Inclusive Business Analysis

Building Prosperity: Scaling Smallholder Soybean Production through Private Sector Collaboration In Kayonza District, Rwanda

Africa Improved Foods | Rwanda

Public Report

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idh transforming markets

Africa Improved Foods

IFAD Investing in rural people

Food and Agriculture Resilience Mission (FARM)
Pillar 3 (P3)

Introduction

Smallholder livelihoods

Agriculture plays a key role in the well-being of people and planet. 70% of the rural poor rely on the sector for income and employment. Agriculture also contributes to and is affected by climate change, which threatens the long-term viability of the global food supply. To earn adequate livelihoods without contributing to environmental degradation, farmers need access to affordable, high-quality goods, services, and technologies.

Inclusive Business Models

Inclusive Businesses provide goods, services, and livelihoods on a commercially viable basis, either at scale or scalable, to people living at the base of the pyramid, making them part of the value chain as suppliers and/or customers. These business models can sustainably increase the performance of farm(er)s while providing a business opportunity for the company. Using IDH's data-driven Inclusive Business methodology, IDH analyses these models to create a solid understanding of the relationship between impact on the farmer and impact on the company.

Insights & Innovations

Our data and insights enable businesses to formulate new strategies for operating and funding service delivery, making the model more sustainable, less dependent on external funding and more commercially viable. By further prototyping efficiency improvements in service delivery and gathering aggregate insights across sectors and geographies, IDH aims to inform the agricultural sector and catalyse innovations and investment in service delivery that positively impact people, planet, and profit.

Kayonza Irrigation Integrated Watershed Management Project

- The Kayonza Irrigation and Integrated Watershed Management Project (KIIWP) aims to reduce poverty, enhance food security, and strengthen climate resilience for 50,000 rural households in Rwanda's drought-prone Eastern Province. It was launched in 2019 in response to severe droughts, such as in 2016, which triggered widespread food insecurity affecting over 47,000 households.
- KIIWP's Theory of Change addresses challenges such as climate change, limited water availability, population pressure, and weak farmer participation. Interventions include catchment rehabilitation, water infrastructure, irrigation feasibility studies, and institutional capacity building to support drought resilience and sustainable agriculture.
- Key activities include rehabilitating watersheds, providing water for livestock and domestic use, and preparing for irrigation development. The project also invests in staff capacity building, gender and youth inclusion, and effective coordination. In Phase 2, KIIWP will scale up climate-smart agriculture, build irrigation infrastructure, and support farm business development and market access.
- The project is led by the Rwanda Agriculture Board (RAB) under MINAGRI, with implementation managed by a Single Project Implementation Unit (SPIU), with funding provided by IFAD, the Government of Rwanda, DFID, and additional partners, including the private sector.
- Expected outcomes include improved land and water access, greater adoption of climate-resilient practices, stronger farmer and institutional capacities, and increased farmer incomes through enhanced market participation.

Sources: 1) IFAD (2019)

Abbreviations

AfCFTA	African Continental Free Trade Area
AIF	Africa Improved Foods
DRC	Democratic Republic of Congo
EAC	East African Community
EBT	Earnings Before Tax
FARM P3	Food and Agriculture Resilience Mission Pillar 3
GAP	Good Agricultural Practices
IFAD	International Fund for Agricultural Development
KIIWP	Kayonza Irrigation and Integrated Watershed Management Project
PHL	Post Harvest Losses
PTAs	Preferential Trade Agreements
RAB	Rwanda Agricultural and Animal Resources Development Board
RCA	Rwanda Cooperative Agency
RYAF	Rwanda Youth in Agribusiness Forum
SHF	Smallholder Farmers
USD	United States Dollars
VAT	Value Added Tax
WFP	World Food Program

Report outline

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1

Executive summary

Introduction | AIF is exploring a partnership with IFAD's FARM P3 initiative to implement a value chain approach aimed at incentivising soybean production among smallholders.

Africa Improved Foods

- Africa Improved Foods (AIF) is a food processor based in Kigali, Rwanda. The company was established in 2016 as a public-private partnership initiative between DSM, IFC, FMO, and the Government of Rwanda.
- The company's vision is to become *"an impact-driven African food champion, addressing hunger and malnutrition by building resilient and sustainable food systems, offering consumers nutritious, affordable and accessible products".*
- The company is established as a social enterprise with two main market segments: institutional markets, which consist of relief agencies such as the World Food Program (WFP), and retail consumers.
- Maize and soybeans are the key raw materials in the company's operations. These are sourced locally from the open market and directly from smallholder farmers through the cooperatives.
- In 2025, the company's demand for maize and soybeans will reach 25,000 MT and 8,500 MT, respectively.

FARM P3 Project

- The Food and Agriculture Resilience Mission Pillar 3 (FARM P3) is an initiative hosted by IFAD which goal is to improve the performance and resilience of food systems over the medium and long term by strengthening private sector engagement and international collaboration around issues faced by smallholder rural farmers.
- The project aims to implement a pilot in Kayonza district, Rwanda, until June 2026, aiming to improve farmers' incomes by reducing post-harvest losses of maize and increasing the marketable output of maize and soybeans.
- FARM P3 supports the larger Kayonza Irrigation and Integrated Watershed Management Project (KIIWP), whose objective is to *"improve food security and incomes of at least 40,000 rural households on a sustainable basis and build their climate resilience"*.
- Soybean production is one of the 9 agri-sectors identified as prone to drought in the district and therefore targeted to benefit from the project interventions.

Sources: 1) AIF Interviews (2025); 2) IFAD interviews (2025)

Soybean value chain in Rwanda will benefit from having large off-taker like AIF sourcing soybean directly from farmer cooperatives while helping build capacity of co-ops and farmers

Question	Recommendation	Supporting observations
Assess how the soybean sourcing and service delivery model is currently structured and what can be done to strengthen the soybean sourcing and service delivery for smallholder farmers?	Soybean farmers in Kayonza receive support and services on the production aspects of the crop while they lack services on post-harvest handling and market linkages. IFAD should bring AIF into Kayonza farmers ecosystem to collaborate in expanding the current support to farmers and farmer cooperatives in increasing soybean production both by expanding the area under soybean cultivation and increasing yield per hectare AIF and IFAD should explore options to increase farmer income by providing post- harvest infrastructure such as mobile soybean **thresher** and **cemented area** for post-harvest handling, our analysis suggest they are economical and don't require high investment or maintenance AIF should **source maize** as well from the same farmer cooperatives which will enable them to reduce cost of services and further investing in farm cooperatives leading to strong relationships.	• About 27 farmer cooperatives under KIIWP2 program in Kayonza receive services and support such as GAP training, cooperative management capacity building by seconding full-time staff for cooperative operations including inputs demand aggregation, distribution of inputs, overseeing planting season, aggregating produce from farmers and coordination of executing infrastructure projects with support from RAB. • AIF (operating in Nyagatare district) conducts soybean quality checks at the farmgate and either accepts or rejects the produce at the spot in front of farmer/cooperatives thereby promoting transparency and reducing return of transported produce • AIF's experience of directly working with farm cooperatives and farmers will ensure smooth onboarding of Kayonza farm cooperatives • IFAD, RAB and AIF's involvement will lead to farmers getting better yields and income from soybean crop

These learning questions were formulated up front in collaboration with AIF and IFAD. A full list of these questions can be found in the annex.

When sourced locally, AIF Rwanda will save up to 17% in soybean sourcing costs compared to imports while reducing operational complexity and other uncertainties

Question	Recommendation	Supporting observations

Evaluate whether sourcing soybeans locally could be more profitable than importing and determine under which conditions SHF becomes a viable sourcing option?	• Of the three options for AIF to source soybean – 1. local through cooperatives, 2. from local traders and 3. import from regional markets – sourcing from Rwandan farmer cooperatives will save nearly 17% of soybean sourcing costs.
	• AIF can also potentially source 20% of their total maize requirement from FARM P3 farmers in Kayonza though there is no current commitment on maize offtake either from AIF or Kayonza farmers
	• Soybean sourcing can be viable both economically and operationally to AIF by providing services to farmers and farmer cooperatives:
	  • Coordinate with RAB to provide certified soybean seeds variety to increase yield and crop resilience
	  • Continued improvement in irrigation facilities for soybean crop by providing water channels, solar pumps will make soybean a preferred and climate resilient crop of choice for farmers
	  • Increased yield and improved post-harvest infrastructure will lead to increased volume and better quality for soybeans.
		• Sourcing directly from Rwandan farmer cooperatives will increase assurance in supply for AIF
		• Not required to deal with paperwork required for imports and exposed to forex requirements and fluctuations
		• IFAD and AIF can help farmers adapt practices to mitigate climate change thereby ensuring minimal impact to soybean crop and continuing soybean cultivation – this in turn will ensure local soybean supply to AIF
		• AIF can meet end to end traceability and sustainability requirements of local government, international organizations and other stakeholders
		• Developing soybean value chain in Rwanda will indirectly help Rwandan food security by reducing feed costs for poultry and livestock. Moreover, substituting imports with local sourcing will save valuable forex for the country

These learning questions were formulated up front in collaboration with AIF and IFAD. A full list of these questions can be found in the annex.

Smallholders' farmers in Rwanda currently earn an average of 7% higher income when they grow soybean instead of traditional beans, with a potential to earn 2.3x in 5 years

Question	Recommendation	Supporting observations

What are the advantages for smallholder farmers for growing soybeans vs regular beans?
 	
Under what conditions soybean cultivation would be more beneficial to SHF?
	• Smallholder farmers should be encouraged to prioritize soybean over traditional beans since they benefit from soybean cultivation vs growing regular beans :
	  • Currently in year-1, soybean farmers earn $18 (or 7%) more per ha compared to growing traditional beans on same land
	  • In year-5, soybean crop will earn $895/ha vs $388/ha from traditional beans.
	  • Soybean is more resilient to heavy rains compared to traditional beans thereby limiting crop losses in case of heavy rains
	• IFAD, RAB and AIF should ensure a strong service and support ecosystem for farmers to realize the benefits from growing soybean by providing:
	  • Certified quality soybean seeds to all farmers
	  • GAP training and encourage usage of fertilizers for yield and quality improvements
	  • Increase area under irrigation facility and other practices to bolster farmers resilience to climate change
		• Growing soybean will make farmer cooperatives and farmers build direct market linkages with final processors such as AIF thereby getting assured market, better prices, transparency in procurement and transport services while attracting more investments into developing soybean value chain at the coop/farmer end.
		• Soybean crop has a large potential to increase its yield by nearly 3 times from current level by using better seeds, inputs followed by availability of irrigation and farm extension services
		• Since AIF sources both maize and soybean – farmers will benefit from associating with AIF as off-taker that can buy both their main crops thereby enabling AIF to invest in the farmer value chains which will ultimately lead to more equitable value distribution across the value chain
		• AIF's continual involvement with farmer cooperatives will ensure the capacity building and infrastructure provided to cooperatives will be maintained and sustainable in the long-term

These learning questions were formulated up front in collaboration with AIF and IFAD. A full list of these questions can be found in the annex.

IFAB, RAB and AIF should develop a collaboration model to divide and share the delivery of, and costs of services/activities required to strengthen the soybean value chain in Kayonza

Services/Activity	Recurring or onetime	Indicative Cost	Priority	Who bears the cost	Remarks
Farmer training on soybean GAP including having 3-4 demo farms	Recurring	USD 40,000	High	RAB and AIF	4 field officers and agronomists for 26 cooperatives. AIF and RAB can pay 2 staff each
Certified soybean seeds	Recurring	Not applicable	High	Co-ordinated by RAB	Farmers will pay
Fertilizers and inputs	Recurring	Not applicable	High	Co-ordinated by RAB	Farmers will pay
Irrigation facilities	One time	N/A	Medium	IFAD and RAB	Irrigation facilities improve soybean yield and resilience to climate events
Post Harvest – Mobile threshers	One time	USD 1000*	Medium	Shared costs with support from Farm P3	A total cost of USD 15-26K over a period of 3 years
Post Harvest - cemented area	One time	USD 1000*	High	Shared costs with support from Farm P3	A total cost of USD 15-26K over a period of 3 years
Market offtake – price and offtake	Recurring	Market price	High	AIF	Continue
Soybean transport	Recurring	$30-40 per MT	Medium	AIF	Total costs would be based on volume of offtake

AIF, RAB and IFAD can stagger the number of cooperatives reached in the collaboration and services provided over 3-4 years.

*Note: * Mobile threshers and cemented area are provided at cooperative level and number of cooperatives can be staggered over the years*

2

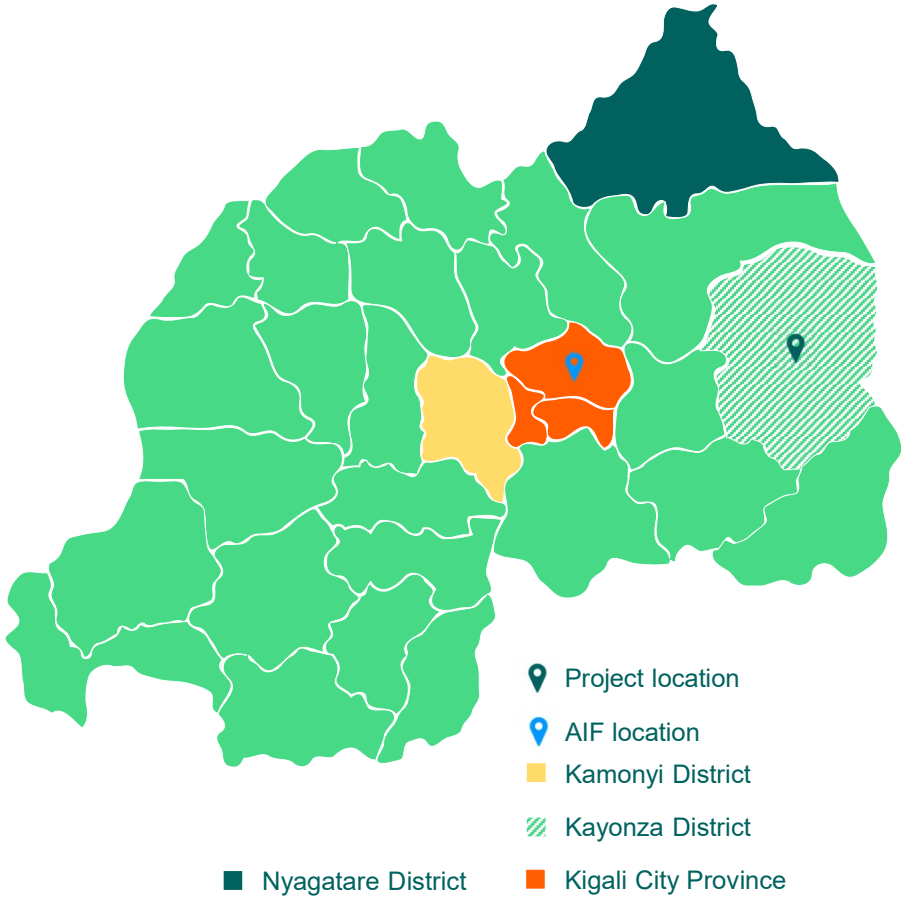
Business model

Objective | Through the FARM P3 project in Kayonza, IFAD aims to improve the productivity of soybean farmers through service provision while facilitating access to markets

		Impact of the objective on the different actors in the project		
		Farmers	**AIF**	**IFAD**
Core objective	Implement a value chain approach to develop the soybean value chain in Kayonza district, Rwanda.	• Strengthened smallholder resilience, reduced post-harvest losses, and improved food security	• Enables AIF to secure sourcing for key raw materials needed for company operations	• Investment in rural development to reduce poverty, increase food security, improve nutrition and strengthen resilience.
Secondary objectives	Increase the adoption of soybean production among smallholders	• Income diversification at the household level leading to increased income resilience.	• Enables AIF to source locally from smallholder farmers, contributing to the local economy while building the capacity of farmers to not only become income resilient but also to meet the quality requirements of large agro-processing companies.	• Enables IFAD to connect the rural poor to markets, finance, technology and knowledge while catalysing public and private investments, advocating for policies that empower rural people and their institutions, and promoting innovation to achieve lasting, systemic change for rural communities.
	Improve farm level productivity	• Higher yields leading to increased incomes and enhanced food security		
	Improve the adoption of sustainable agricultural practices	• Improved resilience to climate, economic and social shocks.		
	Improve access to markets	• Increased incomes, reduced PHLs and improved livelihoods		

Sources: 1) AIF Website (2025); 2) IFAD Website (2025); 3) IFAD Rwanda Soybean Proposal (2025)

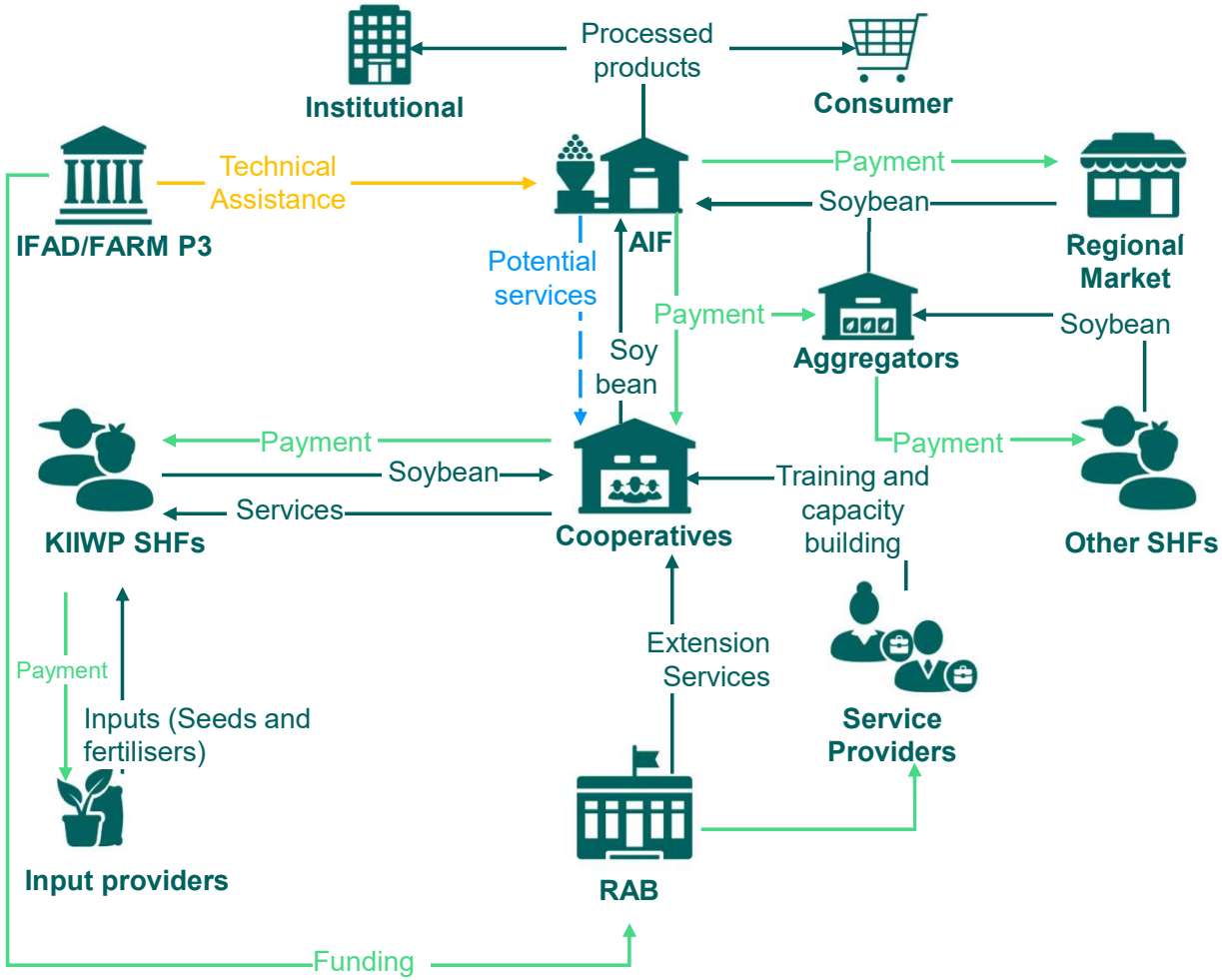
Location | Farmers targeted by the FARM P3 project interventions are in drought-prone areas of Kayonza district in the eastern province of Rwanda



- Smallholder farmers primarily cultivate soybeans in at least 28 districts across Rwanda. In 2023, Kamonyi district was the largest soybean producer with an estimated production of 2400 MT on 6800 ha of land[1]. AIF currently primarily sources soybeans from Nyagatare district.
- Most of the areas in the country cultivate the crop over two seasons: season A (Sep–Jan) and season B (Feb–May), with 64% of the farmers adopting a mixed cropping system.
- Kayonza district is in the Eastern province of Rwanda. It is part of the eastern savannah and eastern plateau agroecological zones, featuring a semi-arid climate, high temperatures, and a single rainy season followed by an extended dry period.
- An estimated 50% of the land in the district is used for agriculture. Key crops cultivated in the district include maize, beans, bush beans, cassava, sorghum and bananas. Only about 0.8% of the total cultivated land in the district is dedicated to soybean production.
- In the 2025 season A, soybean yields in the district were estimated to be 0.4 MT/ha[2], which is below the national average of 0.6 MT/ha and the optimal yield of 2.5 MT/ha under rainfed conditions[3]. The district accounted for 2.4% and 1.5% of the total soybean cultivated area and total harvested volumes, respectively.

Sources: 1) Seasonal Agricultural Survey (2023); 2) Seasonal Agricultural Survey (2025); 3) FAO (2025)

Business model overview | AIF primarily sources soybeans from the local farmers through pre-selected aggregators, with the deficit being bridged by imports from the regional market



- AIF sources soybeans from SHFs through farmer cooperatives and aggregators and from the regional market. Soybeans are a key raw material for the consumer products produced by AIF. The company has two key market segments, institutional and consumer markets
- The company has established relationships with aggregators who play a critical role in soybean aggregation.
- IFAD will meet the cost of service provision to farmers and farmer cooperatives during the project period. RAB will continue providing extension services post the project.
- AIF is envisioned to play a role in the future in providing services such as transport and post-harvest handling.

Legend:

- Goods & services
- Money
- Data & information

Sources: 1) AIF interviews (2025) 2) IFAD interviews (2025)

Stakeholders | IFAD has engaged with RAB, AIF together with other partners to drive its objective of developing the soybean value chain in Kayonza district.

Actor	Legal status	Function (within this model)	Revenue model (within this model)	Incentive to participate (Within this model)
IFAD	International Financial Institution	• Provide project funding	None	Investment in rural communities.
RAB	Public institution	• Implementing partner for IFAD. • Facilitate access to quality inputs	None	Develop the soybean value chain in Rwanda
AIF	Private limited company	• Soybean offtake, logistics support and training farmers	Sales of processed food products	Secured quality raw materials
Input providers	Private limited companies	• Provision of inputs	Margin on product sales	Higher sales
Co-operatives	Cooperative society	• Aggregation of soybean harvests	Margin on sales of aggregated produce	Increased sales volume
Aggregators	Private limited companies	• Soybean aggregation	Commissions on volumes	Increased commissions
Smallholder farmers	Individuals	• Soybean production on their farms	Margin on sale of soybean harvests	Higher yields translates higher sales

Sources: 1) IFAD interviews and documents (2025); 2) AIF interviews (2025)

Farmer segments | Maize-bean farming is common despite challenges, while maize-soybean systems struggle with climate issues, poor seed use, and limited market access

	Maize and Beans	Maize and Soybeans
Description	• Farmers have two cropping seasons. They either practice intercropping maize and beans or grow them rotationally. • Farmers are members of a cooperative, which also allocates land for cultivation. • Beans contribute an average of 19% of the total daily per capita protein supply[1].	• Farmers have two cropping seasons. They either practice intercropping maize and soybeans or grow them rotationally. • Farmers are cooperative members, which also allocates land for cultivation. • Soybeans contribute an average of 2.6% of the total daily per capita protein supply[1].
Challenges	• Incidences of excessive rainfall negatively affect the yield and the quality of the harvest. • Low adoption of improved seeds[2] • Market and price volatility occasioned by supply-side disruptions due to unpredictable weather patterns.	• Soybeans have high water requirements compared to beans and are therefore predisposed to drought. • Farmers who grow soybeans in the marshlands are exposed to flooding due to excessive rainfall. • Low adoption of improved seeds. • Weak postharvest management systems and market linkages
Scale	• Beans, including bush beans and climbing beans, are cultivated on an estimated 39,000 hectares per season for two seasons in Kayonza district[3].	• Soybeans, on the other hand, are only cultivated on 600 hectares per season for two seasons in the Kayonza district[3]. The current project targets 2,000 farmers in the district.

Sources: 1) AFDB (2021); 2) Farmer interviews (2025); 3) Seasonal Agricultural Survey (2023)

Farmer relationships | Establishing a relationship between the farmers in the project and AIF will be fundamental to attaining the mutual goals of the farmers, IFAD and AIF

Outreach

- Farmer outreach is primarily conducted through the cooperatives. Rwanda Agricultural and Animal Resources Development Board (RAB) has partnered with the Rwanda Cooperative Agency (RCA) and the Rwanda Youth in Agribusiness Forum (RYAF) to build the capacity of cooperatives to engage and provide services to farmers.

Selection

- The farmers included in the project are part of the KIIWP phase II project. The project has identified 9 value chains in Kayonza district prone to drought for targeted interventions. An estimated 2000 farmers in 27 cooperatives have been targeted for additional support through the FARM P3 Program.

Contracting

- There are currently no contracts between the farmers in the project and AIF. However, there are plans to establish formal contracts for guaranteed off-take of soybeans between the cooperatives and AIF, subject to meeting the requisite minimum volumes of **10MT per cooperative.**

Segmentation

- Farmers in the project are currently not segmented in any way. Cooperative and farmer segmentation is pivotal to better understand the unique needs of the farmers and to provide tailored support, leading to better outcomes. Adopting segmentation criteria is essential to improving farmer relationships.

Graduation

- There is no graduation approach for the farmers in the project. Cooperative and farmer graduation is critical to incentivising the adoption of services and improving performance to the agreed metrics. Incentives are based on elaborate benefits that can be realised by moving from one level to the other.

Data collection

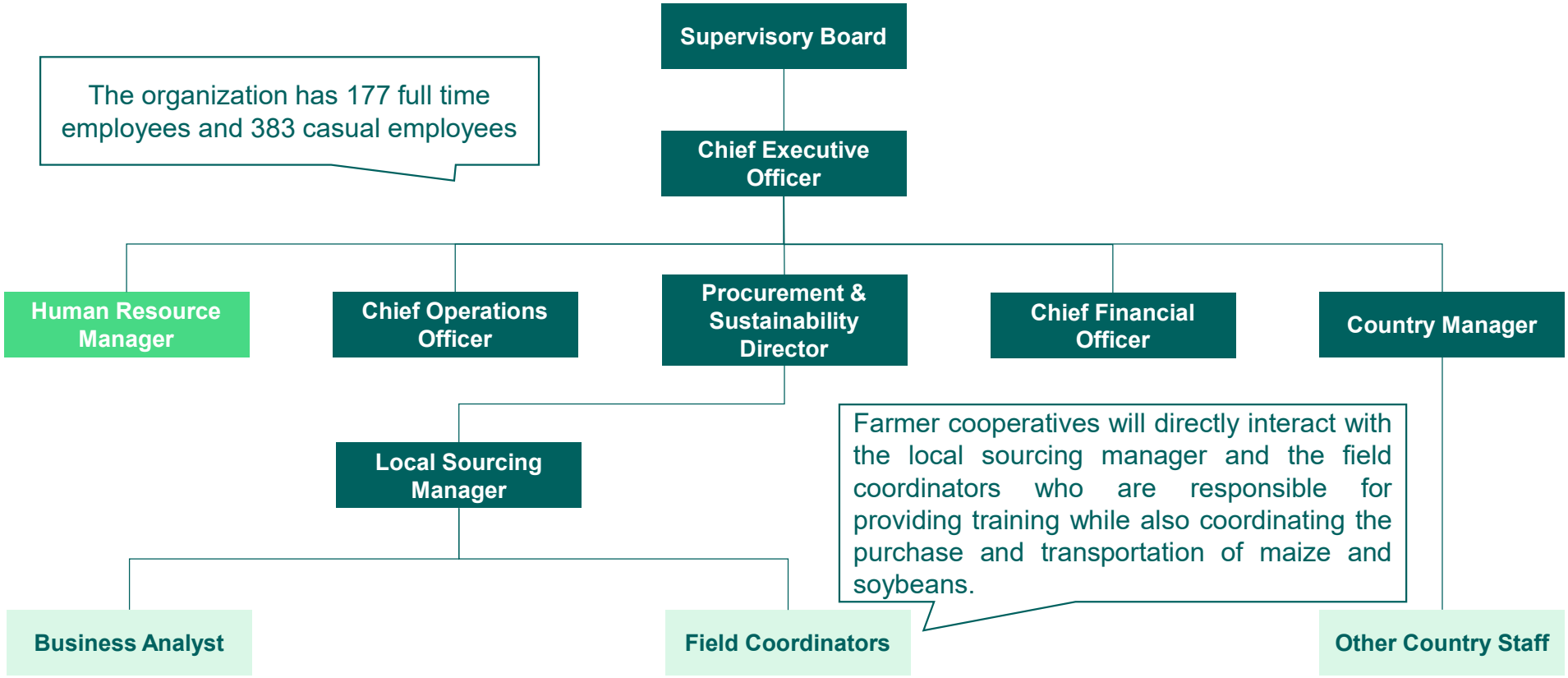
- RAB collects project-level and cooperative data. However, there are no established mechanisms for data collection at the farm level to monitor key metrics such as farm size, yield, and income diversification. Data on the uptake of services at the farm level is also lacking.

Sources: 1) IFAD interviews and documents (2025)

Services | IFAD has partnered with multiple stakeholders, including RAB, RCA, RYAF and AIF to provide services to individual farmers and cooperatives targeted at improving capacity and incomes

Category	Service	Impact	Implementation	Revenue model	Status
Training & information	**GAP training and Extension services**	Increase yield	AIF & RAB through farmer field schools and cooperatives	None	Ongoing
	Financial literacy training	Improve financial management	RCA and RYAF through farmer cooperatives	None	Ongoing
Inputs	**Certified seed and fertiliser**	Increase yield	RAB through farmer cooperatives	Margin on sales	Ongoing
Equipment and Labour	**Irrigation**	Address the key challenge of drought	RAB through the farmer cooperatives	None	Planned
	Mechanical threshers	Reduce post harvest loss	IFAD facilitates through cooperatives and private sector	Service fees	Planned
Post Harvest services	**Drying**	Reduce post harvest loss	Concrete drying surfaces located at cooperative premises	Service fees	Planned
	Transport	Facilitate the route to market	AIF through the famer cooperatives	Embedded in the cost of sourcing	Planned

Organisational structure | Value chain development and service delivery to farmers are embedded in the key operations of AIF



Enabling environment (1 of 3) | The setting up of irrigation infrastructure by KIIWP in Kayonza district aims to address the risk posed by prolonged dry periods

Category	Situation	Impact on business model
Technology	• Rwanda has a mobile subscriber penetration of 39%, as of 2025, and is forecasted to reach 47% by 2028. The smartphone penetration rate is 22%.[1] • The country has a low mechanisation rate, with only 0.8% of plots being ploughed by tractors in the 2022 season.[2]	• Access to mobile phones provides farmers with an opportunity to access digital financial and extension services. • There is a huge opportunity to mechanise smallholder farms, beginning with essentials such as tractors for ploughing.
Natural environment	• Rwanda is a mountainous tropical country commonly referred to as the 'land of a thousand hills'. • The country's four climatic seasons are: March to May (long rains), June to August (long dry season), September to November (Short rains), December to February (Short dry season).[3] • Kayonza district is a drought-prone area and experiences unpredictable weather patterns.	• Adopting landscape management practices at the farm level is important to minimise soil erosion and land degradation. • The cyclical climate allows for better planning of soybean production; however, unpredictable weather patterns predispose farmers to losses due to crop failure. • KIIWP is in the process of setting up centre pivot irrigation infrastructure in Kayonza district, targeting at least 2000 farmers.
Infrastructure	• Rwanda's infrastructure is well-above other comparable low-income countries, with an average government expenditure of 10% of GDP since 2000.[4]	• Good infrastructure will allow for efficient aggregation and distribution of soybean harvests and products.

Opportunity | Neutral | Risk

1) GSMA (2025); 2) IFPRI 2025; 3) Climate Change Knowledge Portal (2021); 4) PIMA (2023);

Enabling environment (2 of 3) | The sector has abundant labour and subsidies, but faces low input adoption, limited financing, and dependency on imports

Category	Situation	Impact on business model
Labour & workforce	• Total labour force is 5,671,034, Female participation 47.5%, labour force participation for ages 15-24 is 45.3%.[1] • Agriculture (excluding subsistence food production accounted for 43.7% of employment, followed by the services sector at 42%.[2]	• Agriculture is the top employer, and low-skilled labour is abundant. This presents an opportunity to upskill workers across the value chain into higher value-added tasks with higher earning potential. • Readily available labour is critical for sustainably scaling agricultural production.
Inputs & financing	• The government has established a subsidy system for key value chains, including soybeans.[3] The cost of fertiliser is subsidised by up to 35% while the cost of improved seed is subsidised by up to 80%. • Limited adoption of improved seed varieties and fertiliser use for soybean production. • Farmers primarily rely on savings and borrowing from informal channels, family and friends to finance agricultural activities. Access to agricultural insurance is limited.[4]	• Subsidies have improved access to key inputs required for production. • Low adoption of improved seed varieties minimises the productivity potential of farmers. • There is an opportunity for the project to increase access to improved seeds for farmers in the project and encourage the adoption of efficient input use to improve productivity.
Trading system	• Rwanda is a net importer of soybeans, primarily from Uganda and Malawi.[5] The trading system operates on free market principles with some level of government intervention.	• Reliance on global supply chains exposes AIF to geopolitical risks and uncertainties that may affect the delivery of raw materials to Rwanda.

Opportunity | Neutral | Risk

1) World Bank Group Data (2025); 2) Gacuruzwa (2025); 3) Ntirenganya (2025); 4) World Bank (2018); 5) OEC (2025);

Enabling environment (3 of 3) | The sector faces price volatility, low household demand for soybean, and small plots, but benefits from political stability, secure land tenure

Category	Situation	Impact on business model
Pricing & competition	• Rwanda is largely a price-taker meaning prices are bound to fluctuate due to global commodity price volatility.[1] • Maize and beans are preferred by farmers due to their higher profitability and food security.[2]	• AIF is exposed to exchange rate risk and price volatility due to uncertainties in the global supply chain. • Farmers will give priority to food crops, implying a need for promoting soybeans for home consumption and agro-processing.
Institutional stability	• Rwanda has maintained good political stability and relatively low levels of corruption as compared to its neighbours for the past few decades. [3]	• A stable political environment with reliable institutions allows for farmers and other value chain actors to focus on their core activities and invest in the long-term.
Land tenure	• 93% of plots are smaller than 1 ha.[4] Average farm size is 0.5 ha.[2] • Rwandan authorities swiftly created enforceable legal titles to every plot of land in the country, unlike comparable countries.[5]	• Smaller plots infer a need for intensive farming techniques. • Farmers have access to their land titles allowing them to make longer-term investments.
Social norms	• Soybean consumption is low as it does not form a large part of the Rwandan diet, given that many also do not know its nutritional and industrial value.[6] • Progress has been made towards increasing the participation of women in agricultural value chains, but they still face significant barriers.[7]	• Soybean competes with other crops for food security needs; thus, efforts to market its nutritional, industrial value and commercial value are required. • Gender barriers limit the participation of women in the soybean value chain.

Opportunity | Neutral | Risk

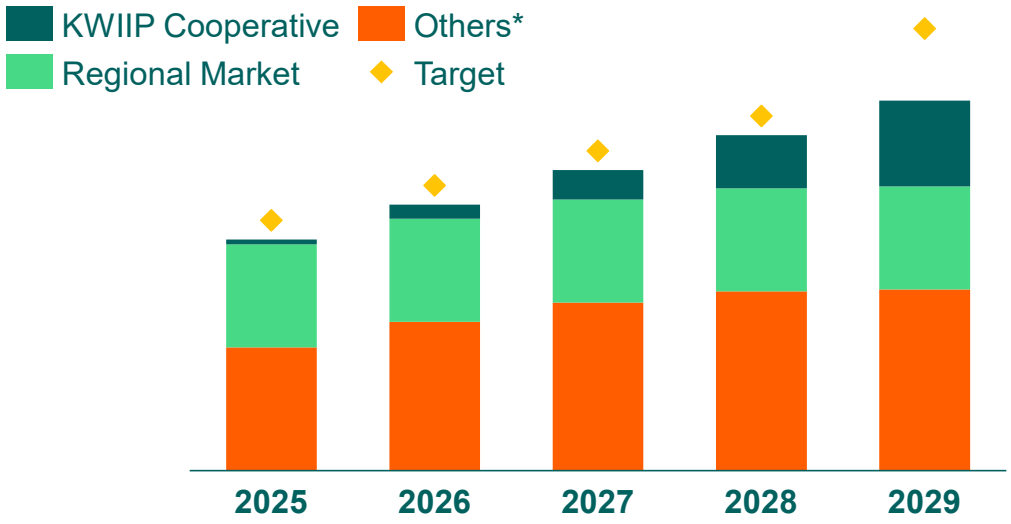
1) Gatsby Africa (2025); 2) Tukamuhabwa (2016); 3) BTI Country Report (2025); 4) IFPRI (2025); 5) Ngoga (2018); 6) Trocaire (2014); 7) CGIAR

3

Business Case

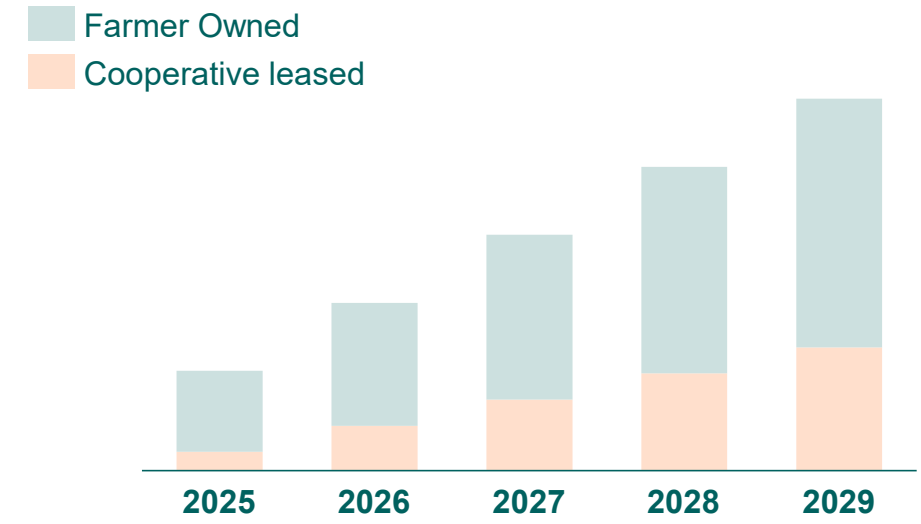
Scale – Soybeans | Cooperatives and farmers within the KIIWP project in Kayonza district have the potential to meet up to XX% of AIF's soybean raw material requirements

Volumes of Soybeans sourced by Sourcing Channel (MT/year)



	2025	2026	2027	2028	2029
No. of farmers	XX	XX	XX	XX	XX
Number of cooperatives	XX	XX	XX	XX	XX

Soybean Harvested Area by Ownership (Hectares/year)

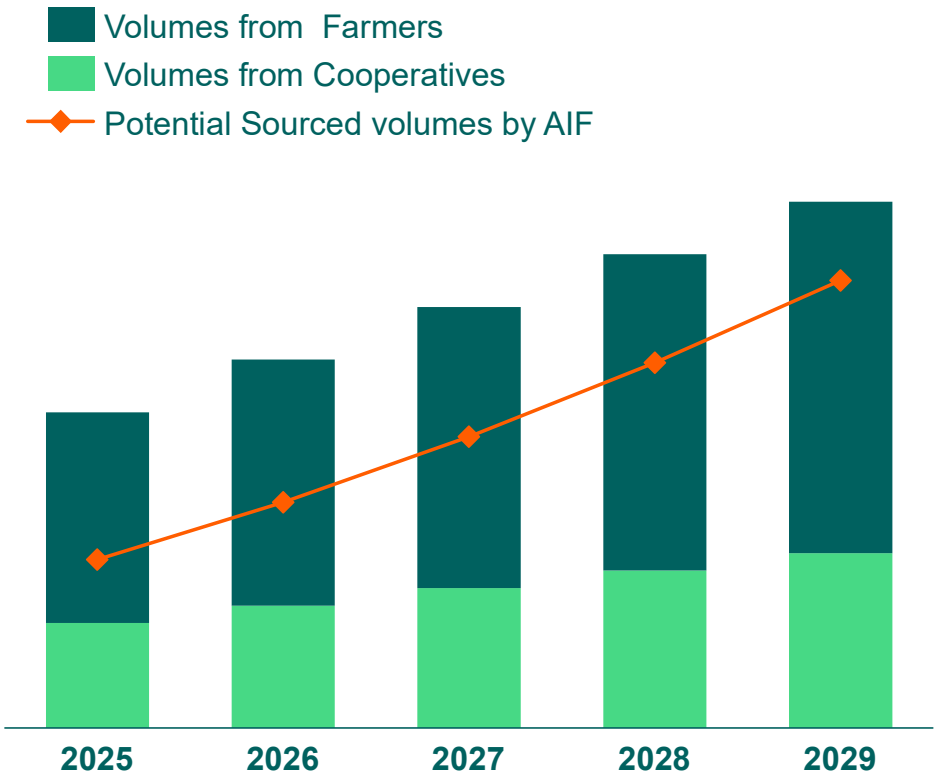


	2025	2026	2027	2028	2029
Cooperative Loyalty[1]	60%	68%	75%	83%	90%
Farmer Loyalty	40%	49%	58%	66%	75%

Notes: 1) Loyalty is defined as the volume of soybeans sold to the company (AIF) as a proportion of what the farmers and the cooperatives have available for sale.
2) AIF requires each cooperative to supply a minimum of 10 MT of quality soybeans to arrange transport from the cooperative to the factory.
**Others refers to the volume of soybeans sourced from the local cooperatives and farmers that AIF is already working with.*

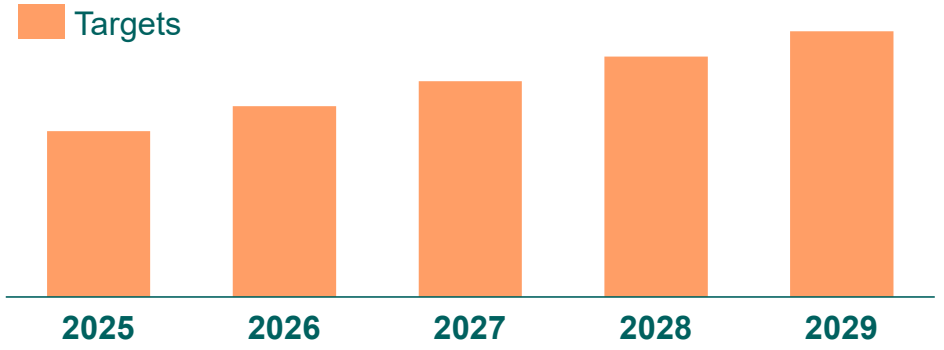
Scale – Maize | Farmers in the project can produce XXXX MT of maize annually, with AIF having the potential to source up to XX% of its maize requirements from them

Available Maize Volumes from Project Farmers (MT/year)



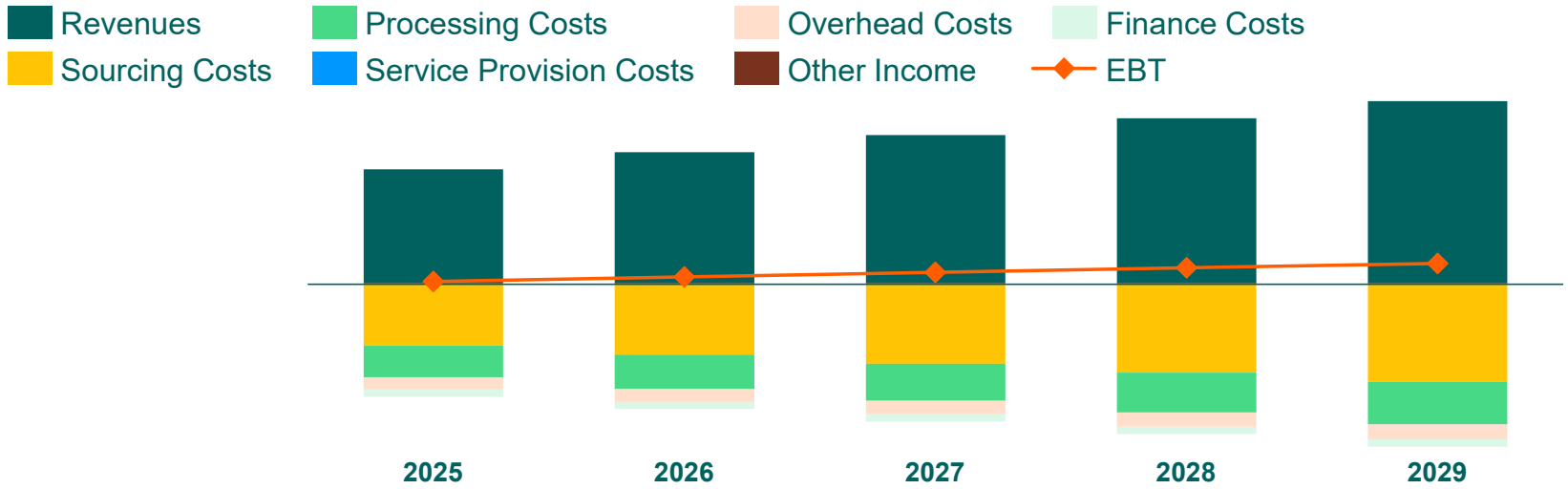
- All farmers in Kayonza district cultivate maize in Season A. The farmers in the project can produce up to XXX MT of maize per year in 2029.
- The farmers will produce 67% of the volumes on their lands, with the remaining 33% being produced on the land allocated by the cooperative.
- Assuming the same level of loyalty as soybeans, AIF can meet up to 20% of their annual sourcing targets from the farmers in the project in the Kayonza district

AIF Maize Sourcing Targets (MT/year)



P&L over time | EBT Margins are projected to improve over the years as revenues increase at a faster rate compared to costs. Revenue growth will be driven by increased capacity utilisation

Profit and loss for 2025-2029 (USD)

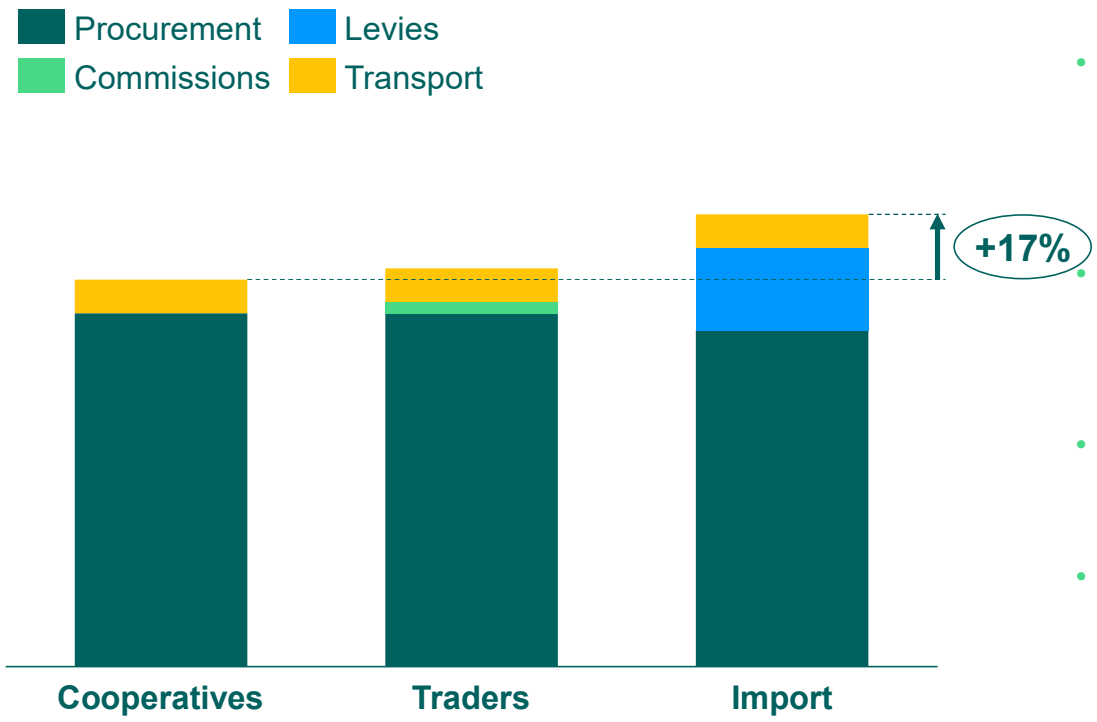


By sourcing from KWIIMP project farmers and cooperatives, AIF can save up to USD XXX which can be reinvested in service provision to the farmers.

Notes: Amount Saved refers to the cumulative dollar amount saved by AIF by sourcing from the KIIWP cooperatives and farmers in Kayonza District instead of the import regional market.*

Sourcing unit economics | AIF saves costs sourcing soybeans locally, avoids trade barriers, improves quality control, while benefiting from regional trade and diversified sourcing strategy.

Sourcing channel unit Costs (USD/MT)

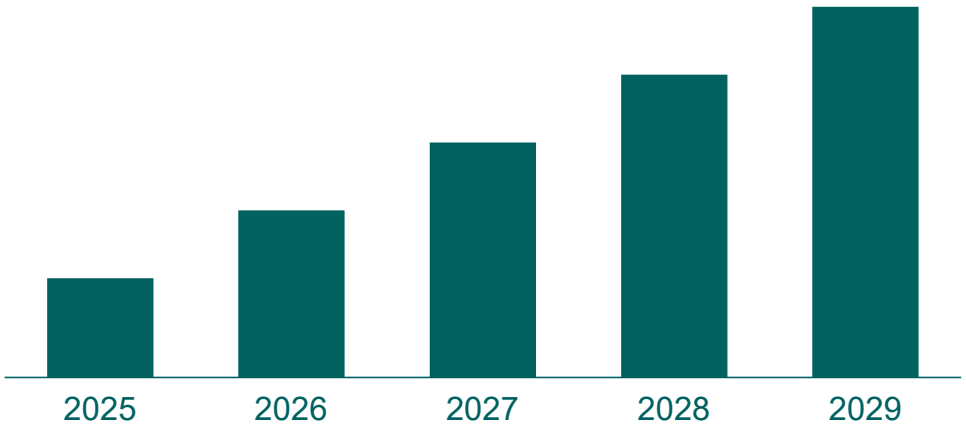


- By sourcing directly from Cooperatives and Farmers, AIF can save up to **USD XXX per MT** of soybeans sourced compared to the cost of sourcing from the regional market.
- Farm gate prices are generally lower in the regional market, especially in Malawi and Uganda, compared to farm gate prices in Rwanda. Government levies (VAT, Infrastructure Development Levy and African Union Levy), however, increase the landing costs[1].
- Countries within the East African Community (EAC) and African Continental Free Trade Area (AfCFTA) have Preferential Trade Agreements (PTAs) and are not charged import duties[2].
- AIF engages traders to conduct last-mile aggregation of soybeans from farmers while equally sourcing from the cooperatives they support in the maize value chain.
- Currently, 45% of the soybean raw materials used are sourced from the regional market. Sourcing locally limits AIF's exposure to entry barriers (non-tariff and tariff), uncertainty in the producing countries, saves forex for AIF and Rwanda, reduces logistics cost along with carbon footprint. AIF equally has better control of the quality of the soybeans when they source locally[3].
- .

Sources: 1) Rwanda Revenue Authority (2025); 2) IGC (2025); 3) AIF Interviews (2025)

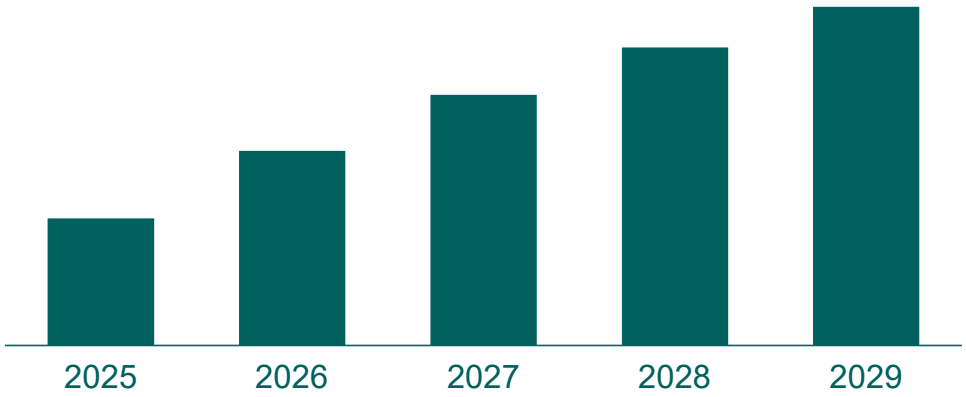
Certified Seeds | RAB and AIF should coordinate with multiple stakeholders to ensure timely production and distribution of certified soybean seeds, crucial for productivity and resilience

Volume of certified soybean seeds required for cultivating soybean in target area by farmers (MT/year)



- AIF wants to have soybean with higher protein and fat content with seeding having big size and smaller hull to improve efficiency during processing – AIF wants farmers to grow seed varieties such as RWA SB-24 & RWA SOY20-6 (regional varieties like Malawi SC637, DK777, DK80-23 & SC301)
- Farmers in KWIIP program in Kayonza require XX MT of certified soybean seeds to begin with and eventually requiring XXMT by 2029

Area[1] required for certified soybean seeds production (hectares)



- Choose farmers with relatively larger land holding (at least 1 hectare) and having access to irrigation for soybean seed production
- RAB can provide the planting material of specific varieties and provide breeder seeds to selected farmers for seed multiplication

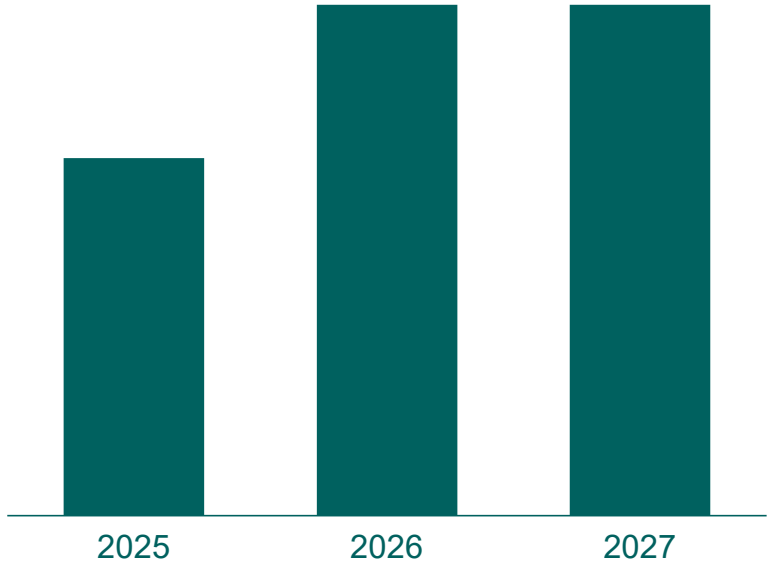
Notes: 1. Soybean yield assumed at 1 MT/hectare in 2025 and gradually increasing to 1.4 MT/hectare in 2029

Post Harvest Infrastructure | Providing plain cemented area at cooperatives will increase convenience of threshing and reduce 10-15% of post harvest losses for farmers

Plain cemented surface at farm cooperatives for threshing soybean

- A cemented area of 500 Sq metres of 20*25 m dimensions (L X W) with a cement thickness of 7.5 Cm can accommodate the soybean harvest from farm size ranging 0.5 – 1.0 hectare.

Total cost for providing cemented areas at each cooperative (USD)



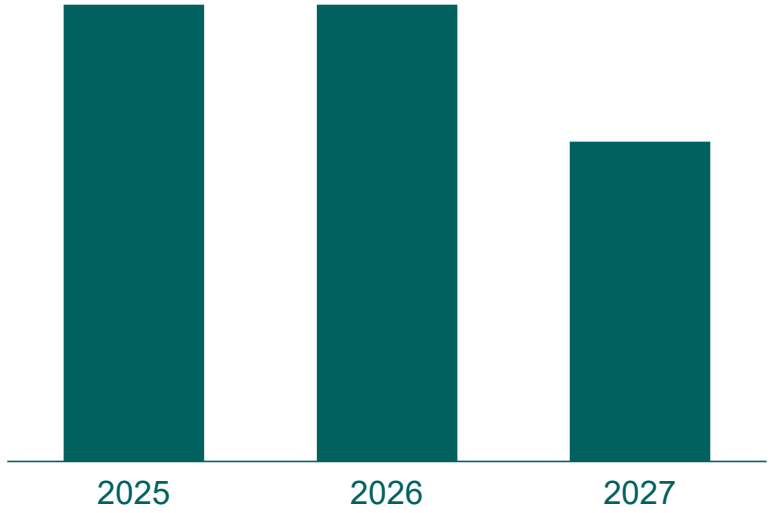
- Cement areas to cooperatives can be provided in a staggered manner starting with X coops in year-1, XX each in year 2 which eventually covers all XX cooperatives.
- Each cemented area is estimated to cost $1000 in total (detailed assumptions provided in annex)

Post Harvest Infrastructure | A diesel operated mobile soybean thresher is suitable at cooperative level to increase efficiency and effectiveness of threshing as soybean volume increases from higher yields

Diesel operated mobile thresher costing $750* each

- A mobile diesel operated thresher with a capacity of 1000 kg/hour.
- At 10 hours operations a day over a period of 30 days – a mobile thresher can handle 300 MT of soybean threshing
- Upon successful adoption of such thresher, cooperatives can get a higher capacity, or multiple threshers based on their needs

Total cost for providing mobile threshers for all cooperatives over 3 years (USD)

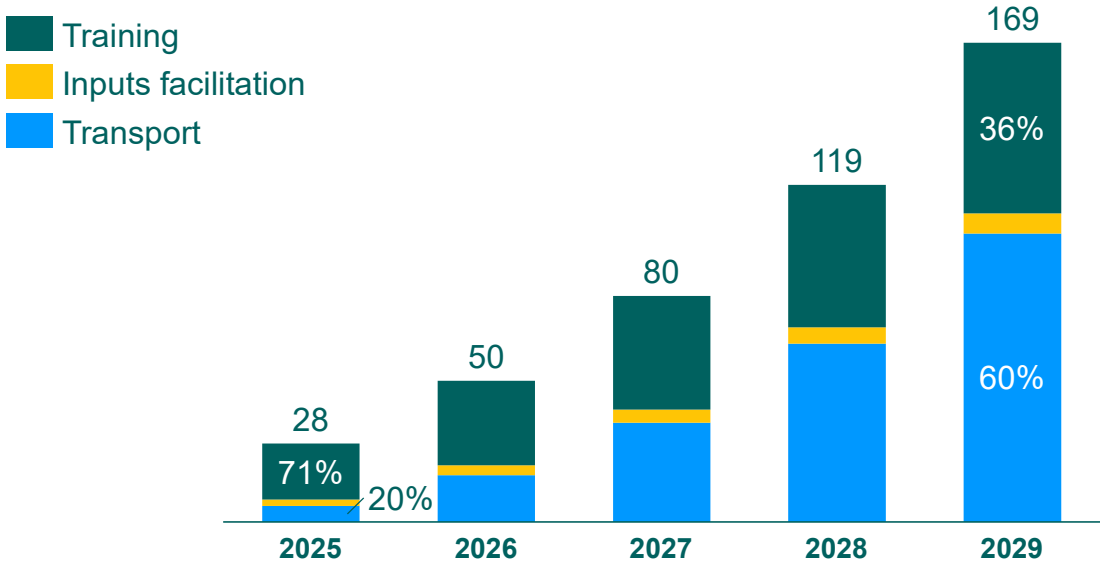


- The need for transitioning from manual to mechanical thresher will be particularly efficient and economical when the yield of soybean increases significantly.
- The unit cost of threshers are not high and can be piloted with few cooperatives to begin with

** https://www.tradeindia.com/products/soyabean-thresher-for-agriculture-1000-1500-kg-hr-threshing-capacity-7998413.html - $500 is cost of equipment, including transport and taxes we assume it to cost $750 per unit*

Service Provision Costs* | Cost of service provision is expected to increase with the growth in the number of farmers and volumes aggregated

Profit and loss for 2025-2029 ('000 USD)



	2025	2026	2027	2028	2029
Cost/farmer (USD)	*43*	*51*	*60*	*72*	*85*
Cost/MT (USD)	*171*	*105*	*80*	*66*	*58*

- Service provision costs are expected to peak at **USD 169k**, driven primarily by a growth in the transport costs due to the increase in aggregated volumes. Transport costs will account for up to 60% of the total service provision costs. AIF will fully cover the transport and logistics costs, subject to the volume requirements.
- Training costs are equally expected to increase 2 fold due to the increase in the number of farmers. During the project period, IFAD will cover the cost of training. These costs are expected to be covered by RAB in the medium term, with the opportunity of developing the capacity of the cooperatives to eventually absorb the costs as part of their operational costs.
- Other critical services needed by farmers include post-harvest infrastructure for drying and threshing. IFAD is exploring the possibility of providing matching grants for the private sector to set up this infrastructure. These services have the potential to become sources of revenue to support the operations of farmer cooperatives.

Notes: Costs are indicative. See annex for detailed assumptions*

4

Impact Case

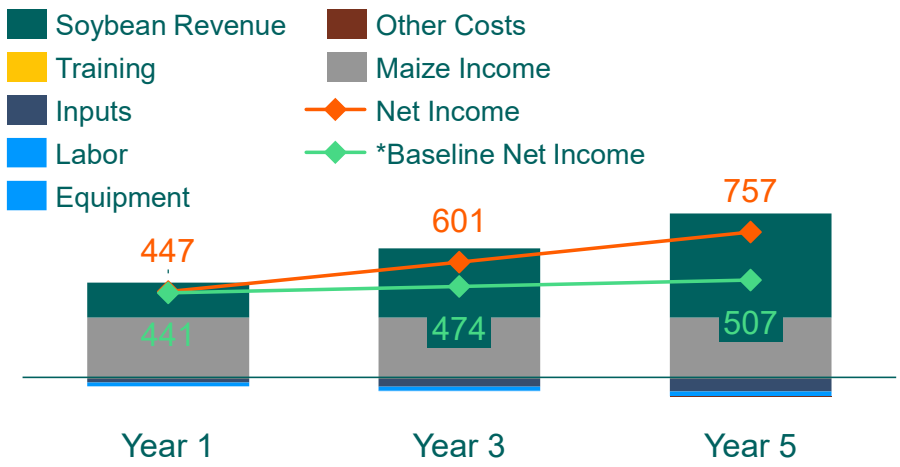
Farmer segments | While farmers are not currently segmented in the project, this analysis segmented the farmers into four distinct segments based on the farm size and the crop combination

Characteristics	0.5 Hectares		1 Hectare	
	Bush Beans	Soybeans	Bush Beans	Soybeans
Current yield	1MT/ha	0.75MT/ha	1 MT/ha	1 MT/ha
Maximum yield	1.25 MT/ha	2.0 MT/ha	1.25 MT/ha	2.25 MT/ha
Farm size	0.5 ha	0.5 ha	1 ha	1 ha
Farm-gate price traders	0.56 USD/kg	0.67 USD/kg	0.56 USD/kg	0.67 USD/kg
Farm gate price AIF	N/A	0.70 USD/kg	N/A	0.70 USD/kg
Services				
Training		GAP Training		GAP Training
Inputs		Certified seeds		Certified seeds
		Fertiliser access		Fertiliser access
Equipment & labor		Irrigation, mechanisation		Irrigation, mechanisation
Market Access		Guaranteed offtake		Guaranteed offtake

Notes: Farmer segmentation was done based on the cooperative and farm-level data shared by IFAD in consultation with a key representative from the organisation.

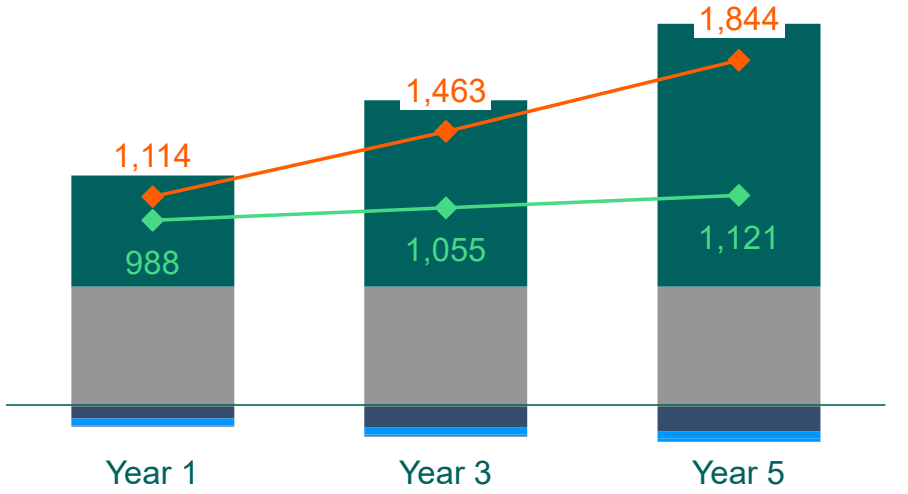
Farm P&L | Soybean farmers outperform bean farmers in profitability, driven by higher prices and yields; with GAP adoption, soybean income exceeds maize income by Year 3

Profit and loss for five years (USD) – Farm Size = 0.5 Ha



- Soybean farmers are more profitable compared to bean farmers from the outset. This is primarily due to the **farm gate price** of soybeans being **up to 12.5% higher** than the price of beans.
- Soybean Farmers with 0.5 ha and 1 ha plots are expected to increase their **net income by up to 70% and 62%,** respectively. Bean farmers, on the other hand, will see their net income only rise by up to 15%.
- Traditional beans add to the food security to farm households and easy to trade in local markets

Profit and loss for five years (USD) – Farm Size = 1 Ha

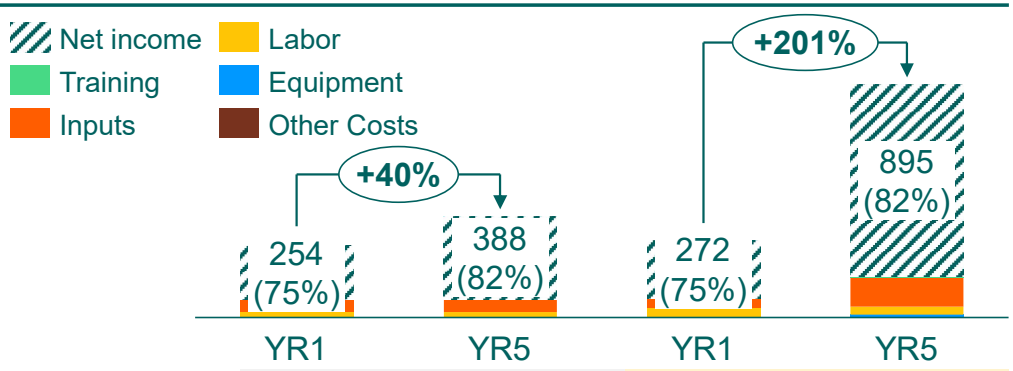


- Net income growth will primarily be driven by **productivity**, with soybean yields being projected to increase by **up to 2.6 times and 2.3 times** for farmers with 0.5 ha and 1 ha plots, respectively. Productivity improvement is subject to the adoption of GAP.
- Farmers typically cultivate maize in season A and soybeans in season B. Net income from soybeans is expected to surpass net income from maize** from Year 3.

*Notes: *Baseline refers to farmers who cultivate maize and beans. **For both farmer segments, we assume that income from maize farming will remain the same through the projection period.*

Profitability per Hectare | Soybean farming is more profitable than beans due to higher prices and yields, with efficiency improving despite increased input costs and post-harvest labour

Profitability per Hectare (USD/Ha) – Farm Size = 0.5 Ha

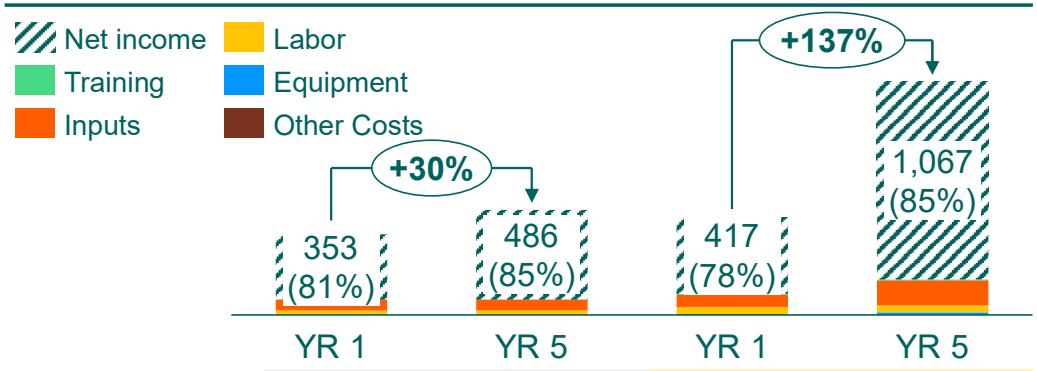


	Beans Farmers		Soybean Farmers	
	YR1	YR5	YR1	YR5
Marketable surplus (Kg/Ha)	600	838	590	1740
Cost of production (USD/kg)	-0.14	-0.10	-0.15	-0.11
Cost of Production (USD/Ha)	-83	-84	-90	-191
Profit (USD/Ha)	254	388	272	895
Profit (USD/kg)	0.42	0.46	0.46	0.51

- In Year 1, Profit margins for soybean farmers and bean farmers are comparable. This is primarily driven by the high farmgate price for soybeans, and a significant proportion of beans being used for household consumption compared to soybeans.
- Soybean farmers are expected to continue outperforming bean farmers due to improved yield associated with project interventions targeting soybean farmers. In year 5, net income from soybean farming is expected to be **more than two times** the net income from beans.
- Soybean farming has a higher cost of production in Year 1 due to high labour requirements for post-harvest services compared to beans. The high cost of production in year 5 is informed by the increased use of fertiliser and improved seeds, which are critical in driving yields.
- Although the total production cost of soybean farmers increased from **USD 90 to USD 191**, the cost of production per kg declined from **USD 0.15 to USD 0.11**, highlighting improved efficiency despite higher investment.

Profitability per Hectare | Soybean production is more profitable than beans due to higher surplus, prices, and scale benefits, despite bean production being more cost-efficient.

Profitability per Hectare (USD/Ha) – Farm Size = 1 Ha

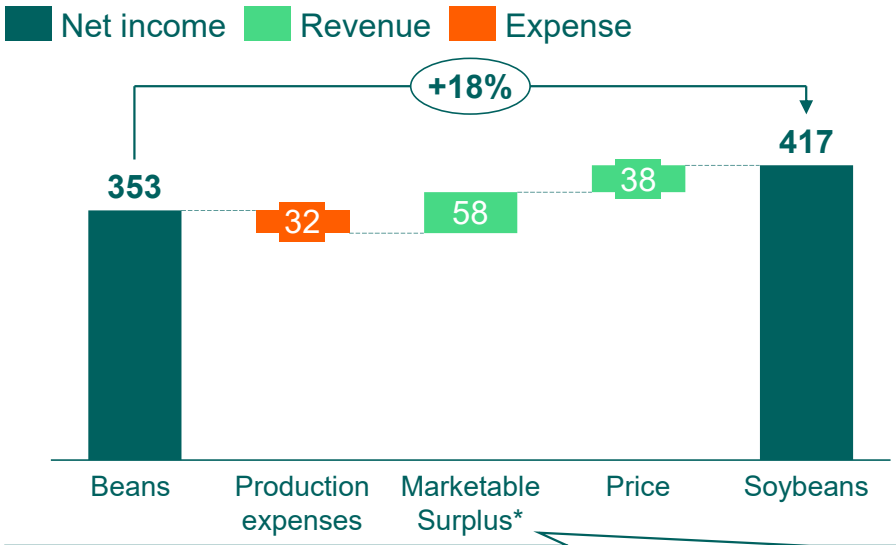


	Beans Farmers		Soybean Farmers	
	YR1	YR5	YR1	YR5
Marketable surplus (Kg/Ha)	775	1013	870	2020
Cost of production (USD/kg)	-0.11	-0.08	-0.13	-0.10
Cost of Production (USD/Ha)	-84	-84	-115	-195
Profit (USD/Ha)	353	486	417	1067
Profit (USD/kg)	0.46	0.48	0.48	0.53

- As with farmers cultivating smaller plots (0.5 Ha), soybean production is more profitable than bean production, both on a profit per hectare basis and profit per kg basis. This is due to the high marketable surplus of soybeans due to improved productivity and low household consumption compared to beans. Soybean also has better farm gate prices.
- Bean production, however, has a slightly lower unit cost of production per kg compared to soybean production, suggesting that they are more efficient in their production practices and the utilization of inputs. This is primarily due to the use of fertilizer by soybean farmers and the increased labor requirements, especially during post-harvest for soybeans.
- Both farmers cultivating soybeans and beans on 1-hectare plots have better economies of scale compared to their counterparts cultivating 0.5 hectares, as evidenced by the lower cost of production per kg and higher profit per kg.
- Access to services such as inputs, training and market linkages is key to the improved performance of farmers.

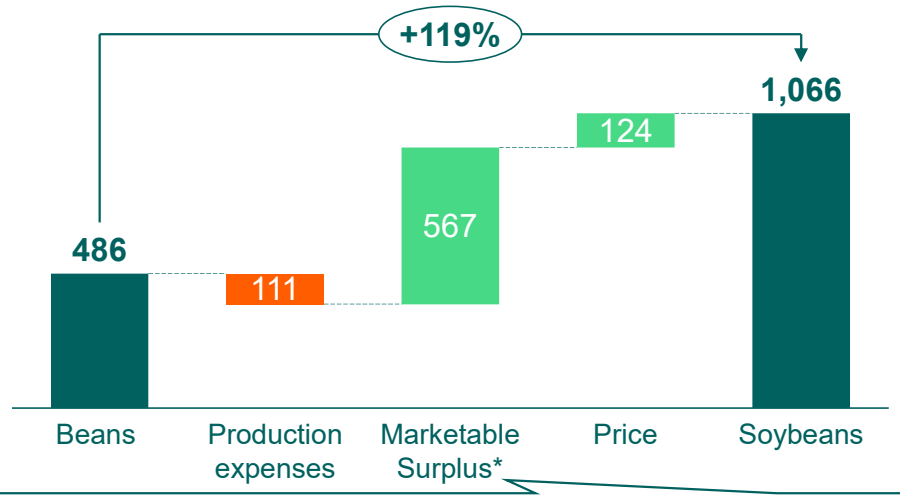
Income build-up | Despite higher production costs, soybean farming delivers superior profitability—18% initially and 119% by Year 5—driven by premium prices and productivity gains

Drivers of Income Difference (USD) between Beans and Soybeans Production for 1 Ha plots – Year 1



Currently, soybean production **costs USD 32 more** than bean production due to high labour requirements, especially during post-harvest and fertiliser use. Soybean farming is, however, **18% more profitable** due to a 12.5% higher farm gate price and a higher marketable surplus due to low household consumption.

Drivers of Income Difference (USD) between Beans and Soybeans Production for 1 Ha Plots – Year 5

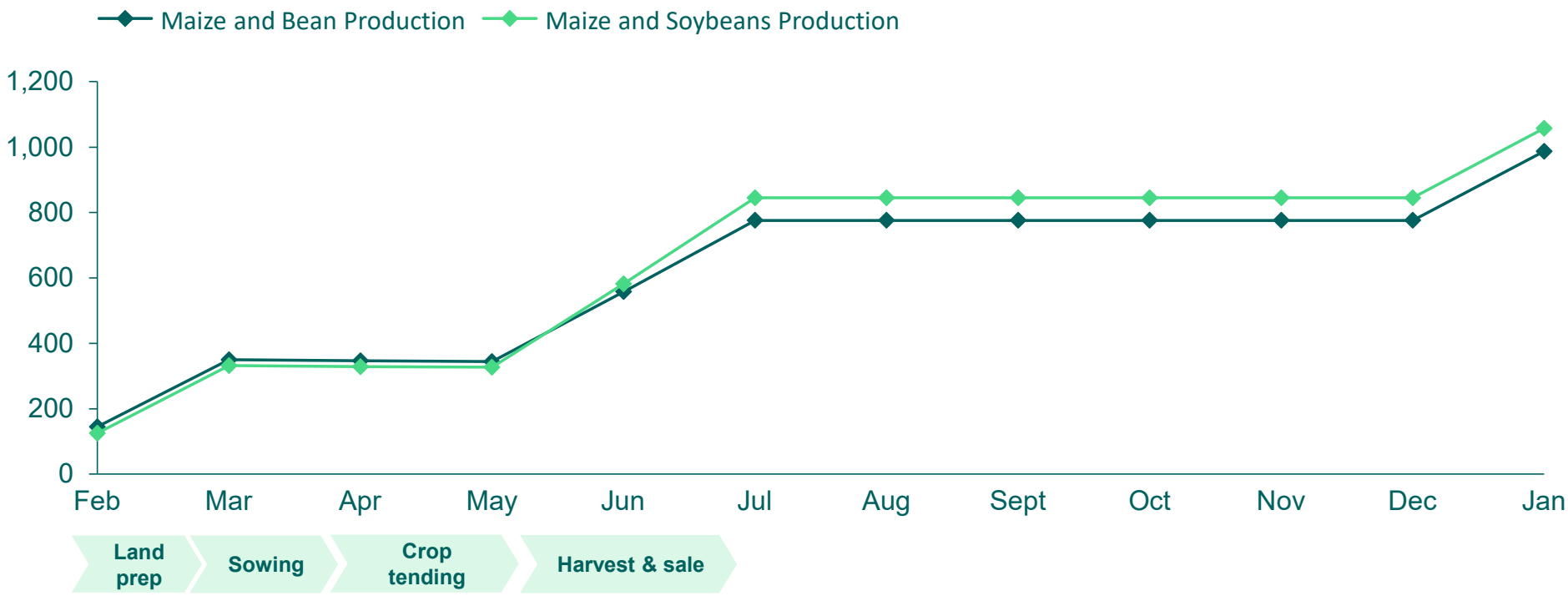


In Year 5, an increased investment in soybean farming makes it **cost USD 111 more** than bean production. This investment in inputs and GAP is expected to drive productivity, leading to a higher marketable surplus. Coupled with a premium farm gate price, soybean farming is expected to be **119% more profitable** compared to bean farming.

*Notes: * Marketable surplus refers to the quantity of agricultural produce (soybeans or beans) that is available for sale after accounting for post-harvest loss and household consumption.*

Monthly cash flow | Both farmer segments have sufficient cash flow for bean and soybean production, leveraging maize earnings to invest in Season B farming activities

Cumulative net cash flow (USD/Month) for 1 Ha Plots



Notes: The graph includes net income from the maize operations and all the activities on the cultivation of soybeans and beans

Sensitivity analysis | Soybean prices in Rwanda are moderately volatile; farmers break even despite fluctuations driven by weather, demand, imports, and production costs

Soybean Production Net Income Sensitivity to Farmgate Price and Yield/Hectare Year 5

Farm-gate price (USD/kg) →

Yield (Kg/Hectare) ↓

	0.32	0.42	0.52	0.62	0.69	0.76	0.83
696	-10	17	44	71	90	108	127
1,130	55	102	149	196	228	261	294
1,565	119	186	253	320	367	414	461
2,000	184	271	358	445	506	567	628
2,217	217	314	411	508	576	644	711
2,435	249	356	463	570	645	720	795
2,652	282	399	516	633	715	796	878
2,870	314	441	568	695	784	873	962

Current situation

Net income is sensitive to both prices and yield. Due to the low cost of production, farmers can still break even at very low farm gate prices and low yields. Soybean prices in Rwanda and moderately volatile, with prices **declining by up to 20%** due to post-harvest glut[1]. Poor seasons due to unpredictable weather patterns can see the prices **increase by up to 30%.** Increased demand from DRC has also generally increased the prices over the years. Global factors also influence the price since the country is a net importer of soybeans[2].

Sources: 1) Food Security Portal (2025); 2) RICA (2023);
Notes: Net income values in the table are represented in USD/farm, with the farm size being 0.5 hectares.

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idh
transforming markets

IDH Annual Report (2024)

Farmfit Insights Hub

Thanks

IDH would like to express its sincere thanks to Africa Improved Foods (AIF), IFAD, RAB and FARM P3 for their openness and willingness to partner through this study. By providing insight into their model and critical feedback on our approach, AIF is helping to pave the way for service delivery that is beneficial and sustainable for farmers and providers

IFAD
Investing in rural people

Food and Agriculture Resilience Mission (FARM)
Pillar 3 (P3)

RAB
RWANDA
AGRICULTURE AND ANIMAL RESOURCES DEVELOPMENT BOARD

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State Secretariat for Economic Affairs SECO

BILL & MELINDA GATES foundation

UKaid
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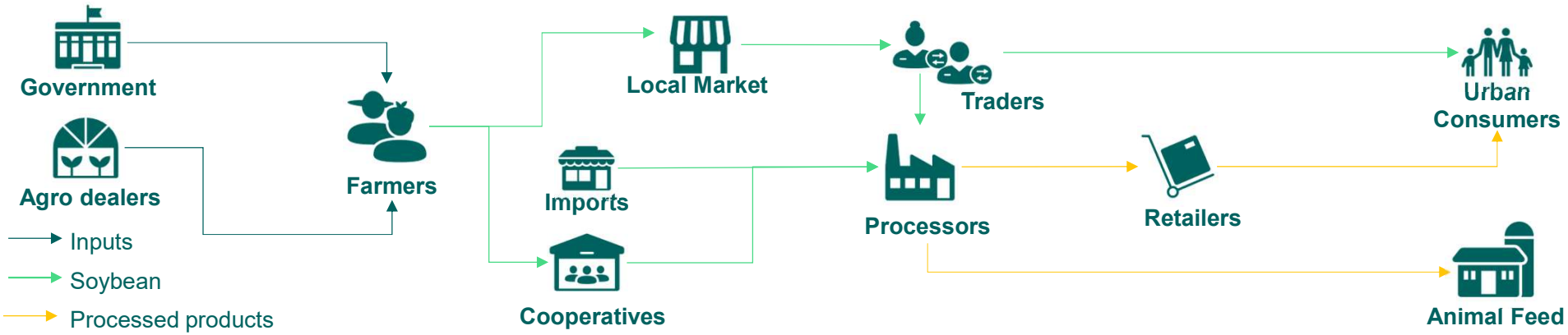
5

Annex

5.1 Context

Value chain | The soybean value chain in Rwanda is still developing with low local production, high dependency on imports and processors often operating below capacity



Input supply and production

- The government of Rwanda, through RAB and other agencies, is a key player in soybean production, providing fertiliser subsidies and distributing certified seed to the farmers. The government equally supports the farmers with extension services through cooperatives.
- Farmers can equally access inputs from agro-dealers who also double up as traders and aggregators during the harvesting season.[1]
- Soybeans are primarily cultivated by SHFs in the country. The crop is either intercropped or rotated with maize. Adoption of improved seeds is still very limited across the country.

Aggregation & Processing

- The Majority of the harvest is sold to the local community through the village markets (73.96%). Other volumes are aggregated by cooperatives and traders who resell the soybean to processors or transport it to urban markets.[1]
- The main challenges highlighted under this step are higher local prices for soybeans, which places farmers at a disadvantage as compared to soybeans from neighbouring countries.[1]
- Processors also often operate under capacity due to sourcing issues.[1]

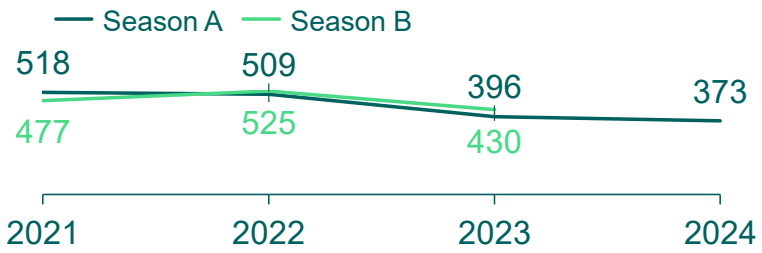
Distribution & consumption

- Home consumption of soybean pulses is limited, with the main consumption being through processed soybean products.
- The Main channels for selling soybeans and their products are local retail shops, supermarkets to end consumers and agro-dealers for soy-based animal feeds.[1]
- Soybean finished products include soybean porridge, soybean flour, soybean oil, etc.[1]
- Soybean exports, whether value-added or raw, are minimal and do not contribute much to Rwanda's total export contributions.[2]

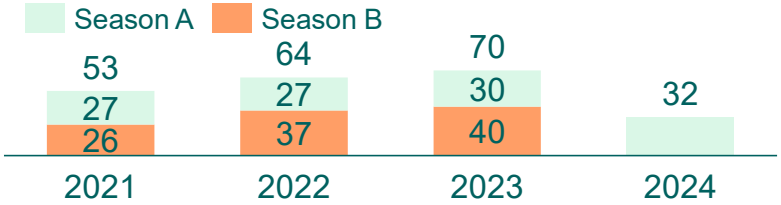
1. Tukamuhabwa (2016), 2. OEC (2023)

Contributing 0.4% to Rwanda's agricultural GDP, the soybean value chain has been identified by the government as a strategic sector for driving agricultural transformation

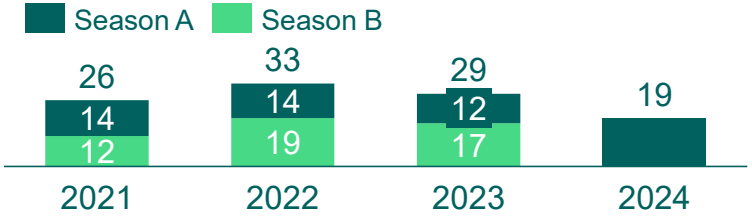
Soybean Productivity per year in Rwanda Kg/ha



Soybean Cultivation Area in Rwanda '000 Ha/year

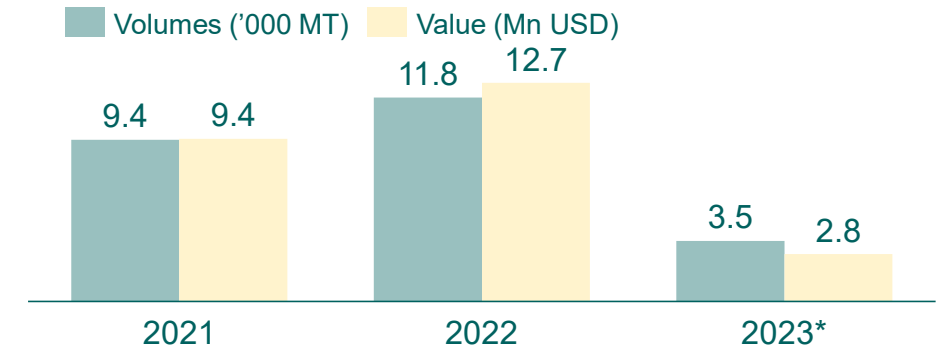


Soybean Production in Rwanda '000 MT/year



- Over 98% of soybeans in Rwanda are produced by smallholder farmers primarily for home consumption. Less than 30% of the local harvest is available for sale.
- The area under soybean cultivation has been on the rise in the last 4 years, mainly driven by government intensification programs.
- Key challenges faced in the sector include low productivity due to minimal adoption of improved seed varieties, value chain fragmentation and weak market linkages.
- Local supply of soybeans is inadequate to meet demand, especially from processors, necessitating imports from Uganda, Tanzania and Malawi. This situation is further worsened by high home consumption at the farm level.

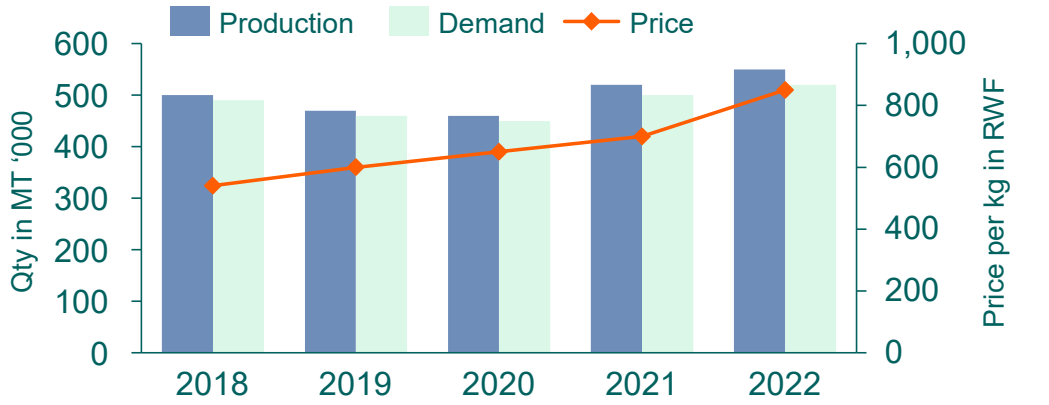
Soybean Imports in Rwanda



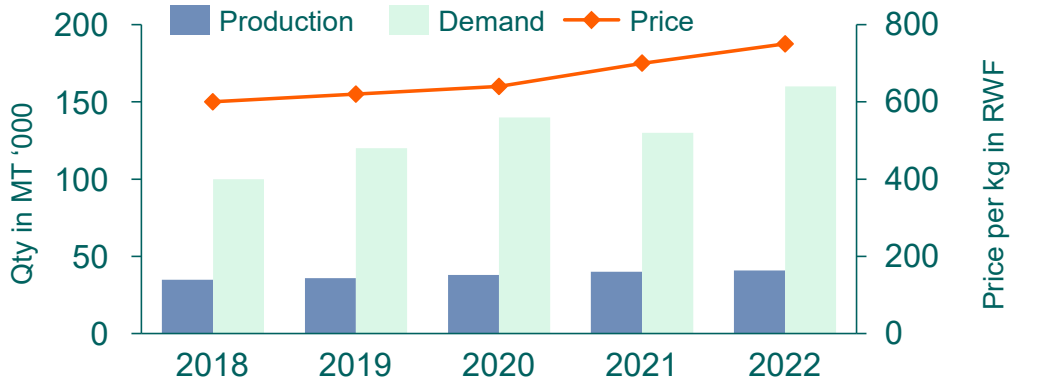
Sources: 1) Seasonal Agricultural Survey (2023); 2) Seasonal Agricultural Survey (2025); 3) FAO (2025)
**2023 FAO import data is based on estimated data using trading partners while 2021 and 2022 value are official figures*

While bean production is currently more dominant, soybean production offers strategic long-term benefits for Rwanda's farmers and its economy

Beans Production, Demand and Prices per year



Soybean Production, Demand and Prices per year



- Rwanda is bean sufficient. The commodity is a staple in the country, accounting for 32% of the household calorie intake and 65% of protein[2].
- On the other hand, to meet the demand for soybeans, local production should be increased by 4X. As such, soybean prices are expected to grow at a faster rate compared to bean prices.
- Beans and soybeans are generally produced by the same farmers across Rwanda, with most farmers preferring to cultivate beans due to readily available markets, food security, low input requirements and high yields compared to soybeans.
- While Rwanda has a comparative advantage in bean production, encouraging soybean production has strategic advantages, including income diversification at the farmer level, reducing the country's import bill and the development of the agro processing industry for value addition.
- Encouraging soybean production must be accompanied by interventions to improve productivity and establish a clear route to market.
- Historically, farm gate prices for beans have been generally higher than those for soybeans. However, in 2025, the farm gate prices for soybeans were on average RWF 50 higher per kg than bean prices.

Sources: 1) RICA 2023; 2) RAB 2025

Beans and Soybeans Comparison | Traditional beans are important for household consumption and food security, while soybeans provide an opportunity for income diversification at the farm level

Aspect	Soybeans	Traditional Beans
Demand	• Increasing demand for processing and fortified cereal-based products • Weak market linkages • Less consumed directly in the household, primarily for processing.	• Staple food in Rwanda drives high local demand • Reliable local market • A key source of protein in Rwanda. Household consumption is high.
Income potential	• Potential for high income, subject to clear market linkages • Volatile farm gate prices due to regional/global factors • Adoption of the crop is limited among SHFs in Rwanda	• Stable and predictable source of income. • Strong local demand and production ensures prices remain relatively stable. • Beans are a traditional crop and widely adopted by SHFs in Rwanda.
Inputs	• Farmers have limited knowledge of good production practices and crop management	• Farmers are more familiar with the crop production practices
Soil Benefits	• Improves soil fertility through nitrogen fixation	• Fixes nitrogen in the soil, but at a lower rate of biomass return compared to soybeans
Climate challenges	• Susceptible to drought due to its high-water requirements.	• Productivity is negatively affected by high rainfall amounts.

SWOT | AIF's is one of the largest soybean processor in Rwanda with a strong vertical integration of sourcing from farms, processing and selling value-added consumer products

	Helpful	Harmful
Internal	**Strengths** **For AIF:** • AIF pays a premium to farmers for high quality produce • Improved relationship and sourcing capabilities from cooperatives **For business model:** • AIF has already established strong sourcing linkages and relationships with farmers. Adding farmers in Kayonza to AIF sourcing base will bolster and diversify its sourcing resilience	**Weaknesses** **For AIF:** • Demand for AIF product focused on relief has decreased resulting in volume degrowth due to external factors **For business model:** • Not able to meet the volume and quality of soybean sourced from domestic market and relying on imports • High levels of segregation within the private sector
External	**Opportunities** **For AIF:** • AIF can lead the market offtake for high quality domestic soybean in closer collaboration with the government. **For business model:** • Potential for value-added products and wide product range • Rwanda government's attention to develop soybean value chain and increase in volume of offtake of AIF end products	**Threats** **For AIF:** • Competing buyers could compete to buy from cooperatives and farmer thereby benefiting from investments made into the farmer portfolio by AIF, and capture part of the productivity and quality increase **For business model:** • Inability to grow the demand for AIF end market in consumer markets • Climate change increases threat to harvest

 Discussions with AIF team and field visit

5.2 Underlying data & information

Learning questions

Goal of the study: *Assess the business case for investing in smallholder soybean farmers (SHF), informing how a AIF can strengthen and scale the business for more impact;*

- Determine the ideal structure and scale for SHF to successfully expand into soybean production and efficiently link AIF
- A key outcome of the study will be outcome will be a concrete service delivery model strategy and business model

Learning questions and scope of analysis	
Business model	**Assess how the soybean sourcing and service delivery model for AIF Rwanda is currently structured** • What are the current sourcing channels for soybean and their limitations? • What type of services are currently provided to smallholder farmers? • What are the gaps/improvement areas within the business model?
Business case	**Analysis of the advantages and conditions for AIF** • Evaluate whether sourcing soybeans locally could be more profitable than importing and determine under which conditions • Assess the potential of SHF as a viable sourcing option • **Propose concrete model for collaboration** (e.g. how many cooperatives, area per farmer; what would be the contribution of AIF – providing inputs and extension services to farmers? Other?)
Impact case	**Analysis of the advantages and conditions for SHF (especially comparing soybeans vs. regular beans)** • Assess whether soybeans can offer greater advantages than growing regular beans • Identify the conditions under which soybean cultivation would be more beneficial

Key Farmer assumptions

	Variable	Unit	2025	2026	2027	2028	2029
Yield	Soybeans (0.5 Ha)	Kg/ha/season	750	1,063	1,375	1,688	2,000
	Soybeans (1 Ha)	Kg/ha/season	1,000	1,313	1,625	1,938	2,250
	Beans	Kg/ha/season	1,000	1,063	1,125	1,188	1,250
	Maize	Kg/ha/season	3.0	3.5	4.0	4.5	5.0
Post harvest Loss	Soybeans	%	8%				
	Beans	%	5%				
Household Consumption	Soybeans	Kg/farm	50				
	Beans	Kg/farm	175				
			Farm gate Price				
			Beans			Soybeans	
	AIF Price	RFW/kg	N/A			900	
	Other Price	RFW/kg	800			850	
			Other Income				
			0.5 Hectare Farmers			1 Hectare Farmers	
	Maize Income	RFW/farm	445,846			901,952	
	Farm size	Ha/farm	0.5			1	
	Exchange Rate	RFW to USD	1,421				

Disclaimer

This study examines the projected (financial) performance of AIF's Business Model and explores and recommends potential improvements and opportunity pathways. The findings in this report have been used by IDH, AIF, IFAD and involved value chain players to shape their strategy, project design, and future business models, but these organisations cannot be held accountable for meeting any targets included in the report.

The contents of this report are intended for informational purposes only. While every effort has been made to ensure the accuracy and completeness of the information presented, the analyses in this report rely partially on projections and assumptions. The conclusions and recommendations in this report are based on our best knowledge and expertise at the time of preparation, but their applicability or accuracy in any particular situation or circumstance cannot be guaranteed. Therefore, no rights can be derived from the information provided in this report.

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