credit risk guarantee** *Protects investors from loss incurred due to inability of borrower to cover its liabilities* | **B** **First loss/concessional capital** *Capital designed to absorb risk by being subordinated to more senior capital tiers* | **C** **Patient capital** *Equity or debt capital with limited expectations for returns; can be long-tenor loans with grace periods, or equity investment* |
| **Credit risk** (with focus on lack of collateral) | **D** **Warehouse receipt finance** *Financing using warehouse receipt - a receipt vouching for quality and quantity of commodity stored at an approved warehouse - as collateral* | **E** **Invoice discounting/factoring** *Financing using unpaid account receivables as collateral* | |
| **Political risk** | **F** **Political risk guarantee** *Protects investors from loss incurred due to political events and/or political decisions/non-decisions* | Does not cover all types of political risk | |
| **Agronomic risk** | **G** **Weather/crop insurance** *Protects against specific risks in return for a premium payment* | | |
| **Currency/ interest/ commodity risk** | **H** **Currency, interest rate & commodity hedging** *Protects against risk exposure due to exchange rate and interest rates fluctuations* | **I** **Local currency finance** *Cross-border loans that are disbursed in local currency to protect the borrower from foreign exchange risks* | |
| **Business model risk** | **J** **Performance-based finance** *Contingent payments based on achieving agreed milestones (e.g. % of loan book)* | **K** **Development impact bonds** *Private investors provide upfront financing for social programs & donors/governments pay for impact delivered with a return* | **L** **Challenges/prizes** *Cash pay-outs to incentivize market actors to achieve defined objective* |

Technical assistance usually also critical

# Credit risk guarantee (1 of 2)

A Overview

**Credit risk guarantee**

**Provides cover against non-repayment on loans, bonds, or other debt instruments to a pre-determined amount e.g., percentage of total amount borrowed or debt service payments for a given period (principal or interest)**

## *What is the tool?*

- Broadly takes two forms: (i) guarantee of individual loans (a part of each loan's exposure is covered separately); or (ii) guarantee of portfolio of loans including pooled vehicles
- In risk-sharing arrangements, credit guarantees span a range of specific applications including:
  1. Pari passu, where scheme assumes fixed share of the loss, irrespective of size
  2. First loss, where burden from defaults is fully assumed only up to a preset amount

## *When can it be used?*

- ***When providers of finance*** are unwilling to lend into agriculture due to perceived high risk of default; provision of guarantee can stretch loan maturities and/or reduce rates
- ***When borrowers*** require financing but do not meet requirements for non-guaranteed lending and are perceived as high risk; guarantees can improve access to funding via direct credit enhancement

## *Who uses it?*

*Tool provider*

- MDBs and DFIs (USAID, World Bank, IFC, AfDB, IFAD, SIDA, AGRA)
- Dedicated DFI-funded facilities (AGF, PASS)
- Private donors and foundations (Gates)

*Tool beneficiary*

- Commercial banks
- Microfinance institutions
- Dedicated funds (NIRSAL)

## *Illustrative transaction*

- USD 5M guarantee by AGRA to Equity Bank for on-lending to farmers and agribusinesses in Kenya; guarantee leveraged USD 50M in new portfolio lending

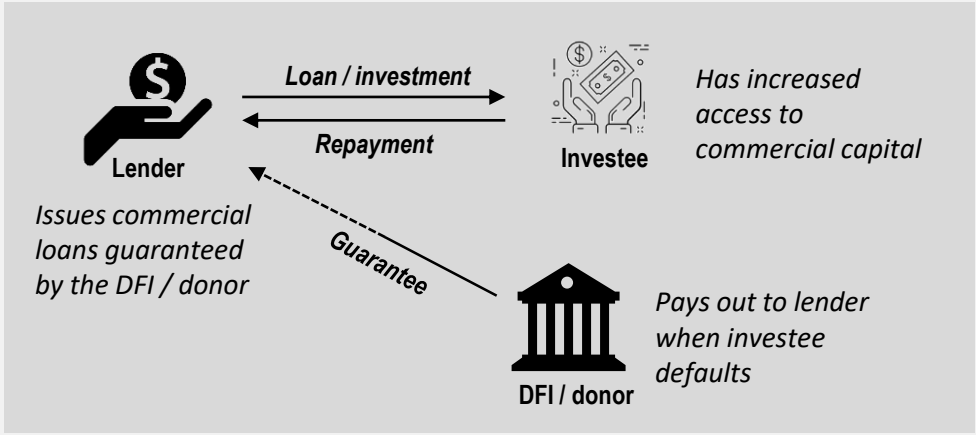
**Risks addressed** | **Credit risk**

## *How does it work?*

**Step 1:** Need for guarantee identified, usually to increase access to and improve terms (pricing/tenor) of finance in sectors considered high risk by commercial lenders

**Step 2:** Provider structures guarantee with financial institution, ideally covering minimal amount required in order to make lending viable

**Step 3:** Financial institution on-lends to eligible borrowers; in the event of default, guarantor compensates lender as per terms of guarantee




Source: Dalberg analysis

# Credit risk guarantee (2 of 2)

A

## Design and performance

### Key design features

- **Coverage ratio**
  - Proportion of loan, portfolio, or other debt instrument that is guaranteed against defaults, whether including principal and/or interest
  - In case of a bond issue, guarantee covers default in payments by issuers to bond holders
- **Pricing and payments**
  - Price of guarantee can be split across upfront payments, periodic payments, the guarantee fee (usually derived from lending spread), maybe with a maturity or risk premium
  - Pricing varies depending on commerciality of guarantee provider and riskiness of lender and/or underlying portfolio
- **Currency**
  - Could cover hard or local currencies
- **Maturity**
  - Period of time during which loan is guaranteed, could be full loan tenor or part only e.g. for latter part repayments on amortized loans

### Agri-specific considerations

- Provide maturity to reflect agricultural seasons and growing cycles
- Focus guarantees on lending arrangements where offtaker/buyer makes the repayment

### Tool performance

- **Common challenges**
  - Lenders have limited expertise on the dynamics of agricultural value chains and limited ability to assess risks efficiently, resulting in underutilization
  - As a stand-alone intervention, guarantees are not likely to increase access to finance; technical assistance is often important to support lenders to better utilize guarantee
- **Sample success factors**
  - Coverage ratio should incentivize lenders to lend prudently and not over-subsidize i.e. should only cover minimal proportion required to mobilize finance - lender to perform due diligence, monitor loans, and pursue repossession in the event of default
  - Provide technical assistance to intermediaries to deepen their understanding of the agricultural sector and develop tailored products
  - For sustainability, address the “risk perception issue”. Develop cost-efficient lending approaches e.g. digital banking and fundamentally de-risk the agricultural value chain e.g. financial literacy and better record keeping
- **Results**
  - Guarantees have the potential to increase risk appetite for investors and unlock lending to underserved sectors
  - Many credit guarantees however have been underutilized, as alone they cannot address diverse lending constraints

### Alternative tools

- **Credit insurance**
  - Protects the creditor from failure of a debtor to perform its obligation under a contract
  - Tool is bipartite. Creditor seeks protection from the insurer unlike guarantees that tend to be tripartite arrangements involving a guarantor
  - Usually costly for sectors that are considered risky e.g. agriculture
- **First loss capital**
  - Tier of capital designed to absorb a pre-determined initial loss in an investment

### Complementary tools

- **Commodity/crop insurance**
  - Protects the borrower in event of loss of crops due to natural disasters, theft or damage, or loss of revenue due to declines in commodity prices

Source: Dalberg analysis

# First loss/concessional capital (1 of 2)

B Overview

**First loss or concessional capital**

**The primary funder absorbs the initial losses associated with the investment for private investors who might otherwise be too risk-averse to participate through no- or low-interest rates loans, extended repayment schedules and interest rate modifications**

### *What is the tool?*

- First loss/concessional capital is a tool that can be incorporated into a capital structure which seeks to achieve specific social and/or environmental goals
- Aims to catalyze participation of investors that otherwise would not have participated and channel commercial capital towards the achievement of social/environmental outcomes
- Grants, equity, subordinated debt, and guarantees can all be used as instruments for first loss capital

### *When can it be used?*

- ***When providers of finance*** are willing to leverage more capital than they could mobilize on their own and improve market accessibility of the investees
- ***When recipients of finance*** have sustainable project and business models but need investment capital to scale and achieve maximum impact

### *Who uses it?*

*Tool provider*

- Foundations
- DFI
- Governments

*Tool beneficiary*

- Private investors
- Private equity firms

### *Illustrative transaction*

- Yield Uganda Investment Fund is fund looking to raise USD 25M by Q4 2017 and has raised EUR 12M to-date with EU and IFAD who have provided an initial funding of EUR 10M, providing first loss protection to equity investors

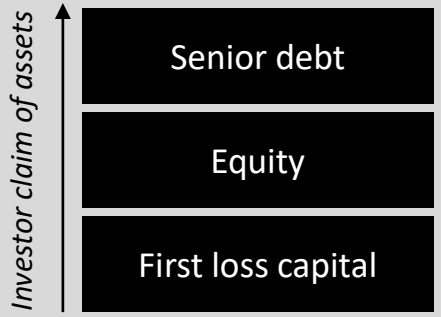
**Risks addressed** | **Credit and interest rate risk**

### *How does it work?*

**Step 1:** Identify providers of finance that are willing to bear the first loses (first loss capital) or accept below market-rate returns (concessional capital). The amount of loss covered is typically set and agreed upon upfront

**Step 2:** Select project/investees that will receive capital

**Project/investees capital structure**




*First loss capital absorbs a defined amount of losses*

Source: Dalberg analysis

# First loss/concessional capital (2 of 2)

B

## Design and performance

### Key design features

- **Coverage ratio**
  - There are two aspects to coverage: (i) Proportion of the loan that is subject to capital protection; (ii) Whether it covers both principal and interest payment on any loan loss or only the principal component
- **Instrument used**
  - Instrument can be a grant, debt or equity
- **Payout**
  - The loss reserve can be drawn down in one instance or can cover numerous small losses until the full amount is exhausted
- **Beneficiary**
  - The first loss capital may be accessed by senior and junior lenders or only senior lenders

### Agri-specific considerations

- Provide large first loss buffers relative to other sectors to cater for the perceived risk of agriculture and the risk appetites of investors
- Flexible investment mandate to allow for investments across the full agricultural value chain. This helps to explore a deep pipeline of investment opportunities and in turn, to deploy funds in a risk-adjusted fashion

### Tool performance

- **Common challenges**
  - It is difficult to remove or reduce loss protection once it has been provided despite strong fund performance over the years
  - The amount of loss protection should not be greater than what it is needed to attract commercial capital
- **Sample success factors**
  - Match the fund structure to investors' risk appetite and investor requirements
  - Ensure consistent and effective communication between stakeholders to manage expectations
  - Create streamlined governance and decision-making process particularly for the investment process
  - Offer technical assistance to investees
- **Results**
  - Leverages additional capital towards impact objectives
  - Attracts more investees by improving investment terms thus allow them to effectively reach their intended impact and return
  - Many funds use these instruments to raise capital. Focusing on agriculture, one example is AACF fund which raised USD 25M with the objective to impact 250,000 smallholder farmers by investing in 20 agriculture enterprises

### Alternative tools

- **Guarantees/Letter of Credit –**
  - Guarantee provided by an entity with higher rating, usually highly-rated international financial institutions. They give assurance to investors that investments will be paid and in time
- **Securitization –**
  - Underlying investments are packaged as securities and sold to investors. Cash flows generated by the underlying investment are used to pay principal and interest plus any transaction costs

### Complementary tools

- **Political guarantee**
- **Credit risk guarantee**
- **Patient capital**
- **Seed capital/matching grant**

Source: Dalberg analysis

# Patient capital (1 of 2)

C

## Overview

**Patient capital** — **Long term finance willing to forego immediate return in anticipation of more sustainable returns, often made on concessional terms**

### *What is the tool?*

- Patient capital is low-cost and long-term capital provided by investors that are willing to receive positive but less than commercial market-returns in exchange for development and social impact. It is usually invested in the early stages of ventures
- It bridges the gap between the economic demands of market-based approaches and the social impact of philanthropy and can attract third party capital to further develop the business
- Key features include high tolerance for risk, longer tenure, and flexibility to meet investee's business needs in return for accountability through repayments in the long-run

### *When can it be used?*

- ***When providers of finance*** are willing to get lower than market-rate returns in exchange for development and social impacts
- ***When recipients of finance*** are companies in growth stage and are seeking early-stage funding at more favorable terms than market terms

### *Who uses it?*

*Tool provider*

- DFIs
- Donors
- Foundations
- Family office
- Private investor

*Tool beneficiary*

- Private companies

### *Illustrative transaction*

- AgDevCo is a social impact investor and project developer financed in particular by DFID, MCF and DGIS. It provides patient capital between USD 250K and USD 10M for up to 10 years for agribusiness, and has invested USD 43M in 40 agribusiness to date.

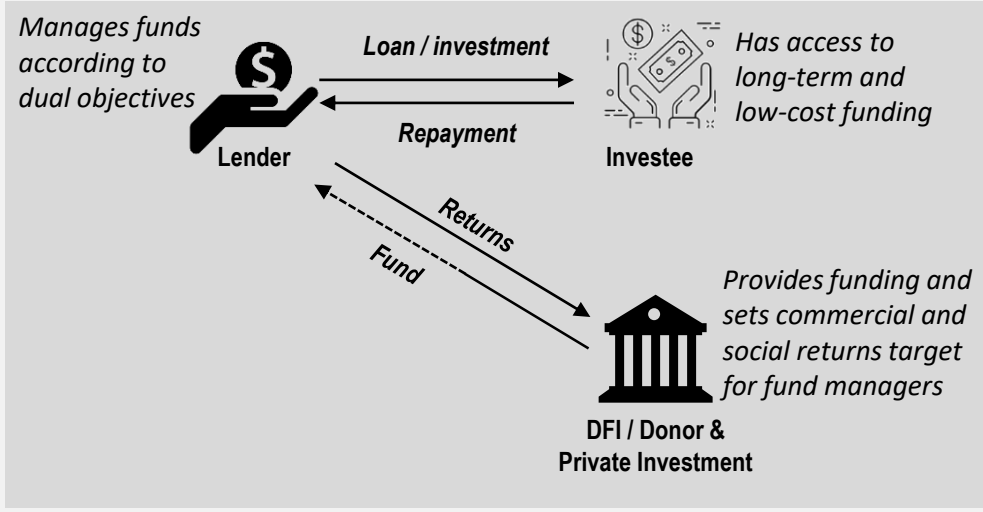
**Risks addressed** — **Credit and interest rate risk**

### *How does it work?*

**Step 1:** Providers of finance provide long-term capital to lenders

**Step 2:** Lenders select projects usually through an investment committee and may provide technical assistance to investees

**Step 3:** Investees make repayments according to agree terms and conditions




Source: Dalberg analysis

# Patient capital (2 of 2)

C

## Design and performance

### Key design features

- **Public/Private Equity Fund**
  - Public sector donors, foundations and social impact investors fund a tranche of patient capital
  - Private investors fund tranche of private equity expected to generate commercial returns
- **Governance**
  - Dual objectives of investing in early stage companies that are expected to be socially and environmentally sustainable and generate commercial returns
  - Fund manager to be remunerated based on delivering the dual objectives of both Patient Capital and Private Investors
- **Tenor**
  - Can range from 5 to 10 years and subordinated to senior debt

### Agri-specific considerations

- Provide advice in order to improve operational efficiencies to investee companies and achieve internationally competitive production and delivery costs
- Account for start-up risks such as crop selection, seed varieties and farm management practices

### Tool performance

- **Common challenges**
  - Little understanding of patient capital with the dual objectives of commercial returns and social impact
  - Illiquidity of patient capital poses a potential inefficiency. This is mitigated by higher-than-expected return by co-funding with private investment
  - Patient capital alone is usually insufficiency to achieve the social impact goals; it is better when aligned with private investment
- **Sample success factors**
  - Long tenor and low cost of patient capital reduces unit costs in the early years, increasing the incremental return on private investment
  - Patient capital should have unanticipated upside sharing in the venture, secured on the assets in the business and should ensure there are consequences for non-compliance
  - Coupling patient capital with technical assistance increases likelihood of success
- **Results**
  - Supports companies at early stage by providing them with long-term financing
  - Funds infrastructure projects that are not considered priorities by the government
  - Several players are providing patient capital to agriculture such as Acumen Fund, LAFCO, AgDevCo

### Alternative tools

- **First loss/concessional capital**

### Complementary tools

- **Credit risk guarantee**

Source: Dalberg analysis

# Warehouse receipt finance (1 of 2)

D

## Overview

**Warehouse finance**

**Use of warehouse receipts to collateralize stored produce, thereby allowing value chain actors (e.g. producers, traders) to borrow for working capital and supply chain financing**

### *What is the tool?*

- Producers/traders store produce at certified warehouses and are issued with receipts specifying the quantity and quality of produce
- Warehouse receipts have specific legal significance; rightful possession of the receipt gives the holder both the title to the produce and the right to transfer the title i.e. it can be passed to the lender as collateral for financing
- Loan amount is usually determined by prevailing commodity market prices
- Financing for a short tenor (less than a year) is usually dependent on the maximum period that produce can be stored in a warehouse

### *When can it be used?*

- ***When providers of finance*** accept warehouse receipts as tradable instruments in an environment where regulations support warehouse receipts as collateral
- ***When recipients of finance*** require short-term financing, have produce in store, and are not able to collateralize their assets

### *Who uses it?*

*Tool provider*

- Commercial lenders
- Development actors

*Tool beneficiary*

- Commodity producers
- Commodity traders

### *Illustrative transaction*

- IFC's Global Warehouse Finance Program provides banks with liquidity and risk coverage backed by warehouse receipts
- Malawi Public Warehousing Project led by Agricultural Commodity Exchange for Africa (ACE) and the Grain Traders and Processors Association

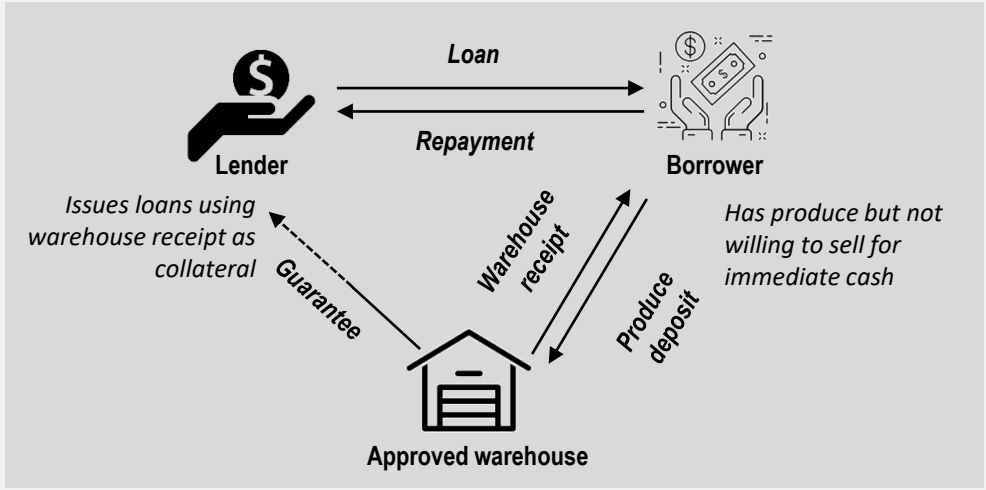
**Risks addressed** | **Credit risk** | **Supply chain** | **Commodity risk**

### *How does it work?*

**Step 1:** Producers/trader delivers produce to an approved warehouse for storage and in return are issued a warehouse receipt

**Step 2:** Producer/trader presents warehouse receipt to a lender who accepts it as collateral for short-term financing, usually a proportion of the value of stored goods

**Step 3:** Producer/trader repays loan after selling goods stored; in some cases, produce does not physically leave the warehouse just holder of title




Source: Dalberg analysis

# Warehouse receipt finance (2 of 2)

D

## Design and performance

### Key design features

- **Warehouse receipt**
  - Variations in content, crop, form (electronic or physical), and legal status (transferability)
- **Warehouses**
  - Variations in ownership and operator of the involved warehouses; could be public or private and include community-owned warehouses
  - Variation in whether warehouse systems are open (stored goods can be withdrawn any time) or closed (stored goods can only be withdrawn after a specified duration)
- **Receipt price**
  - Varies depending on price of stored goods and quality of produce as graded at the warehouse; usually financing is below 100% to protect principal loan amount

### Agri-specific considerations

*Not applicable*

### Tool performance

- **Common challenges**
  - Poor management of warehouses can cause decline in quality of stored produce thereby reducing value of collateral and fueling distrust of the system by lenders
  - Lack of produce release management e.g. strategies to sell when market prices are high and to target high value buyers to fetch more value to cover credit
- **Sample success factors**
  - Participating warehouses should be certified and in good condition to guarantee quality/value of produce stored
  - Requires favorable policy environment that supports a credit market that accepts warehouse receipts as collateral
  - The use of community-based warehouses to provide short-term post harvest finance leverages group trust as collateral and enables lower levels of borrowing
  - Risk mitigation for the warehouse operator including but not limited to: (i) business model risk (operational bond, indemnity insurance); (ii) general credit risk (discounting on the commodities); and (iii) commodity risk (commodity insurance, price hedging – call/put options)

### Alternative tools

- **Repurchase agreements**
  - Lender buys the produce and simultaneously signs a contract for resale at a certain point in time, either at a fixed price or at an agreed reference price
- **Factoring**
  - Borrower assigns receivables from sales contracts to a factor (i.e., a broker such as a bank); in return, the factor can finance the borrower through loans and advance payments

### Complementary tools

- **Warehouse & commodity insurance**
- **Collateral management agreements**

Source: Interviews, Dalberg analysis

# Invoice discounting/factoring (1 of 2)

E

## Overview

**Invoice discounting /factoring**

**A specialized revolving line of credit extended to fund accounts receivable and accommodate the need for working capital pending receipt of payments**

### *What is the tool?*

- Invoice discounting and factoring tools provide advance in cash or businesses to help companies grow, and the receivables are considered as collateral for this form of financing
- Invoice discounting is ideal when :
  - Payment terms are long
  - The product is secured and the buyer is considered trustworthy
  - The legal and regulatory framework allows for this kind of financing and covers the credit provider in case of default

### *When can it be used?*

- ***When providers of finance*** seek market-returns on loan portfolio and want to directly finance value chain actors
- ***When recipients of finance*** need to ease short-term liquidity or have cash flow issues and do not have physical collateral required for a traditional loan

### *Who uses it?*

*Tool provider*

- DFI
- Foundations
- Financial institutions

*Tool beneficiary*

- All players along agricultural value chain (from farmers to retailer to traders)

### *Illustrative transaction*

- KCB bank in Kenya offers invoice discounting tool for its agribusiness clients from USD 1K to USD 20K for a period up to 90 pays at a cost 2.5% per month. It loans up to 80% of invoice value.

**Risks addressed** | **Credit risk**

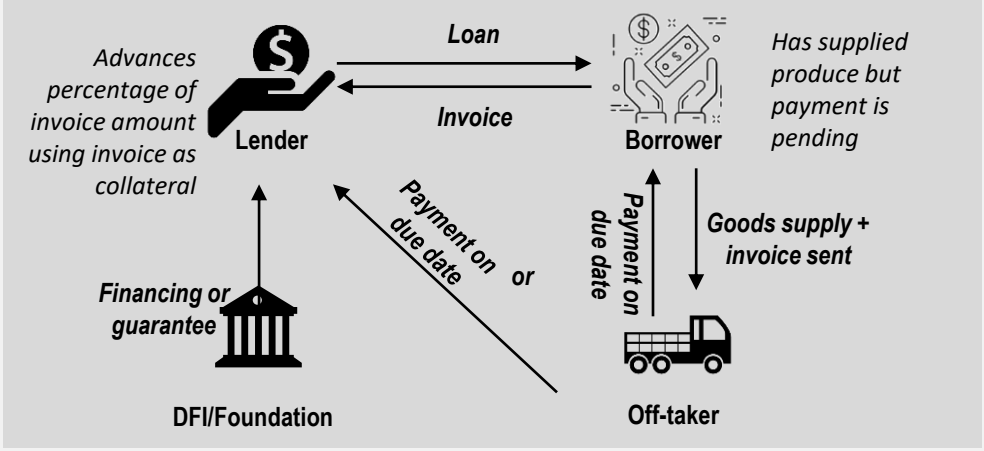
### *How does it work?*

**Step 1:** Seller contacts the lender to be get access to the service

**Step 2:** MDB analyzes the request and approves the guarantee

**Step 3:** Seller provides the goods to the offtaker and invoices them. Invoices are registered by seller and are confirmed by offtaker into lender digital platform, and then loans are made

**Step 4:** When debtor pays, balance of the invoice is paid to seller minus a service fee




Source: Dalberg analysis

# Invoice discounting/factoring (2 of 2)

E

## Design and performance

### Key design features

- **Coverage ratio**
  - Disbursement can be limited to a maximum of 80% of the invoices
- **Fees**
  - Fees charged on a fee basis for each transaction. Some players are charging between 2.5% and 3% per month
- **Tenor**
  - Short and self-liquidating, usually between 30 to 60 days
- **Repayment risk**
  - In some cases, the provider of finance may require the offtaker to cover some of the repayment risk e.g. by involving the buyer's bank as a third party

### Agri-specific considerations

- Can be used by traders to export agricultural products to foreign markets. In this case, lender could take a foreign credit guarantee
- Can leverage lender digital platform to help seller and offtaker to better manage their stock and their cash flow

### Tool performance

- **Common challenges**
  - Agribusinesses have low awareness and difficulty in understanding the benefits of the tool
  - Local regulation might limit tool availability in certain countries
  - Businesses can become overly dependent on invoice discounting as a funding facility
- **Sample success factors**
  - Financing contract might require buyers to make payments through the financing bank, enabling it to liquidate the facility granted
  - Strong established collection process in-house
- **Results**
  - Helps agribusinesses to finance specific working capital cycle of agriculture, thereby allowing them to finance larger quantities and/or better quality of crops
  - Eases working capital management
  - Gives a better visibility of business performance by leveraging lender digital platform
  - This tool has been on the private sector market in its traditional form for many years. However recent initiatives are emerging in blended finance and agriculture: e.g. FACT (some financing from DGGF) and UMITI capital (some financing from foundation)

### Alternative tools

- **Warehouse receipt**
  - Use of a warehouse receipt to collateralize stored produce allowing value chain actors (e.g. producers, traders) to borrow for working capital

### Complementary tools

- **Credit risk guarantee**
- **Currency and interest hedging**
- **Weather/crop insurance**

Source: Dalberg analysis

# Political risk guarantee (1 of 2)

F

## Overview

**Political risk guarantee**

**Covers commercial project against the risks posed by a government's actions and inactions that could disrupt project and thus negatively impact equity or debt investment**

### *What is the tool?*

- Political risk guarantees take three broad forms which can be combined:
  1. Loan guarantee for a commercial project against default arising from a government or government-owned entity
  2. Payment guarantee for a private project against default arising from government
  3. Equity, shareholder loans, shareholder loan guarantees, and non-shareholder loans guarantee for foreign investment
- Political risk guarantees are often called partial risk guarantees as they cover either only one type of risk or only a portion of the financing, but not both

### *When can it be used?*

- ***When providers of finance*** seek market-rate returns on loan or equity portfolios and have relatively low risk tolerance in the context on international project
- ***When recipients of finance*** invest in a country where political risk is considered too high by commercial financiers or foreign investors to undertake a project

### *Who uses it?*

*Tool provider*

- World Bank group : MIGA, IBRD, IDA
- Others Multilateral Development Bank (MDB) : AfDB, ADB, IADB

*Tool beneficiary*

- Private investors
- Private financiers
- Host government

### *Illustrative transaction*

- MIGA issued a USD 6.6M guarantee for a USD 7M investment in equity and non-shareholders loan by an individual and a private company covering expropriation, transfer restriction, and war and civil disturbance risks. Beneficiary was Kibos Sugar & Allied Industries (Kenya)

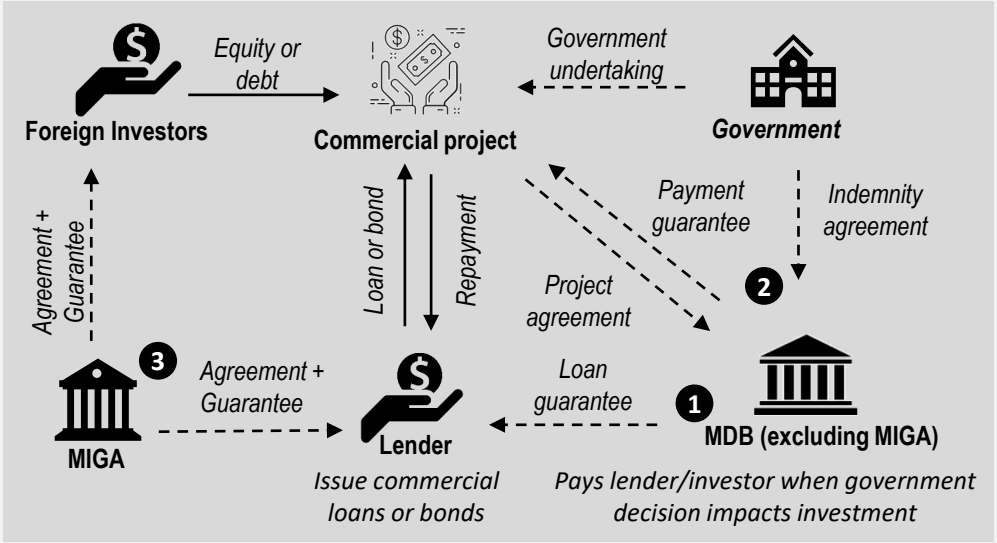
**Risks addressed** | **Political risk** | **Regulatory & contractual risk**

### *How does it work?*

**Step 1:** Loan and payment guarantees are requested for a project by the host government and/or the investor seeking coverage

**Step 2:** Guarantee provider assesses request and approves the guarantee

**Step 3:** Provision of guarantee is made; host government often asked to reimburse the guarantee provider as per indemnity agreement signed




Source: Dalberg analysis

# Political risk guarantee (2 of 2)

F

## Design and performance

### Key design features

- **Coverage ratio**
  - Proportion of loan that is guaranteed; varies depending on guarantor and investment type
- **Pricing and payments**
  - Varies depending on guarantor; for example, MIGA rates are market-driven on a per-project, whereas World Bank guarantees (IBRD, IDA) are more concessional
- **Risks covered**
  - Risks covered can include transfer restriction, expropriation, political violence, contract disputes, and non-honouring of sovereign obligation
- **Maturity**
  - Varies depending on investee's needs: short-term (1 year minimum) to long-term (40 years)

### Agri-specific considerations

- Political risk in agriculture sub-sectors is often not well understood / easy to assess, hence limited utilization of political risk guarantees in the sector
- Guarantee providers can provide specific risk coverage and pricing tailored for political risks that are common in agriculture

### Tool performance

- **Common challenges**
  - There has been limited utilization of political risk guarantees in the agriculture sector
  - Cost of guarantee is often prohibitive, especially for agricultural investments that tend to be smaller in relative terms
  - Political risks in agriculture are also less standardized and harder to define and assess than in other sectors (e.g. power, infrastructure)
  - Limited awareness of available guarantees also inhibits their uptake for lending into the sector
- **Results**
  - Political risk guarantees can mobilize private sector lending into agricultural sector where there is often political uncertainty
  - Over USD 4B of non-trade guarantees were issued by multilaterals in 2013 (~66% by MIGA). However agribusiness represents a tiny proportion of the guarantees issued e.g. only 3% of guarantees issued by MIGA in 2015

### Alternative tools

- **Political risk insurance**
  - Similar in effect to guarantee, but different contractual arrangement
  - Tool is bipartite - creditor seeks protection from insurer for compensation in event of loss due to defined political risk(s)
  - Creditor pays insurance premium monthly/periodically

### Complementary tools

*No specific complements*

Source: Dalberg analysis

# Weather/crop insurance (1 of 2)

G

## Overview

**Weather /crop insurance**

**Index-linked insurance protects against specific risks arising from a pre-determined index built from the realization of specific weather parameters during an agreed time period at a particular weather station or for a given satellite grid**

### *What is the tool?*

- All policyholders within a defined area receive payouts based on the same contract and measurement at the same station eliminating the need for in-field assessment
- The weather variable that can be used as an index must be objective, independently verifiable, reported in a timely manner, and consistent over time
- The triggers, limits and increments of a specific product need to be adjusted to reflect the weather parameters of each weather station
- Indemnity-based insurances are usually unstainable for small farmers since their premiums are low and the transaction costs are high as they require in-person visits

### *When can it be used?*

- ***When providers of finance*** target small farmers and seek a way to secure or increase the purchase of the agriculture products they are selling
- ***When recipients of finance*** are small farmers who do not have access to traditional indemnity-based insurances

### *Who uses it?*

*Tool provider*

- Agribusinesses (input providers)
- Governments
- DFIS
- Donors and foundations

*Tool beneficiary*

- Farmers or farmer organizations
- Agribusinesses

### *Illustrative transaction*

- ACRE Africa's index-base insurance product has been developed in Kenya to protect farmers against risks from drought or excessive rainfall.

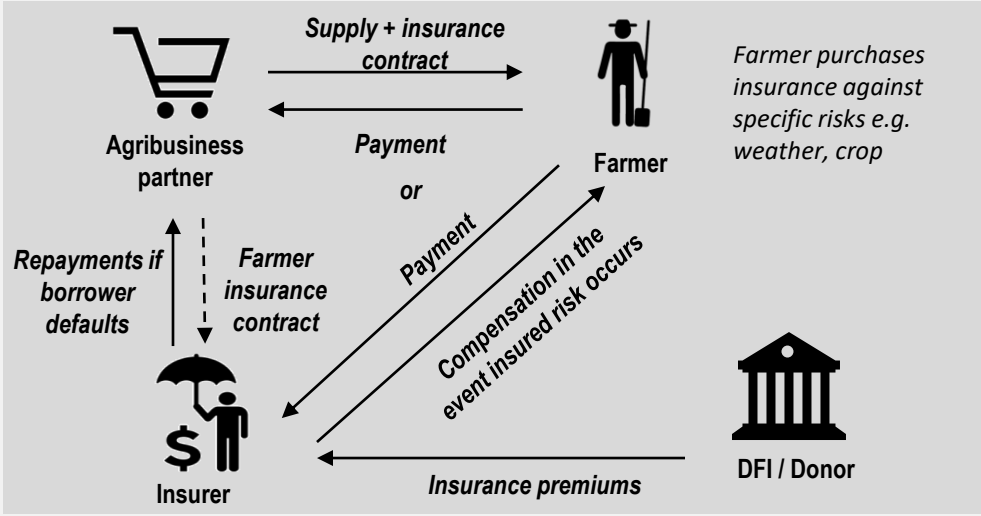
**Risks addressed** | **Credit risk**

### *How does it work?*

**Step 1:** Index insurance is structured to protect against index deviations that are expected to cause losses

**Step 2:** An indemnity is paid whenever the realized value of the index exceeds or falls short of a pre-specified threshold

**Step 3:** The indemnity is calculated based on a pre-agreed sum insured per unit of the index (for example, dollars/millimeter of rainfall)




Source: Dalberg analysis

# Weather/crop insurance (2 of 2)

G

## Design and performance

### Key design features

- **Trigger index level**
  - The trigger index level may be cumulative, average, minimum or maximum parameter
- **Period of the insurance**
  - It may cover the entire life cycle of the crop or fractions of crop life cycle
- **Pricing**
  - The indemnity is calculated based on a pre-agreed sum insured per unit of the index (for example, dollars/millimeter of rainfall)
- **Payout structure**
  - This may be incremental or a lump sum
- **Introduction level**
  - It can be introduced at various levels: At micro-level, policyholders are farmers; at meso-level, policyholders are farmer organizations, input suppliers or processors; at macro-level, policyholder is the government

### Agri-specific considerations

- Can be used by traders to export agricultural products to foreign market. In this case, lender could take a foreign credit guarantee
- Can leverage lender digital platform to help seller and offtaker to better manage their stock and their cash flow

### Tool performance

- **Common challenges**
  - Shortage of extensive quality weather data
  - Crop yield can be impacted by many complex factors, including pests and diseases
  - Basis risk may occur as a result of a difference between the loss experienced by the farmer and the payout triggered
- **Sample success factors**
  - Strong infrastructure and quality of weather data. Historical data is used as a basis for product design and pricing
  - Availability of agricultural data and information such as yield data and official loss or damage data
  - Weather hazards that are well correlated over a widespread area and where there is close correlation between weather and crop yield
  - Insurance is grafted onto existing, efficient delivery channels, engaging the private sector from the beginning
  - Insurance packages are often more appealing to smallholders for take-up when linked to an existing development program targeting those constraints or when linked to other market opportunities
- **Results**
  - Encourages farmers to invest more in crops as they know that weather will have a limited impact on their income
  - Eases working capital management by reducing cash flow uncertainty

### Alternative tools

- **Derivative contracts**
  - These contracts derive their value from an underlying index but are not necessarily associated with any physical loss and simply base their payouts on the performance of the index
- **Crop insurance**
  - Indemnity contracts which insures farmers against the loss of crops due to natural disasters such as rain, hail or insect infestation or profit loss due to price fluctuations of agricultural commodities

### Complementary tools

- **Warehouse finance receipt**
- **Invoice discounting/factoring**

Source: Dalberg analysis

# Currency, interest rate, and commodity hedging instruments (1 of 2)

H

## Overview

**Hedging instruments**

**Use of derivative instruments – such as forwards, options, swaps – to reduce exposure to currency, interest rate, or commodity risks in agricultural transactions**

### *What is the tool?*

- Derivatives can be used to minimize exposure to different types of risk; for example in agriculture, this is typically the risk of exchange rate and commodity price volatility.
- **Currency forwards** lock in an exchange rate for purchase/sale of a currency at a future date, **currency swaps** are used to exchange two currencies, and **interest rate swaps** are used to exchange interest payments and the principal amounts in different currencies over an agreed period of time.
- **Commodity forward contracts** are an agreement to buy or sell a predefined amount of a commodity at a specific price at a specific time in the future. Options give buyer the right but not the obligation to purchase the commodity.

### *When can it be used?*

- ***When providers of finance*** are willing to agree to buy/sell or provide the option to do so at an agreed rate at a specified time, in exchange for a fee
- ***When recipients of finance*** are exposed to changes in currency exchange rates, interest rates, and commodity price fluctuations and seek greater downside coverage and certainty in order to make trades/investments, protecting against unexpected movements

### *Who uses it?*

*Tool provider*

- DFIs
- Investment banks
- Corporates

*Tool beneficiary*

- Offtaker / processor
- Exporter / trader
- Domestic lender

### *Illustrative transaction*

- The Currency Exchange Fund (TCX) provides cross-currency swaps either to borrower or lender to encourage local currency lending TCX is owned and funded by multiple DFIs

**Risks addressed** | **Credit risk** | **Currency risk** | **Interest rate risk**

### *How does it work?*

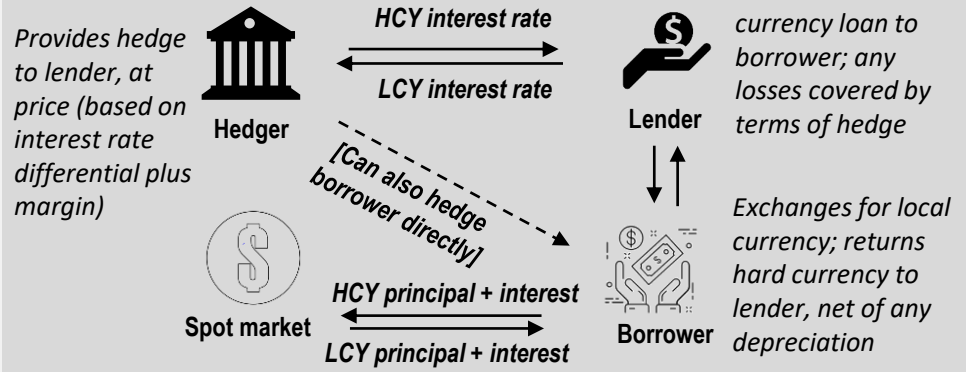
**Step 1:** Lender identifies need to hedge currency exposure associated with providing local currency loan to borrower

**Step 2:** Lender enters into cross-currency swap with hedger, in agreement to exchange principal (may or may not be deliverable) and interest amounts in local currency for equivalent in hard currency at a price

**Step 3:** Borrower exchanges principal and interest in FX spot markets to LCY, and then exchanges back to HCY to make repayments to lender

**Step 4:** Lender is covered for depreciation losses under terms of hedge

**Currency swaps (synthetic loan)**




Source: Dalberg analysis

# Currency, interest rate, and commodity hedging instruments (2 of 2)

H

## Design and performance

### Key design features

***Currency derivatives***

- **Deliverable / non-deliverable contract**
  - Determines where cashflows occur, either offshore in HCY (non-deliverable) or onshore in LCY (deliverable)
- **Floating/fixed rate**
  - Determines the types of rates underlying the cashflows
- **Tenor**
  - Swaps tend to mirror the tenor of underlying loans they are hedging for, but not always

***Commodity derivatives***

- **Put or call options**
  - Put option increases in value when commodity price falls; Call options increases in value when commodity price rises
- **Floor / ceiling price**
  - Determines price levels covered by hedge
- **Tenor**
  - Determines how long hedge is in place for

### Agri-specific considerations

- Currency derivatives are effective for export/crops
- Commodity derivatives cover price/currency risk, but counter-party risk remains (e.g. liquidity upon put, or commodity stock upon call)

### Tool performance

- **Common challenges**
  - **Price of hedging instrument is often prohibitive**. Unless hedger is highly concessional, they need to be compensated for higher local currency risk by charging a premium on spread between HCY and LCY interest rates. This margin often makes lending or borrowing unattractive. So, while it increases access to finance, it does not necessarily reduce cost of finance
  - **Availability and awareness of such instruments in Africa's agricultural sector is limited**. Some banks offer products and there are specialist hedging actors, often with DFI backing. However, the structures are relatively complex and there are high associated transaction costs, leaving lenders to go for easier returns elsewhere unless transaction is large
- **Results**
  - Currency hedging instruments are widely used by large scale farmers in EU, Latin America and US; they have not been widely used in Africa, primarily due to (i) lack of hedging instruments available in market, and (ii) prohibitive cost of hedges
  - Commodity derivatives, such as forward purchase contracts, are more commonly used in Africa, but except for very large scale producers, these arrangements are undermined by risk of side-selling and weak enforcement mechanisms for such contracts

### Alternative tools

- **Local currency finance**
- **Credit guarantee (to facilitate local currency finance)**
- **Currency guarantee (type of credit guarantee)**
- **First loss capital (with capital tier designed to absorb FX risk)**

### Complementary tools

- **Local currency finance (depending on how hedging instrument is structured)**

Source: Dalberg analysis

# Local currency finance (1 of 2)

I Overview

**Local currency finance** — **Investment loans, bonds, or other debt instruments denominated in local currency to protect borrower from foreign exchange risks and currency fluctuations**

### *What is the tool?*

- An investee borrowing in a foreign currency that is different to that of their revenues is exposed to currency mismatch
- Foreign borrowing is mainly driven by demand for lower-cost and longer-tenor financing
- Local currency financing can be provided directly by use of local currency loans and swaps or indirectly through market-based mechanisms such as domestic bonds and structured finance solutions
- In addition to addressing currency risk, local currency financing plays a key role in deepening domestic capital markets

### *When can it be used?*

- ***When providers of finance*** seek to limit borrower's exposure to currency mismatch on the balance sheet and seek to contribute to development of domestic capital markets
- ***When recipients of finance*** struggle to raise finance locally and need to borrow from international funders lending in a different currency

### *Who uses it?*

*Tool provider*

- DFIs (via intermediaries or directly)
- Dedicated facilities / lenders

*Tool beneficiary*

- Private borrowers

### *Illustrative transaction*

- KfW Local Currency Support Trust is designed to enable local currency lending for the Lending for African Farming Company (LAFCo's) USD 22M working capital fund

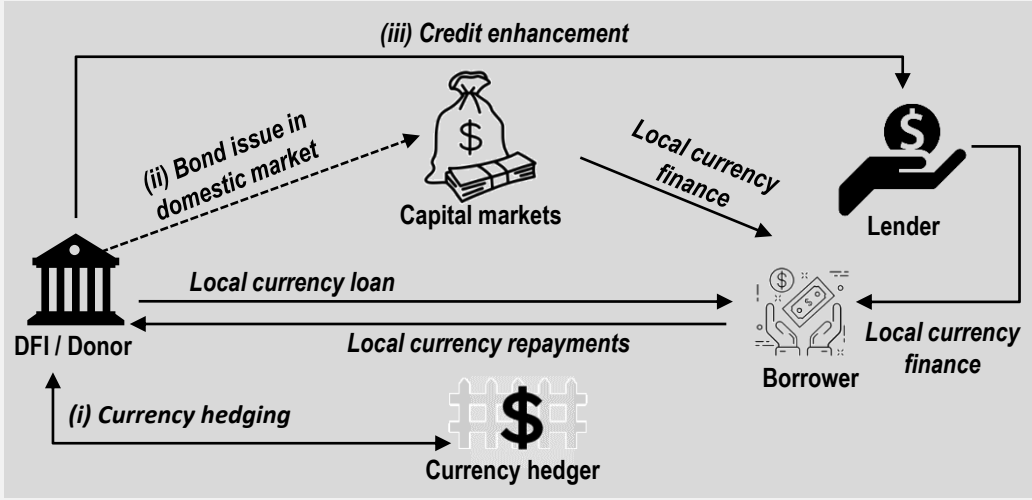
**Risks addressed** — **Currency risk**

### *How does it work?*

**Step 1:** Borrower applies for financing from a lender whose currency is different from that of the borrower

**Step 2:** Lender sources loan in borrower currency via: (i) engaging commercial swap counterparties, (ii) issuing bonds in the borrower market, or (iii) providing credit enhancement to enable borrower raise funds directly e.g. guarantees

**Step 3:** Borrower receives and repays loan in local currency




Source: Dalberg analysis

# Local currency finance (2 of 2)

I

## Design and performance

### Key design features

- **Provider/channel**
  - Direct lending to borrower via a local currency loan and/or a currency swap or indirectly via provision of credit enhancements to mobilize local funds
- **Market-based mechanisms**
  - Use of swaps (interest rate, currency) or structured and securitized finance solutions
- **Interest rates**
  - Variable (requires a local reference interest rate) or fixed rate of interest
- **Tenor**
  - Varies from short, medium to long-term depending on the borrower's needs

### Agri-specific considerations

- Currency risk can be significant in agriculture, particularly for export crops; traders/exporters are most directly impacted by fluctuations in FX rates given financing may be in hard currency and receivables in local currency
- Financing in agriculture is limited due to perceived risks and complexity of sector

### Tool performance

- **Common challenges**
  - Domestic lending can often have high rates, require significant security, and offer shorter tenors than preferred
  - Domestic banks in Africa often have limited access to affordable long-term capital, and as a result offer limited long-term financing
  - Capital markets often lack mechanisms and products to facilitate use of market-based local financing mechanisms (such as swaps); given limited activity, there is also limited capacity and awareness to execute such transactions
- **Sample success factors**
  - Credit guarantees can bring down pricing of loans. Also, tenors can be stretched by structuring guarantee so that it activates at back-end of loan term
  - Taking commodities or fixed assets as security, together with insurance
  - Favorable policy environment to promote development and liquidity of derivatives/swaps markets

### Alternative tools

- **Forward contracts**
  - Agreement to sell/purchase foreign currency at a future time and a given rate
- **FX option**
  - Right to sell or purchase a specific amount at a pre-agreed exchange rate, for which you pay a premium
- **Currency swap**
  - Agreement to exchange one currency for another at an agreed upon exchange rate
- **First loss capital**
  - Covers exchange rate risk, below specified depreciation level

### Complementary tools

- **Credit guarantees**

Source: Dalberg analysis

# Performance-based finance (1 of 2)

J

## Overview

**Performance-based finance**

**Also referred to as milestone-based payments, these allow development actors to fund projects through traditional channels while improving investee accountability and performance**

### *What is the tool?*

- Programs are designed in the conventional manner, but funding is contingent upon the achievement of pre-defined results rather than payment for inputs
- Rewards are usually financial, focused on achieved real impact and not necessarily on the process of getting there
- Allows for ineffective approaches to be terminated or course-corrected more quickly
- For program implementers, desired project performance or outcomes with measurable indicators and targets are a requirement

### *When can it be used?*

- ***When providers of finance*** are less willing to take risks (e.g., due to limited budget), wish to improve funding efficiency, or incentivize effective project delivery by implementers
- ***When recipients of finance*** are financially able to cover the costs of project implementation prior to expected fund disbursement

### *Who uses it?*

*Tool provider*

- DFIs /donors
- Private foundations

*Tool beneficiary*

- Private businesses
- Commercial lenders

### *Illustrative transaction*

- USD 110M AgResults offers prizes as an incentive to private sector players to develop and disseminate high-impact innovations in agriculture. e.g. USD 7.75M Kenya pilot seeks to develop and increase smallholder adoption of improved on-farm grain storage technologies, prizes are based on how much storage capacity they sold to farmers

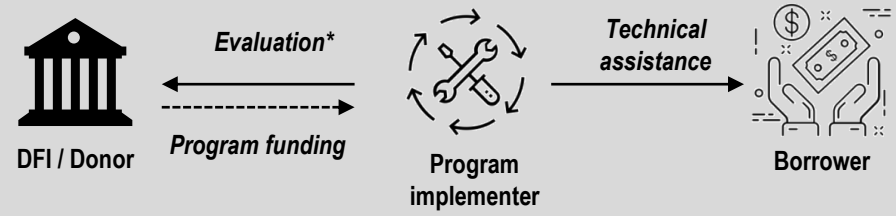
**Risks addressed** | **Credit risk** | **Business model risk**

### *How does it work?*

**Step 1:** Borrower and lender align on priorities for the financing and define measurable outputs from the start

**Step 2:** Borrower, usually with support from an implementer, works towards attaining defined outputs, usually utilizing own capital and approaches

**Step 3:** On attainment of defined outputs based on (independent) evaluation, borrower receives pre-agreed funding from lender




Source: Dalberg analysis

# Performance-based finance (2 of 2)

J

## Design and performance

### Key design features

- **Output payments**
  - Payments can be for final or intermediate outcomes, outputs or activities depending on the risk-sharing agreement
  - Payments could be for quantity or quality of pre-defined outputs or a mix of both
  - Payments can be structured as fixed per-unit reward or a fixed amount
- **Contractual partners**
  - Could be public, private or non-governmental actor or a mix
  - A third party may be present or not e.g. community organizations to verify results, or purchasing agent

### Agri-specific considerations

- An adaptive program approach that allows for course correction depending on learnings derived; developing effective output parameters in agriculture can be complex
- Deep understanding of the investee and agricultural factors e.g. markets, weather that affect investee's performance

### Tool performance

- **Common challenges**
  - Can be mistaken for the magic bullet but complex to structure to achieve optimal results
  - Structure may fail to fully incentivize investee to deliver defined outputs; misalignment of priorities for implementer and financier
  - Limited autonomy to investee to get there on their own; greater autonomy increases accountability
  - Weak organizational capacity and systems to support output payments rather than input payments
- **Sample success factors**
  - Should be tailored to address key barriers to improved outcomes i.e. improve performance
  - Sufficient capacity (data and verification systems) to enable effective performance-based financing
  - Sufficiently addresses what happens when performance outputs are not met, to spur growth and not deter
- **Results**
  - Potential to channel resources/efforts in a priority area e.g. AgResults on-farm storage pilot in Kenya has enabled introduction of a variety of approaches to reduce post harvest losses. By third year, they had nine private sector companies participating and in total had sold over 700K storage devices

### Alternative tools

- **Award-penalty mechanisms**
  - Penalize for pre-defined results not achieved

### Complementary tools

*No specific complements*

Source: Dalberg analysis

# Development impact bonds (1 of 2)

K

## Overview

**Impacts bonds**

**A performance-based contract between private investors and donors or governments where investors provide upfront capital to fund development initiatives, with financial returns linked to verifiable social impact outcomes**

### *What is the tool?*

- Development Impact Bonds (DIBs) are a results-based mechanism which aim to finance projects which have a clear and measurable development impact
- DIBs provide upfront funding for development programs by investors, who are remunerated by outcome payer. Investors earn a return if evidence shows that programs achieve the pre-agreed outcomes
- Results of services are independently evaluated to determine success of the program

### *When can it be used?*

- ***When providers of finance*** are able to clearly identify development outcomes that are meaningful, measurable and quantifiable in terms of costs and social benefits
- ***When recipients of finance*** utilize rigorous evaluation methods to measure the impact of their interventions and apply a results-driven approach to attaining

### *Who uses it?*

*Outcome payer*

- Governments
- Donors
- Foundations

*Investor*

nvestment banks
mpact funds / family offices

### *Illustrative transaction*

- Ashaninka Impact Bond was implemented to finance a project dedicated to strengthening and modernizing cocoa and coffee production in Peru. Outcome payer: Common Fund for Commodities; Investor: Schmidt Family Foundation; Program implementer: Rainforest Foundation UK. Maximum payout of USD 110K

**Risks addressed** | **Credit risk** | **Business model risk**

### *How does it work?*

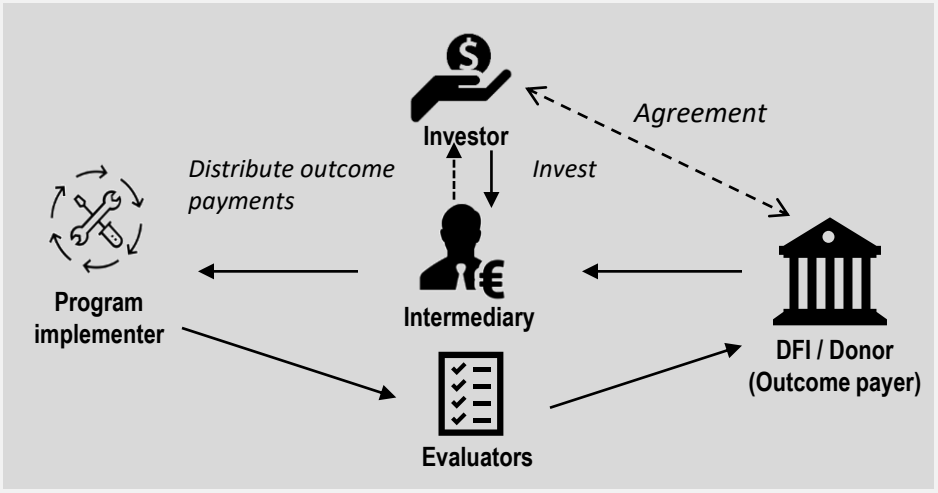
**Step 1:** Outcome payer and investor and/or implementing partner make a pay-for-success agreement

**Step 2:** Investor provides initial fund to the program implementer

**Step 3:** Program implementer delivers services with social outcome

**Step 4:** Success of results of services are independently controlled

**Step 5:** Outcome payer pays investor if social outcomes are achieve




Source: Dalberg analysis

# Development impact bonds (2 of 2)

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## Design and performance

### Key design features

- **Capital classes**
  - There can be different investment classes within the DIB with varying risk-return profiles based on the maximum downside and the target return per annum
- **Provider/channel**
  - The outcome payer can be either governments, foundations or donor agencies
- **Repayment**
  - Repayment could be spread out to include early performance indicators or could be withheld until there is clear evidence that outcomes are being achieved
- **Payment trigger**
  - Payment can be triggered by different levels of outcome achievement. For instance, trigger levels may be 60% of outcome or up to 100%

### Agri-specific considerations

- Agriculture in principle lends itself well to DIBs as results are typically verifiable in terms of productivity, yields, and income

### Tool performance

- **Common challenges**
  - Requires verifiable quantitative metrics which may be difficult to derive for new agricultural interventions and may take some time to develop
  - Investors confidence is reduced if small differences in program performance cause sharp distinctions between gaining a return on investment and experiencing a loss
- **Sample success factors**
  - An outcome funder must be willing to pay for pre-defined results after they are achieved
  - Capacity building such as data and evaluation capacity is vital to realizing the outcomes of the bond
  - Existence of an independent evaluator to measure the outcomes achieved by the project on the basis of the predetermined metric is crucial
- **Results**
  - Improves the efficiency of public spending by ensuring that program reaches targets
  - Ensures that investments achieve their intended results
  - Over 60 DIBs have been launched. The scale of the bonds vary widely from below 100 to 10,000 people impacted with investment from USD 150K to USD 17M

### Alternative tools

- **Performance-based financing**
  - Achieves similar impact but using different type of instrument
  - Links financing to pre-determined results, with payment made only upon verification that the agreed-upon results have actually been delivered

### Complementary tools

- **Patient capital**
- **First loss/concessional capital**

Source: Dalberg analysis

# Challenges/prizes (1 of 2)

L

## Overview

**Challenges/ Prizes**

**Challenge funds or prize competitions can identify solutions to pre-defined issue(s) or problem(s), e.g. to address a particular value chain/productivity issue within a country or region**

### *What is the tool?*

- Challenge and prize competitions are mechanisms to incentivize and award third party organizations to achieve results against a specific issue or problem
- They are typically structured either as challenge funds – where firms apply for competitive funding and are successful if they meet certain criteria – or as prize competitions where firms are awarded a prize if they provide a winning solution to a problem (e.g. X Prize)
- These competitions all share common objective of looking to support and incentivize private or non-profit players to achieve certain results to address an issue or problem

### *When can it be used?*

- ***When providers of finance*** seek to solicit new solutions to defined development challenges, including innovative business models and technologies
- ***When recipients of finance*** have limited access to capital to start or expand their business, and risks to entry are high

### *Who uses it?*

*Tool provider*

- Bilateral donors
- Private foundations
- NGOs

*Tool beneficiary*

- Private firms
- Non-profits

### *Illustrative transaction*

- USD 265M African Enterprise Challenge Fund: Donor-funded program that provides matching grants to agriculture and energy SMEs; funding up to USD 1.5M for a period of three years, with a further three years of monitoring and support

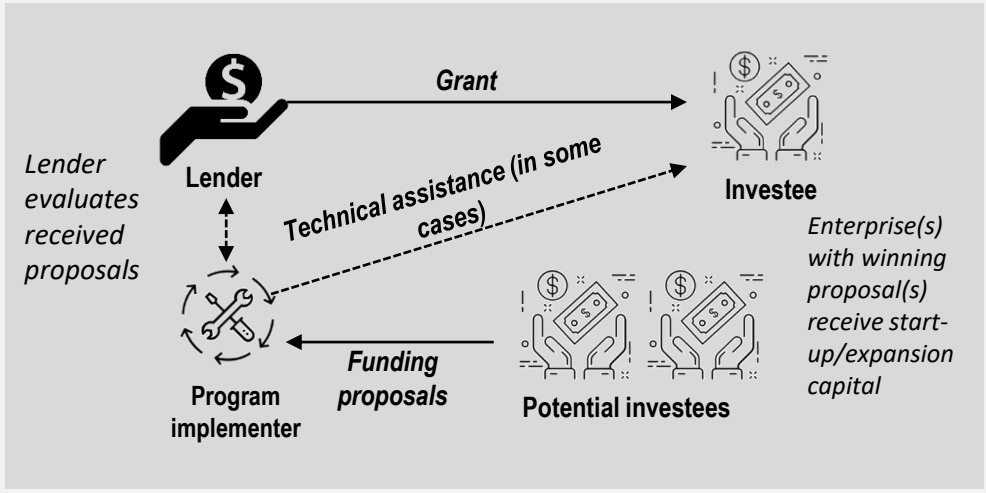
**Risks addressed** | **Credit risk** | **Business model risk**

### *How does it work?*

**Step 1:** Lender defines a key development challenge and invites solutions to the challenge through a defined application process

**Step 2:** Lender screens received applications via a defined evaluation criteria to identify winning solutions

**Step 3:** Lender provides funding to winning applicants to start or scale up their solutions, usually funding is accompanied by relevant technical assistance to ensure optimal results




Source: Dalberg analysis

# Challenges/prizes (2 of 2)

L

## Design and performance

### Key design features

- **Objectives**
  - Focus areas vary e.g. geography, agricultural sub-sector, value chain issue, etc.
  - Impact selection criteria vary e.g. capacity for commercial success, degree of innovation, potential for systemic change, etc.
- **Funding mechanisms/ risk sharing**
  - Grant, matching grant, concessional debt
  - Some competitions require investees to match as a sign of commitment and sustainability
- **Structure**
  - May offer financial awards only or include TA
- **Size and payment**
  - Size of financial award varies
  - One-off or increasing funding with graduation from one stage to the next

### Agri-specific considerations

*No specific considerations*

### Tool performance

- **Common challenges**
  - Narrow objectives and narrow marketing of call for proposals can result in few and/or low quality proposals which can limit potential impact
  - Risk of pushing donor-driven solutions and incentivizing firms to focus on donor objectives rather than what is best for their businesses
- **Sample success factors**
  - Challenge fund objectives should respond to market gaps and needs and not necessarily duplicate existing efforts
  - Relevant technical assistance is essential in enabling investees to optimally use and leverage challenge funds in order to raise further capital from other development actors/commercial investors
  - Continuous and participatory evaluation process that tracks progress, and provides guidance on how the investee needs to evolve for optimal results
- **Results**
  - Challenge competitions have proven to be effective in supporting scale up of innovative solutions in agriculture
  - E.g. Kenya Feed the Future Innovation Engine funded by USAID has funded innovations in use of bio-control agents, manufacture of organic fertilizers, and innovative last-mile input distribution

### Alternative tools

- **Patient capital**
- **Seed capital**
- **First loss / concessional capital**

These can be paired with challenge funds, to combine grant funding with more investment types of capital. The advantage of making investments within a challenge fund is you can crowd in new solutions. The disadvantage is it can represent a scatter gun approach and you may end up funding a number of enterprises that do not succeed.

### Complementary tools

*No specific complements*

Source: Dalberg analysis

Introduction and Executive Summary

**Context and a Mapping of Risks in Agriculture**
An overview of the challenges and risks in agricultural value chains and how they restrain the supply of finance to the sector

**An Overview of Blended Finance and Initial Toolbox**
A definition of blended finance, and how tools can be used to crate catalytic transactions and vehicles

**Stocktaking and Recommendations for Scaling Blended Finance**
**The track record for Blended Finance so far in agriculture, lessons learned, and emerging recommendations for scaling**

**Stocktaking**

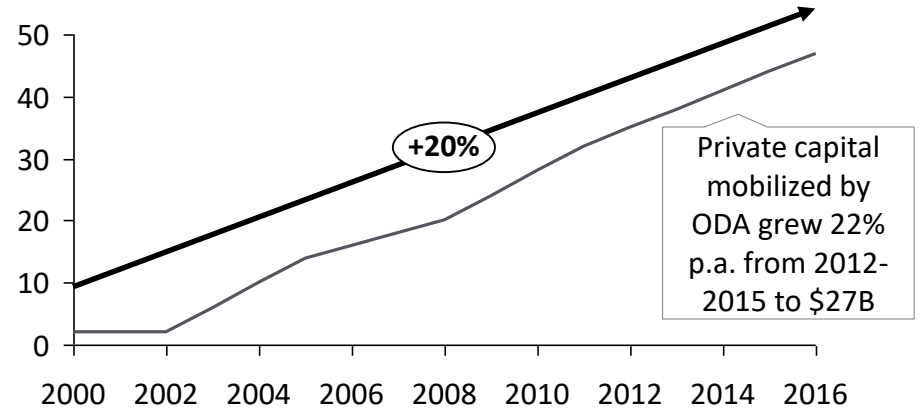
Case Studies, Lessons Learned and Recommendations

An Ecosystem Approach to Putting Blended Finance into Practice
How Blended Finance tools can and are being used in de-risking cash and food crops

# Blended finance overall is growing rapidly, but agriculture has accounted for a small share of deal value

## Blended finance overall is growing rapidly…

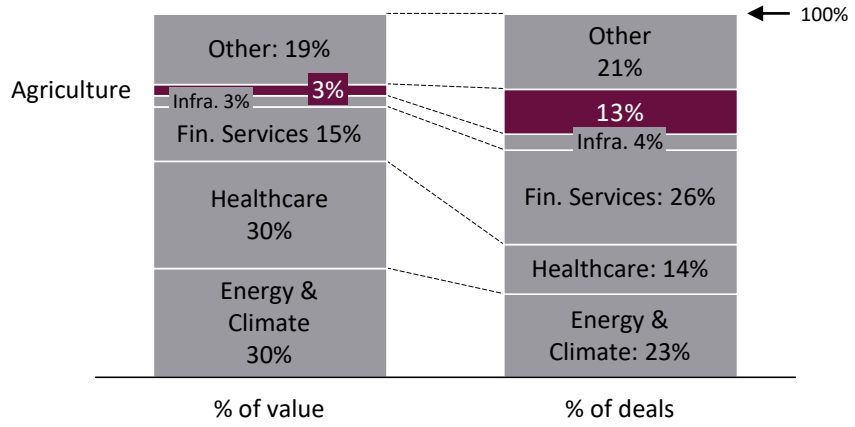
**Number of blended finance deals**
# deals in Convergence sample, 2000-2016




- Blended finance has been growing rapidly, both in terms of the amount of private capital mobilized, as well as the number of deals.
  - A survey by OECD DEC found that $81 billion was mobilised in 2012-2015, growing 21% per year on average during this period.
  - A subset of deals assessed by convergence mobilized ~$51 billion in 2000-2016, with the number of deals growing ~20% per annum over this period.

## ….but agriculture has accounted for a small share of deal value

**Blended finance deals and capital mobilised by sector**
% of capital in sample, % of deals in sample, 2000-2016

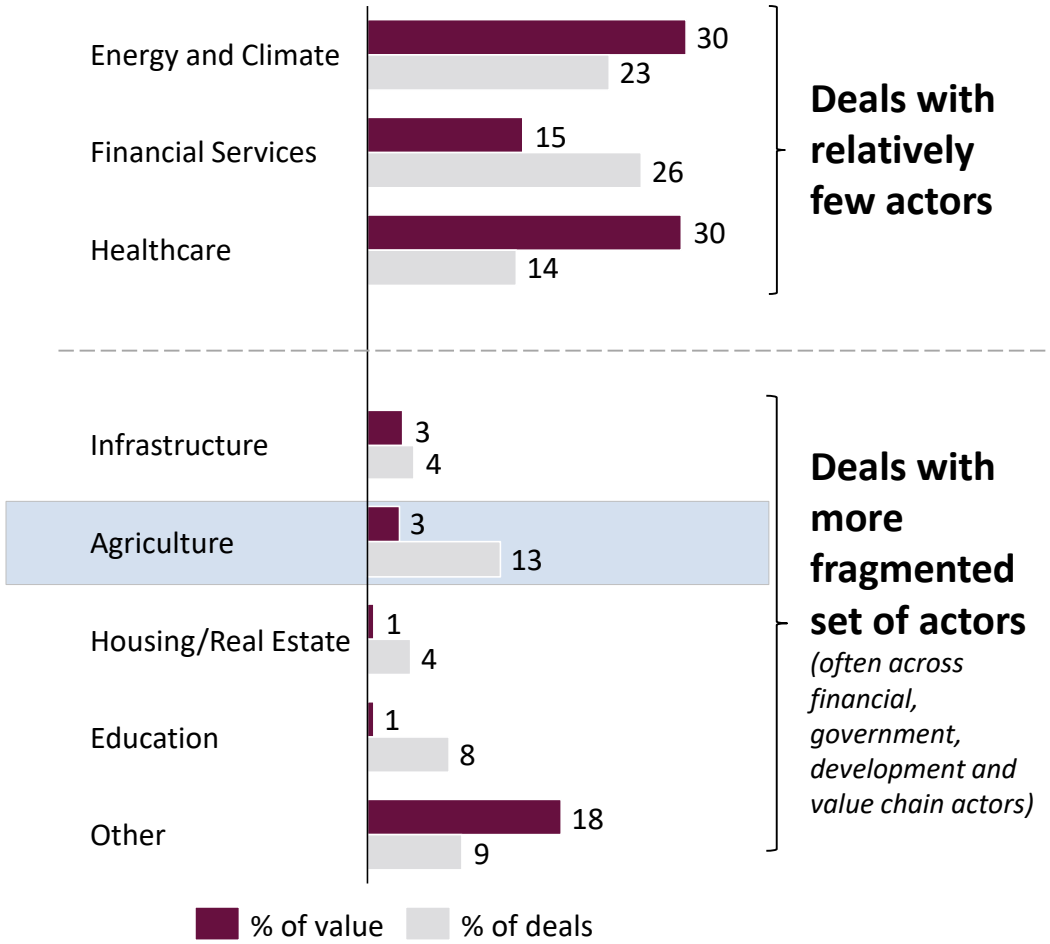



- Sectors with fewer key players that need to be coordinated to structure a blended finance deal (e.g. financial services, energy & climate) account for ~75% of the capital mobilized
- In Agriculture there is typically the need to coordinate a broad set of financial and non-financial actors to make a transaction work, which can be complex, costly and time consuming
  - This is different from sectors such as energy, financial services and healthcare, where there is typically a single key project developer

Sources: OECD DAC & World Economic Forum "Insights from Blended Finance Investment Vehicles & Facilities", 2016; Convergence "Blended Finance Trends and Case Studies", 2017; Dalberg analysis

# Deals that need to coordinate relatively few actors have tended to attract the most deal value; agriculture interventions are more complex and often relatively small

**Blended finance deals and capital mobilised by sector**
% of capital in sample, % of deals in sample, 2000-2016




**Deals with relatively few actors**

- **Sectors with fewer key players that need to be coordinated** to structure a blended finance deal account for **~75% of the capital mobilized**
  - Financial services accounted for the highest number of blended finance deals
  - Energy and climate mobilised the most capital, along with health
- Coordinating a **smaller number of key players** is simpler and can make blending easier to achieve, and at higher scale

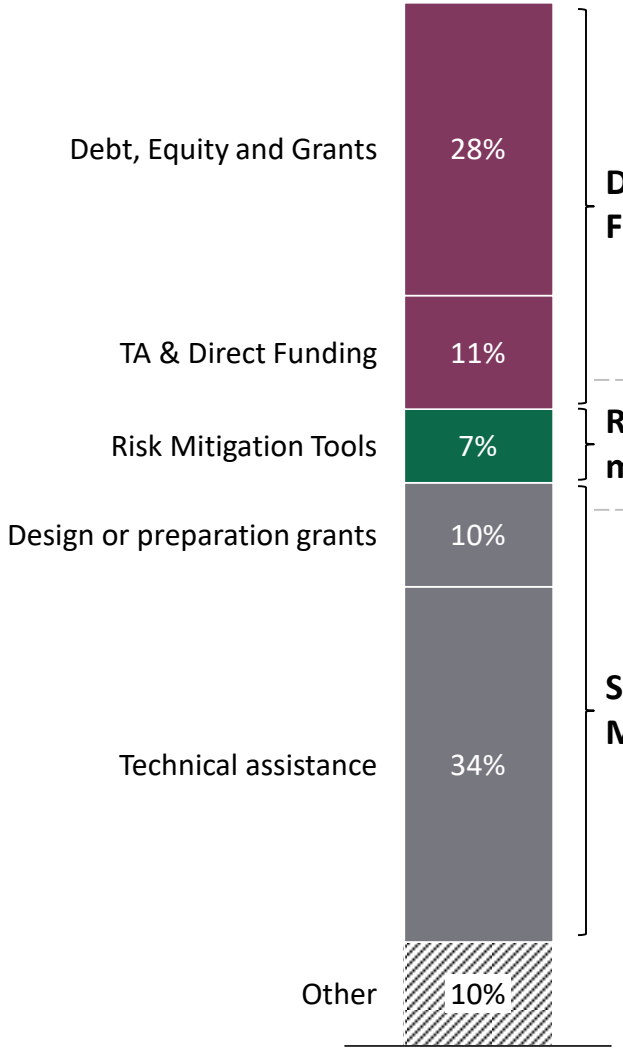
**Deals with more fragmented set of actors** *(often across financial, government, development and value chain actors)*

- **Agriculture accounted for 13% of blended finance deals, but only 3% of value;** this is due to the combination of relatively high challenges of executing blended finance in agriculture, and the focus on difficult to reach areas for investment[1]
  - As opposed to energy, financial services and healthcare opportunities, where there is typically a single key project developer, for agriculture there is typically the need to coordinate a broad set of financial and non-financial actors to make a transaction work, which can be complex, costly and time consuming
  - A relatively high proportion of deals (4th largest of all sectors) suggests average deal or vehicle sizes is relatively low
    - This reflects the fact that blended finance for agriculture is mainly targeting more difficult areas (especially, farmers and agri-SMEs) which require substantial risk underwriting, technical assistance and small deal sizes

1.Difficult to quantitatively verify as separate figures on individual blended finance transactions and vehicles is not available
Sources: Convergence; WEF; OECD; Dalberg analysis

# Across all sectors (including agriculture) most focus to date has been on direct investments; most of the value mobilised has been through guarantees and risk sharing instruments

**Blended finance deals, by instrument type**
% of deals in sample, 2000-2016




- **In one sample, direct funding via grants, debt, or equity is part of 39% of blended finance deals.**
  - Private sector actors typically invest debt or equity
  - Public and philanthropic actors are common providers of grants and junior capital
- Based on the 2016 OECD DAC survey the total blended finance raised by source for 2012 – 2015 was:
  - Direct investment in companies mobilized $4.7 billion in private investment (6% of the total)
  - Syndicated loans mobilized $15.8 billion (19%)
  - Shares in collective investment vehicles mobilized $9.5 billion (12%)
- Overall, **performance appears comparable to commercial levels**, with return on debt of 5.4% and return on equity of 16.3%, across all sectors and all regions
- Risk mitigation tools for the most part have been **credit guarantees** either as part of an investment or provided directly to commercial financial institutions; only 12% of blended finance deals in the Convergence sample leveraged a guarantee or insurance mechanism
- **Supporting mechanisms are part of ~60% of blended finance deals**, in one sample. These include design and preparation grants, guarantees and risk sharing, and technical assistance
- **Technical assistance is a common feature of blended finance deals –** whether provided on a standalone basis (34% in one sample) or alongside direct funding (11% of the sample)
- As one example, the **European Commission's blended facilities allocated 32% of their aggregate budget to technical assistance** – compared to 3% to guarantees, 45% to capital investments, and 19% to interest rate subsidies, as of 2013
- Based on the 2016 OECD DAC survey, guarantees mobilized **$35.9 billion in private investment**, or 44% of the total for 2012-2015
- Public and philanthropic actors typically provide supporting mechanisms in transactions

Sources: Convergence; WEF; OECD; Dalberg analysis

# Out of all blended finance investment in agriculture, direct investments (equity/debt/grants) comprise c.65% by value and c.80% by number of deals

**Blended finance deals in agriculture, by instrument type**
% of deals in sample[1], $m value of deals in sample 1999-2017


- **Equity/ debt blended finance interventions** come in various forms and capital structures.
    - **First loss, concessional pricing, patient, and seed capital are the most commonly used,** with 44% of funds and initiatives using these tools
- Despite a lower number of guarantee initiatives, **the value of the funds under guarantee is significant**
- **Other risk mitigation tools**, such as agri-insurance and results based finance, **are not yet commonly used**, partially as a result of lack of awareness and the complexity involved in their deployment

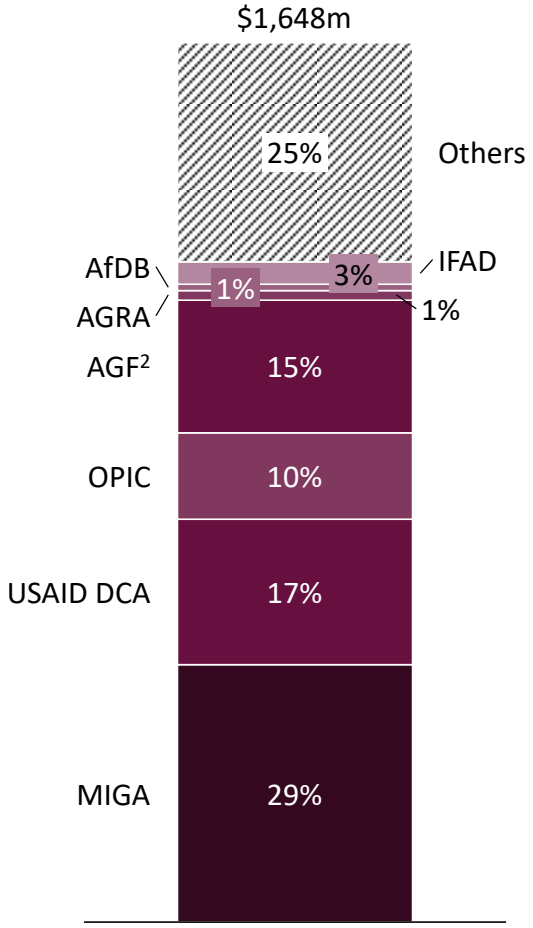
1.This is a sample only and does not purport to capture all blended finance initiatives and transactions; however, the sample is representative; the sample size used was 62 blended finance funds which participate in agriculture investments on the continent; classified by the main intervention tool. The GASP value of $1.59B was split evenly between Debt, Equity + Debt, and Guarantees. 2. The values of the transactions are lower than the actual as a result of the lack of disclosure of some fund values.

Source: Dalberg analysis

# Around 20% - or approximately $1.5B – has been invested by way of credit guarantees, with ~70% of this from 4 sources

**Guarantees in agriculture[1]**

% value of deals in sample, 1999 – 2017




- **Majority of the development finance institutions that provide guarantees do so through dedicated bodies and facilities** serving entire regions with others providing similar facilities on a global scale
  - Regionally, the African Development Bank is a key financier and stakeholder of the African Guarantee Fund which was established with support from the governments of Spain and Denmark
- **There is significant collaboration between donors and other development finance institutions** in the use of guarantees to optimize the use of both public and private resources.
  - For example, Sida is the USAID's closest partner providing co-guaranteeing finances for the DCA's portfolio projects
- **There are also smaller in-country guarantee schemes**
  - For example, the Private Agriculture Sector Support Guarantee fund is a notable initiative in Tanzania; Danida contributed $25million towards the initiative.
  - Similarly, Nigeria has the Agricultural Credit Guarantee Scheme Fund, which is one of the oldest guarantee funds in developing economies
- **Other key players and partners** in the provision of guarantees include the International Fund for Agricultural Development (IFAD) and the Alliance for a Green Revolution in Africa (AGRA)

1.Includes initial share capital of $50 million from: AfDB - $10 million, Danida - $ 20 million, The Spanish Agency for International Development Cooperation (AECID) – $20 million; 2. The African Guarantee fund aims to mobilize $500 million and has raised $230 million. $230 million is used in this analysis

Source: Dalberg analysis; OPIC investment Funds Program, 2015; USAID DCA Impact Analysis, 2016.

# Blended finance initiatives

## Guarantees

| | | Key terms | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Organization** | **Scope** | **Size (per transaction)** | **Tenor** | **Pricing** | **Currency** | **Coverage** | **Other terms** | **Transactions (e.g.)** |
| OPIC | Concessional debt and credit guarantees | $100,000 to $250M, cove | Up to 20 years | Base rate + guarantee fee[1] of 2%- 6% | Can support local currency | Up to 75% | U.S. investor must own more than 25% percent equity | $50M loan Guarantee Facility backed for AIMS[3] in TZ |
| AFRICAN GUARANTEE FUND | Partial financial guarantees | Individual – $500,000 Portfolio – $2.5M | Up to 2 years (full life)/ 80% of < 10 years | 0.75% facility fee; 1.75% utilization fee Commitment fee – risk based | Currency of underlying financing | Up to 50% | N/A | $50M guarantee facility agreement with Ecobank |
| Sida | Credit and political risks, and advance market commitments | N/A | Up to 20 years | Tailored to reflect risk | Can support local currency | 30%[2] | Acts as a co-guarantor with donor or DFI | Multiparty portfolio worth $13M - provided 30% coverage |
| AGRA Growing Africa's Agriculture | Credit guarantees | Up to $100M[2] | Up to 5 years | Base rate + guarantee fee of 3% to 5% (~15%) | Can support local currency | 10% to 50% | N/A | $5M loan guarantee for Standard Bank's Ag. Guarantee Fund Scheme |

1.Based on commercial and political risks; 2.Based on the current largest guarantee; 3.Based on 4 guarantees;

Sources: Desk research; AGRA

# Blended finance initiatives

## Guarantees

| | | Key terms | | | | | |
|---|---|---|---|---|---|---|---|
| **Organization** | **Scope** | **Size (per transaction)** | **Tenor** | **Pricing** | **Currency** | **Coverage** | **Transactions (e.g.)** |
| IFAD Investing in rural people | Portfolio and individual guarantees | N/A | N/A | Tailored to reflect risk | Local currency | 50% to 80% | $2.5M loan guarantee that leveraged US$50 million from Equity Bank |
| Banque Africaine de Développement / African Development Bank | Partial risk and credit guarantees | Individual – $500,000 Portfolio – $2.5M | Up to 20yrs (Sovereign) Up to 15yrs (Non-sovereign) | Front-end fee (< 1%) Stand-by fee (<1%) Guarantee fee | EGP, EUR, JPY, KES, UGX, USD and ZAR | Up to 50% | $10M PCG facility to finance TZ private sector participation in Agriculture |
| MIGA | Credit and political guarantees | Up to $750M per country | 3yrs to 15yrs (can go up to 20 yrs) | Tailored to reflect risk | Can support local currency | Up to 95% of debt | $448.1M 10-yr guarantee cover financing to Land Bank |
| PASS Private Agricultural Sector Support | Portfolio and retail credit guarantees | N/A | N/A | Annual risk sharing fee – 4% | TZS | 30% to 80% | Between 2007 and 2015 guaranteed $140M for 380,000 borrowers |
| NIRSAL The Nigeria Incentive-Based Risk Sharing System for Agricultural Lending | Credit risk guarantees | Up to $5.5M | Depends on project period | Guarantee fee – 1% per annum | NGN | 30% to 75% | 454 projects worth $306M guaranteed by NIRSAL |

Sources: Desk research; IFAD; Dalberg analysis

# Blended finance initiatives

## Insurance facilities

| Type of tool | Facility name | Overview | Region focus | Size ($m) | Who are the investors / funders? | Who does the facility target? | Results to date |
|---|---|---|---|---|---|---|---|
| Insurance | Global Index Insurance Facility managed by World Bank Group | • GIIF is a facility that provides TA and grants to insurers in agriculture to enable risk transfer and index-based insurance for smallholders<br>• Primarily its focus is index insurance, which pays out benefits on basis of a pre-determined index for loss resulting from weather and catastrophic events | Sub-Saharan Africa, Asia, Latin America | 178 | EU, Germany, Japan, Netherlands | Crops, dairy and cattle insurers as implementing partners (e.g. ACRE Africa, ILRI, PlaNet Guarantee) | GIIF's partners have facilitated more than 1.8M contracts, covering over 7M individuals, with $178M in sums insured |
| | African Risk Capacity Insurance Company Limited | • ARC carries out commercial insurance functions of risk pooling and risk transfer to improve responses to weather-related food security emergencies<br>• Countries select the level of participation by selecting the risk they wish to retain and financing they would want from ARC for droughts | Sub-Saharan Africa | 200 | Participating countries and one-time partner contributions (e.g. DfID) | Countries (e.g. Malawi, Niger, Senegal) | $34M has been paid out to 4 countries affected by drought benefiting more than 1.3M people |
| | ati \| aca | • ATI provides political risk and trade credit risk insurance products to reduce the business risk and cost of doing business in Africa and increase investments in member countries | Sub-Saharan Africa | 148 | World Bank and the backing of 7 African countries, AfDB | Agricultural export and biomass companies/ projects | Agricultural projects and companies have been covered with $147.91m insured |

Sources: Desk research; Dalberg analysis

# Blended finance initiatives

## Equity funds

| Type of tool | Facility name | Overview | Geographic focus | Size ($m) | Who are the investors / funders? | Who does the facility target? | Results to date |
|---|---|---|---|---|---|---|---|
| Equity | KINYETI VENTURE | • Kinyeti provides risk capital, through equity and debt, on commercial terms, as well as business development services to SMEs in South Sudan to contribute to building private sector | South Sudan | 12 | Norfund, Swedfund | Agribusiness SMEs | |
| | BEIRA CORRIDOR | • Social venture-capital investment vehicle managed by AgDevCo, which invests in emerging agribusinesses<br>• Recipients agree to enter into a JV with AgDevCo which provides funding of $50,000 to $500,000 ticket size | Mozambique | 23 | DfID, Norwegian Embassy in Maputo, Dutch Embassy | Socially-responsible agriculture businesses | 105,744 farmers reached and $103 per capita income increase |
| | IIP INVESTISSEURS & PARTENAIRES | • I&P is an impact investment group dedicated to African SMEs. IPAE provides capital investments to SMEs and microfinance institutions | Sub-Saharan Africa | 69 | FMO, Proparco, AfDB, EIB, Bank of Africa, Danone | Agribusiness SMEs | |
| | FAFIN FUND FOR AGRICULTURAL FINANCE IN NIGERIA | • FAFIN is an innovative agri-focused investment fund providing tailored capital and TA to SMEs and intermediaries in Nigeria using quasi-equity, equity and debt instruments | Nigeria | 66 | AfDB, CDC, Dutch Good Growth Fund, KfW, NSIA, Ministry of Agriculture | Dairy, edible oils, poultry and cassava value chains | |

Sources: Desk research; Dalberg analysis

# Blended finance initiatives

## Debt facilities

| Type of tool | Facility name | Overview | Focus | Size ($m) | Who are the investors / funders? | Who does the facility target? | Results to date |
|---|---|---|---|---|---|---|---|
| Debt | aatif Africa Agriculture and Trade Investment Fund | • The AATIF works in SSA, investing in agriculture and food production and is committed to providing investment across the agricultural value chain.<br>• AATIF reaches smallholders through financial intermediation & project-based funding | Sub-Saharan Africa | 146 | Deutsche Bank, KfW, BMZ | Financial institutions and agribusiness | More than 50,000 tons of food crops produced |
| | Smallholder Finance Facility | • SFF offers support for investments in crucial value chains, co-financing smallholder farmers – together with supply chain actors – to improve their productivity and livelihoods<br>• The Facility invests by providing a combination of TA, conditional grants and debt instruments | Africa, Latin America | 50 | FMO, IDH | Upstream supply chain projects | N/A |
| | GRASSROOTS BUSINESS FUND | • GBF invests quasi-equity/mezzanine debt in for-profit, growth stage companies focusing on sectors with close ties to smallholder producers and low-income consumers, including agribusiness | Global | 61 | OPIC, FMO, DEG, Hornthal, Deutsche Bank Foundation, Omidyar | Ag. participants with ties to smallholder producers | 11 investees (3 in Africa) support over 32,000 farmers |
| | LAFCo Lending for African Farming | • LAFCo aims to increase smallholder farmer productivity and incomes - managed by Root Capital - will provide lines of credit and other debt products up to $4 million | East and West Africa | 15 | KfW, AgDevCo, Root Capital | Agricultural SMEs working directly with SHFs (e.g. Gulu) | N/A |

Sources: Desk research; Dalberg analysis

# Blended finance initiatives

## Grant funds

| Type of tool | Facility name | Overview | Focus | Size ($m) | Who are the investors / funders? | Who does the facility target? | Results to date |
|---|---|---|---|---|---|---|---|
| Grant | **Financial Inclusion for Smallholder farmers in Africa Project (FISFAP)** | • FISFAP is a MasterCard Foundation funded program through which AGRA accelerates the probing, piloting and scaling of (digital) financial and non-financial solutions that present a business case for all partners and an end-to-end solution for smallholder farmers | Tanzania, Ghana and Kenya | 15.5 | MasterCard Foundation | Financial and non-financial financial inclusion solution providers | N/A |
| | **YieldWise** | • YieldWise is a $130 million initiative, with the goal of demonstrating how the world can halve food loss by 2030<br>• It will initially focus on fruits, vegetables, and staple crops in Kenya, Nigeria, and Tanzania, where up to half of all food grown is lost | Kenya, Nigeria, Tanzania | 130 | Rockefeller Foundation | Agricultural value chain players that can prevent food loss | N/A |
| | AECF Funding innovation in Africa's Agribusiness | • Africa Enterprise Challenge Fund provides catalytic funding to enterprises in 24 countries in SSA.<br>• It supports innovative commercial businesses in sectors including agribusiness and renewable energy with the aim of reducing rural poverty, promoting resilient rural communities and creating jobs | Sub Saharan Africa | 256 | Governments of Australia, Canada, Denmark, the Netherlands, Sweden and the UK, CGAP and IFAD | Innovative commercial agribusiness | Over 8 years, enabled low-income households generate $462M in additional income. |

Sources: Desk research; Dalberg analysis

# Recent $2.5B IDA PSW[1] facility by World Bank to catalyze private sector investment across multiple sectors including agriculture by combining different tools and approaches in 4 windows

IDA | The World Bank's Fund for the Poorest | WORLD BANK GROUP

## IDA Private Sector Window approaches

| | 1 Risk mitigation facility (USD 1,000m) | 2 MIGA guarantee facility (USD 500m) | 3 Local currency financing (USD 400m) | 4 Blended finance facility (USD 600m) |
|---|---|---|---|---|
| **Key risk addressed** | ✓ Credit risk<br>✓ Commodity risk<br>✓ Political risk | ✓ Political risk<br>✓ Credit risk | ✓ Currency risk | ✓ Credit risk |
| **Approach** | • To reduce lending risks using liquidity support instruments (debt/equity to a special purpose vehicle) and political risk insurance against political instability, currency convertibility and breach of contract | • To be deployed via a shared first loss and risk participation akin to reinsurance | • To provide financing in local currency where currency hedging options are absent or limited<br>• Proposes hierarchical solutions<br>1. Existing market solutions by sharing counterpart risk<br>2. Non-market hedgers e.g. The Currency Exchange Fund,<br>3. Issuing bonds in local markets<br>4. Open hedging transactions | • To blend IFC investments across high impact sectors, building on existing blended finance platforms such as GAFSP[1]<br>• Products to be employed include subordinated loans, direct investments and first loss guarantees |
| **Sector focus** | • Targeted to infrastructure projects and PPP | • Targets agribusiness, infrastructure, manufacturing, financial services and PPP | • No priority sectors identified – will depend on underlying loans | • Targets high-impact investments in agribusiness, health, education, SMEs etc. |

1.Private Sector Window; 2.Global Agriculture and Food Security Program

Sources: 2017. World Bank Group. Website: IDA18 Private Sector Window

Introduction and Executive Summary

**Context and a Mapping of Risks in Agriculture**
An overview of the challenges and risks in agricultural value chains and how they restrain the supply of finance to the sector

**An Overview of Blended Finance and Initial Toolbox**
A definition of blended finance, and how tools can be used to crate catalytic transactions and vehicles

**Stocktaking and Recommendations for Scaling Blended Finance**
**The track record for Blended Finance so far in agriculture, lessons learned, and emerging recommendations for scaling**

Stocktaking

**Case Studies, Lessons Learned and Recommendations**

An Ecosystem Approach to Putting Blended Finance into Practice
How Blended Finance tools can and are being used in de-risking cash and food crops

# Case study 1: Pooled investment vehicle (1/2)

## Africa Agricultural Capital Fund (AACF)

**Overview**

AACF is a $25 million fund that invests capital in small and medium-sized agricultural enterprises to improve the livelihoods of smallholder farmers in East Africa and leverages additional finance in the sector

**Tools used**

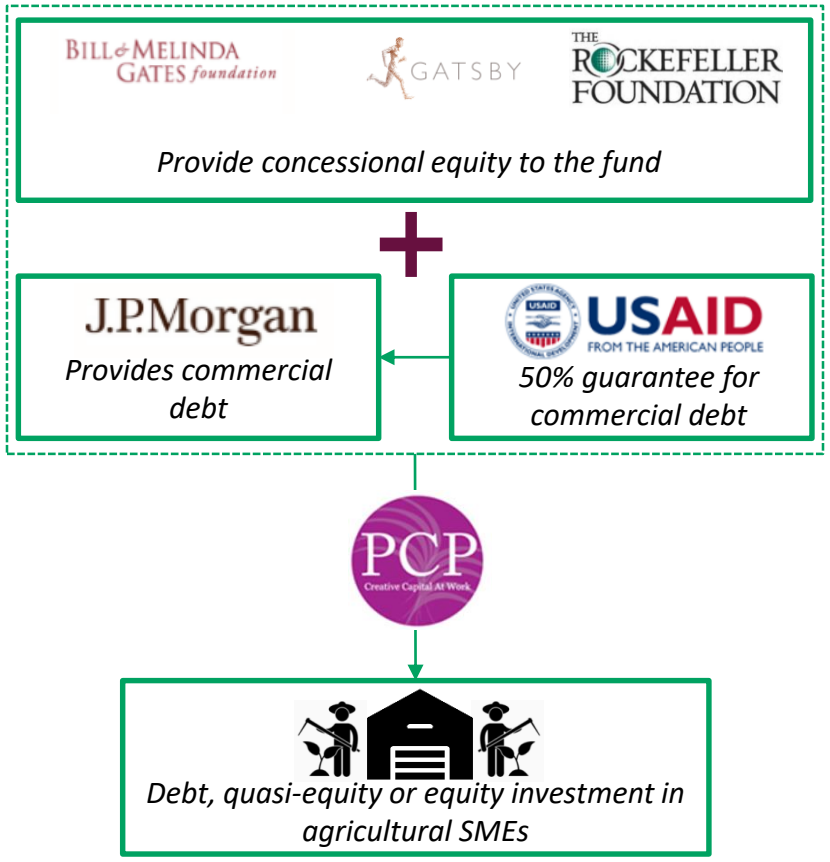
**Concessional capital** | **Credit guarantee**

**Context & problem(s) addressed**

- In East Africa, limited capital flows towards agribusiness SMEs due to real and perceived risks to lenders, especially those SMEs that trade with smallholder farmers
- Many of these SMEs face business model challenges as they aim to buy, sell, or aggregate trade with smallholder farmers
- Concessionary finance and loan guarantees can address this financing gap, by reducing risk for lenders, making agribusiness SMEs more bankable, and supporting SME development through growth phase; SMEs also receive technical assistance

**How it works**

- Gates Foundation, Gatsby Foundation and Rockefeller Foundation committed $10 million, $5 million, and $2 million respectively in **concessionary equity** investment
- J.P. Morgan invested $8 million in senior debt that is **50% guaranteed** by USAID
- The fund is managed by Pearl Capital Partners, a Uganda-based fund manager with experience investing in agricultural SMEs in East Africa
- Investments range between $200,000 - $2.5 million in debt, quasi-equity, and equity for up to 5 years
- In its 10-year duration (2011 – 2021), the fund will invest in ~20 agricultural SMEs: it is expected that ¾ will provide post-harvest solutions and ¼ input provision solutions




Sources: GIIN, Collaborating to Form the African Agricultural Capital Fund, 2012; PCP website

# Case study 1: Pooled investment vehicle (2/2)

## Africa Agricultural Capital Fund (AACF)

### *Deploying the instrument(s)*

**Process**

- AACF has an **impact committee** (with independent sector experts and the financiers) to screen investments
- After the fund manager identifies a potential deal, the committee reviews the business model and screens the deal for its social impact potential
- The fund manager and impact committee then establish the investment's social impact goals to meet the targets
- Successful investments advance to financial due diligence and will receive investment based on potential social impact and financial returns

### *Success factors*

- A USAID technical assistance (TA) facility supports SME investees to effectively utilize the financing – helps to **de-risk and support the financial returns plus impact of investments, especially critical for relatively small and early stage investments**
- Selecting a **fund manager that is aligned with the limited partners' vision** of social impact and with experience investing in agricultural SMEs in the target geographies
- Investment agreements have an **'intent vs. use' clause** that allows withdrawal of funds if SMEs undermine engagement with smallholder funds

### *Lessons learned*

- Agricultural SMEs in East Africa need **TA in agronomy, business development, and/or management practices** in order to effectively utilize financing
- **Mobilizing private sector capital** in pooled funds of this type typically requires significant subsidy through either (i) first-loss funding or guarantee and / or (ii) grant funding for TA

### *Results and impact*

**Performance**

- To date, the fund has **invested over $10 million in 8 companies in Kenya, Uganda, and Malawi**
- The fund intends **to impact at least 250,000 smallholder farmer households**, increasing their annual income by at least $80 within five years of investment
- **Notable investments** include: (i) Midland Limited – agro-processing company ($2 million), (ii) Wilmar Flowers – floriculture company, (iii) Eldoville Dairies – dairy processor ($3.8 million), (iv) Meru Greens Horticulture ($2 million) – all in Kenya

### *Challenges*

- **Identifying and prosecuting a bankable pipeline, especially for early stage enterprises:** few SMEs which focus on trade with smallholder farmers are ready for 'commercial' investments over $200,000; the majority of smallholders in this bracket need significant TA to become investment ready – hence the TA facility

Sources: Interviews; Dalberg analysis

# Case study 2: Securitization (1/2)

## IFC's Global Warehouse Finance Program

**Overview**

The GWFP was established in 2010 to support banks to lend to agricultural corporates against warehoused commodities. It facilitates warehouse financing through banks by providing liquidity for on-lending or risk mitigation solutions

**Tools used**

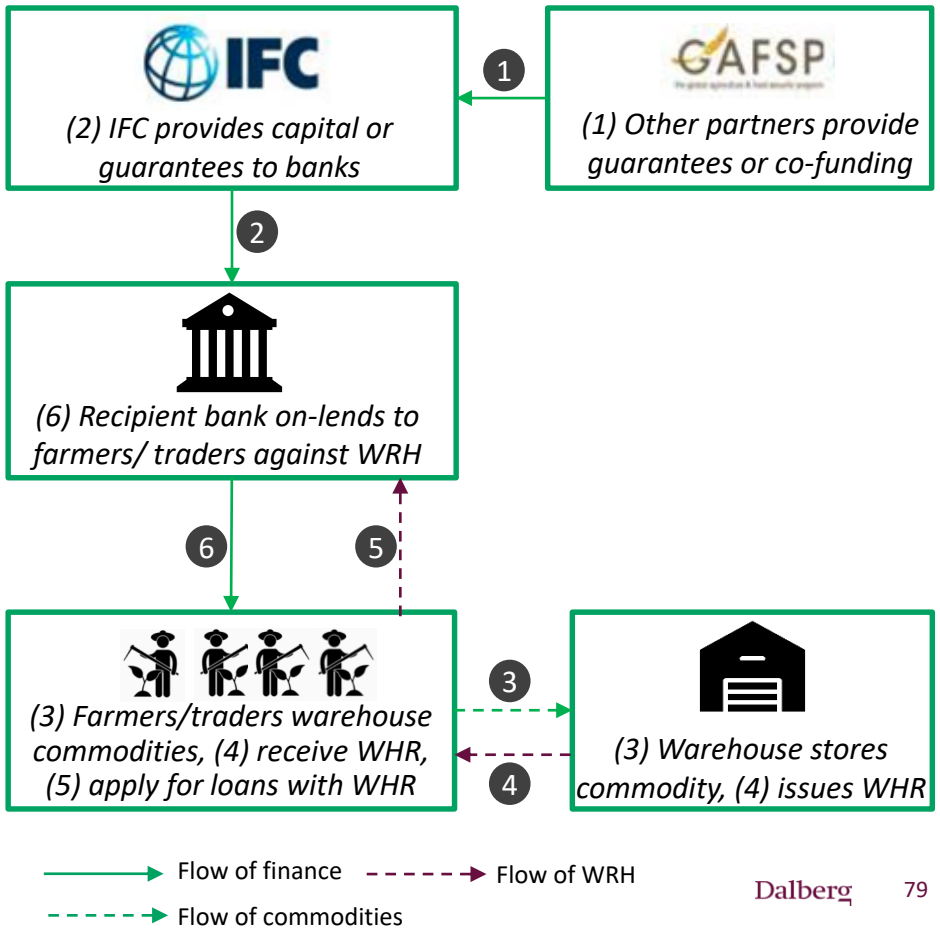
**Warehouse receipts** | **Credit guarantee**

**Context & problem(s) addressed**

- Farmers throughout the developing world often are **required to sell produce immediately post-harvest** due to inability to store large stocks, and financial needs
- Furthermore, **commodity traders and offtakers run into liquidity constraints** as they trade commodities, thus operate at sub-optimal efficiency
- In cases with guaranteed markets, warehouse financing can address these storage and liquidity constraints by **leveraging warehoused commodities as collateral for short-term financing**
- The legal and financial environment must support **warehouse receipts (or equivalents) as tradeable instruments**

**How it works**

- **IFC offers short-term loans to banks that in-turn on-lend to producers or trading companies against warehoused commodities** using warehouse receipts or a collateral management agreement as collateral
- **IFC (through GAFSP) also guarantees up to 50% of the loans** extended to the value chain actors against the warehoused commodities
- Initial program funding of $200 million was increased to **$500 million** by 2012 due to expressed demand
- **Loan-to-value ratio of up to 80% of the commodities value**. Loans have average tenors of 4-6 months, but a maximum tenor of one year extendable to three years




Source: Secondary research; Dalberg analysis

# Case study 2: Securitization (2/2)

## IFC's Global Warehouse Finance Program

### *Deploying the instrument(s)*

**Process**

- In countries with a **developed warehouse receipts ecosystem**, the program can directly support a partner bank to offer warehouse financing
- In ecosystems where warehouse receipts are not accepted, the program supports a partner bank to accept **collateral management agreement (CMA) or stock monitoring agreement (SMA)**
- Depending on the risk level, GWFP provides a **credit line, credit guarantee, or both** to incentivize banks to offer warehouse financing

### *Success factors*

- Work exclusively with **certified warehouses** to guarantee quality/value of produce stored
- **Favorable policy environment** that supports a credit market which accepts warehouse receipts as collateral
- Work with **traders with guaranteed markets** and significant liquidity needs
- Work with banks with **experience in agricultural lending**
- Provide advisory services to banks and policy makers to develop the warehouse financing ecosystem

### *Lessons learned*

- Strong need to **support warehouses in improving management** to ensure quality and value of commodity (currently done by EAGC in Kenya)
- **Warehouse receipt financing works best in advanced policy and regulatory environments** while trade financing (collateralized by commodities) is more suitable for less advanced environments

### *Examples*

**Performance**

**SOFITEX in Burkina Faso:** In 2015 and 2016, IFC, GAFSP, and Bank Societe Generale provided €70 million trade financing to SOFITEX, Burkina Faso's largest cotton offtaker and exporter, to offtake from 160,000 farmers

**Rice importers in Liberia**: IFC, GAFSP and Nedbank are using a $50 million facility to lend to rice traders in the food-insecure post-ebola Liberia against warehoused commodities, thereby ensuring food security

**CRDB Bank in Tanzania:** GWFP provided a $25 million credit line to CRDB to lend against warehouse receipts

### *Challenges*

- **Limited warehouse management capacity** often undermines the warehouse receipt system and fuels distrust of the system by lenders:
  - Decline in stored commodity quality **lowers the value of the collateral**
  - Lack of strategies to **sell when market prices are high** undermine the ability to cover credit

Source: GAFSP Website

# Case study 3: Results-based financing (1/2)

## Social Impact Incentives (SIINC) to Village Infrastructure Angels (VIA)

**Overview**

VIA is a social enterprise that provides solar solutions and empowers women through solar agro-processing solutions. However, VIA's social impact aspirations affected their business model, making it appear too risky to investors. SIINC provides premium payouts to VIA based on achieved impact, thus de-risking their business model and allowing for additional investments

**Tools used**

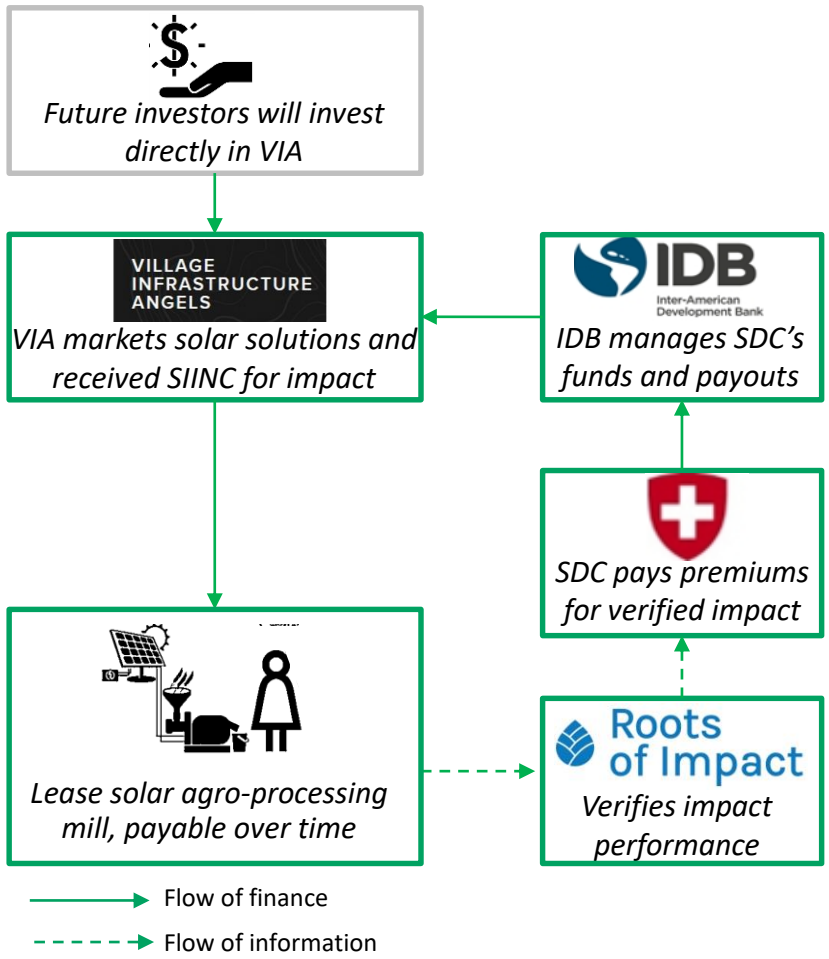
**Performance-based contracts[1]**

**Context & problem(s) addressed**

- Honduras has relatively low rural electrification rates, as low as 25%. Despite the opportunity for off-grid electricity, investors perceive high risks to entry
- **Women in Honduras spend a significant amount of their time processing crops**; off-grid energy can empower women with labor-saving technologies such as solar-powered mills
- VIA's business model is to lease low-cost solar systems and agro-processing mills to women in emerging markets, **freeing time up for other productive ends**
- However, VIA struggled to meet the double bottom line of impact and profits. Low margins, cash flow issues, and the new geography discouraged private investments in VIA
- SIINC have been used to **supplement VIA's revenues and de-risk its business model**

**How it works**

- VIA leases solar equipment (including agro-processing mills) to women entrepreneurs. Roots of Impact **verifies the impact performance and validates payment of premiums**
- **Swiss Development Corporation pays VIA premiums for verified results achieved** based on agreed impact metrics, thus de-risking VIA's bottom line and making its business model more attractive to future investors.
- Through IDB, VIA can earn up to $195,000 as SIINC premiums over four years, after which VIA is expected to be self-sustainable. SIINC payments **ease VIA's cash flow issues**, making their business model more attractive for investments




1.SIINC are a subset of performance-based contracts

Source: SIINC, Empowering Village Infrastructure Angels To Attract Investment And Create Impact At Scale, Case Study, 2017

# Case study 3: Results-based financing (2/2)

## Social Impact Incentives (SIINC) to Village Infrastructure Angels (VIA)

### *Deploying the instrument(s)*

**Process**

- Pilot started in late 2015. While VIA offered a suite of solar solutions, only the **roll-out of agro-processing mills to women received SIINC payouts**
- **Inter American Development Bank provided technical assistance** to VIA as they expanded to Honduras
- SIINC payments are intended to **subsidize set-up costs, build local capacity, establish operations systems**, and extract learnings for future initiatives; in effect, the payments make a social enterprise become more investable

### *Success factors*

- **Easily measured impact metrics:** number of women on lease contracts, number of hours of manual labor saved, and amount of additional economic value created
- The leased product (agro-processing mill) provides a **constant income stream that enable guaranteed repayments**; lessees can also repay in kind
- The business model needs to be **scalable, given the right commercial investment**. This ensures sustainability when SIINC financing ceases and private investment is secured
- VIA management had **extensive experience with deploying solar solutions** in rural settings

### *Lessons learned*

- SIINC work best with highly-promising pioneer business models that have potential to sustainably scale
- SIINC payments only targeted the leased mills; this was the **product line requiring subsidy blended finance to crowd-in investment**. VIA's other business lines were already attractive for investments
- **SIINC payments act as a revenue guarantee** to help a social enterprise prove its business model; there needs to be a clear pathway to graduate business out of RBF as they become scalable
- The SIINC beneficiary needs excellence and experience in implementation to fully leverage its potential

### *Results and impact*

**Performance**

- **VIA is now in the process of securing $318,000 in debt investment** to scale its model to 2000 households
- SIINC is enabling high-impact enterprises to **improve profitability and reach scale**
- SIINC has enabled VIA to accelerate the roll-out of agro-processing solutions to rural women, thus giving them a business and freeing up their time
- With freed-up time, **women have been empowered** to own businesses, engage in productive work, and invest time to support children's education

### *Challenges*

- **Setting pricing levels of subsidy:** Pricing is generally difficult and the outcome payer (Swiss Development Corporation) establishes the value-for-money for the payout by comparing the cost of interventions that had comparable outcomes. However, there is not much data to benchmark on.

Source: SIINC, Empowering Village Infrastructure Angels To Attract Investment And Create Impact At Scale, Case Study, 2017

# Case study 4: Project-level financing - targeted facility (1/2)

## Rwanda Farmer Financing Facility

**Overview**

This facility brings together public and private financing to enable the establishment of a $60 million food-processing factory that will offtake from 10000 farmers in Rwanda. Moreover, the facility enables a local bank to provide working capital and input financing to farmers while insuring their crops against adverse weather

**Tools used**

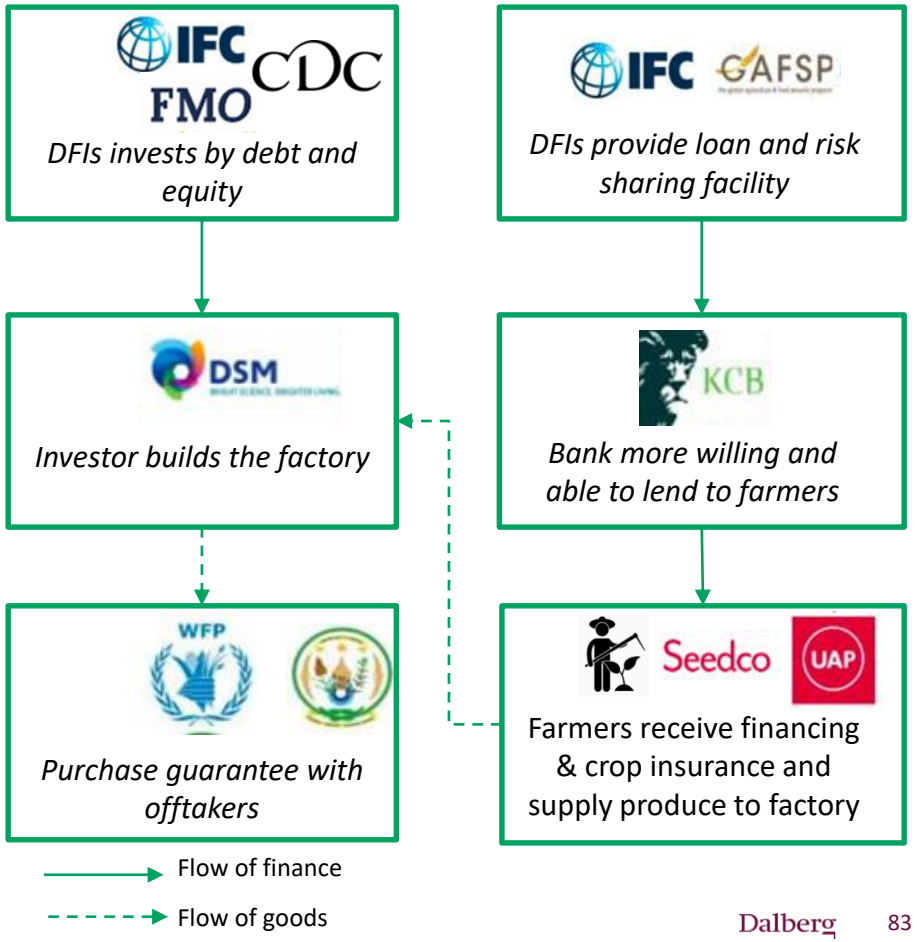
**Concessional capital** | **Credit guarantee** | **Index-linked insurance**

**Context & problem(s) addressed**

- **Under-five malnutrition is a significant problem** in East Africa. Despite available agricultural products, the region lacks substantial investments in fortified foods due to lack of investor interest, perceived risks, and longer term investment required
- To attract significant investments in fortified food processing, blended finance interventions need to **mitigate multiple risks facing the investor** including market, credit, and supply chain risks. The Rwanda Farmer Financing Facility was created for the sole purpose of de-risking to mobilize investment in food processing

**How it works**

- IFC provided a **$21.5 million loan and a $4.5 million equity investment** to Royal DSM, a fortified food manufacturer. Additional financing was provided by FMO and CDC
- IFC and GAFSP provided **a credit line** and a **risk-sharing facility** to KCB bank. With this concessional loan and guarantee, KCB was enabled to **lend to farmers**
- Farmers received **input financing** and **working capital** from KCB bank bundled with **crop insurance** from UAP
- With a relatively low equity investment, Royal DSM was able to build the factory that will process 45,000 tons / year
- With purchase guarantees from WFP and the government of Rwanda, the risks were further lowered. WFP signed a $100 million multi-year purchase agreement.
- Properly financed farmers guarantee the supply of soybeans and maize to the factory




*Technical assistance is also provided to farmers. It is, however, beyond the scope of this engagement*

Source: Innovative Partnerships for Agriculture Finance: Blending4Ag Conference Proceedings, 2016; Respective company/institution website

# Case study 4: Project-level financing - targeted facility (2/2)

## Rwanda Farmer Financing Facility

### *Deploying the instrument(s)*

**Process**

- This facility addresses risks along the value chain by **establishing market linkage among relevant parties**
  - Forward contracts from WFP and Rwanda government ensures demand for the factory
  - Farmers meet the factory's demand for raw material
  - KCB meets farmers' demand for inputs and working capital
  - UAP provides crop insurance for the bank's lending
  - DFIs catalyze investments from the food-processor and the bank by covering the outstanding risk

### *Success factors*

- **Involvement of the government guaranteed investment support** throughout the implementation of the project.
- **Offtaker agreement with WFP and the government made the project viable for private investors e.g.** DSM and KCB
- Financing the farmers and providing them with **necessary technical assistance** guarantees a supply of high-quality products to the factory.

### *Lessons learned*

- In financing a large greenfield investment in agriculture, **multiple tools may be required simultaneously to address the many risks faced by greenfield investments**
- **Market linkage coupled with an ecosystem approach is crucial** to address risks for value chain players and ensure sustainability of the intervention

### *Results*

**Performance**

- The facility finances **over 10,000 farmers** supplying to the factory
- Factory supplies to the entire East African region, helping combat child malnutrition – **700,000 children will be reached annually**
- Factory offsets imported fortified foods (that account for 4.5% of Rwanda's imports)

### *Challenges*

- **Effective coordination** can be a challenge given the number of players involved in the facility, leading to substantial time and set-up costs for the facility

Source: Respective company/institution website, Dalberg analysis

# Case study 5: Credit guarantees (1/2)

## USAID Development Credit Authority (DCA) credit guarantees to banks in Kenya

**Overview**

Since 2003, Development Credit Authority has provided guarantee facilities to Kenyan banks, allowing them to disburse a cumulative of $60 million into agriculture. However, only 20% of this facility has been utilized. This is much lower than the utilization in other sectors such as health and energy

**Tools used**

**Credit guarantee**

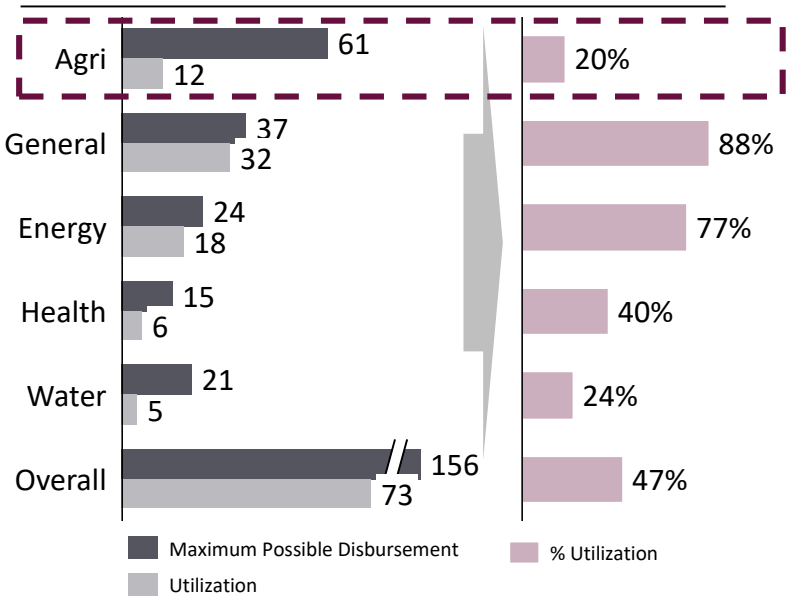
**Context & problem(s) addressed**

- Across Sub-Saharan Africa, **agricultural lending comprises smallest share of commercial lending, due to real and perceived risks in the sector**
- In face of competing lower-risk opportunities, commercial lenders lack the risk appetite to venture into agriculture **unless risks are substantially mitigated or transferred**
- When tools such as **credit guarantees** are offered to banks, they can work to mitigate perceived risks, stretch out maturities, reduce pricing, and open up new borrowers to banks and allow banks to lend to agriculture while learning to minimize the real risks

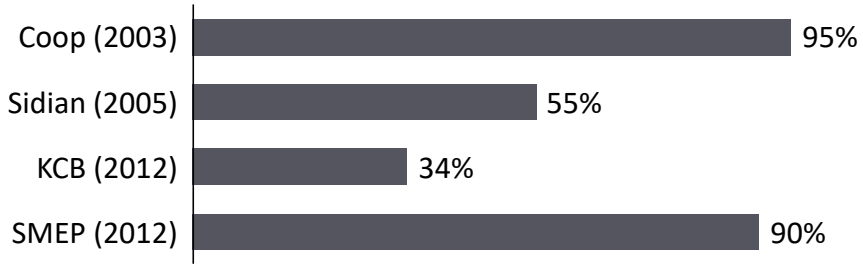
**How it works**

- USAID's DCA guarantee **provides 50% risk coverage** to banks on the principle loan in case of default
- USAID typically partners with SIDA to cover the risk in agricultural lending in Kenya, e.g., providing 20% and 30% risk coverage respectively for KCB and SMEP in 2012
  - **DCA's agriculture guarantee portfolio has lowest guarantee utilization rate** – 20%. In comparison, energy and general loan guarantees have over 75% utilization
  - Guarantees issued to Co-op Bank in 2003 and to SMEP in 2012 have had over 90% utilization; guarantees to Sidian and KCB had poorer performance
  - **Guarantees issued from 2013 have had no utilization** – Rafiki DTM, KUSCCO, ABC Bank, Co-op Bank

**DCA's guarantee performance in Kenya by sector ($m, %)**




**DCA's guarantee utilization by bank (%)**




Source: Secondary research; Dalberg analysis

# Case study 5: Credit guarantees (2/2)

## Development Credit Authority (DCA) credit guarantees to banks in Kenya

### *Success factors*

- **Selecting a partner financial institution with institutional appetite for agricultural lending** - the credit guarantee then serves to enable the institution to achieve its goals while mitigating risks
- **Selecting a partner financial institution with a significant rural reach -** (including using alternative delivery mechanisms such as agency and mobile banking) in order to achieve a high level of leverage on the guaranteed funds
- **Ensuring loan teams within partners financial institutions understand value chains –** agricultural cash flows are often value chain specific, as are the risks associated with particular crops
- **Incorporating innovative mechanisms to lower transaction costs and risks**, e.g., the guarantee to SMEP (2012) had high utilization and low default rate due to incorporating savings-based group lending – 15 farmers per saving group

### *Challenges*

- Some banks are **discouraged by the high upfront cost of the premium**
- Credit teams sometimes **do not understand the guarantee** so cannot take effective advantage of it
- Commercial lenders struggle to utilize the guarantee due to their **inexperience in assessing value chains** and designing agriculture-appropriate products
- **Political interference**, such as government's tendency to forgive loans around election periods, have a negative signaling effect that affect repayment behavior
- **Monitoring agricultural loans can be expensive** to banks, where outside of their standard Management Information System
- **Generating pipeline of agribusiness borrowers** can be challenging, and will not happen if loan officers not appropriately incentivized

### *Lessons learned*

- Commercial lenders require **support in evaluating value chains and designing appropriate products**
- Smaller (and typically new) borrowers may require some business management training to manage finances and manage loan repayments
- If the government is involved in a guarantee, there is a need to control for negative public perception of 'free public money'. Therefore **guaranteed loans should be marketed as regular loans**
- **Establish controls to minimize defaults**, e.g., restricting cash withdrawals for smaller borrowers
- **Diversifying the value chains** under the guarantee portfolio further distributes credit risk
- **Adopting a value chain approach yields better results**, e.g., financing processors provides a market for SHFs, therefore increasing SHFs' ability to repay

Source: Secondary research; Dalberg analysis

# Case study 6: Risk sharing facilities (1 of 2)

## Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL)

**Overview**

NIRSAL is a $500 million public-private initiative to de-risk agricultural lending via credit guarantees, insurance, technical assistance, and other mechanisms. It is wholly owned by the Central Bank of Nigeria and involved multiple public and private partners

**Tools used**

**Credit guarantee** | **Crop insurance** | **Prizes, challenges and awards**

**Context & problem(s) addressed**

- **Real and perceived risks are significant deterrents to banks lending to agriculture** in Nigeria
- **NIRSAL attempts to tackle the reasons for limited capital mobilization in agriculture**, including perceived risks, high transaction costs, limited lender understanding of the sector, and limited capacity to assess agricultural borrowers and design products

**How it works**

- NIRSAL **combines blended finance tools** that de-risk and incentivize agri lending
- NIRSAL **provides guarantees between 30%-75%** of the loan face value. It works with multiple banks in Nigeria and supports all crop and livestock value chains
- The facility charges a **guarantee fee of 1% p.a.** on outstanding principal & interest
- To incentivize repayment, **up to 40% of interest cost is rebated** to select value chain actors every 3 months if a loan remains in good standing
- **Crop insurance for farmers** work to transfer risks faced by borrowers
- **Bank rating system and incentive mechanism** provide monetary and non-monetary incentives for banks to increase agricultural lending

***Key stakeholders including*** *the central bank, deposit money banks and MFIs, the ministries of agriculture and finance, state governments, AfDB, IFAD and agriculture value chain actors*

1. **Risk Sharing Facility:** $300 million to guarantee banks against credit risk by 30% - 75% of loan face value
2. **Technical Assistance Facility:** $60 million to (i) build banks' capacity to assess agricultural risks and develop relevant products, (ii) help SHFs with agronomy and business management
3. **Insurance Facility:** $30 million to expand agriculture insurance products from 500,000 to 3.8 SHFs by 2020
4. **Bank Rating System:** $10 million to rate banks based on the effectiveness of their agricultural lending and their social impact as per NIRSAL's goals, to foster competition among banks
5. **Bank Incentive Mechanism:** $100 million to reward good agriculture lenders and further support their lending through monetary and non-monetary incentives



Source: NIRSAL website

# Case study 6: Risk sharing facilities (2 of 2)

## Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL)

### *Deploying the instrument(s)*

**Process**

- **NIRSAL works as a partnership** between the Central Bank, commercial banks, MFIs, Ministries of Agriculture and Finance, state governments, and value chain actors
- Prospective borrowers (agri-SMEs, cooperatives, etc.) **apply to participating financial institutions for loans**
- Under the anchor program (est. 2015), **aggregated farmers can access loans through anchors** – large-scale integrated processors or state governments – who provide inputs in kind and working capital, repayable through their produce off-taken by the anchor

### *Success factors*

- **NIRSAL's early success attributed to its multi-faceted design**: (i) risk sharing facility and insurance facility (ii) TA facility (iii) bank rating mechanism – this introduced flexibility in program
- **Leveraging mobile money,** and digital channels
- Incorporating **end-to-end value chain approach**
- Working with cooperatives to **lower cost and risks of working with farmers**
- Partnering with multiple banks **to optimize reach and diversify execution risk**

### *Lessons learned*

- Risk sharing has high leverage, e.g., 10 times for NIRSAL
- Farmers need additional risk management to adapt to changing weather and market conditions
- Need to manage alignment when working with multiple government entities as there may be conflicting interests

### *Results and impact*

**Performance**

- Between 2012 and 2015, NIRSAL has (i) **guaranteed 454 projects worth $306 million** (ii) **paid out $3.36 million in interest rebates** to good borrowers to incentivize good repayment behavior (iii) **trained over 112,000 farmers** across the country on agronomy and business management
- NIRSAL has **played significant role in increasing agricultural lending in Nigeria from 0.7% to 5% of banks' total lending in 4 years**; some banks have even established own specialized agriculture lending desks

### *Challenges*

- **Long lead times** to materialize deals when working with the government
- **Difficulty in achieving political alignment** with multiple public and private partners involved with NIRSAL
- Rural MFIs have **capital, operational, and capacity constraints – inhibits lending under NIRSAL**
- **Banks often lack experience and knowledge** in agricultural lending –technical assistance required
- **High transaction costs** for agricultural lending

Source: NIRSAL website

# To scale blended finance in agriculture, we need to address at least three types of challenges

**SPEED AND COST:**
Designing blended finance interventions is **slow, difficult and expensive**

- **Lack of clarity and consensus on definition**. 5+ definitions exist, with varying interpretations on the nature of the finance provided (e.g., ODA vs. other); requirements for mixing/blending various sources of finance and on what terms; whether blending should mobilize additional finance; and the nature of the project beneficiaries targeted through blending
- **High transaction costs**. New mechanisms often have high start-up costs, which can extend timelines and reduce momentum. For a DFI, annual costs on blended funds can be 2-3 times as high as on non-blended private funds
- **Limited organizational capacity**. Many potential 'lead arranger' organizations do not have sufficient knowledge and/or training to develop and/or respond effectively to blended finance opportunities
- **Coordination and roles of key actors, including government / policy makers, often under-defined**: blending inherently requires bringing together actors with different objectives, finding acceptable trade-offs is time consuming; without norms on roles and what trade-offs are usually made, this process can be protracted

**ALIGNMENT OF AGENDAS:**
Success is constrained by **conflicting agendas, unintended consequences and dilemmas**

- **Additionality and/or effective leverage**. Blended finance does not always mobilize additional resources. Moreover, deals that have particularly high leverage ratios may not have required any blending (e.g., public or philanthropic contribution) to unlock private investment and therefore crowd out investment that would have happened anyway
- **Market distortion.** Although blended finance transactions aim to correct market failures and/or to develop new markets, there is a risk of distorting functional markets –or creating new markets that are not viable –due to the subsidy inherent in blended finance transactions
- **Lack of coordination**. Duplication of efforts and insufficient information sharing across private, public, and philanthropic actors

**TARGETING THE RIGHT PROBLEMS:**
Blended finance interventions are **not solving (enough of) the right problems in agriculture**

- **Lack of innovation**. Over-reliance on existing and proven solutions rather than experimentation with new instruments and approaches tailored to the country & value chain specific challenges that need to be addressed
- **Failure to take a 'total ecosystem view'.** Often blended finance instruments or vehicles solely focus on the 'financial value chain' aiming to redistribute risk; lack of sufficient involvement of key economic actors within value chains means that underlying challenges (e.g. fragmented and dysfunctional supply chains, lack of resilience to volatile & shifting climate conditions) don't get resolved; these actors have the long-run interest in success and potential to provide cheaper cost to serve to make interventions sustainable and scalable
- **Narrow focus on point solutions. F**ocusing on only one challenge or constraint, rather than a total value chain view

Source: External interviews; Dalberg analysis

# Going forward there are three sets of activities that could support greater scaling of blended finance for agriculture moving forwards

| | |
|---|---|
| **Knowledge agenda** to build norms on what works and how to do blended finance | • **Develop practitioners guide** which captures norms on how to undertake the development of blended finance for agricultural value chains, how to develop terms and product designs that are responsive to market needs, and is agreed across practitioners<br>• **Establish a regularly refreshed fact base of benchmarks** on what transactions and vehicles have been developed, what parameters are being used and performance; to inform the sector on what emerging norms are, and what 'works' from the perspective of all different actors involved in blended finance<br>• **Reduce the costs of developing and running interventions by creating commonly accepted / templated approaches and methods**, such as standardised and accepted due diligence standards that are accepted across different key investors in blended finance |
| Create conditions for **structured dialogue** between actors | • **Create a common understanding of what blended finance is** especially amongst typical 'lead arrangers' such as development finance institutions, key private sector investors, and government / policy makers, so that there is a common foundational starting point<br>• **Establish a precedent base** on how blended finance interventions are structured, to support coordination across actors and accelerate negotiations by creating anchor points around what roles and structures typically exist<br>• **Address challenges of individual incentives** within institutions which dis-incentivize development of blended finance approaches except for the highly motivated, given they are typically small and require challenging prudential investment practices of financial institutions<br>• **Support the adoption of common guidelines**, such as the OECD principles on the application of blended finance, to reduce practices of market distortion and achieving high leverage through low additionality interventions |
| **Create a pipeline** for future, scalable deals | • **Support the development of more smaller, experimental designs** that can never be economic given their scale and uncertainty, but which push the frontier of learning; potentially can be supported through specific funds (e.g. philanthropic, grant / trust funds at development finance institutions) that allow lower returns and/or greater risk taking<br>• **Actively support investment in small scale farmers and enterprises that may attract low levels of leverage** from the private sector, but can feed larger concessional facilities in the future |



Source: AGRF workshop on blended finance; External interviews; Dalberg analysis

Introduction and Executive Summary

**Context and a Mapping of Risks in Agriculture**
An overview of the challenges and risks in agricultural value chains and how they restrain the supply of finance to the sector

**An Overview of Blended Finance and Initial Toolbox**
A definition of blended finance, and how tools can be used to crate catalytic transactions and vehicles

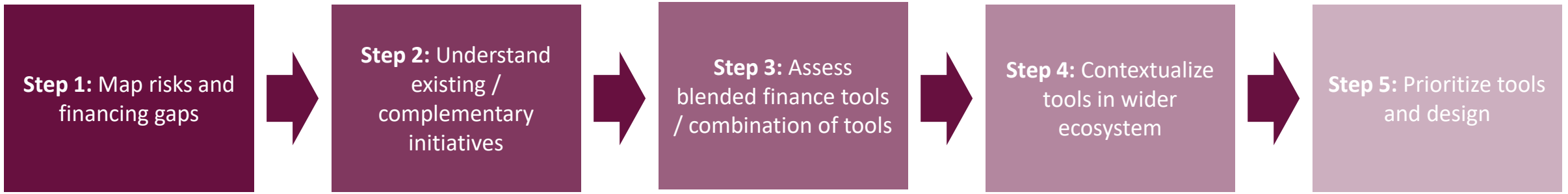
**Stocktaking and Recommendations for Scaling Blended Finance**
The track record for Blended Finance so far in agriculture, lessons learned, and emerging recommendations for scaling

**An Ecosystem Approach to Putting Blended Finance into Practice**
**How Blended Finance tools can and are being used in de-risking cash and food crops**

Maize

Coffee

# In this section, we apply a risk-led 'ecosystem' approach to identify which blended finance tools (or combinations of tools) can unlock financing into the sector for a food crop and cash crop in Kenya




***Risk-led:*** *We identify the main risks and gaps faced by actors across the value chain, as well as providers of finance*

***Additive and complementary:*** *We look to understand financial (and non-financial) initiatives to place any new intervention and learn from them*

***Tools / combinations:*** *Based on the risks and gaps identified, we assess which tools can address them*

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**Maize**

Coffee

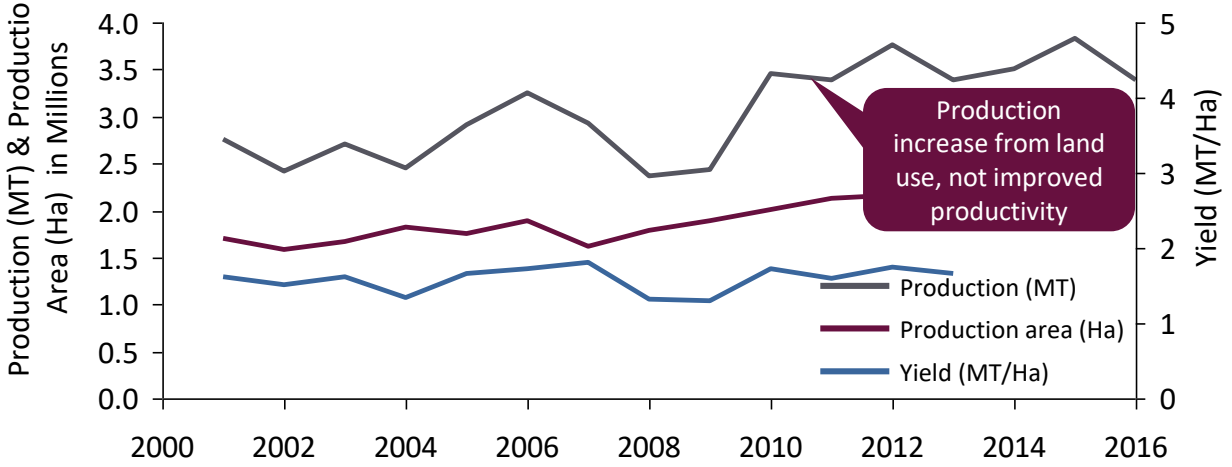
# Maize is the most important staple for food security in Kenya, a net importer; c3.4 million smallholders are involved, but the formal market only involves a small subsection

## Overview of Maize in Kenya

- **Maize is the most important food security enhancing crop in Kenya, accounting for ~36% of a Kenyan's caloric intake.** However, per capita consumption **has been marginally declining**, with middle income consumers switching to other starches.
- **Kenya is a net importer of maize,** as production has not been able to keep pace with growing demand, leading to food security risk through challenges in supply chain, policy-induced scarcity or commodity prices.
- **Maize is characterized by subsistence production, involving 3.4 million smallholder farmers (SHFs)** who produce 70% of total maize. The remaining 30% is produced by ~3,000 – 4,000 medium and large-scale farmers.
- **Average yields have plateaued over the last decade.** Production increase is the result of more land being used, not increased productivity.
- **Maize is highly fragmented** with many disconnected value chain actors, deploying finance interventions is thus made challenging.
- **10-15% of all maize is spoiled post-harvest**, largely due to poor aggregation, transportation and storage.
- The National Cereal and Produce Board (NCPB) **buys 15% of total maize** in order to stabilize maize prices and ensure food security.

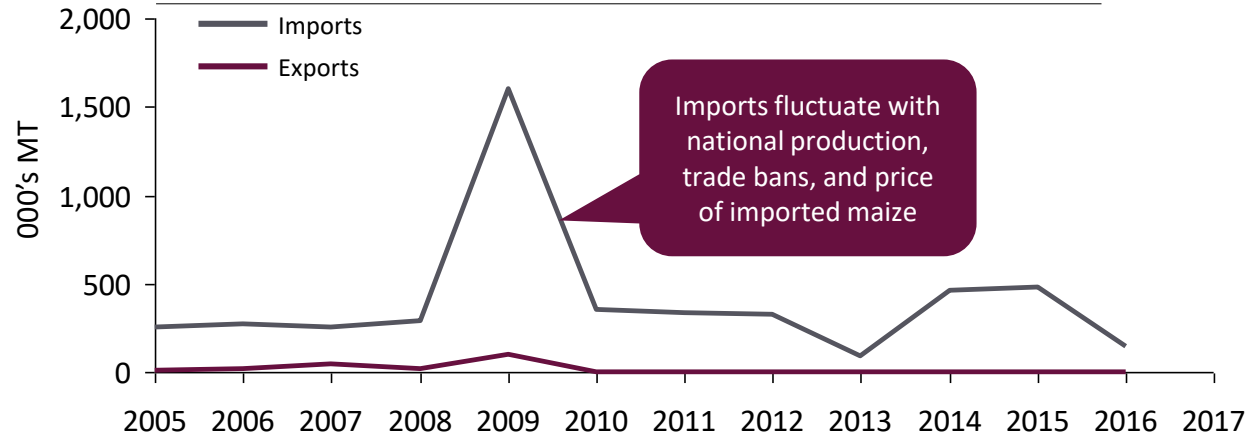
**Kenya maize production and cultivation (2001-2016)**

Hectares; Metric tonnes; Metric tonne per hectare




**Kenya maize imports and exports (2005-2016)**

Metric tonnes (000's)



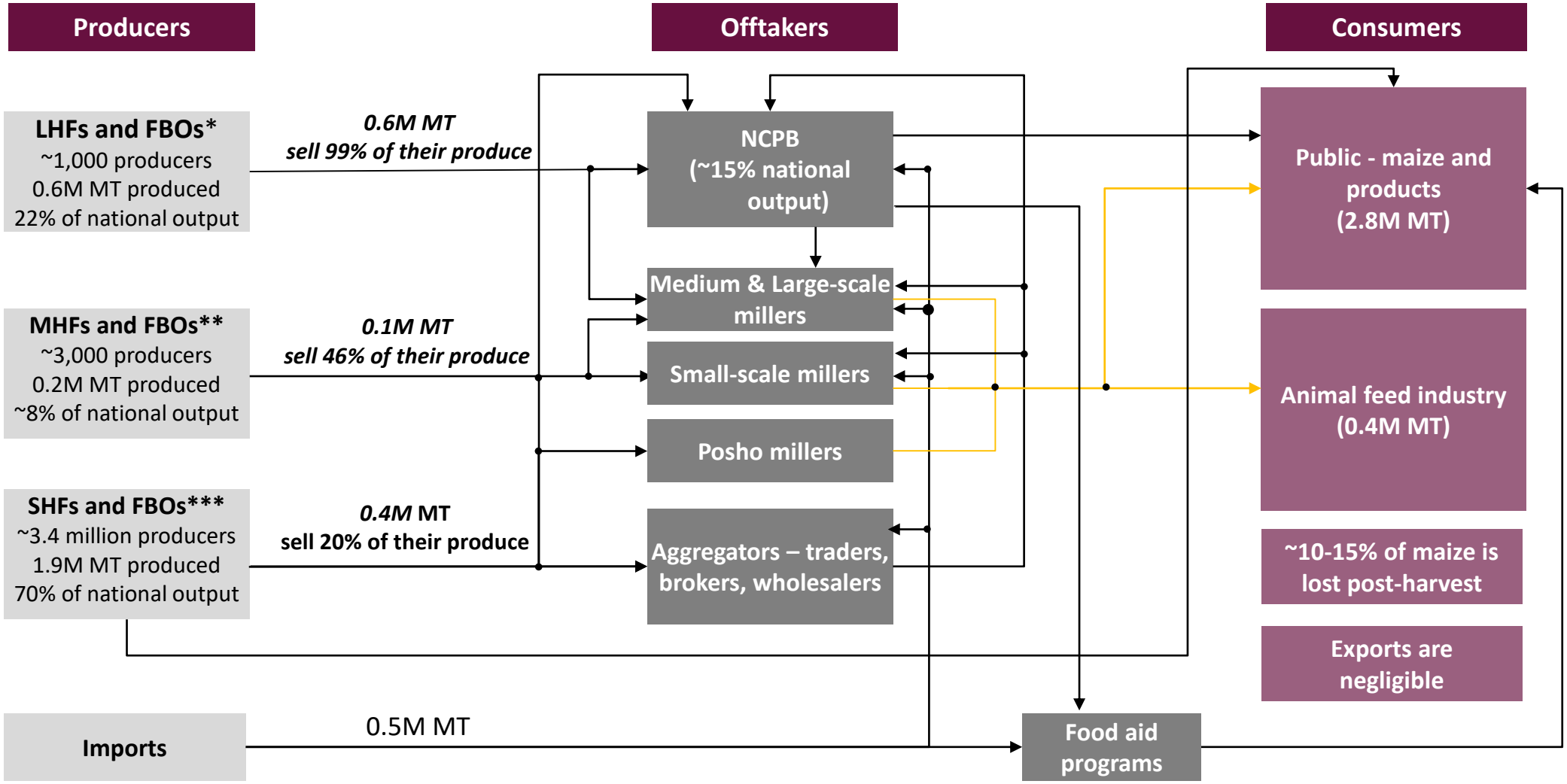

SOURCE: KNBS 2014, USAID 2010, AGRA 2010, FSD 2012, MoA, KNBS Economic Survey 2017, FAO CountrySTAT, Dalberg analysis

# The maize value chain is largely informal and fragmented, with many small (usually independent) players involved at multiple stages

| | Inputs | Production | Transport and storage | Processing | Market |
|---|---|---|---|---|---|
| Key features | • Fertilizer use is below recommended rates<br>• Maize uses 250,000 MT of fertilizer, ~half of national use<br>• Total demand for maize seed is 47,000MT<br>• Low use of high quality hybrid seeds due to high cost and inconsistent supply | • Maize yield declined from 2.2MT/Ha in 1990 to 1.7MT/Ha in 2000 and has plateaued in the last decade<br>• Maize suffers high post-harvest losses of up to 15% of total production<br>• 61% of maize is produced in Rift Valley<br>• Total value of raw maize production was $1bn in 2013<br>• Maize quality is dependent on inputs used and the agronomy of practices employed | • Transported on bicycles, ox/donkey carts, buses, trucks<br>• Small warehouses are owned by farmers while large ones are run by farmer groups, traders and the national crop board.<br>• Some warehouses provide warehouse receipting<br>• Storage is generally poor, it affects the quality of the maize and often leads to spoilage<br>• Warehouses are poorly built, equipped, and managed, leading to crop spoilage | • Maize meal is the key value added product. Others are cooking oil and animal feed<br>• Estimated milling capacity is 1,770,000 MT p.a.<br>• Large-scale farmers and NCPB process through large millers<br>• Smallholder farmers process through small and posho millers, largely for home consumption | • Grain retailers source from farmers, traders and wholesalers while flour retailers source from millers<br>• Maize is the main staple food in Kenya at a per capita consumption of 103Kg/person/year (highest in East Africa) accounting for 36% of total caloric intake<br>• Processing by-products are typically used as animal feed |
| Main actors | • ~10,000 agro-dealers are primary input suppliers<br>• 4 importers control ~85% of the fertilizer market<br>• Input distributors<br>• Extension officers | • ~3.4 million SHFs who produce 70% of maize<br>• 3,000 – 4,000 medium and large-scale farmers produce 30% of maize | • Logistic companies<br>• Warehouse service providers<br>• National Cereals and Produce Board (NCPB)<br>• East African Grain Council (EAGC) | • ~10,000 posho (micro) millers, typically seasonal operators<br>• ~20 Medium and large scale millers that process 100-600MT/day (over 85% of national processing capacity). Largest are Mombasa, Pembe, Premier, and Unga millers<br>• ~100 small-scale millers processing ~360MT/year | • Retail kiosks: from roadside to market stalls to small shops<br>• Supermarkets<br>• End consumers |

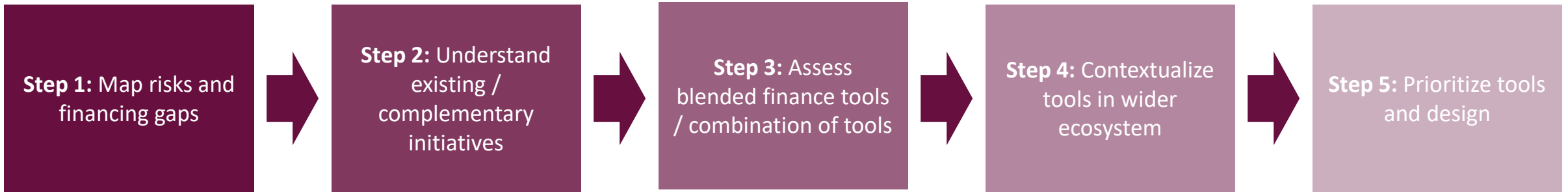
Source: USAID/KAVES, Kenya Maize Value chain Analysis, 2015; USDA, Kenya Grain Report, 2015;

# The formal market is supplied mostly by c1,000 large producers and c3,000 medium sized producers; smallholders mostly produce for subsistence and sell to informal millers




*Large Holder Farmers cultivating >25 acres primary for commercial purposes
**Medium Holder Farmers and FBOs (largely small producer groups) cultivating 10-25 acres
***Small Holder Farmers cultivating <10 acres mainly for subsistence and surplus for sale. ~65% is retained, ~15% is lost post-harvest and remaining is sold
Source: USAID/KAVES, Kenya Maize Value chain Analysis, 2015; USDA, Kenya Grain Report, 2015; Drought Tolerant Maize for Africa (DTMA) publication, Sep 2015

# For our analysis, we apply a risk-led 'ecosystem' approach to identify which blended finance tools (or combinations of tools) can unlock financing into the sector

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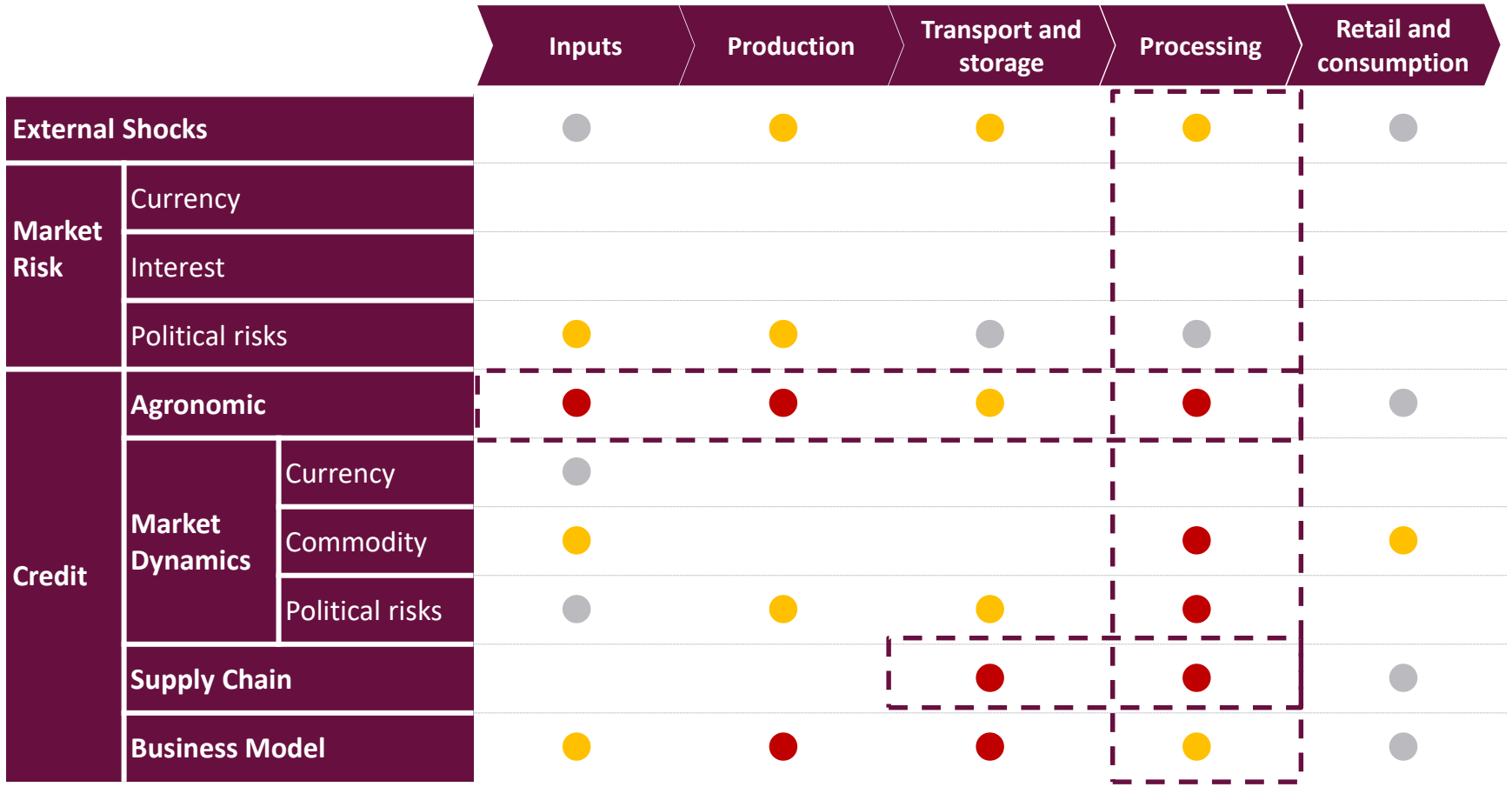
**Step 1:** Map risks and financing gaps

# The availability of financing across the maize value chain is constrained particularly due to agronomic risks and challenges around lack of organization in the supply chain

**Indicative**




- Overall, the maize value chain actors are exposed to significant agronomic and supply chain risk, with commodity risk also affecting those processors who import to drive utilization.
- Maize is a relatively unknown sector for most investors to lend towards; its low level of organization poses business model risks to investors.
- High quantity of political interventions by the government pose political risks across the value chain.
- Combined risks particularly affect processing; if resolved this stage could form an important base offtaker to support organization of the sector

**Extent of risk:** How much is the risk constraining financing?

- ***High***
- ***Medium***
- ***Low***

SOURCE: KNBS 2014, USAID KAVES Maize Value Chain Analysis 2015, AGRA 2010, FSD 2012, MoA, Dalberg analysis

**Step 1:** Map risks and financing gaps

# For value chain actors, key risks are agronomic, supply chain, political, and commodity risks

| Risk | Who it affects | Risk level | Description |
|---|---|---|---|
| **Agrono-mic** | Producers | | • **Maize yields in Kenya fluctuate significantly** from 0.4MT/Ha to over 6MT/Ha **as a result of weather-related issues and pests/diseases** (e.g. the current fall by army worms & lethal necrosis disease). **Only 5% of maize area is irrigated**. **70% of maize farmers use fertilizer but largely below recommended rates**. SHFs experience high post-harvest losses. |
| | Input suppliers | | • Input demand is affected by adverse weather, pest/diseases, and farmer income. |
| **Supply chain** | Warehouse operators | | • **Household storage is suboptimal and warehouses are poorly built, equipped, and managed, leading to spoilage of 7-15% of total output**. Aflatoxins led to the loss of 6% of national output in 2010.<br>• Maize distribution is highly fragmented. **Warehouses do not have a guaranteed maize supply,** leads to idle capacity. |
| | Millers | | • **Inconsistent supply of maize / inferior quality of maize are major problems for millers.** ~73% of farmers sell maize at the farm gate to thousands of fragmented small traders to avoid transport costs.<br>• **Small millers are physically & financially unable to stock enough maize to remain operational during off-seasons**.<br>• Kenya imports 10% (but up to 50% in low output years) of its maize; **high fluctuations in national production and dependency on imports further add supply risks to maize offtakers,** especially when there are political risks in exporting countries. |
| **Political** | Producers | | • **Maize supply & prices are very politically sensitive**. The government thus attempts to control prices through **policy interventions such as frequent trade bans, creating market uncertainties and affecting consumer demand**. |
| | Traders, millers | | |
| **Commo-dity** | Traders, millers, retailers | | • **NCBP regulates the maize price by fixing a wholesale offtaking price, holding grain stock, and releasing it to the market to control its price**. In 2011, NCPB rose the wholesale prices by a record 62% above the prevailing market price. |
| | Input suppliers | | • **The government controls ~20% of fertilizer supply**, marketing their fertilizer at 30-40% lower than commercial rates.<br>• Falling commodity price lowers demand for inputs, this affects input supply businesses. |
| **Currency** | Importers | | • Imported inputs, particularly fertilizer, are **subject to risks around the depreciating Kenyan shilling**. |
| | Producers | | • Producer's demand for inputs may lower as a result of price movements from currency depreciation. |
| **External shocks** | All actors | | • **Violence** (e.g., post-election violence, terrorism) **negatively affects value chain actors' ability to produce, distribute, and process maize.** It also affects demand from end consumers. |



SOURCE: KNBS 2014, USAID KAVES Maize Value Chain Analysis 2015, AGRA 2010, FSD 2012, MoA, Dalberg analysis

**Step 1:** Map risks and financing gaps

# For providers of finance, credit, political, and business model risks are critical

| Risk | Who it affects | Risk level | Description |
|---|---|---|---|
| **Credit (from the sector)** | Investors | | • **Agronomic, commodity, political and supply chain risks facing maize value chain players (as described in previous slide)** affect ability of borrowers in the maize value chain to repay credit on time. These risks limit access to finance as providers of finance consider the sector to have high credit risk. |
| **Political** | Investors | | • **Government debt relief in the run-up to elections inevitably impact farmers' incentives to repay loans**, e.g., in July 2017, the government waived $15 million in farmer loans owed to the government-owned bank Agricultural Finance Corporation.<br>• Political messaging of 'free money' by some politicians for guaranteed or concessional agricultural loans provide a disincentive to repay. |
| **Business model** | Investors | | • Many **banks have little experience with agriculture lending** (few exceptions e.g. Equity bank, Co-op bank). They **don't understand the risks involved in value chains and also lack internal capabilities to design appropriate products needed for agricultural lending**.<br>• **Lending in an unstructured staple crop such as maize is riskier due to the multiple fragmented players involved, each introducing additional risks**. DCA's credit guarantee to Kenyan banks has only a 20% utilization in agriculture while over 75% utilization in general and energy lending. |
| **Currency** | Foreign currency investors | | • **The depreciating Kenyan shilling** puts pressure on the value of a hard-currency-financed investment. The Kenyan shilling has depreciated by about 20% between 2014 and 2017. |
| **External shocks** | Investors | | • **Violence** (e.g., post-election violence, terrorism) **affects business operations, depreciate assets and affect borrowers' ability to meet financial obligations**, therefore posing a credit risk to lenders. |

SOURCE: KNBS 2014, USAID KAVES Maize Value Chain Analysis 2015, AGRA 2010, FSD 2012, MoA, Dalberg analysis

**Step 2:** Understand existing initiatives

# Current efforts are addressing these risks through blended finance, most notably Farm to Market Alliance, Kilimo Biashara, and Area-Yield Index Insurance Program

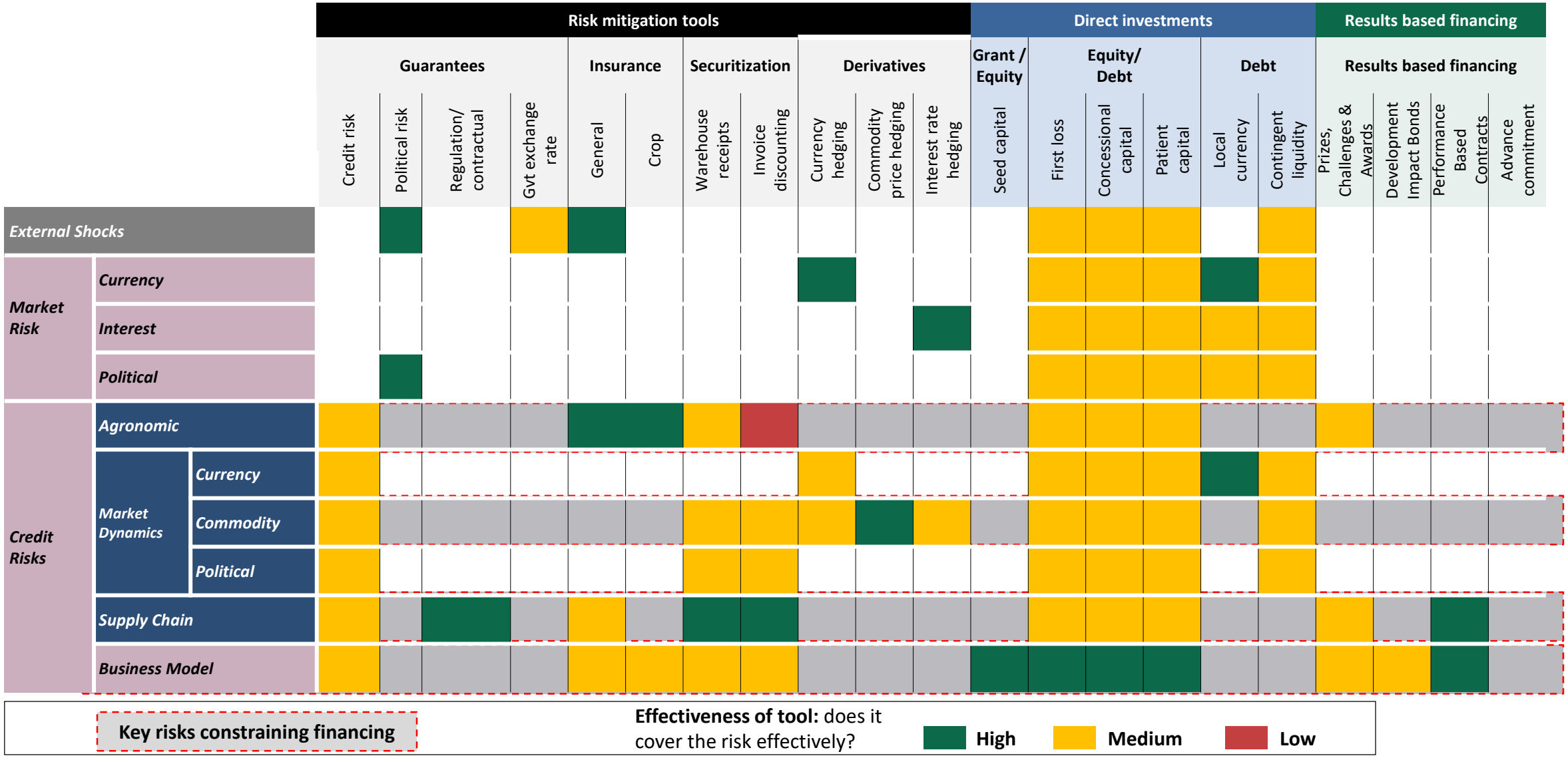
| Existing initiatives | Risks/gaps addressed | How it is designed? | Results / challenges |
|---|---|---|---|
| **Farm to Market Alliance** | **Supply chain risk** to offtakers/processors<br>**Agronomic** risk faced by farmers<br>**Business model risk** faced by lenders | • FTMA leverages cooperative membership and forward purchase contracts to secure input finance with embedded crop insurance for SHFs<br>• Banks approve loans to pre-vetted cooperatives and funds are advanced to input providers on delivery of inputs to SHFs<br>• FTMA partners also provide extension services to SHFs, as well as asset financing for post-harvest equipment, and linkage to offtakers<br>• FTMA is looking to launch a SHF financing program and a risk-sharing facility to facilitate lending to farmers and agricultural SMEs<br>• **FTMA has just entered Kenya** after successful pilots with SHF maize farmers in Tanzania, Zambia, and Rwanda | • *Results:* platform currently offtakes from over 75,000 farmers and growing<br>• *Challenges*: (i) high cost and donor-dependency of the model (ii) non-performance of forward contracts (side-selling) (iii) reluctance of banks to take on risk |
| **Kilimo Biashara** | **Agronomic** risk faced by farmers<br>**Business model risk** faced by lenders | • **Agri credit facility by Equity bank, AGRA, and IFAD (through the Government of Kenya)**<br>• AGRA and IFAD provide **10% first-loss guarantee**<br>• Loan targets food-crop SHFs who commercialize produce. Loan is for inputs, machinery or working capital. **Loans have subsidized interest of 10% p.a.**<br>• Equity leverages its 29,000-agents and mobile money network<br>• In 2017, the Ministry of Agriculture signed an **agricultural credit guarantee of ~$3 million** | • *Results:* since 2008, ~$70 million disbursed to ~500,000 individuals<br>• Risks were mitigated through integration into the supply chain (e.g., guaranteed offtake from WFP) and equity's extensive experience in agriculture lending |
| **Area-Yield Index Insurance Program** | **Agronomic** risk of low yields faced by SHFs | • A partnership between 7 Kenyan insurance companies launched an **Area Yield Index Insurance product, forming an insurance pool.**<br>• **The government provides 50% subsidy on the insurance premiums** for 5 acres per farmer. Farmers are compensated if yields are below 80% of expected harvest.<br>• Instead of looking at individual farmers, the product considers a 'unit area of insurance' – a homogeneous area with similar agro-ecology, agronomy practices, risk exposure, and near-similar yields | • *Results:* piloted in 3 counties in 2016 and scaled to 10 counties in 2017<br>• *Challenges:* (i) difficult/costly to obtain accurate historical data on unit areas of insurance, (ii) limited technical knowledge on this new product and sector – business model risk to insurers |

Source: KNAIP, Area Yield Index Crop Insurance Program, March 2017 Presentation; stakeholder interviews

**Step 3:** Assess blended finance tools

# Applying the toolkit to Kenya's maize value chain, there are various tools that are and/or can be used to address these key risk / gaps

**Indicative**




Source: Dalberg analysis

**Step 3:** Assess blended finance tools

# These tools can be combined for greater effect to de-risk investments in the maize value chain

**Indicative**

| Blended finance package | Risks addressed | Why it would make sense? | How it could work? |
|---|---|---|---|
| **A** Input financing + forward contract (+ credit guarantee + crop insurance) | • Agronomic<br>• Supply chain | • Quality of maize is a concern for medium/large processors, who are dependent on quality inputs, GAPs, and storage<br>• Inputs require upfront outlay for farmers, so input finance is required<br>• Banks are more likely to lend where forward contracts are in place, and have been paired with extension services | • Processors sign offtake agreements with farmers or coops<br>• Banks provide input financing (could be with credit guarantees and / or bundled with crop insurance)<br>• Donors support farmer groups in using GAPs to ensure high quality harvest |
| **B** Warehouse financing (+ credit guarantee) | • Agronomic<br>• Supply chain<br>• Commodity | • SHFs face significant post-harvest losses from limited / no storage capacity; they sell immediately after harvest at low prices<br>• Commodity traders often require trade financing<br>• Warehouse receipts allow SHFs/traders to access credit using collateralized commodities | • Through a credit line and a credit risk guarantee, DFIs can support lenders to offer warehouse financing to SHFs and traders. The financing can also be availed to rehabilitate and equip warehouses, thereby maintain commodity quality<br>• EAGC certifies the warehouses, provide TA to coops, and conducts due diligence on prospective cooperatives |
| **C** Value chain SME credit facility (with risk-sharing capital structure) | • Business model | • Maize processors struggle to obtain lines of credit from local banks, who are markedly reluctant to lend to non cash-crops<br>• With a capital structure, where donors / DFIs absorb some risk, banks will be more willing to lend to maize processors<br>• With a few lending cycles, this can demonstrate to banks that risks are lower than perceived | • Donors / DFIs design a tiered/risk-sharing capital structure (senior debt, subordinate debt, guarantees) facility and partner with local banks to facilitate loans to maize processors<br>• Maize processors can pre-qualify under the dedicated maize facility for a quicker approval process when finance is needed |
| **D** Post-harvest asset financing (+credit guarantee) | • Agronomic<br>• Supply chain | • Inconsistent maize supply and spoilage from poor storage are major issues facing offtakers and farmers (supply chain risks)<br>• All these can be addressed by proper long-term storage solutions, such as silos and warehouse equipment<br>• However, offtakers (processors, traders, warehouses, etc.) typically lack financing to acquire necessary equipment to store maize and manage the supply chain | • Through a credit line and/or a credit risk guarantee, DFIs can support commercial lenders to provide asset financing to offtakers for acquiring post-harvest equipment<br>• The financing will be collateralized by the equipment and the commodity stored |

***This is only an indicative list of blended finance interventions for the maize sector, focusing on addressing the most critical risks.***

**Step 4:** Contextualize tools in wider ecosystem

# Broader ecosystem issues have implications on deploying blended finance interventions in the maize value chain

| | Ecosystem issues | Implication for blended finance |
|---|---|---|
| **Policy and regulation** | • **Trade regulations** – including unpredictable maize imports / export bans in Kenya and other countries<br>• **Political involvement** (as maize is a food security crop, involves mostly SHFs) distorts market<br>• **Fertilizer subsidy of up to 50%,** but variable between years<br>• Maize **price controls by NCBP** distorts market conditions | • Price controls and unpredictable market environment limits the applicability of forward contracts.<br>• Work with regulators is required in order to encourage transparency and predictability in policy decisions |
| **Finance issues** | • **Bank loan interest rate cap** of 4% above the Central Bank Rate (currently at 10.5%) limits access to finance for maize farmers and SMEs who are typically considered riskier than the cap's provision<br>• **Favorable T-Bill rates** absorb domestic capital, lowering financiers' appetite to invest in high-risk sectors including agriculture<br>• **Novelty of agriculture insurance products** e.g. weather-index and area yield insurances, requires refinement | • Support for lenders must increase to effectively assess credit worthiness of borrowers in the maize value chain<br>• Cushion lenders with products that hedge their risks in agricultural lending<br>• Partner with financial institutions that have an appetite for agricultural lending – have experience, offer lower rates, are closer to farmers, use low-cost distribution channels |
| **Real economy issues** | • **Poor aggregation and few maize cooperatives**, as is typical of unstructured crops<br>• **Ease of diversion of produce (side selling)** caused by weak and unstructured market linkages dominated by unregulated middlemen who control the flow and trade of maize produce<br>• **Weak information flows** create information asymmetry that depress farmers margins<br>• **Weak infrastructure** – poor road network, underdeveloped irrigation, high cost of electricity - affect production, movement and processing of maize<br>• **Competition from neighboring countries** who are net surplus producers of maize | • Work with partners that promote aggregation; work with aggregated farmers, or consider alternative low-cost and low-risk distribution channels<br>• Incorporate strong market linkages in blended finance interventions through mechanisms such as offtaker agreements with anchor buyers<br>• Control side-selling as it jeopardizes loan repayments<br>• Bundle interventions with informational services to bridge the information asymmetry in the value chain and allow farmers better returns |



Source: Dalberg analysis; USAID/KAVES, Kenya Maize Value chain Analysis, 2015

Step 4: Contextualize tools in wider ecosystem

# For the blended finance tools / packages to work, a broader set of ecosystem (including non-financial) issues need to be considered in parallel

Indicative

| | What other factors need to be in place for success? | Viability of adequately addressing these issues |
|---|---|---|
| **A Input financing + forward contract (+ credit guarantee + crop insurance)** | • Side selling is a major impediment. Need to create strong incentives and mechanisms to control it<br>• Farmers need TA* to ensure high quality and quantity of harvest<br>• Work with aggregated farmers to lower risks – through NGOs or other points of aggregation, such as offtakers with out-grower models | • Issues can be addressed by working with aggregated farmers and involving the local government and local farmer-focused NGOs who can support enforcing the honoring of offtaker contracts and provide agronomic TA to the farmers |
| **B Warehouse financing (+ credit guarantee)** | • Community warehouses need good farmer organization, e.g. through coops<br>• Warehouses must be equipped to test maize and maintain quality, and must be well managed – a financing and TA need for warehouse operators<br>• Ecosystem must support warehouse receipting, e.g. financial institutions accept warehouse receipts; strengthening of the commodity exchange<br>• Warehouses need market insights to sell commodities at the best times | • Working with EAGC and organizations that support farmer aggregation will, by and large, address these issues<br>• There is much work to be done in popularizing warehouse receipting and developing the ecosystem for warehouse receipting and commodity exchange<br>• EAGC offers some market insights & linkages to warehouses |
| **C Value chain SME credit facility (with risk-sharing capital structure)** | • Banks need TA to build capacity to properly assess the value chain and associated risks; and then be able to mitigate them. They also need TA to properly design products specific for agricultural lending<br>• Concessionary capital should not be viewed as removing all the risks, otherwise banks will not learn how to properly lend in agriculture and may eventually be crowded-out from additional lending | • The issues can be addressed in the design of the credit facility and by identifying the right partners to provide technical assistance to the banks<br>• There are a wealth of lessons to be learned from similar past interventions, e.g. from AATIF's investment in Chase Bank Kenya to facilitate lending to agricultural SMEs |
| **D Post-harvest asset financing (+credit guarantee)** | • Offtakers need a good maize supply to guarantee good utilization of their fixed assets.<br>• This can be achieved by offtaking agreements or by working directly with aggregated farmers. | • Offtaking agreements with the correct incentive mechanisms have shown to facilitate the right supply of produce |

Notes: * Technical Assistance
Source: Dalberg analysis

**Step 5:** Prioritize tools and design

# Input financing and warehouse receipt financing, which provide an attractive balance of investment and likelihood of success, will be explored further

Indicative

| | | Input financing | Warehouse financing | SME credit facility | Asset financing |
|---|---|---|---|---|---|
| Minimum sufficiency to be **effective** (i) **in scope** and (ii) **in scale** | (i) Does it cover all key risks effectively? (ii) Is the tool of a sufficient size to be feasible (versus the costs to implement) and effective? | As a solution focused on delivering high quality products to processors, most risks are adequately covered. | Does not address downstream risks, e.g., agronomic risks | Although the package may collectively address a broad spectrum of risks, it may not address all risks at an individual level | Addresses supply chain and commodity risks |
| **Market Distortion** (minimally distorts markets) | How much will this distort efficient market functioning? | Works to make the market more efficient by removing the middlemen | Works to make the market more efficient | If not properly designed, it can provide cheap capital to banks and discourage additional commercial lending | If not properly designed, it can provide cheap capital to banks and discourage additional commercial lending |
| **Complexity** (implementation risk) | Are there too many key actors involved such that it may be too hard to launch, coordinate the actors or operate? | Involves multiple parties, each critical to the package's success; coordination may be challenging | Involves multiple parties – most requiring technical expertise. Facility introduces relatively new tradeable instruments | Lean partnership and successfully proven model. Involves a DFI, a bank, a TA provider, and the borrowers. | Involves a DFI and a bank, and the borrowers |
| **Cost** (cost of operating the tool) | Is there a cheaper way to get a comparable result? | The TA needed by farmers will incur additional costs | Relatively cost-effective | A capital structure may be costly to develop and manage from the fund management fees | Relatively cost-effective |
| **Sustainability** (impact post shutdown) | Will private investment be sustained after this intervention ends? Should & can this intervention be permanent? | Strongly market-driven intervention is likely sustainable as it makes commercial sense to all parties involved | Warehouse infrastructure and a widely-adopted warehouse receipt system/ upcoming commodity exchange will outlive the intervention | If the facility is properly designed, financial institutions will better understand real vs. perceived risks and learn to mitigate risks in ag. lending | If the facility is properly designed, financial institutions will better understand real vs. perceived risks and learn to mitigate risks in ag. lending |

**Expected performance** of the package / tool — **Positive** **Average** **Negative**

Source: Dalberg analysis

Step 5: Prioritize tools and design

# Key design and implementation considerations for prioritized blended finance tools / packages

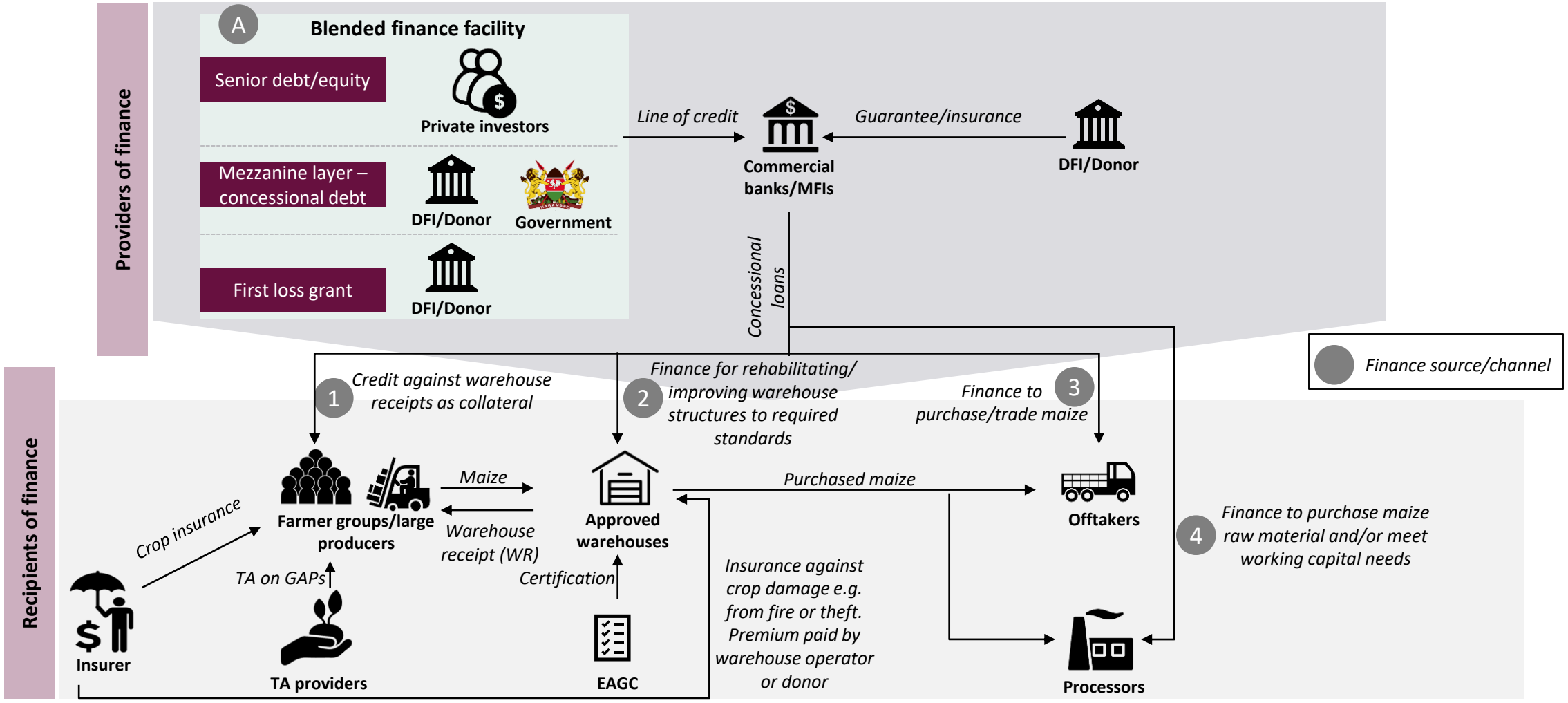
| | A Input financing + forward contract (+ credit guarantee + crop insurance) | B Warehouse financing (+ credit guarantee) |
|---|---|---|
| **What are key design questions to address first?** | • What profile of processors would be interested and should be targeted?<br>• Which TA organization has deep engagement with a large number of farmer groups/coops that act as a strategic partner?<br>• How to structure the forward purchasing agreement to minimize counterparty risks? | • What is the best way to structure the warehouse receipting to best position it as a tradeable instrument acceptable by financial institutions?<br>• Which warehouses should be supported to ensure maximum utilization?<br>• How should farmer groups / coops be incentivized to own, operate, and use warehouses efficiently? |
| **What non-financial components need to be incorporated?** | • Agronomic technical assistance to farmers<br>• Controls for side-selling, such as forward purchasing agreements and exploring legal or other avenues of enforcing contracts<br>• Digital tools to ease disbursement and repayment of loans | • Promoting and supporting crop aggregation among farmer groups<br>• Raising awareness and educating farmers on warehouse receipting<br>• Building capacity of warehouse operators to properly manage stock and warehouse receipting |
| **Who are suitable partners?** | • DFIs that offers credit risk guarantees (e.g. GAFSP, DCA)<br>• Equity, Co-op, or KCB bank - experienced agricultural lenders with good rural coverage<br>• Small and medium-sized millers (members of United Grain Millers and Farmers Association)<br>• One Acre Fund, USAID-KAVES, or a similar organization / program – to provide aggregated farmers and offer TA to them<br>• UAP insurance – experienced with offering crop insurance<br>• Input providers with good last-mile reach | • East African Grain Council (EAGC) – certify and support warehouses to offer warehouse receipts<br>• Banks with prior experience with warehouse receipt system, e.g. Equity Bank<br>• USAID-KAVES or similar organization – to support crop aggregation and warehousing |

Source: Dalberg analysis

# In practice, warehouse receipt financing can be combined with insurance and guarantees for optimal results

Indicative

## Illustration of blended finance intervention in warehouse receipt finance




**Structure manages risks by shifting risks from borrower's fixed assets to the commodity**

Source: Dalberg analysis

Introduction and Executive Summary

**Context and a Mapping of Risks in Agriculture**
An overview of the challenges and risks in agricultural value chains and how they restrain the supply of finance to the sector

**An Overview of Blended Finance and Initial Toolbox**
A definition of blended finance, and how tools can be used to crate catalytic transactions and vehicles

**Stocktaking and Recommendations for Scaling Blended Finance**
The track record for Blended Finance so far in agriculture, lessons learned, and emerging recommendations for scaling

**An Ecosystem Approach to Putting Blended Finance into Practice**
**How Blended Finance tools can and are being used in de-risking cash and food crops**

Maize

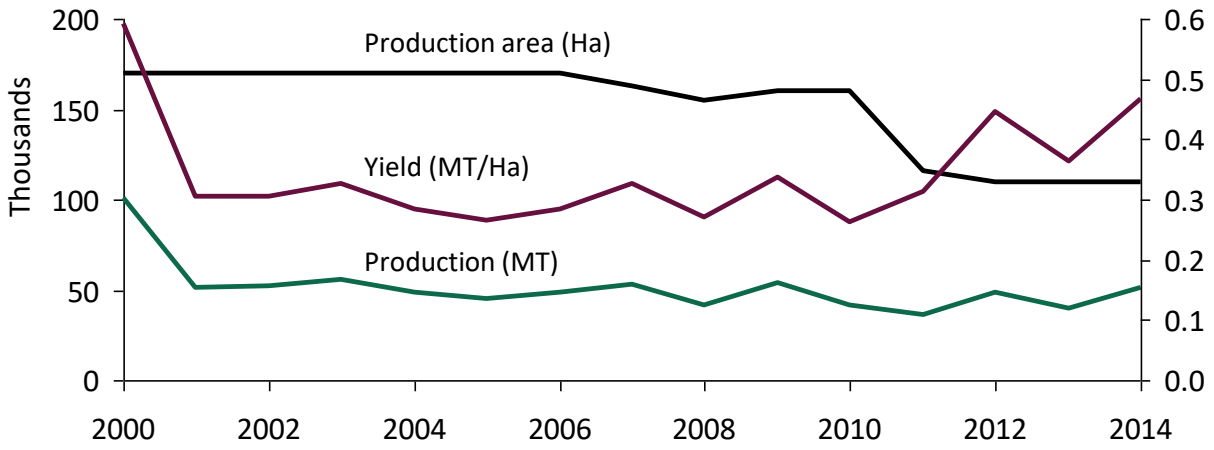
**Coffee**

# Despite declining production, coffee remains among the top 3 agricultural exports for Kenya, and there are signs that the sector is poised to bounce bank

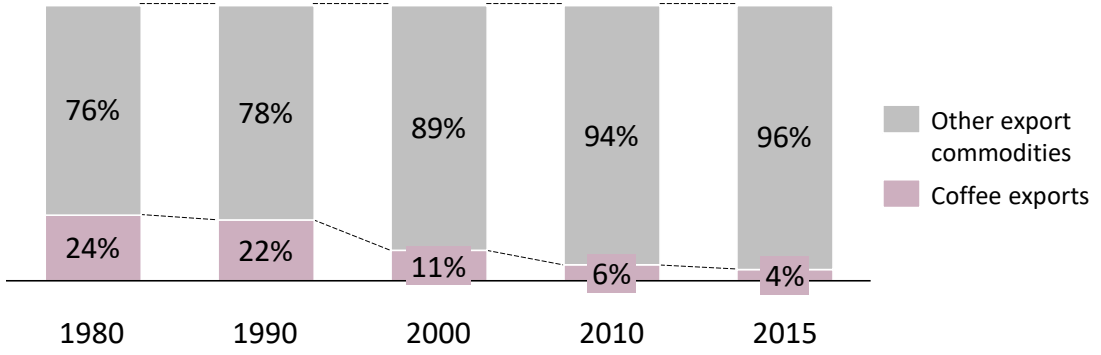
## Overview of Coffee in Kenya

- Kenya's arabica coffee is considered of **high quality world-wide** – highly sought to blend lower quality varieties
- **700,000 small farmer households** are involved in the primary production of coffee in Kenya, often organized in cooperatives
- Coffee sector activities are **highly structured** and there is **close oversight by the Government of Kenya (GoK)** via the Coffee Board of Kenya
- Production has declined by over 50% from ~130K MT p.a. in the 1980's to a currently level of c.50K MT p.a. However, **the trend is reversing through efforts to improve agronomic practices**
- Declining production in Kenya has been caused primarily by:
  - Reliance on **old, poor-yielding coffee trees with limited use of farming inputs**
  - **Low processing capacity utilization** (less than 5% primary, c.30% secondary), leading to poor financial performance
  - High opportunity cost for producing coffee due to the increasingly **high value of real estate** and **success of alternate crops** such as tea and horticulture
- Many **coffee cooperatives are perceived as not creditworthy** due to the significant loans in default with Cooperative Bank (GoK has indicated they will waive debt)
- Other **key risks limiting finance** to the coffee value chain are: (i) **agronomic and commodity risks faced by producers** and impacting coffee supply in the VC and, (ii) **supply chain and political risks faced by all coffee VC players** that undermine optimal functioning of the VC

**Coffee cultivated area, production and yields in Kenya (2000-2014)**
Hectares; Metric tonnes; Metric tonne per hectare




**Share of coffee in total Kenyan exports in USD value**
Per cent (%)



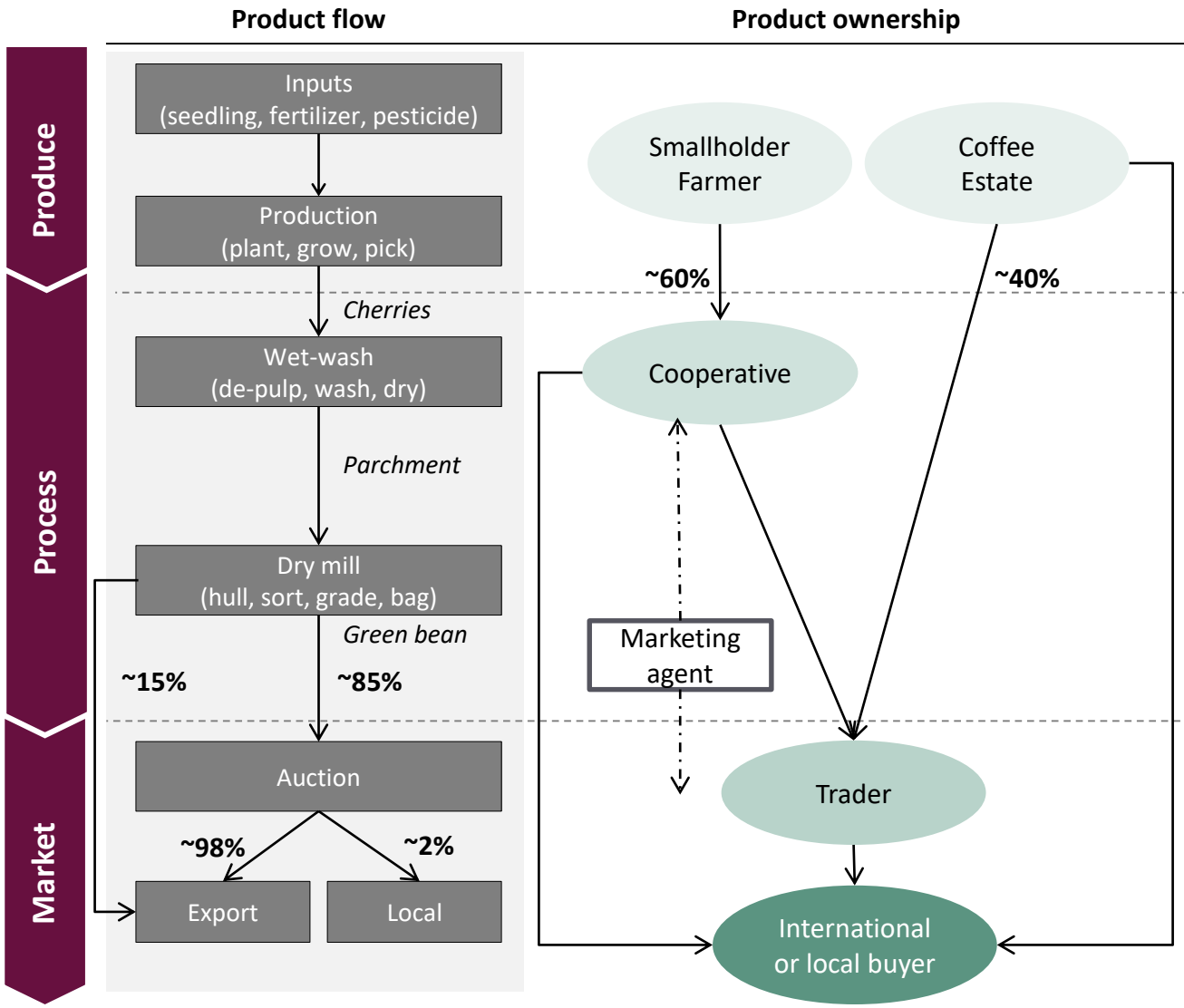

Source: KNBS 2014, USAID 2010, AGRA 2010, FSD 2012, MoA, KNBS Economic Survey 2017, FAO CountrySTAT, Dalberg analysis; OEC Kenya trade data

# While coffee in Kenya is well structured – with aggregation via cooperatives, auction-based marketing system, and channels to export – much value is lost at production and processing

| | Inputs | Production | Processing | Trade | Retail and consumption |
|---|---|---|---|---|---|
| Key features | • c.7 coffee varieties in Kenya – K7 ,SL 28, SL 34, Ruiru 11 and Batian<br>• Coffee seedlings are supplied by registered coffee research stations<br>• Limited use of other inputs e.g. fertilizers due to stiff competition from other crops e.g. maize – coffee SHFs practice mixed farming | • c.114K ha under coffee – mostly in Central and Eastern regions<br>• Small scale farmers produce ~60% of national coffee output, remaining 40% is from medium to large coffee estates<br>• 90% of coffee grown in Kenya is Arabica – considered to be of higher grade than Robusta | • Primary processing (also called wet milling) is done by cooperatives who have at least 1 mill, and some as many as 10<br>• Producers are required to deliver their cherries to the cooperative where they are a member, usually the one closest to them<br>• Parchment coffee from cooperatives is then transported in gunny bags to millers for hulling, polishing and grading to produce green beans<br>• Total dry milling capacity of c.350K MT, on basis of 8-hour shift<br>• Dry milling is done on contract between cooperative and miller | • 98% of coffee produced is exported<br>• Two marketing systems exist in Kenya:<br>1. Central auctioning at Nairobi Coffee Exchange (NCE) every Tuesday – trades c.85% of coffee marketed<br>– Licensed dealers buy USD priced 50kgs coffee via competitive bidding<br>2. Direct sales – marketing agents sell directly to a buyer, contract is registered with the Coffee Board of Kenya<br>• Two types of marketing agents exist:<br>– Commercial marketing agents market coffee for contracted farmers for a fee<br>– Grower marketing agents market their own coffee only<br>• All dealers and marketing agents must be registered with the Coffee Board of Kenya<br>• To sell coffee at the auction, one must deposit a USD 1 million guarantee | • Only c.2% of coffee produced in Kenya is consumed locally<br>• Local roasting is done by coffee shops, mostly located in major urban areas<br>• Recent market entrant is Denmark's Africa Roasting Company that exports shelf-ready Kenyan coffee |
| Main actors | • Coffee Research Institute – research and provide coffee seedlings<br>• Over 10,000 input suppliers | • c.700K small scale farmers<br>• c.4k medium to large scale tea estates | • c.525 cooperatives and c.3000 estate owned and operated pulping stations<br>• c.18 registered commercial millers – 50% are private businesses | • c.60 dealers at NCE - about 25 are active (usually international buyers' representatives)<br>• c.8 licensed marketing agents – usually double as coffee millers | • Exporters e.g. Africa Coffee Roasters<br>• Local retail outlets e.g. Java, Dormans |

Source: Dalberg analysis; May 2016, Report of the National Task Force on Coffee Sub-Sector Reforms

# Most smallholders sell through cooperatives, which struggle to access finance for both inputs and processing: traders and marketers take the bulk of margins and more easily access finance




**Finance supply and gaps**

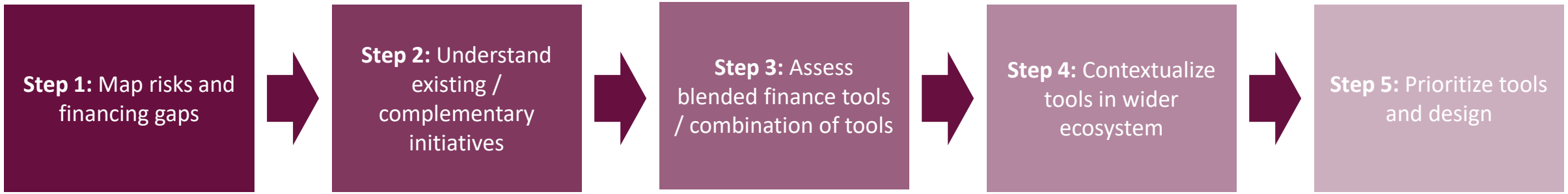
- **The financing need from smallholder coffee farmers and coffee estates in Kenya is estimated at USD 125m,** primarily for purchase of inputs, equipment and working capital
- A few banks have developed loan products targeting coffee farmers – notably Cooperative and Equity – **with total financing estimated at USD 103m per year**
- This leaves a **USD 22m shortfall** (under a conservative estimate)

- We estimate that **Kenya's coffee cooperatives require c.USD 55m per year** for operational costs and providing pre-financing to member smallholders
- The **Stabilization of Exports ("StabEx")** facility via Cooperative Bank is a source of **trade and input finance for cooperatives**; other banks cannot compete with its subsidized terms (e.g. 5% interest rate)
- Cooperatives often borrow from multiple banks, pushing to offer more finance to their members (facing competition from other cooperatives), often making sub-optimal financing choices
- Dry millers, who also double as marketing agents, access **asset finance from local banks for milling equipment and storage equipment** – where they have strong operating record and collateralize the assets

- Traders / exporters require **shorter-term trade finance** to facilitate transactions e.g. certification programs

Source: Kenya Export Processing Zones Authority, 'Tea and Coffee Industry in Kenya' (2005); Kenya Coffee Value Chain Analysis, USAID (for select data, as of 2008-09). Dalberg analysis and interviews

# For our analysis, we apply a risk-led 'ecosystem' approach to identify which combination of blended finance tools can unlock financing into the sector




***Risk-led:*** *We identify the main risks and gaps faced by actors across the value chain, as well as providers of finance*

***Additive and complementary:*** *We look to understand financial and non-financial initiatives to contextualize any new intervention and learn from them*

***Tools / combinations:*** *Based on the risks and gaps identified, we assess which tools can address them*

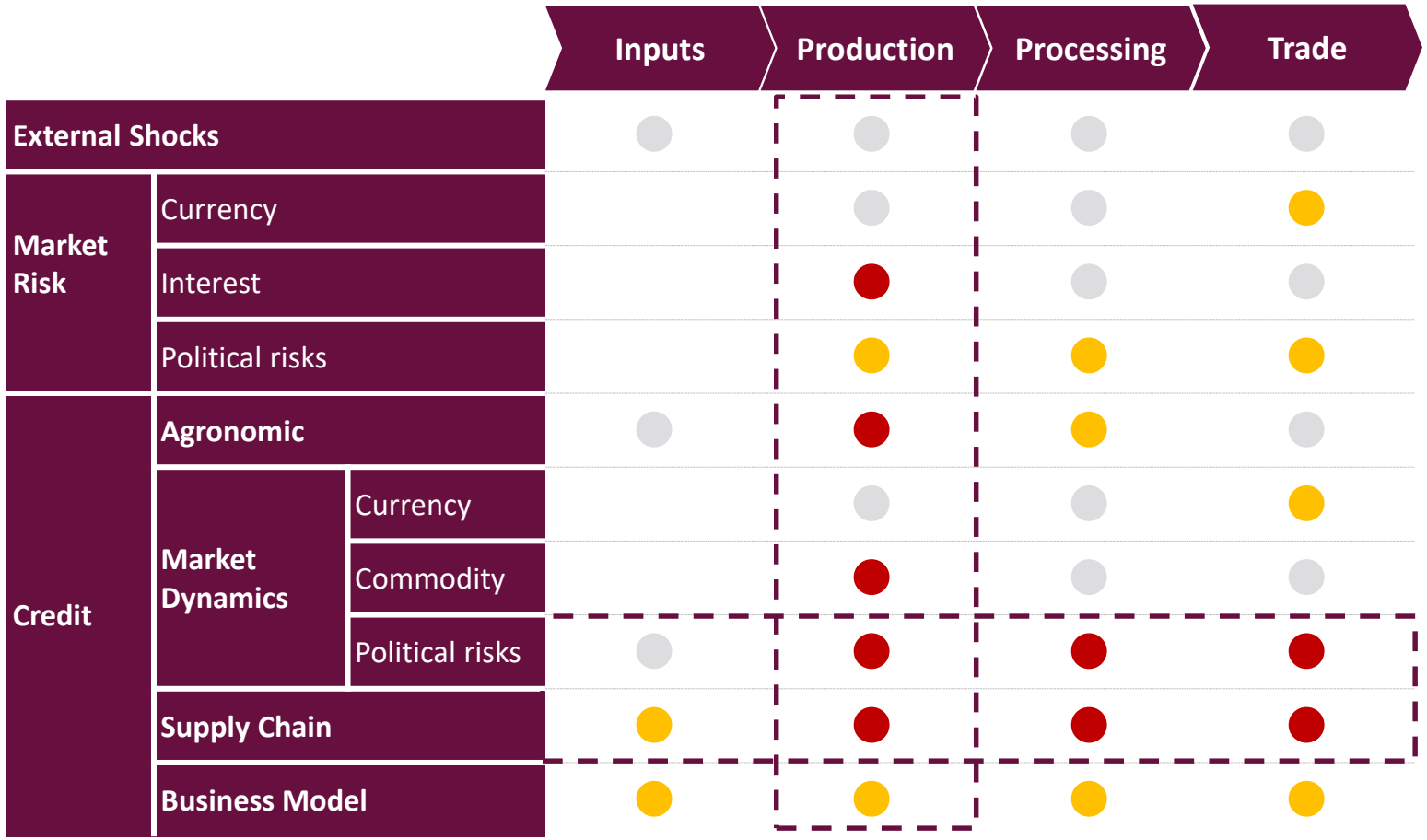
***'Ecosystem' approach:*** *Our approach focuses on the main risks and gaps faced by actors across the value chain, as well as providers of finance*

***Looking forward:*** *We prioritize blended finance interventions that balance cost, effectiveness, and complexity*

Source: Dalberg analysis

**Step 1:** Map risks and financing gaps

# The availability of financing across the coffee value chain is constrained due to risks faced by value chain actors and providers of finance




**Extent of risk:** How much is the risk constraining financing?

- *High*
- *Medium*
- *Low*

- Overall, coffee value chain actors are exposed to significant commodity price risk, especially for producers.
- Political risk is also significant for prospective providers of finance – the recent wide scale forgiveness of coffee farmer debt should be expected to affect future payment behavior, with 'good payers' on loans feeling penalized versus those in arrears.
- Supply chain risks, and in particular challenges in avoiding side selling, lack of stable supply and shifting realized prices (especially for farmers) affect most stages in the supply chain.
- Overall, producers face the largest number of severe risks and challenges, resulting in a stagnation in production of coffee by coffee farmers in recent years.

Source: Dalberg analysis

**Step 1:** Map risks and financing gaps

# For value chain actors, key risks are fluctuation in coffee supply and quality; volatile commodity prices; and political interference, in particular around supply and price (1/2)

| Risk | Who it affects | Risk level | Description |
|---|---|---|---|
| **Agronomic** | Producers | | • **Unpredictable coffee quantity and quality output** resulting from **changes in weather, pest and diseases outbreaks and use of traditional production techniques**. Major diseases affecting coffee include coffee berry disease (CBD), coffee leaf rust (CLR) and bacterial blight of coffee (BBC). Use of improved inputs is limited **due to strong competition from food crops such as maize and higher income crops** e.g. fruits, onions etc. given small scale producers practice mixed farming |
| | Processors | | • Unpredictable coffee volumes available for processing **limit optimal day to day planning for efficient operations** e.g. estimation of working capital needs beforehand |
| **Currency** | Traders | | • Volatile coffee earnings are dependent on global coffee market prices and **determined by global demand and supply of coffee as well as macroeconomic conditions of importing markets.** Effects are magnified by adverse movements in dollar exchange rates given that **coffee trade in Kenya is dollar priced** |
| **Commodity** | Producers | | • **Unpredictable payments to producers for cherries delivered** to cooperatives – payments are made after importers pay for the coffee purchases, so are subject to fluctuating global coffee prices and USD exchange rates<br>• **Producers payments are subject to uncertain deductions to cover cooperative expenses**. Even though capped at 20% by law, this is usually not adhered to, eating into farmers' income – in addition to levies |
| **Political** | Producers | | • **Political interference in the coffee VC is usually to protect producers' interests** but can result in uncertainties in the sector. For example, given Kenya's devolution system counties are pushing to have powers to license coffee millers rather than have their producers rely on marketing agents licensed by the NCE. This can positively or adversely influence production depending on the end value for the producers |
| | Processors | | • **Unpredictable political moves by county governments in the coffee sector especially at the cooperatives level** e.g. Nyeri county issued a directive for all cooperatives in the county to deliver coffee to a specific miller and sell it directly via a specific company. Such a move renders the other millers out of business. |
| | Marketers | | • With heavy government oversight on coffee marketing through the Coffee Board of Kenya, **marketers face significant exposure to effects of political decisions** e.g. uncertainties on impact of **abolishing the required USD 1m guarantee to trade at NCE as recommended** in the 2016 presidential taskforce on coffee sector reforms, likely to increase competition<br>• In reality, reports indicate that Coffee Board of Kenya has never had a board, key decisions are made by the managing director and chairman – expose sector to key man risk that may emanate from political influences |

Source: Dalberg analysis

# For value chain actors, key risks are fluctuation in coffee supply and quality, volatile commodity prices and political interference (in particular around supply and price) (2/2)



| Risk | Who it affects | Risk level | Description |
|---|---|---|---|
| **Supply chain** | Input suppliers | | • **Variations in demand and uptake of inputs based on producers agronomic practices and purchasing ability** causes uncertainties on type and quantity of inputs to stock |
| | Producers | | • **Variations in coffee volume and quality output due to disincentives to grow coffee** as a result of inefficiencies at the cooperatives resulting in **poor and delayed payments to producers**.<br>• **Variations in coffee output due to timely availability of production inputs** by input suppliers, For example, availability of high yielding Batian seedlings at the nearest cooperative to the producer during planting season |
| | Processors | | • **Variations in volume and quality of parchment coffee supply to millers due to weak management/governance of cooperatives and use of obsolete processing equipment** - low incentives for cooperatives to improve their performance given no competition in the closed marketing systems |
| | Traders | | • **Variations in coffee volumes for trade due to illegal collusion and side selling** of coffee along the value chain cause up to 20% losses. This is **driven by need for immediate cash**, usually payments are higher than those paid in the formal system<br>• Mass abandonment of coffee farming by producers has reduced overall coffee supply causing NCE to frequently suspend weekly auctions, sometimes up to a 1 month trading break |
| **External shocks** | All value chain players | | • **Adverse changes in the political climate of coffee importing countries** is likely to impact the domestic coffee value chain activities |

Source: Dalberg analysis; Dalberg stakeholder engagement

**Step 1:** Map risks and financing gaps

# For providers of finance (primarily banks), credit risk of lending to cooperatives is perceived as high due to past defaults, governance / organizational issues, and weak performance

| Risk | Who it affects | Level of risk | Description |
|---|---|---|---|
| **Credit** | Investors | | • **Agronomic, currency, commodity, political and supply chain risks facing coffee value chain players (as described in previous slide)** affect ability of borrowers in the coffee VC to repay credit in a timely manner. These limit access to finance as providers of finance consider the sector to have high credit risk |
| **Political** | Investors | | • **Political interference by both national and county governments and restrictive regulations** make lending to the coffee sector high risk. For instance, given the current government just won elections to rule for a second term, **there could be a renewed push to implement policy recommendations in the 2016 report on coffee sector reforms**. This leads to high level on uncertainty on which changes will occur and may limit willingness to lend to the coffee sector<br>• Previously, **government has stepped in on several occasions to offset outstanding loans owed by coffee farmers and cooperatives** e.g. in June 2017, government waived c. USD 16m owed to cooperative bank (StabEx Fund). Such measures send negative market signals to providers of finance that loans to coffee sector are highly likely to be defaulted thus limiting finance inflows to the VC |
| **Business model** | Investors | | • Lending to the coffee sector is currently dominated by cooperative bank, who hold the StabEx Fund and have a strong association with the cooperatives (some own shares). Other providers of finance have **limited understanding of dynamics of the coffee value chain** e.g. key risks faced and financing needs. To address these, **lenders need to invest in understanding the coffee value chain and thereafter adapt lending processes and develop appropriate financial products** for the sector as necessary. If undertaken, these activities pose high business model risk for the lenders which limits financing to the coffee sector |
| **External shocks** | Investors | | • **Risks related to violence** (e.g., post-election violence, terrorism) **undermine agricultural investments as they affect the entire coffee sector ecosystem**<br>• **Changes in domestic lending policies** such as interest rate caps and requirements on composition of loan/agriculture portfolios will affect lending to the broader agriculture sector which include the coffee value chain () |

Source: Dalberg analysis

Indicative

# Concessional loans by government and donors are the most common blended finance intervention in coffee in Kenya

| Existing initiatives | Main risks addressed | How it is designed | Results / challenges |
|---|---|---|---|
| **Grants targeted at various sections of the coffee VC** | **Agronomic risk** faced by producers<br>**Supply chain risk** faced by downstream players | • EUR 2m Coffee Productivity Project by GoK(12% funding) and EU (88% funding) implemented by Coffee Research Institute under KARLO<br>• Produces seedlings to distribute to private nurseries close to farmers to increase adoption of improved coffee varieties (Ruiru 11 and Batian) | • *Results*: c.2.8m coffee seedlings distributed annually from 28 modern cooperative and private nurseries<br>• *Challenges*: Weak value proposition to farmers - does not provide linkages to markets to ensure producers get value from coffee farming |
| **Coffee Development Fund** | **Agronomic risk** faced by producers<br>**Supply chain risk** faced by downstream players | • Lending is directly to producers or via intermediaries e.g. cooperatives and farmer groups<br>• Funding is from GoK, with a window for additional resources from donors<br>• Commodities fund of USD 235m with USD 23.5m specifically for the coffee sector for inputs, working capital and income stabilization finance | • *Results*: Benefitted ~78,000 coffee farmers with average repayment of c.80%. Repayment among women (90%) is higher than men (78%)<br>• *Challenges*: Low uptake, c. 11% utilization by producers – reason cited as current market system that poorly reward producers |
| **Stabilization of Exports ("StabEx")** | **Agronomic risk** faced by producers<br>**Supply chain risk** faced by downstream players | • Targets coffee producers and cooperatives<br>• Started as a grant from the EU, now a revolving fund with new loans sustained by repayments<br>• c.USD 77.5m initially to cushion against adverse coffee price movements<br>• Cooperative Bank manages StabEx, supplying sub-1yr 5% interest trade and input finance loans for cooperatives and farmers | • *Results*: Limited uptake given low value coffee markets<br>• *Challenges*: (i) Market distortion - banks cannot compete with the subsidized terms; (ii) High default rates – in 2017, the president waived over USD 16m bad debt ; (iii) Payment made directly to input suppliers by cheque – failing to address working capital for producers |
| **Policy review** | **Political risk** faced by VC players | • Increasing gvt efforts to revamp the declining coffee sector through TA to producers to adopt improved varieties and encourage market diversification to other markets such as Asia<br>• In 2016, President appointed a taskforce to review the coffee VC and recommend key intervention areas including on issues of regulation and policy | • Uncertainty on political will and capacity to implement recommendations by the presidential taskforce e.g. council of governors has since moved to court to block proposed coffee 2016 regulations that are based on the taskforce's recommendations |

Source: Dalberg analysis; Nancy E.C (AFFA). Financing coffee – A Kenyan experience; May 2016, Report of the National Task Force on Coffee Sub-Sector Reforms; Cooperative bank.2017.Website: Stabex Fund; Mugo.H.M (Coffee Research Institute, KARLO). Expansion of coffee farming to new frontiers in Kenya

Indicative

# In addition, technical assistance programs, mainly aimed at increasing quantity and quality of coffee production, is undertaken by different offtakers and traders, with help of donors

| Organisation | Overview | Results |
|---|---|---|
| IFC International Finance Corporation WORLD BANK GROUP | • Launched in 2011, ended in 2013 in partnership with ECOM<br>• Provided training to coffee farmers on GAPs, meeting international quality standards and accessing new markets<br>• Supported the Coffee Research Institute to develop needed technologies to enhance productivity and quality of coffee<br>• No market linkage activities | • c. 17,000 farmers trained on improved production techniques, 12 cooperatives trained on GAPs, quality management and attained certification from Rainforest Alliance, Fairtrade, or UTZ |
| Lutheran World Relief SUSTAINABLE DEVELOPMENT. LASTING PROMISE. | • Started in April 2014, ended in September 2016<br>• Partnership with BUCCODEG, a consortium of six coffee cooperatives in Western Kenya<br>• Used ICT to (i) improve cooperatives' transparency to their members via effective communications, (ii) establish systems that promote data accuracy and reduce transaction costs e.g. linked electronic farmer records to digital coffee scales; and , (iii) establish a mobile money payment system to pay farmers for the coffee delivered<br>• Through the mobile App producers can access market info but no direct linkages to markets | • 80 community workers trained on using mobile App to help farmers look up market and weather information, farming tips, and input supplier<br>• Improved farmer participation in cooperatives operations |
| Nestlé | • Launched in 2011 in partnership with Coffee Management Services (CMS) Ltd, still on-going<br>• Works with 12 cooperatives (c. 42,000 farmers)<br>• Aims to improve quantity and quality of coffee produced via (i) training farmers on GAPs and (ii) supplying high-yielding Batian coffee seedlings to farmers. The initiative has keen focus on youth and women<br>• Supports producers to access higher value coffee markets | • By 2016 had reached over 70,000 farmers on GAPs<br>• 420% increase in coffee tree yield<br>• 83% increase in cooperatives productivity |
| African Coffee Roasters | • Open to various coops/farmer groups as long as their coffee meets required quality standards<br>• Business model is aimed at ensuring producers get rewarded – "shortest value chain" (i.e. that has the least intermediaries between the farmer and market) that buys directly from farmers via cooperatives pays a 10% premium to farmers versus the prevailing market average<br>• As part of CSR, have partnered with DANIDA and Peter Larsen Kaffe to implement multiple TA projects such as educating coffee producers via field demonstrations, providing scholarships to study coffee technology and building capacity initiative for cooperatives<br>• Have off-take agreements with cooperatives – ARC has multi-year sale agreements | • 212% increase in coffee earnings |

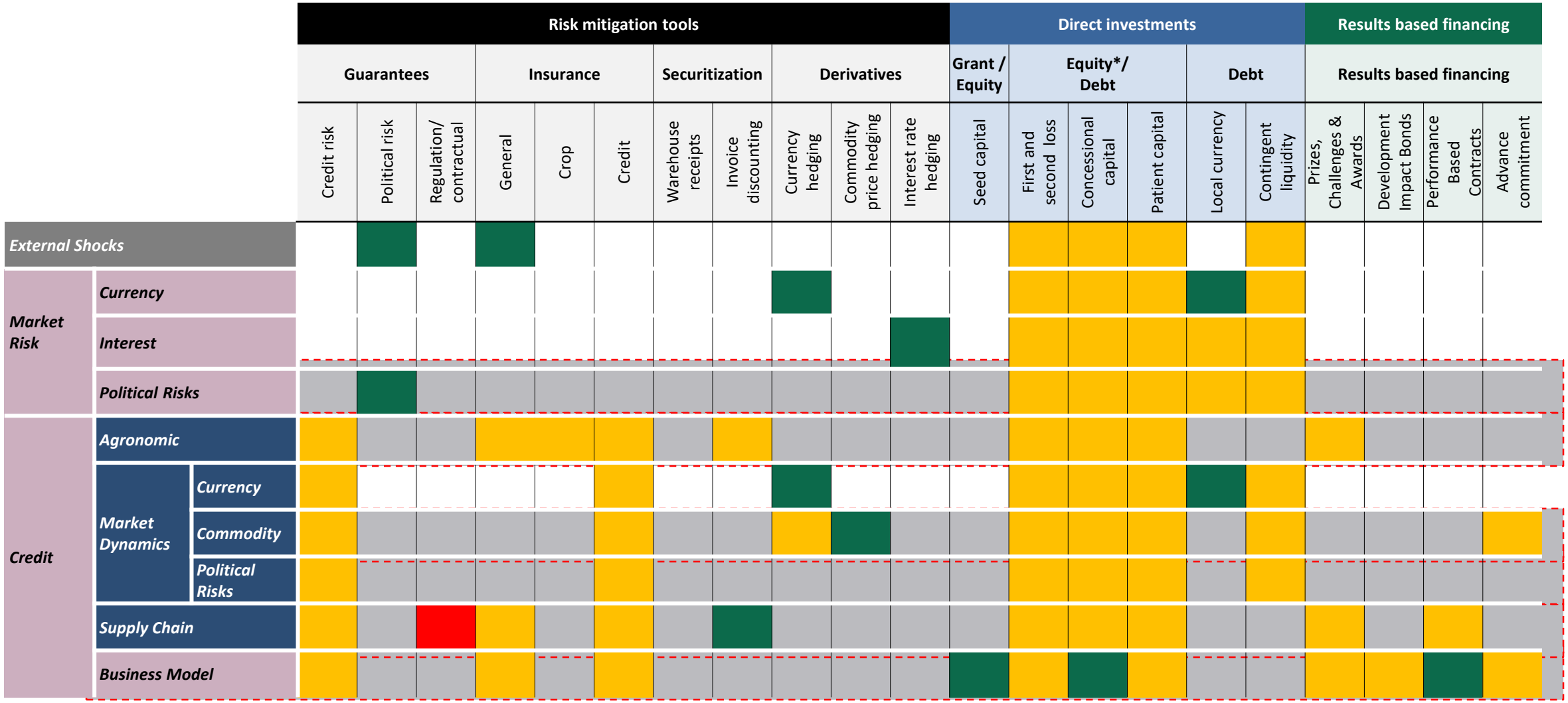


Source: Dalberg analysis; Lutheran world Relief. N.D; Nestlé EAR. N.D; Africa Coffee Roasters, N.D; IFC.2017. Website: Improving the Productivity of Smallholder Coffee Farms in Kenya

Indicative

**Step 3:** Assess blended finance tools

# Applying the toolkit to Kenya's coffee value chain, there are various tools that can be used to address these risks along the value chain

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Source: Dalberg analysis

# These tools can be combined to effectively address the key risks in the coffee value chain - agronomic, commodity, supply chain and currency risks



| Blended finance tool / package | Risks addressed | Why it would make sense | How it could work |
|---|---|---|---|
| **A** Input finance + Forward contracts + Crop Insurance | Agronomic and commodity risks faced by producers<br>Supply chain risk faced by processors and traders<br>Credit risk faced by investors | • Producers require finance for inputs and production to ensure good agricultural practices (GAPs)<br>• Unpredictable and delayed payments for coffee delivered and sold constrain cashflows for cooperatives and thereby producers<br>• Forward contracts allow for future selling of coffee at pre-agreed coffee prices protecting against commodity risk and diversion | • Cooperatives share data on coffee stock with marketers to enable them lock in coffee prices in futures markets<br>• When buying from cooperatives and producers, marketers reference the international market price<br>• Using the forward contract, producers and cooperatives can easily access working finance – leverage digital finance platforms and credit scoring approaches to enable direct lending to producers |
| **B** Concessional debt / Credit guarantee | Supply chain risk faced by processors and traders<br>Credit and political risks faced by investors | • Concessional debt could be used to facilitate acquisition of modern equipment for efficient processing; should be longer tenor loans for renovation and rehabilitation<br>• Guarantee (credit and political risk) could be used to protect against failure to repay loan that may arise from performance issues by the investee, supply chain risks or external shocks e.g. political decisions | • Cooperatives and millers get debt at concessional terms, with longer repayment periods and lower interests rates. Given the long tenor, feasible where complemented with coffee price stability mechanisms<br>• Guarantee facility to protect the lender in case of loan default |
| **C** Trade finance + Commodity insurance + Currency hedging | Supply chain risk faced by processors and traders<br>Currency risk faced by traders | • Trade finance to facilitate coffee transactions along the value chain; in particular millers trading with cooperatives, and traders / exporters buying from millers<br>• Hedging for traders to protect against adverse exchange rate movements thus stable earnings which can encourage them to pass the benefits upstream | • Coffee proceeds are first deducted to repay the trade finance facility<br>• Traders can hedge against adverse exchange rate movements using exchange rate forward contracts |

Source: Dalberg analysis

**Step 4:** Contextualize tools in wider ecosystem

# Broader ecosystem issues that affect the Kenyan coffee sector need to be taken into account – local banks may not be best positioned as intermediaries given climate

| | Ecosystem issues | Implications for blended finance interventions |
|---|---|---|
| **Policy and regulation** | • **Export levies of up to 4%** of coffee proceeds – coffee board (1%), coffee research (2%), roads (0.8%) and county government (0.2%)<br>• **Gaps in regulations** – contradiction with the Kenyan constitution (farmers' right to proprietary rights) and no provision on role of counties given agriculture is devolved<br>• **Weak enforcement of existing regulations** esp. at the cooperatives level – creates room for embezzlement and illegal deals with marketing agents/millers<br>• **Mandatory and restrictive licensing requirements** for millers, marketing agents and dealers - USD 1m bank guarantee among other requirements to trade at NCE | • Political risk insurance can be added to intervention to cover for political interference<br>• Weak enforcement of cooperative regulations constrain lending as perceived risks are high – explore approaches that enable direct lending to farmers such as digital channels and credit scoring with alternative data |
| **Finance issues** | • **Bank lending rate capped** at 4% above the central bank lending rate<br>• **High level of indebtedness** in the coffee sector, owed to multiple providers of finance<br>– c.USD 8m owed to cooperatives, SACCOs and Unions by coffee farmers;<br>– c.USD 16m owed to Cooperative Bank (StabEx Fund) by coffee farmers – most recently waived by government;<br>– c.USD 40m owed to KPCU* by cooperatives and tea estates | • Technical assistance to lenders on how to assess sector risk is important to effectively minimize the likelihood of default due to repeat borrowing<br>• Credit guarantees or first loss provisions will be important to attract lenders back into sector, initially at least<br>• Non traditional lenders – or dedicated facilities – are potential alternative intermediaries for blended finance with higher appetite to lend into sector |
| **Real economy issues** | • **An aging population of coffee farmers**, with an average age of 60 years<br>• **Strong competition** from neighboring countries e.g. Uganda has lower levies (1%) and an open marketing system i.e. 100% direct sales<br>• **Poor road networks** in coffee growing zones increases transportation costs<br>• **High incidences of coffee theft** from cooperatives given the limited supply of the USD-priced commodity. Coffee is smuggled to Uganda for direct sales or delivered to colluding millers | • Ensure financing to producers is complemented with linkage to high value markets as an incentive to continue growing coffee<br>• Finance opportunities for cooperatives to invest in dry milling facilities to reduce need to transport parchment coffee to far away millers<br>• Opportunities for insurance to cushion against losses from coffee theft<br>• Target financing to youth in the coffee sector and those practicing agriculture in general in coffee growing zones |

*KPCU – Kenya Planter's Cooperative Union

Source: Dalberg analysis; May 2016, Report of the National Task Force on Coffee Sub-Sector Reforms

# For each of type blended finance intervention, there are non-financial factors that need to be in place to address capacity issues and the enabling environment

Indicative

| | What non-financial factors need to be in place to succeed? | Viability of adequately addressing these issues |
|---|---|---|
| **A** Input finance + Forward contracts + Crop insurance | • Support to farmers to adopt good agricultural practices (GAPs) - replace old trees with higher yielding improved breeds and optimal crop diversification for short-term income needs<br>• Strong collaboration between producer cooperatives and marketers – linkage can be facilitated by a DFI<br>• Accurate and reliable info on expected volumes by cooperatives to enable hedging | • Partner with organizations already providing TA to coffee producers, select those with demonstrated positive results e.g. Lutheran World Relief<br>• Leverage learnings from successful case studies |
| **B** Concessional debt/ guarantee | • Capacity building for lenders to (i) understand dynamics of the coffee value chain and the role of the guarantees in de-risking lending to the sector and (ii) adapting lending procedures and processes to enable optimal utilization of the guarantee facility | • Train both business and credit teams on (i) how guarantees work and (ii) how to design relevant processes and procedures |
| **C** Trade finance + Commodity insurance + Currency hedging | • TA to marketers to understand hedging strategies and how to participate in hedging markets – value derived should be the primary driver to participate<br>• Good understanding of the actual financing needs for cooperatives, millers, traders (exporters) and ability to absorb the required capital | • Opportunity to tap into profiteering nature of marketers e.g. illustrate value created from currency hedging or advance payments to producers |

**Overall, a supportive policy environment where "cartel-like" behaviors do not influence price and trade flows and where benefits trickle to the producers will be key in ensuring success of blended finance interventions**

Source: Dalberg analysis

# Blended finance investment into (A) input finance for coffee farmers and (B) trade finance to millers and traders, are most promising under analysis

Indicative

| | | A Input finance + Forward contracts + Crop insurance | B Concessional debt/ Guarantee | C Trade finance + Commodity insurance + Currency hedging |
|---|---|---|---|---|
| Minimum sufficiency to be **effective** (i) **in scope** and (ii) **in scale** | (i) Does it cover all key risks effectively? (ii) Is the tool of a sufficient size to be feasible (versus the costs to implement) and effective? | Covers agronomic, supply chain and commodity risks. Price guarantees are usually effective pull mechanisms | Covers credit risk; enables increased access to finance in the VC | Covers supply chain and currency risks; does not necessarily ensure value trickles down to producers |
| **Market Distortion** (minimally distorts markets) | How much will this distort efficient market functioning? | Encourages strong collaborations along the supply chain for the benefit of all | Highly concessional terms likely to distort markets | Enhances coffee trade; successful hedging, can shift approaches to foreign trade |
| **Complexity** (implementation risk) | Are there so many key actors to be involved that it may be too hard to launch, coordinate actors or operate? | Relies on strong collaboration between producers, cooperatives, marketers and financiers | Guarantees are already in use; concessional debt is widely used in the sector | Targeted to recipients of finance – cooperatives or millers or exports |
| **Cost** (cost of operating the tool) | Is there a cheaper way to get a comparable result? | Minimal additional costs expected | FI capacity building efforts result in additional costs | Minimal additional costs expected |
| **Sustainability** (impact post shutdown) | Will private investment be sustained after this intervention ends? Should and can this intervention be permanent? | May require a DFI to create the linkages at first before players realize the potential value | Usually, if portfolio has high opportunity cost, lenders tend to switch to a more rewarding portfolio | TA essential at first to understand hedging strategies – profiteering nature of marketers likely to sustain intervention |

**Expected performance** of the package / tool — **Positive** **Average** **Negative**

# Key design and implementation considerations for prioritized blended finance tools and packages



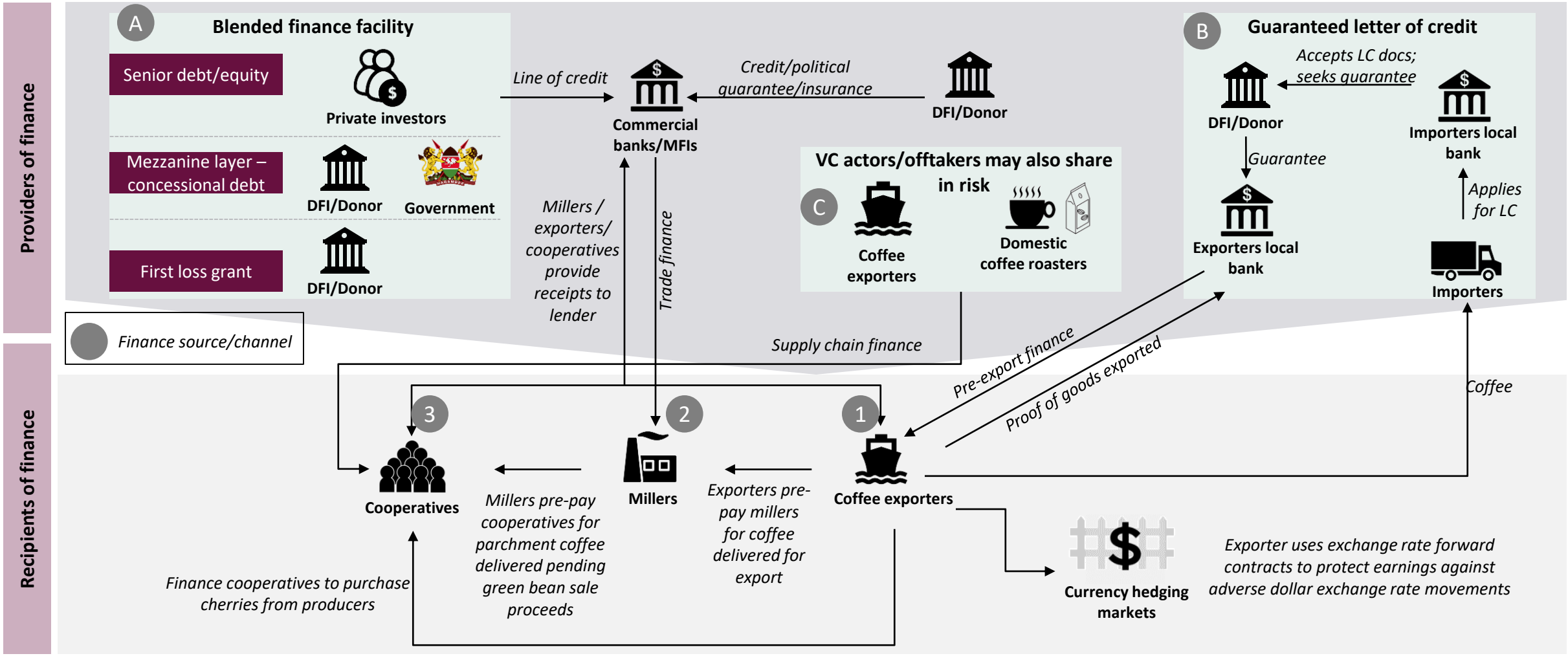
| | A Input finance + Forwards contracts + Crop insurance | C Trade finance + Commodity insurance + Currency hedging |
|---|---|---|
| **What are key design questions to address first?** | • What level of deposit can we expect farmers to put down / banks to require?<br>• What terms of financing are needed (value, tenor, pricing)?<br>• Which input providers are interested in coffee?<br>• Which off-takers are willing to enter into forward contracts?<br>• How can we minimize risk of diversion / side-selling? | • What terms of financing are needed (value, tenor, pricing)?<br>• What collateral do lenders require?<br>• How can trade finance facilitate better distribution of value in the coffee value chain? |
| **What non-financial components need to be incorporated?** | • TA to farmers on good agricultural practices e.g. replacing old coffee trees with higher yielding and disease resistant trees<br>• Capacity building to cooperatives on effective record keeping and coffee aggregation<br>• TA to marketers on using available coffee volumes data from cooperatives to participate in futures markets | • Favorable policy environment that incentivizes cooperatives particularly to improve performance – ensures optimal leverage of financing and creates value for producers<br>• For marketers, TA to enable them utilize available information to participate in currency hedging markets |
| **Who are suitable partners?** | • Development actors e.g. Technoserve to facilitate cooperatives linkage to marketers and support cooperatives to capture and avail relevant information<br>• Banks, MFIs, or dedicated facility<br>• Organizations processing coffee locally to guarantee a market and lock in prices via forward contracts e.g. ARC | • Commercial banks (e.g. Cooperative, Equity) to offer the trade finance<br>• Relevant capacity building players to provide TA to marketers on currency hedging strategies |

Source: Dalberg analysis

# Trade finance can be channeled to different coffee VC players and combined with insurance and currency hedging for optimal results

Indicative

## Illustration of blended finance intervention in trade finance




**Key risks mitigated: (i) supply chain risk by smoothing cashflow across the VC and (ii) currency risk by incentivizing exporters to protect earnings, some of the value could trickle back upstream and (iii) credit risk for lenders by structuring finance pegged on receivables**

Source: Dalberg analysis