



# How Farmer-Allied Intermediaries Can Transform Africa's Food Systems

**Vikki Tam**  
**Chris Mitchell**

## About the authors

Vikki Tam leads Bain & Company's Social Impact practice with a particular focus on economic development, spearheading Bain's global economic development partnerships with Endeavor, Acumen and several other nonprofits around the globe; she is based in New York. Chris Mitchell is a partner with Bain's Social Impact and Consumer Products practices; he is based in Nairobi.

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“ In order to feed and employ the fastest-growing population in the world, we need a new approach to agricultural development in Africa, one with farmer-allied intermediaries at its center.



# Intro



## Introduction: The promise of farmer-allied intermediaries

For the past 10 years, a farmer, let's call her Rosalynn, has operated a small dairy farm in the southern highlands of Tanzania. A one-hour drive on dirt roads from the nearest market town, her farm gate was for years a stopping point for local traders. Moving door to door, those traders wielded significant power, deciding at will not to take a farmer's milk and often not paying on time or in full. At times when there was more milk than could be traded locally, Rosalynn still had to bear the cost of keeping up her five cows while meeting family expenses.

Five years ago, Asas, a major dairy processor located three hours away in Iringa, began sourcing milk from Rosalynn's village. Asas set up a network of milk collection stations along rural roads where farmers now take their milk twice a day for testing and collection by Asas employees who then transport the milk to a chilled collection center.

Asas buys from farmers all year round, taking as much quality output as they can produce and paying them a fair price, on time, every two weeks, directly deposited into cooperative bank accounts. This provides steady demand and a predictable source of income for Rosalynn and her family.

In addition, Asas extension agents provide farmers with training to improve cow productivity, educate them in climate-smart agricultural practices, and deliver veterinary support and inputs, such as minerals that can be purchased on credit to supplement cattle diets. Rosalynn now sells her milk to Asas at



Farmer-allied intermediaries have changed the lives of commercially oriented smallholder farmers.



a station only one mile from her farm, and with their support, she has improved her cows' health and nearly doubled their productivity from 6 liters per cow per day to 10 liters or more per cow per day.

In the time that Rosalynn has exclusively sold her milk to Asas, she has saved enough money, thanks to the increased productivity of her herd, to purchase two additional high-yielding, crossbred heifers. Moreover, she now is able to provide her two sons and daughter with a nutritious glass of fresh milk every day without worrying about needing to sell as much milk as possible to maintain an income. Her income overall has increased, and that allows her to have more money for food and other expenses; it also allows her to save for her children's college education.

Rosalynn's experience is representative of many commercially oriented smallholder farmers we have spoken to in this region of Tanzania in recent months. Asas offers them a way to reach the market that is more sustainable and profitable than traditional traders did.

By sparking activity across the dairy value chain—in processing, packaging, logistics and retail—Asas helps to ensure a reliable supply of high-quality milk to Tanzanian consumers and at the same time contributes to an expanded tax revenue base for local governments. If properly scaled, this can provide hundreds of jobs for young men and women, including extension officers who train farmers on better practices, milk collection agents, quality control officers, testing lab technicians and processing plant workers directly employed by Asas. And there are nutritional benefits, too. Processed dairy products are safer to consume than raw milk, and they can dramatically improve the nourishment of at-risk segments of the population, such as children under five years old and expectant mothers.

Asas is an example of a different kind of middleman that we call a farmer-allied intermediary, a group with the potential to transform food systems in Africa.



**Figure 1:** What does a smallholder farmer-allied intermediary do differently?

	<b>Traditional trader</b>	<b>Farmer-allied intermediary</b>
<b>Crop choice</b>	<b>No signaling of market</b> supply and demand	<b>Encourage farmers</b> to grow crops in demand
<b>Sustainable intensification</b>	<b>No production support</b> ; no helping farmers improve yields and quality	<b>Provide access to inputs</b> , both financial and operational <b>Facilitate technical assistance</b> on good agricultural practices
<b>Market access</b>	<b>Limited frequency and consistency</b> in volumes purchased  Typically <b>opportunistic relationships</b> lacking transparency and sharing of economic value	<b>Commit to predictable</b> , transparent price and volume <b>Pay a price premium</b> to farmers based on quality <b>Establish high velocity of transactions</b> , improving farmer cash flow <b>Set up repeat/long-duration</b> purchase agreements <b>Facilitate farmer organization</b> to reduce transaction costs <b>Support farmers with storage and logistics</b> , helping them sell for the best price
<b>Value chain participation</b>		<b>Facilitate value-add activity</b> performed by farmers, such as primary processing and increased asset ownership

Source: Bain & Company

Intermediaries are farmer allied when they invest in enhancing smallholder farmer livelihoods and disrupt traditional, transaction-oriented sales channels, such as traders (see Figure 1).

## A new paradigm of agricultural development

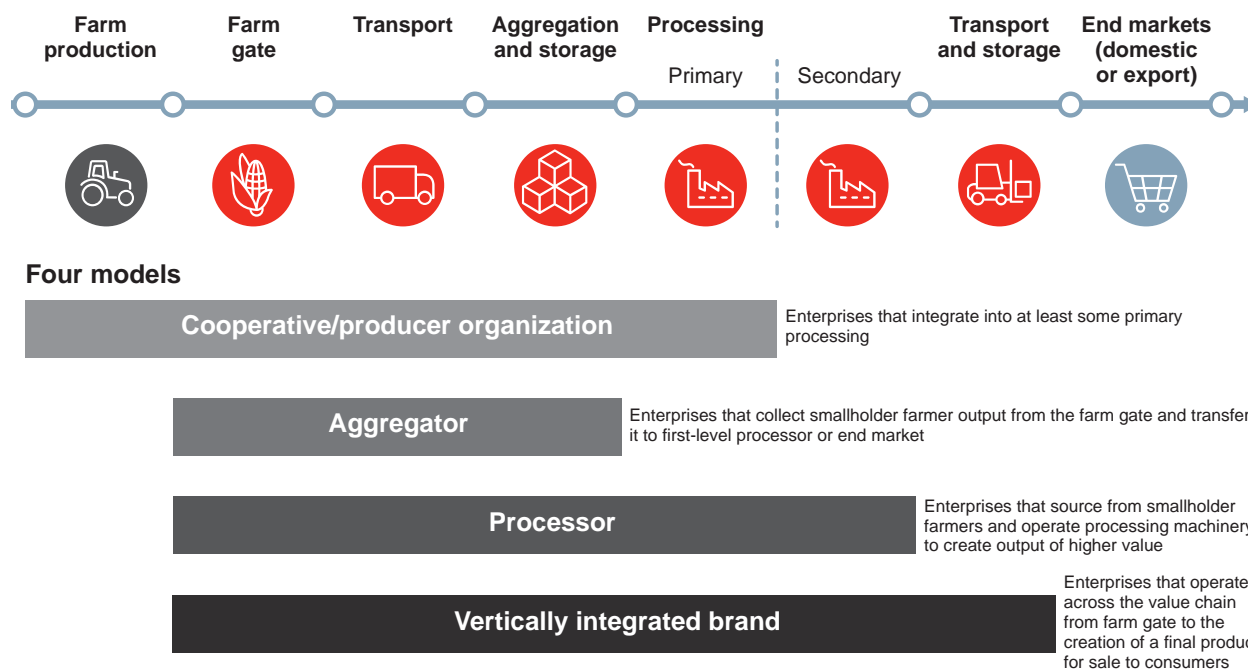
In order to feed and employ the fastest-growing population in the world, we need a new approach to agricultural development in Africa, one with farmer-allied intermediaries at its center (see Figure 2).

Working hand in hand with smallholder farmers, farmer-allied intermediaries, including producer organizations, aggregators, processors and vertically integrated food brands, can simultaneously achieve a number of critically important outcomes for a broad set of stakeholders. These include enhancing the livelihood of smallholder farmers and alleviating rural poverty, delivering quality agricultural output to buyers, creating a more efficient sales channel for input providers, making more nutritious food available to Africa’s growing populations, and creating jobs and contributing to broader economic development (see Figure 3).

This approach to agricultural transformation is consistent with the United Nations’ goals for sustainable development (see Figure 4).

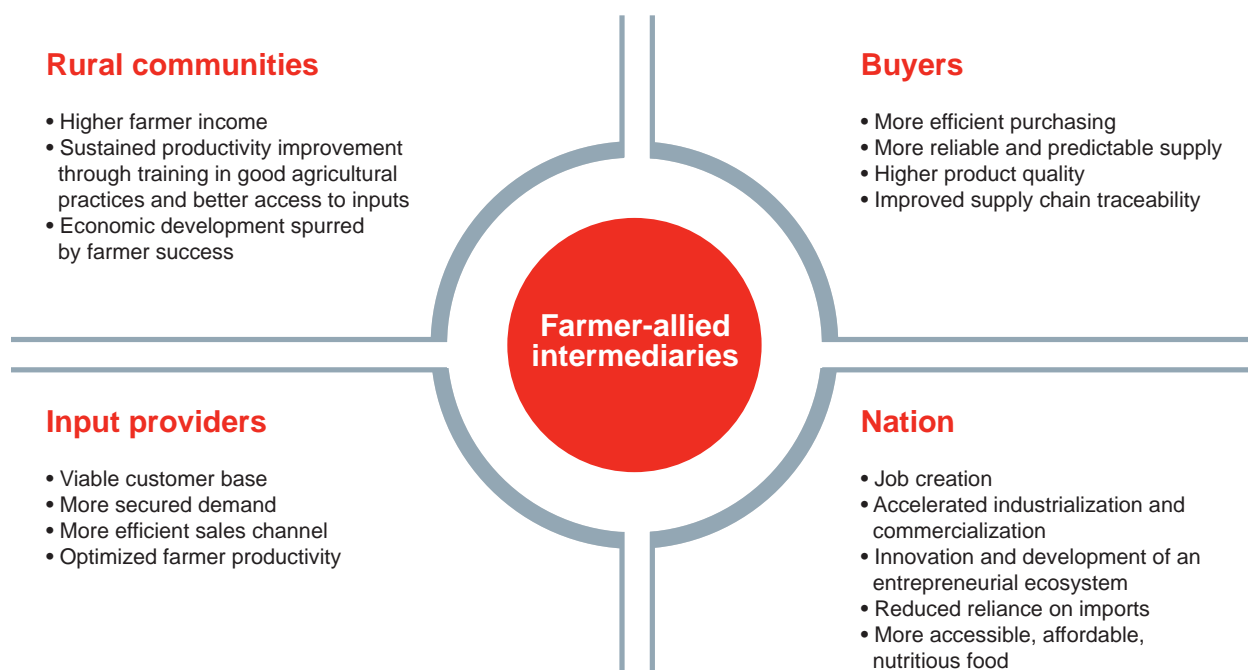


**Figure 2:** There are four main models of farmer-allied intermediaries connecting farmers to market










Source: Bain & Company

**Figure 3:** Farmer-allied intermediaries benefit many stakeholders



Source: Bain & Company

**Figure 4:** Food systems centered on farmer-allied intermediaries can advance many of the UN's 17 Sustainable Development Goals

UN SDG	Direct Impact of Farmer-Allied Intermediaries
	<b>No Poverty: Boost rural incomes and resilience in a sustainable manner</b>
	<b>Zero Hunger: Increase food availability and affordability, ensuring food security</b>
	<b>Good Health and Well-being: Drive better nutritional outcomes, especially for mothers and children</b>
	<b>Gender Equality: Empower women and youth through increased economic opportunity</b>
	<b>Decent Work and Economic Growth: Increase employment opportunities, stability and quality</b>
	<b>Industry, Innovation and Infrastructure: Enhance agricultural value-add and economic contribution</b>
	<b>Climate Action: Achieve environmentally sustainable food systems with climate-smart agriculture</b>

Sources: UN; Bain analysis

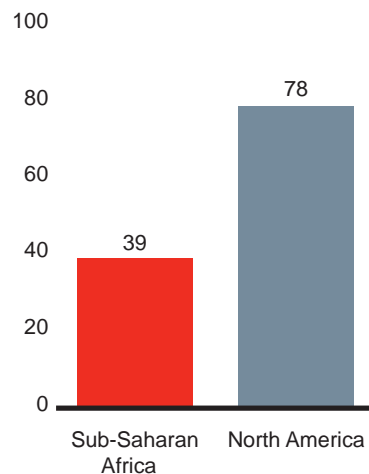
In many sub-Saharan African countries, smallholder farming will continue to dominate food production for the foreseeable future, and agricultural transformation will require a critical number of scaled, profitable and competitive intermediaries allied with those farmers. Those farmer-allied intermediaries will need a well-functioning system—optimal upstream and downstream conditions as well as in the broader operating environment—in order to grow and thrive.

A new approach is needed. Business as usual simply cannot address the magnitude of the region's current challenges. Over the past two decades, donor countries, multilaterals and foundations have directed almost \$40 billion to African agriculture, according to our analysis of data from the UN's Food and Agriculture Organization as well as the Organisation for Economic Co-operation and Development. Yet food security in the region remains about half that of developed markets. Net food imports have risen 400% since the early 2000s and, barring intervention, are projected to soar to more than \$110 billion by 2025. While agriculture is the largest segment of the economy in many sub-Saharan African countries, frequently accounting for between 30% and 70% of employment and comprising approximately one-quarter of the region's overall GDP, the portion of economic value captured beyond the farm gate is half the global average. And poverty levels, measured by the percentage of the population living on less than \$5.50 per day, are almost 2 times higher in Africa than the global average (see Figure 5). Furthermore, due to their underdeveloped food systems and low purchasing power, many African consumers spend up to half their income on food.

**Figure 5:** Agricultural conditions in Africa are growing more challenging

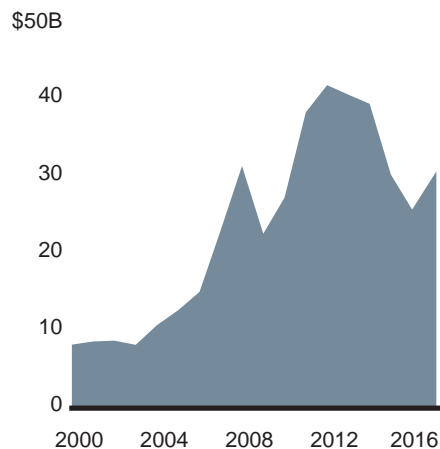
**Food security is half the level of developed markets**

Global Food Security Index regional averages (2018)



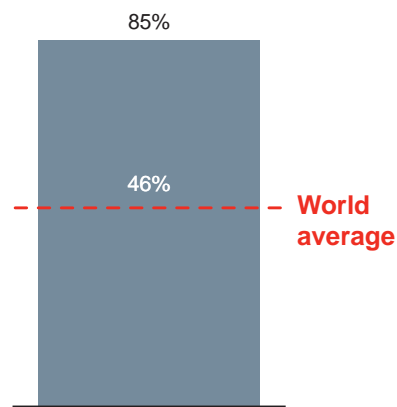
**Food imports have risen 4x since the early 2000s**

African net food imports



**Poverty levels are still far above the world average**

Percentage of sub-Saharan Africa living on less than \$5.50 a day (2015)



Sources: Unido; World Bank; ILO; *The Economist*; Faostat

All of these issues will get worse as increasing urbanization puts further pressure on domestic food systems and climate change becomes a bigger threat to African agricultural production. We are facing a perfect storm, and we need a new approach to agricultural development in Africa to feed and employ the fastest-growing population in the world.

To transform Africa’s food system successfully, we must put farmer-allied intermediaries at the center of our efforts.

## Too few, too small

There are farmer-allied intermediaries pioneering successful models of impact and innovation, as well as broader ecosystems that are effectively supporting those intermediaries. Unfortunately, too few farmer-allied intermediaries exist in sub-Saharan Africa today, and many of those that do struggle to scale profitably.

Even for Asas, one of the largest dairy processors in Tanzania, it’s a battle to achieve sustained profitability. At times, Asas operates at only 20% capacity, well below break-even utilization. Securing a consistent, high-quality supply from its base of more than 3,000 smallholder farmers can be challenging, especially during the dry season. Asas has borne the cost of collecting milk from this dispersed







group and of developing a system for working with them. That system includes an in-house database with a linked app for farmer registration and tracking as well as a variety of farmer supports from training to providing inputs on credit to mineral distribution and veterinary services. At the same time, Asas is fighting deeply entrenched consumer preferences for raw milk as well as managing expenses that add to the cost of operation and ultimately to product prices, pushing them out of reach for many consumers. Despite these challenges, Asas has remained committed to its smallholder farmer base, intentionally choosing to rely predominantly on them for its supply rather than concentrating on scaling, as it might, a handful of large commercial farms near its processing plant, including its own.

The development community knows well the broader challenges of scaling profitable farmer-allied intermediaries and agricultural small and medium-sized enterprises (SMEs). The biggest is access to financing.

Historically, development programs have not prioritized intermediaries, instead largely focusing their grant funds on interventions to increase farmer productivity. The financing gap extends beyond grants to debt and equity as well. According to recent research, there is an \$80 billion gap in debt available for agricultural SMEs with annual revenue less than \$15 million. This stems mainly from the quantum of credit available, but even what credit does exist is not always affordable with interest rates of 15% to 30%. Such high interest is hard to pay off with the meager cash flows from agricultural or food production.

One study of more than 100,000 SMEs predominantly located in developing countries found that access to financing was respondents' No. 1 challenge. And in our own research over the past year, we have heard agricultural intermediaries talk about the difficulty of securing loans for working capital and capital expenditures. In addition to high interest rates, they are limited by a lack of collateral and payment terms that may require repayment even before new cash flows materialize.



The financing gap extends beyond grants to debt and equity.

Agricultural SMEs have historically not received significant equity investment. Our research has found that agriculture as a sector has attracted less than 10% of all impact capital invested in sub-Saharan Africa in recent years. Between 2013 and 2018, roughly 20% of this capital went to agricultural SMEs, and of that, less than 20% went to agricultural intermediaries in the “missing middle,” a segment that includes most smallholder farmer-allied intermediaries. That amounts to less than 1% of the estimated \$6 billion in impact capital, on average, deployed to sub-Saharan Africa per year during this period.

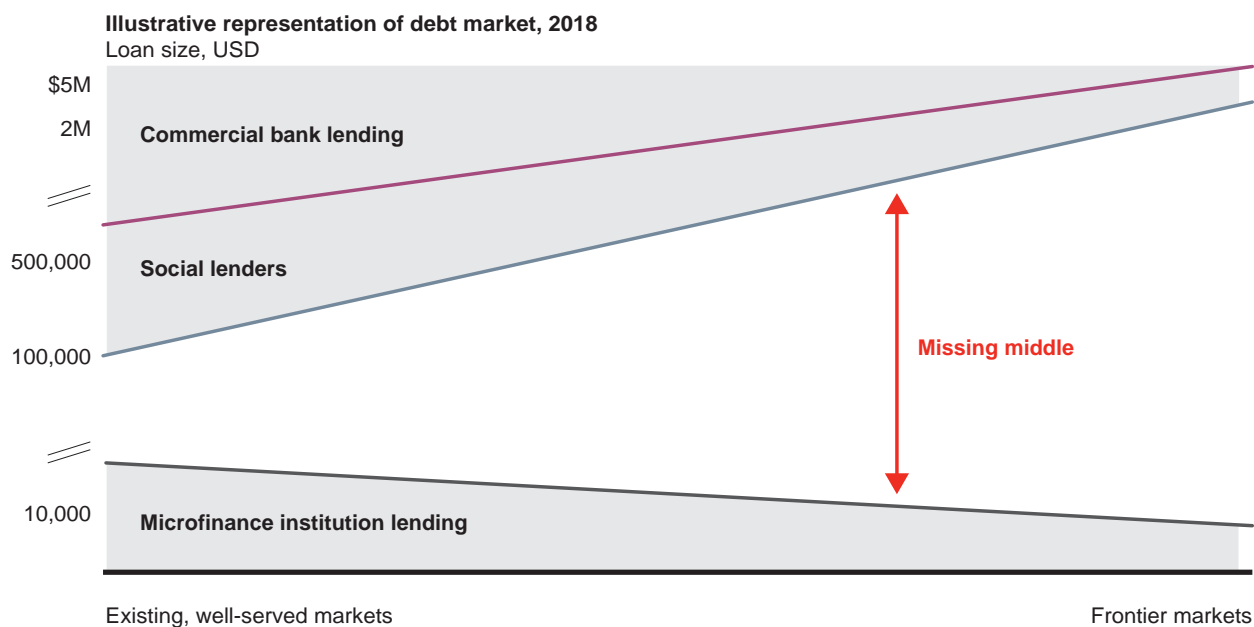
To calculate the total impact capital directed to sub-Saharan Africa, Bain looked at global development finance institution (DFI) equity flows to the region as well as all non-DFI equity flows between 2012 and June 2018, using Pitchbook deal data, a comprehensive literature search and analysis of major investor company portfolios. Estimates for the proportion of impact capital directed toward agriculture, specifically, in sub-Saharan Africa, is based on our literature search. To calculate the proportion of capital that went to intermediaries in the “missing middle,” we looked at 275 companies from Pitchbook and conducted a portfolio analysis of 26 leading DFI and non-DFI equity investors and classified investees by company revenue (microenterprise, “missing middle” and larger SMEs) and by business model (ag tech, input providers, intermediaries and other agribusinesses).

“Missing middle” is a term that has emerged over the past decade, along with “small and growing businesses” and “pioneer firms,” to characterize a specific type of SME. This group typically comprises early-stage firms underserved by commercial lenders and investors but nevertheless considered too big by microfinance institutions (see Figure 6). For this report, we have loosely defined the missing middle as enterprises with 5 to 250 employees and revenue between \$100,000 and \$5 million that are seeking debt or equity capital of \$200,000 to \$2 million. These firms typically fit into the “validate” and “prepare” phases defined in *From Blueprint to Scale*, a report by Monitor and Acumen.





**Figure 6:** Farmer-allied intermediaries often fall in the missing middle, where financing is not readily available



Note: We define companies in the missing middle as 5–250 employees, \$100,000–\$5 million revenue, need for debt or equity capital of \$200,000–\$2 million  
Sources: CSAF; USAID

In limiting their financing, bankers and investors are for the most part simply acting rationally. There is always a higher level of systemic risk in agriculture relative to other sectors. Factors such as weather and pestilence, both exacerbated by climate change, are hard to predict and can significantly hurt an enterprise’s performance.

But the challenge of financing farmer-allied intermediaries has its specific complexities as well. The first challenge to becoming commercially viable and scalable and, in turn, able to secure credit and equity investment is acquiring sufficient, reliable quantities of quality raw materials from smallholder farmers, and doing so at a price that allows the intermediary to meet market demand and earn a profit. As Asas’s experience in Tanzania shows, working with small, dispersed farms involves complex and costly logistics and distribution. Investments in organizing and training farmers and providing access to a full range of necessary inputs, often on credit, can be necessary to build farmer loyalty and ensure the right quantity and quality of output.

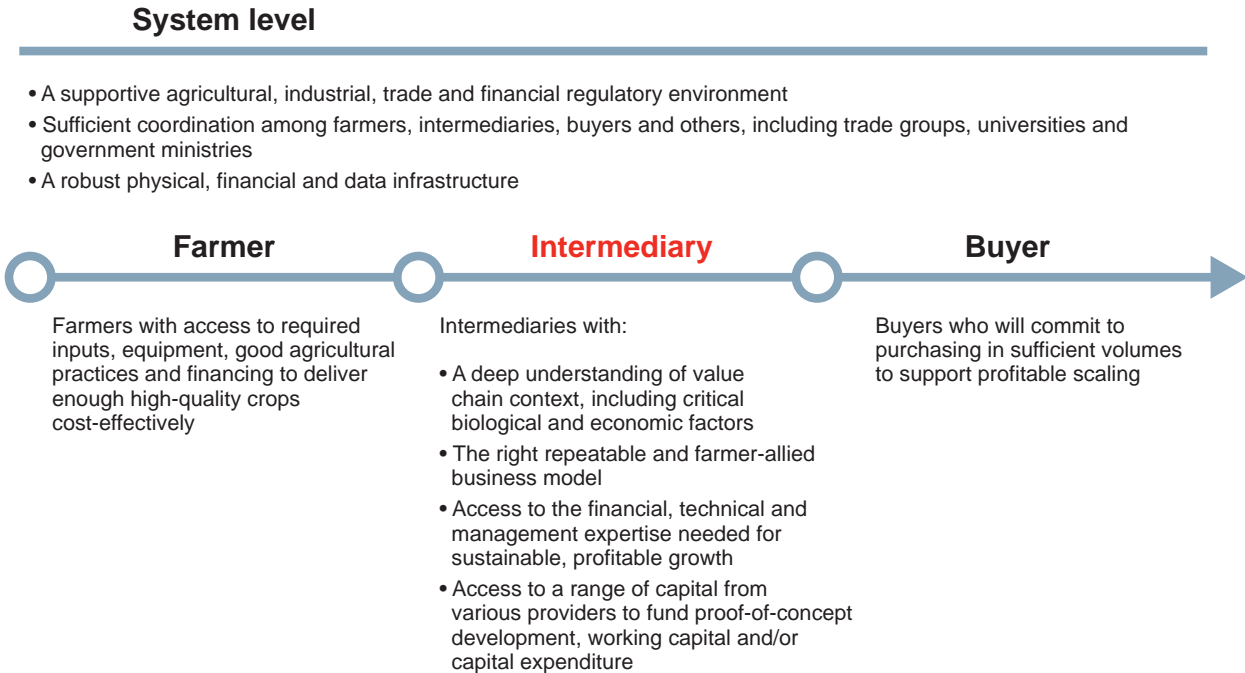
The intermediary’s intent ultimately determines how it engages with smallholder farmers and the degree to which it invests in them. While farmer engagement and investment typically strengthen loyalty and reliability, thereby serving the long-term financial interests of the business, in the near to medium term, they come at a cost and imply a real trade-off with financial performance and returns. This trade-off is especially acute for early-stage entrepreneurs that are still building their business

models and operating in limited parts of lower-margin value chains. Emphasis on farmer investment for these entrepreneurs could mean a slower path to scale and positive financial returns.

Indeed, it takes time and effort to build a repeatable business model that both delivers a value proposition to farmers strong enough to disrupt traditional trader relationships and maximizes operating efficiency enough to enable positive unit economics. It requires access to managerial, financial and technical expertise that is often in short supply. It can be difficult to secure predictable, growing demand. Sometimes, the challenge involves shaping consumer behavior, such as drinking processed milk; other times, it may be addressing the complexities of a multichannel retail landscape. Navigating the often opaque and unpredictable regulatory and policy environment, including import regulations and tariffs, value-added taxes, and company and product registrations, is yet another trial they face.

In short, while the “access to financing” challenge often cited by these firms is real, it also can mask a host of underlying, interrelated challenges across a complex ecosystem. For farmer-allied intermediaries to scale profitably takes more than business acumen and entrepreneurial drive. It requires a well-functioning system: conditions within and surrounding the value chain that enable farmer-allied intermediaries to scale profitably. In many sub-Saharan countries, that system does not exist or function adequately. To build it requires a new approach to smallholder agricultural development and investing—one that prioritizes high-potential farmer-allied intermediaries and brings together different kinds of support in a far more aligned, coordinated way (see Figure 7). It requires capital from philanthropic, commercial

**Figure 7:** Supporting farmer-allied intermediaries requires the right business model operating in the right system



Source: Bain & Company



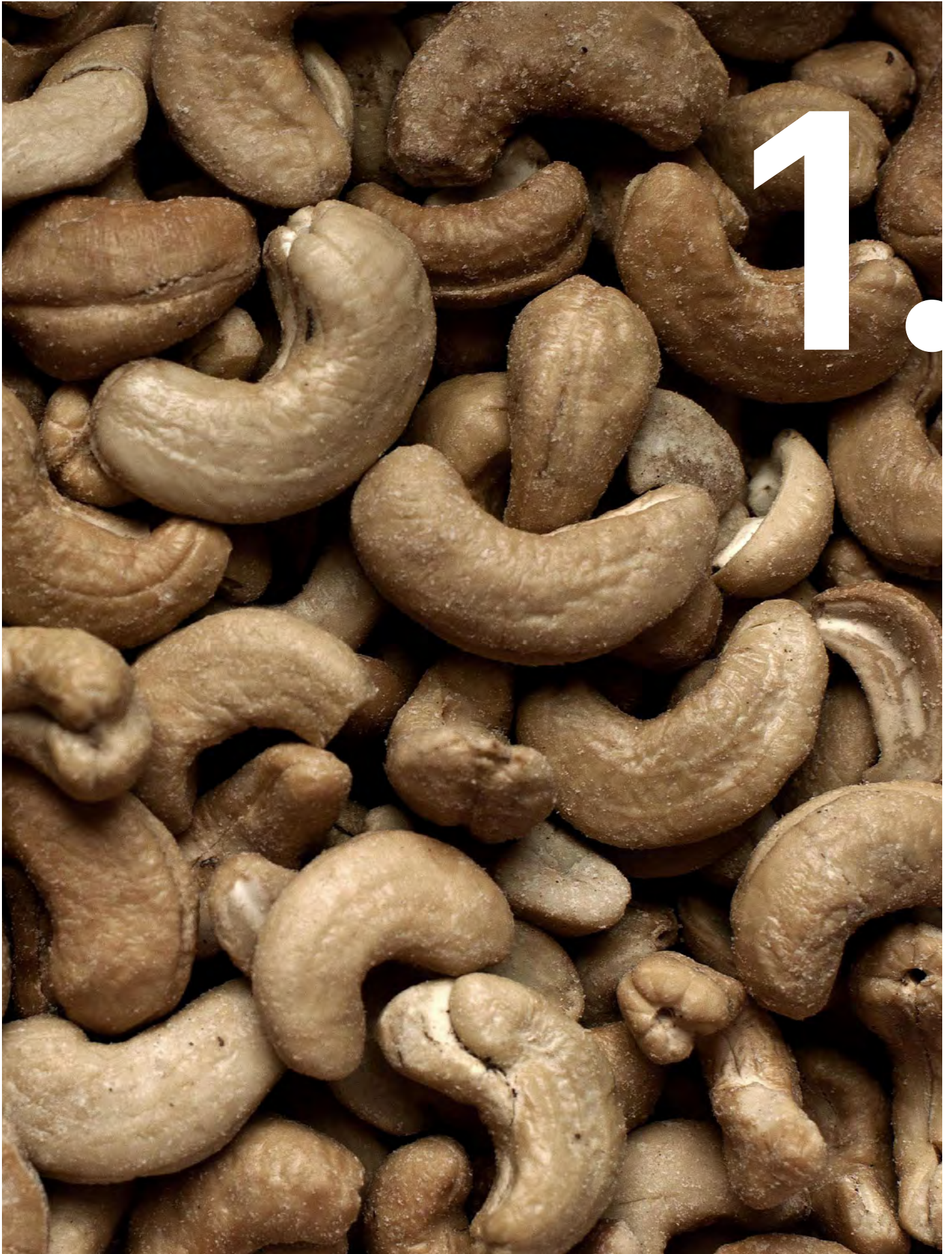
It takes time and effort to build a repeatable business model.

and blended sources as well as supports beyond capital, including strategic and operational assistance that come from public, social and private sectors.

As we will see throughout this report, these complex challenges can be addressed. Digital technologies and emerging models of success are providing momentum and the opportunity to build a new, more effective approach to agricultural transformation.



“ By industrializing and commercializing agriculture, sub-Saharan Africa can capture more of the value added beyond the farm gate, from processing through retailing.







## Chapter 1: A new approach to agricultural development

While historically agricultural development programs have focused disproportionately on improving farmer productivity and strengthening farmer organization, in recent years, these programs have recognized the importance of agricultural SMEs and increased efforts to strengthen them. This work, while well intentioned and often effective at a local level, has yet to move the needle at a systemic level for three reasons.

- **It is too broad-based:** Programs do not target specific value chains or specific types of enterprises within them, such as intermediaries.
- **It is too piecemeal:** Programs are too focused on discrete elements of the system. They may, for example, look at capital access without including the necessary upstream and downstream support, or concentrate on strengthening business or technical capacity without addressing capital gaps.
- **It does not discriminate:** There is a lack of rigor about which enterprises are targeted. Programs can often favor those with the greatest need, rather than those with the highest potential.

To date, efforts to support agriculture in sub-Saharan Africa have not unlocked the full economic potential of smallholder agriculture and its ability to transform local food systems.





The most telling sign that African agriculture is insufficiently developed is how little agricultural processing takes place in Africa. Post-farm-gate processing generates significant agricultural profits and economic impact in industrialized countries that capture more than 4.5 times the value per ton of agricultural product that developing countries do.

Many developed countries have policies that discourage processing in the African countries where products are grown—one example being the EU tariffs on processed cocoa. While quality standards for export are important, they can be expensive to meet and can discourage investing in processing.

By industrializing and commercializing agriculture, sub-Saharan Africa can capture more of the value added during aggregation, processing, distribution and logistics, packaging, and wholesaling and retailing. It can increase employment in the sector as well. This is critical if countries are to grow their agricultural sector faster than 6%, the rate the Comprehensive Africa Agriculture Development Programme has determined necessary to enable a country's broader economic transformation.

Important trends converging today increase the urgency for this transformation but also make possible the “quiet revolution” of emerging agricultural intermediaries envisioned by the Alliance for a Green Revolution in Africa. Four are critical.

- **Rising incomes and increasing urbanization:** It is projected that the African food and agricultural market will reach \$1 trillion by 2030. Urban centers already account for 40% of Africa's population and more than half of food demand. By 2050, between 50% and 70% of Africa's population is expected to live in cities. Consumers increasingly value food quality and safety, and a high-income, more urban population will demand a greater variety of foods with higher nutrition, in particular proteins and processed foods.

- **A growing youth population demanding economic opportunities:** Today, 60% of Africa's population is under 25 years of age, with unemployment among 15- to 24-year-olds at 13% across sub-Saharan Africa and as high as 50% in South Africa. The continent's population is expected to more than double by 2050, reaching more than 2 billion people. The risk of a large number of unemployed youth creating social instability is real and rising. Large-scale migration by this group stresses already overcrowded cities, and urbanization without industrialization (but instead a growing dependence on the services sector for jobs) does not provide a sufficient or sustainable path to rapid economic growth. Developing an attractive model of agriculture as a business, both on the farm and post-farm gate, can create job opportunities, especially for youth. Today, the average age of a smallholder farmer is around 50, so helping young people view farming as a viable entrepreneurial opportunity will also be important. Between 40% and 70% of the food costs of the urban consumer are incurred post-farm gate, so there will be economic opportunity downstream as well.
- **Moving from climate change to climate crisis:** Droughts and water shortages, more variable growing seasons, heat stress, increasing incidents of pestilence—all increase with climate change, and all strain the food system. Sub-Saharan Africa, where 95% of agriculture remains rain-fed, is particularly exposed to the increasing variability in rainfall patterns. As a result, by 2050, as tropical regions, including Africa, become less favorable for agriculture, yields are expected to drop by more than 10%. To cope, value chains will need to become more resilient through “sustainable intensification”—in other words, they must produce greater output from decreasing amounts of arable land, reduced water and a warming climate. This won't be possible unless smallholder farmers get more support, including to minimize post-harvest losses, and are given incentives to adopt climate-smart agricultural practices and innovative ecological, genetic and other technologies. Intermediaries that link farmers to the rest of the agricultural value chain will be key to adoption.
- **The promise of digital disruption:** Supplying inputs, organizing farmers and transporting outputs will always require physical, on-the-ground activities. Digital technology, however, has opened up new ways of engaging with smallholder farmers at radically lower cost. New business models enable more efficient aggregation and purchasing of farmer output, and enterprises that previously could not profitably source from smallholder farmers can finally do so. Smartphone penetration in sub-Saharan Africa has been steadily increasing, with twice as many Africans expected to own a smartphone in 2025 as did in 2014. Innovations based on digital technology are also giving smallholder farmers much easier access to financing and information.

Farmer-allied intermediaries are uniquely positioned to address these converging trends.

## Who are farmer-allied intermediaries?

Intermediaries are the enterprises that enable the flow of money and outputs between farmers and the market. Farmer-allied intermediaries strategically and intentionally source from smallholder

farmers in a way that strengthens their capacity, improves their productivity and enhances their livelihoods.

- **Crop choice:** Traditionally, traders give farmers little insight into the market, supply or demand. But a farmer-allied intermediary will advise farmers on crop varieties with established market demand as well as on crop rotation and intercropping. In some cases, they may even try to convince whole communities or farmer organizations to switch to crops with greater market potential.
- **Sustainable intensification:** While traditional traders provide farmers with no production support, farmer-allied intermediaries often provide training to farmers and help them access financing, seeds, fertilizer, equipment and other inputs.
- **Market access:** Traditional traders purchase infrequently, opportunistically and in inconsistent quantities. Farmer-allied intermediaries, by contrast, commit to predictable and transparent pricing, and some enter into repeat or ongoing purchase agreements or agree to buy a given volume. They may pay farmers a premium price based on quality and often purchase more frequently, improving farmer cash flow. In addition, they may facilitate the setup of farmer/producer organizations and support farmers with storage and other logistics services that minimize post-harvest loss and help them sell at the best prices.
- **Value chain participation:** Some farmer-allied intermediaries increase farmer profits by facilitating primary processing on the farm or other activities that add value to the product before it leaves the farm gate.

Because farmer-allied intermediaries do much more for smallholder farmers, theirs is a higher-cost business model that is harder to scale profitably. A whole range of factors can affect any individual



Farmer-allied intermediaries strategically and intentionally source from smallholder farmers.

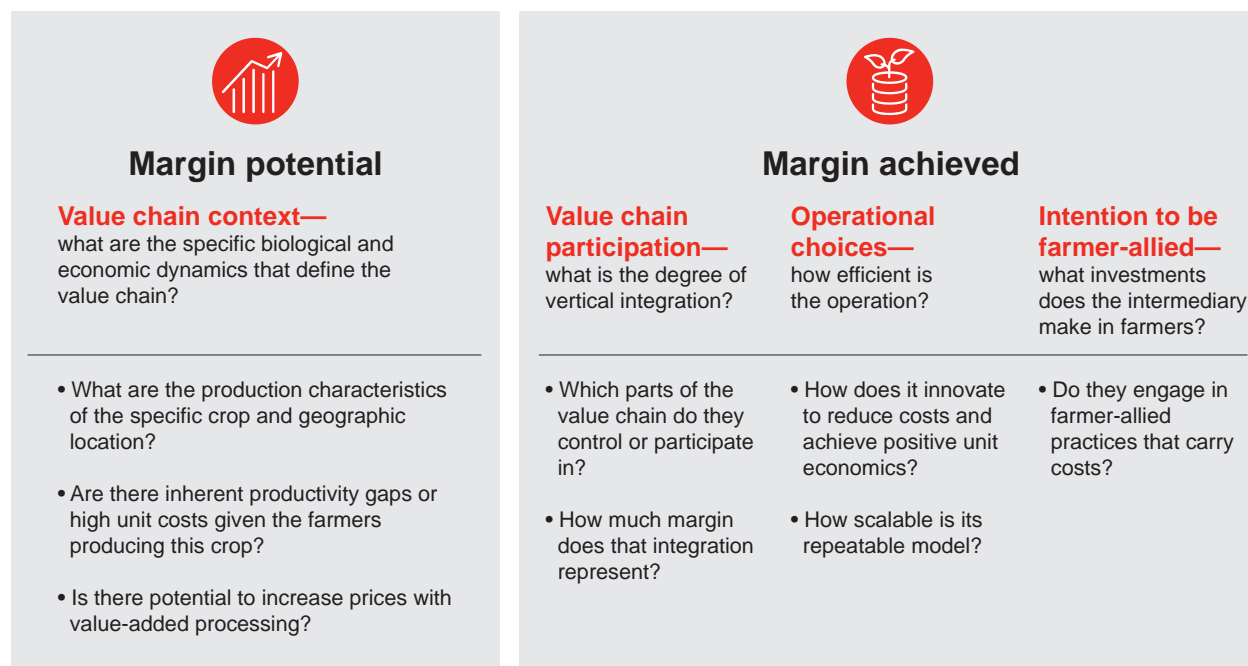
enterprise’s commercial viability, including the company’s life stage, how innovative it is, the quality of management and the intensity of competition. Two primary factors, however, structurally determine whether a farmer-allied intermediary can make money and how much: first, the value chain in which it participates; and second, its business model (see Figures 8, 9, 10 and 11).

The first structural factor is the value chain in which the intermediary participates. Every crop is different, and the interplay between a crop’s biological and economic characteristics determines its margin potential.

The second structural factor determining an intermediary’s profitability is its business model—specifically, three sets of choices:

- **Degree of vertical integration:** Is it participating in more and higher-margin portions of the value chain?
- **Operational choices:** What is the degree of operational efficiency realized? To what extent is innovation (in core process and/or technology) lowering its cost to serve customers?
- **Intention to be farmer allied:** What investments does it make to support smallholder farmers?

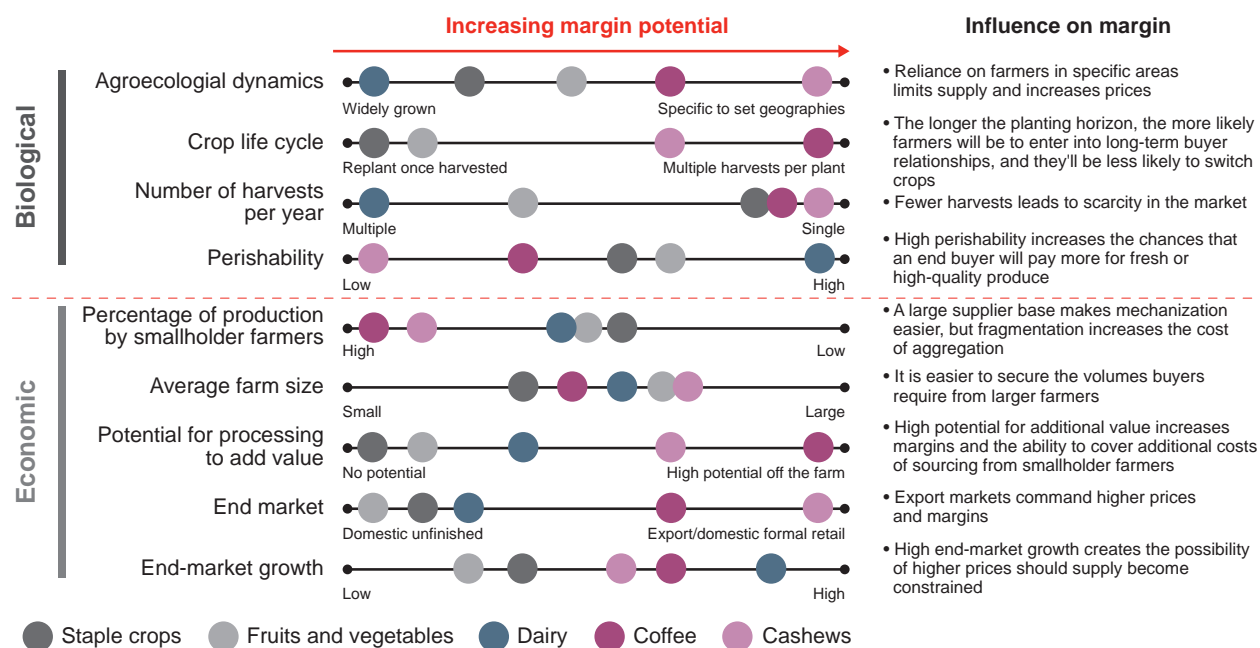
**Figure 8:** To optimize an intermediary’s commercial viability, understand the structural parameters within which it operates



Source: Bain & Company



**Figure 9:** The interplay of biological and economic characteristics determines a crop's margin potential



Note: Placement of maize based on end product of shelled maize kernels  
Source: Bain & Company

**Figure 10:** For all these reasons, some crops have much higher potential profit margins than others



**Nigerian maize**

**45%**

increase in price at retail



**Kenyan bananas**

**89%**

increase in price at retail



**Indian milk**

**225%**

increase in price at retail when processed into ice cream



**Ghanian cashew**

**554%**

increase in price at retail when roasted and seasoned



**Ethiopian coffee**

**900%**

increase in price of whole beans at retail when roasted

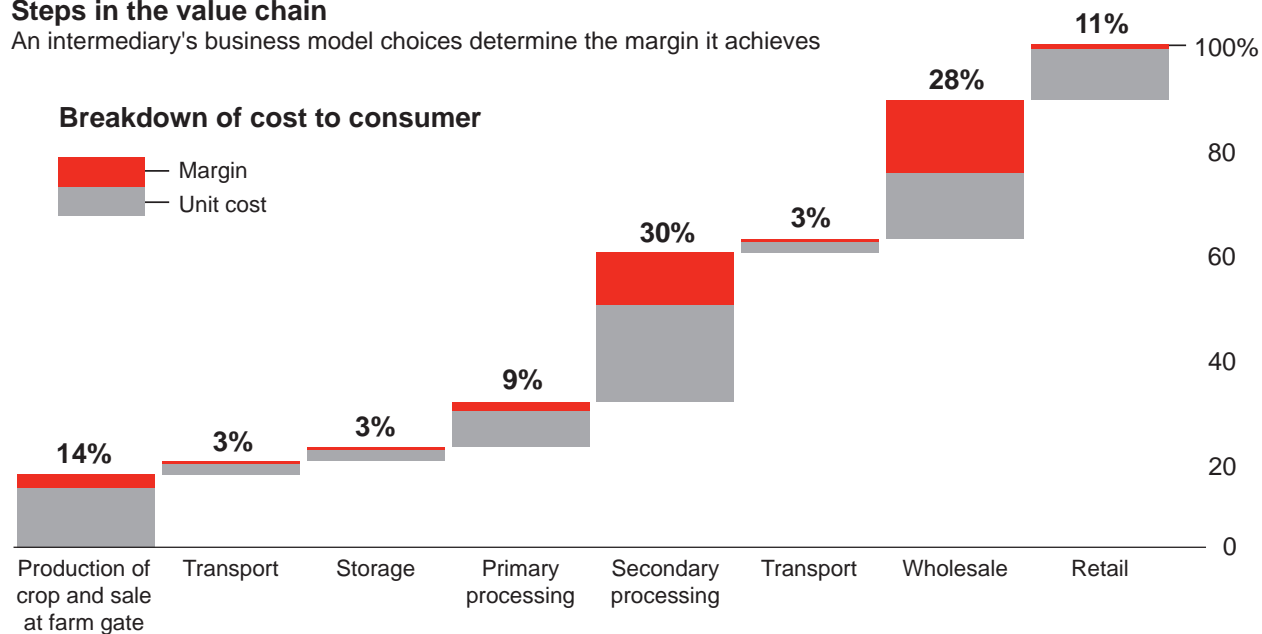
Note: Average farm gate and retail prices by crop, indexed to farm gate price  
Sources: Various companies' internal data; Bain analysis



**Figure 11:** Each step in the production and distribution of an agricultural good involves costs, but only some are rewarded with a large increase in profit margin

**Steps in the value chain**

An intermediary's business model choices determine the margin it achieves



Note: Illustrative margin buildup of typical high-value export crops  
Source: Bain & Company

To illustrate these dynamics, in chapter 2 we will profile three different case examples. Each intermediary has proven its commercial viability, having reached breakeven while sourcing from smallholder farmers and investing in their productivity. They have developed repeatable, scalable models that showcase entrepreneurial ingenuity in how they meet customer needs and achieve operational efficiencies. And all have attracted significant equity investment. Their crops, value chains and the broader context in which they operate differ, however, and so do the business models each has chosen, including the intention with which they invest in strengthening smallholder farmer capacity and the degree to which they do so. Those models shed light on the essential trade-offs between impact and financial returns, and illuminate the factors that influence those choices.

If not a roadmap for other crops and regions, these case studies at least outline what needs to be in place for this kind of system to really take off. They are exceptional success stories, and we hope in time to see many more.





“ Intermediary intention is critical to not only attaining but also sustaining some of the long-term economic benefits a farmer-allied intermediary model can bring to smallholder farmers.





## Chapter 2: Three models of farmer-allied intermediaries anchoring local value chain development

In this chapter, we profile three models of farmer-allied intermediaries anchoring local value chain development (see *Figure 12*). Two of the three, Dodla Dairy and Babban Gona, intentionally put smallholder farmers at their center, and by doing so, they illustrate how that focus can expand the impact of an intermediary in critical ways. The third, Twiga Foods, is different. Though smallholder farmer allied today, that is more a function of available supply than a purposeful choice. As a result, as it has grown, Twiga has begun to shift to working with larger farms to achieve its company mission of reducing the cost of food for urban consumers.

Together, these stories illustrate that farmer-allied enterprises with well-defined, repeatable models can succeed in different value chains and contexts.

Each will show a specific value chain and how that context determines the potential margin of enterprises operating within it; the distinctive, repeatable business model designed by the entrepreneur, including the degree of vertical integration, key operational choices and how it engages with farmers; the importance of intention—namely, whether an intermediary’s farmer-allied behavior and investments are likely to

**Figure 12:** Three successful farmer-allied intermediaries

	Dodla Dairy	Twiga Foods	Babban Gona
<b>Value chain</b>	India, dairy	Kenya, horticulture (bananas)	Nigeria, maize
<b>Business model</b>	Large, vertically integrated manufacturer and marketer of dairy products in operation for more than 20 years	Medium-sized intermediary aggregating, storing and distributing horticultural and other produce over the past five years	Large aggregator organizing farmers and aggregating their produce for distribution over the past seven years
<b>Revenue</b>	Around \$245 million 	Around \$10 million 	Around \$25 million 
<b>Equity capital raised</b>	Around \$70 million  From TPG Rise Fund, Ventureast, Proterra, others	Around \$45 million  From Goldman Sachs, IFC, TLcom, GAFSP, DOB Equity, Omidyar, others	Around \$20 million  Undisclosed
<b>Farmers reached</b>	Around 220,000 	Around 17,000 	Around 70,000 
<b>Impact</b>	<ul style="list-style-type: none"> <li>• 200% average income increase for farmers</li> <li>• Spoilage reduction from as much as 30% to less than 1%</li> <li>• Up to 25% increase in yields</li> </ul>	<ul style="list-style-type: none"> <li>• Around 30% average income increase for Twiga-linked farmers</li> <li>• 83% reduction in post-harvest losses</li> <li>• Around four times lower price inflation than market</li> </ul>	<ul style="list-style-type: none"> <li>• Around 300% average income increase for Babban Gona-linked farmers</li> <li>• Around two times yield improvement vs. national average</li> </ul>

Note: Equity capital raised through 2019  
Source: Company data



persist and have sustained impact on smallholder farmers; lessons learned and implications for others connected to this value chain.

## **Dairy: The power of comprehensive sector development in India**

When it comes to agricultural value chains that can simultaneously deliver on multiple development goals, few rival dairy, which improves farmer livelihoods, creates jobs, supports agricultural industrialization and commercialization, and enhances nutrition.

Key characteristics of the dairy value chain:

- Smallholder farmers supply the vast majority of milk production in India. Many farmers own a few head of dairy cattle that can be milked twice a day, making it possible to generate relatively frequent cash flow.
- Milk can be processed into a range of high-value-added products. Beyond fresh pasteurized milk, there's ultra-high-temperature pasteurized milk that has a longer shelf life, yogurt, ice cream, butter and cheese. All have the potential for higher margins and opportunity to add value through processing. Demand for these products tends to increase with higher incomes and urbanization.
- High perishability raises the importance and value of quality control, making it well suited to a vertically integrated model with direct farmer engagement.
- Dairy consumption is one of the most efficient and effective ways to address malnutrition, especially for children younger than five. Pasteurized milk, in particular, is safer to consume than raw milk.

The best-developed dairy value chain based on smallholder farmers is in India, where 70% of milk is produced by smallholder farmers and 85% of all dairy farmers





own herds of fewer than 10 animals. Dairy accounts for approximately one-third of rural household income in India. Over the past two decades, animal productivity has nearly doubled, and national milk production has grown to more than 180 million tons. A key factor has been the proliferation of private dairy enterprises that now account for more than 60% of dairy processing capacity in the country. Many now are publicly listed.

The development of India's dairy sector is more than four decades in the making. Between 1970 and 1996, the government systematically developed the dairy industry through a program called "Operation Flood." It began by linking supply from milksheds—that is, geographical areas producing milk—to their appropriate end markets. Once supply and demand were connected, phase two focused on organizing farmers, setting up farmer cooperatives and extending the milkshed network. In the mid-1980s, the government began the next phase, providing extension services and continuing to extend credit to cooperatives.

This phased approach created the conditions that made it possible for farmer-allied intermediaries to thrive. Since the beginning of Operation Flood, the dairy sector has had priority lending status, a critical support. Starting in 1985, the Reserve Bank of India (RBI) required that 18% of Indian commercial lenders' adjusted net bank credit (ANBC) be extended to agriculture. In the 1990s, when many of India's dairies began to privatize, the government further encouraged commercial banks to lend to agriculture and permitted private and foreign direct investment in the sector. Today, government policy continues to support smallholder farmers and those that buy from them. In 2015, the RBI declared that lending to small and marginal farmers—that is, those with plot sizes of less than two hectares—must account for 8% of ANBC, though lenders have yet to reach that target.

Against this backdrop of broad government support for smallholder farmers and allied intermediaries, dozens of private dairies have emerged. One of the biggest entrepreneurial success stories is Dodla Dairy, which



sources from more than 220,000 smallholder farms. Founded in 1995, based in Hyderabad and with \$245 million in revenue in 2018, Dodla has built itself into an efficient, vertically integrated processor and marketer of a variety of quality dairy products over the past 25 years. It has raised at least \$150 million in capital, including \$50 million in equity recently invested by TPG’s Rise Fund and \$76 million in debt, including \$15 million from the International Finance Corporation and some limited grants. After first establishing its repeatable model in Andhra Pradesh, it has since expanded to the southern Indian states of Telangana, Tamil Nadu and Karnataka, and it has begun to replicate its model in Uganda.

### What makes Dodla work?

First, its vertically integrated model ensures quality in a highly perishable product and helps Dodla create value-added products with higher margins, such as ice cream. Given that the supply of milk overwhelmingly comes from smallholder farmers, the company realized early on that farmers’ success would fuel Dodla’s growth. The company supports farmers by subsidizing their access to high-quality agricultural inputs, including cattle feed, and services, such as veterinary support and selective breeding, and by linking farmers in need of financing to collaborating banks. Dodla pays fair market prices regularly every 11 days based on quality, and as a result, it has a secure and steady supply of quality milk (see Figure 13). Loyal farmers increase their income and cash flow, and Dodla gets better quality, greater quantity and a more reliable supply. Over the past decade, competition has grown for these

**Figure 13:** The Dodla Dairy model of farmer-allied intermediary

	Investment in enhancing farmer livelihood
<b>Output choice</b>	⊗ <b>Market signaling:</b> not actively or passively convincing farmers to expand dairy operations
<b>Sustainable intensification</b>	☑ <b>Access to financial and operational inputs:</b> directly subsidizes access to quality cattle feed, veterinary services and selective breeding; links farmers to partner banks for financing
	☑ <b>Assistance on good agricultural practices:</b> makes training available via agent network, but breadth and depth is limited
<b>Market access</b>	☑ <b>Predictable, transparent price and volume:</b> provides consistent, fair market prices using weighing scales and quality testing at collection, but volume is not necessarily guaranteed
	☑ <b>Pay quickly to improve farmer cash flow:</b> pays farmers every 11 days, year-round
	☑ <b>Storage and logistics:</b> provides farmers with plastic milk bottles, ensuring hygienic transportation to collection centers, and invests in cold chain to maintain product quality
	☑ <b>Repeat/long-duration purchase agreements:</b> procures from same base of farmers, but without binding contracts or agreements
	⊗ <b>Price premium for quality:</b> does not pay one
	⊗ <b>Farmer organization:</b> leverages existing dairy cooperatives, and contracts out village-level collection
<b>Value chain participation</b>	⊗ <b>Value-add activities:</b> performs value-added processing, but margin accrues to Dodla Dairy, not farmers

☑ In place    ☑ Partially in place    ⊗ Not in place

Source: Bain & Company



farmers' milk, so in order to remain a compelling partner, Dodla has had to find new ways to help farmers grow their dairy income. Today, farmers supplying Dodla earn more than 2 times what the average Indian smallholder farmer does, with yields that are up to 25% higher than the national crossbred average.

Second, it has a highly efficient and scalable capillary sourcing model that includes more than 5,000 collection centers, 85 centralized chilling centers and 13 processing plants. Nearly half of the collection centers are run by agents that bear the responsibility for collecting the milk from farmers and delivering it to chilling centers. Each processing plant is supplied by a network of 450 collection centers, from which milk is transported in less than four hours to one of six chilling centers (see Figure 14). At the chilling centers, automated milk analyzers assess the quantity and quality of the milk before it is shipped to the processing plant, which is two hours away. This end-to-end quality control results in more milk making it to processing plants in good condition, helping to ensure that consumers get high-quality products that command premium prices. Dodla's tech-enabled processing of milk into dairy products increases operational efficiency by reducing waste and maintaining uniform quality across products. As a result of Dodla's highly efficient model, spoilage rates for Dodla farmers are less than 1% year round, much lower than the national average, which can reach 30% during the hot season.

**Figure 14:** Dodla Dairy's model has strong value for farmers, efficient aggregation and processing, and quality preservation



Farmers	Intermediary
<ul style="list-style-type: none"> <li>➤ To secure supply and increase farmer income, Dodla provides inputs including feed, veterinary services, access to financing and training</li> <li>➤ Dodla quickly pays fair, transparent prices based on automated reading of milk quality and quantity at collection centers, thereby improving farmer cash flow and loyalty</li> </ul>	<ul style="list-style-type: none"> <li>➤ Decentralized agent network enables capillary sourcing by coordinating village collection and sending milk to chilling centers at reduced cost</li> <li>➤ Network of chilling centers plus end-to-end quality control ensures more milk gets to market and makes it possible to create high-quality value-added products like ice cream that capture premium prices from consumers and increase company margins</li> <li>➤ Volumes are sufficient to support scaling operations</li> <li>➤ Tech-enabled facilities process milk into dairy products efficiently, with reduced waste and at consistently high quality</li> </ul>

Sources: Bain analysis; "Project Cream" Dodla Dairy IPO filing (2018)

## Key insights:

- Government intervention is vital to creating the necessary conditions for private enterprises to thrive, and it can be highly effective when planned with a long-term, full-system approach. In this case, the development of the dairy sector was spurred by a phased, multipronged approach that included tax incentives, food quality standards, subsidies on inputs, infrastructure provisions such as cold chain and electrification, and regulations that a percentage of loans be made in the rural economy.
- Given the nature of the dairy value chain, vertically integrated companies can play a critical role in economic development by creating jobs and enhancing farmer livelihoods as well as by improving nutrition for a growing, increasingly urban population.
- For highly perishable crops such as dairy, capillary sourcing and vertical integration ensure product quality and premium prices. Vertical integration enables margins high enough to support investment in farmers while also delivering market or near-market rates of return, assuming system conditions are in place that allow enterprises to scale profitably.
- Intermediaries must be highly engaged with smallholder farmers if they wish to secure their trust, reduce side selling and assure product quality. Building trust and loyalty is critical to securing supply because milk can be consumed on the farm and can be sold to neighbors, traders and local markets. Consistency in payment, provision of quality services and inputs, and ongoing engagement combine to win farmers' hearts and output.
- When a large amount of capital is required for extensive processing, a strong ability to fund growth through retained earnings and commercial or return-oriented capital (both debt and equity) is crucial.



## **Fresh fruits and vegetables: The promise of tech-enabled aggregation in Kenya**

While India's dairy success story has been decades in the making, a technology-based intermediary model has more recently begun to disrupt Kenya's fresh fruit and vegetable supply chain.

As more people move to urban centers and incomes increase, demand for fresh fruits and vegetables has grown in Kenya's cities. At the start of the century, 80% of Kenyans lived in rural areas, and GDP per capita was \$820. By 2017, Kenya's population had grown by more than 50%, to 50 million, and today, more than a quarter of them live in a city. Real GDP per capita increased more than 40% during this period, to \$1,157. Today's urban Kenyans spend 3 times what their rural counterparts do on fresh produce.

Through all this change, the retailing of food in Kenya has remained the same—that is, highly fragmented and largely informal. There are 180,000 small food vendors in Nairobi alone. Across the country, 90% of food is sold through small roadside stands and other informal channels.

Rising demand and expendable income combined with fragmented distribution, high rates of post-harvest loss and expensive logistics have fueled food price increases far beyond the rate of inflation. Today, as much as 45% of Kenyan disposable household income is spent on food.

Kenya is one of the most digitally enabled countries in sub-Saharan Africa: 3G cellular covers 93% of the population, and the price of mobile data has steadily decreased. Also, the use of mobile payments is widespread: More than 70% of people have a mobile money account.

There is a big opportunity for ag tech in Kenya. Ag tech encompasses a range of tech-enabled solutions for agriculture—from robotics and hydroponics to new



As more people move to urban centers and incomes increase, demand for fresh fruits and vegetables has grown in Kenya's cities.



types of credit scoring that expand financing options for unbanked farmers and mobile advisory services and platforms that connect farmers to input providers and sellers. Bain research has shown that investment in ag tech, which is growing 16% per year across sub-Saharan Africa, is climbing especially fast in Kenya: 57% annually. Agricultural impact investment is an important part of that: 10% of impact investment in the region goes to ag tech, of which 60% is made in Kenya.

Recognizing a unique opportunity, Grant Brooke, a food economist, and Peter Njonjo, a Coca-Cola executive, founded Twiga Foods in 2014 as an aggregator aimed at making fruits and vegetables more affordable and available to the low-income urban consumer. In the years since its founding, Twiga has become an important partner to thousands of smallholder farmers, the source of its bananas. But Twiga's mission is to serve urban consumers. As a result, its engagement with smallholder farmers has been a by-product of its business model, not a central pillar of it, and as it expands and raises commercial capital, Twiga has started buying more from larger commercial farms to reduce costs. Farmer allied during its early growth phase, it's unclear whether Twiga will continue to fit this category in the future.

When it launched, Twiga conducted trials with different crops before settling on bananas. Bananas represented a commodity moving in large volumes from farm to market that could benefit from Twiga's mobile and digital technology that matches fragmented supply to broad demand. Bananas are well suited to Twiga's approach to actively managing post-harvest loss, are a good source of nutrition as one of the fruits with the highest caloric value per shilling and are in large perennial supply, ripening throughout the year. Smallholder farmers, who are unlikely to switch crops because a tree takes nine months to mature, serve as a secure base of suppliers. Despite its popularity in Kenya, the banana does not carry a high margin or significant processing value, and because it's highly perishable, it must be carefully handled, chemically treated and moved quickly. Similar to other produce in Kenya, bananas

are sold primarily through little kiosks run by women vendors known as “mama mbogas” and small family-run shops called “dukas.”

The crop requires a capillary sourcing model, similar to the Indian dairy market, as well as a capillary distribution model. With its digitally enabled business model, Twiga has been able to reduce unit costs, achieving positive unit economics in just a few years despite relatively low margin potential. All of which has made it appealing to investors, and it has attracted commercial capital early. Since establishing its repeatable model in bananas, Twiga has replicated something similar for other commodities, including potatoes, tomatoes, onions and watermelons.

## What makes Twiga work?

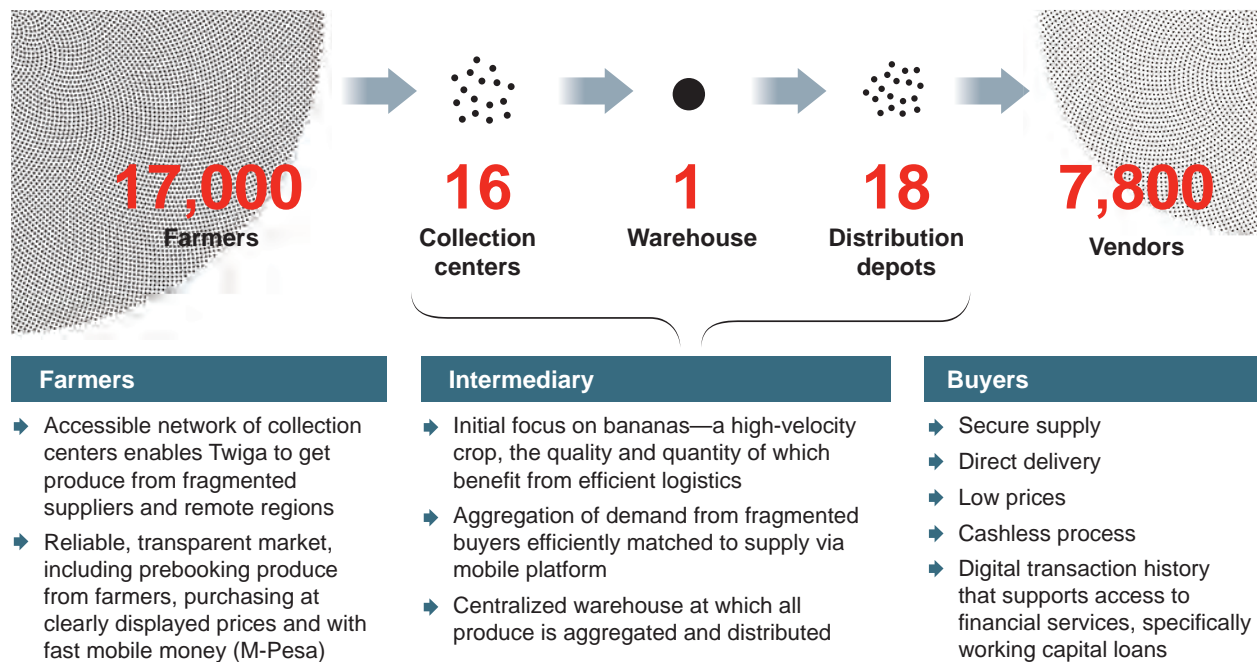
Broadly, Twiga’s repeatable model has three key elements.

- **Focus on high-velocity/high-demand products.** Quick turnover allows for faster working-capital cycles as well as more data collected from farmers and vendors that can be used to better price the risk of lending to farmers and vendors.
- **Actively manage post-harvest losses.** Highly perishable items are at increased risk of waste, and that increases the upside when post-harvest losses are well managed.
- **Use technology to make the value chain efficient.** Twiga matches fragmented suppliers (farmers) with fragmented buyers (urban vendors) and efficiently manages product flow and inventory.

Here is how it works: Farmers bring their harvest to one of 16 collection centers, where prices are posted



**Figure 15:** Twiga has created a technologically advanced end-to-end logistics system valuable to farmers and vendors



Sources: Twiga Foods; management interviews

daily. Because they do not have to pick up from farmers, Twiga is able to keep its logistics costs low. From the collection centers, the fruit moves to Twiga’s warehouse, where it is stored, ripened, sorted and graded into stockkeeping units. It is then packed into standardized crates that make handling more efficient and sent to 18 different distribution depots selling to 7,800 vendors in Nairobi (see Figure 15). This high-velocity, centralized process significantly reduces waste and spoilage, and it cost-effectively moves more produce to market, providing vendors with a secure supply of produce from fragmented suppliers in remote regions, direct delivery and fair prices.

Underpinning Twiga’s end-to-end logistics system is a technology platform that transparently and efficiently matches supply and demand. The aggregator prebooks orders and then pays smallholder farmers within 24 hours, year-round, using M-Pesa, a ubiquitous mobile money payments system. Twiga offers its transparent and predictable pricing to more than 17,000 smallholder farmers. Its platform enables a cashless purchase process and provides a digital transaction history that can be used to help vendors access financial services, including working-capital loans from financial service providers that partner with Twiga.

By consolidating activities traditionally split between traders buying from farmers and wholesalers selling to vendors, Twiga has benefited smallholder farmers and increased urban consumers’ access to quality, affordable products (see Figure 16).



**Figure 16:** The Twiga model of farmer-allied intermediary

Investment in enhancing farmer livelihood	
Output choice	<ul style="list-style-type: none"> <li>☑ <b>Market signaling:</b> passive signaling through clearly indicating at collection centers the crops being purchased and the daily prices based on urban demand</li> </ul>
Sustainable intensification	<ul style="list-style-type: none"> <li>☑ <b>Access to financial and operational inputs:</b> increases indirectly by allowing input providers to use collection centers to market farming innovations</li> </ul>
	<ul style="list-style-type: none"> <li>☑ <b>Assistance on good agricultural practices:</b> allows technical assistance providers to use collection centers to reach farmers</li> </ul>
Market access	<ul style="list-style-type: none"> <li>☑ <b>Predictable, transparent price and volume:</b> provides transparent and up-to-date market prices, and books produce ahead of harvest</li> </ul>
	<ul style="list-style-type: none"> <li>☑ <b>Pay quickly to improve farmer cash flow:</b> pays within 24 hours, and procures year-round</li> </ul>
	<ul style="list-style-type: none"> <li>☑ <b>Price premium for quality:</b> grades produce, and pays fair market value</li> </ul>
	<ul style="list-style-type: none"> <li>☑ <b>Storage and logistics:</b> provides logistics services for some suppliers, with remainder delivering to collection centers</li> </ul>
	<ul style="list-style-type: none"> <li>☒ <b>Repeat/long-duration purchase agreements:</b> no binding agreements or contracts and plans to shift away from purchasing from smallholder farmers</li> </ul>
Value chain participation	<ul style="list-style-type: none"> <li>☒ <b>Farmer organization:</b> none</li> </ul>
	<ul style="list-style-type: none"> <li>☒ <b>Value-add activities:</b> no value-added processing performed because of the nature of the crop</li> </ul>

☑ In place    ☒ Partially in place    ☒ Not in place

Source: Bain & Company

Twiga has attracted significant commercial backing—more than \$65 million as of the end of 2019—but this success illuminates a tension between farmer inclusivity and financial returns. According to Twiga management, it costs approximately 40% less to source from a medium-scale commercial farmer than it does from a smallholder farmer. To meet investors’ return expectations and deliver on its original mission of making sufficient quantities of fresh fruits and vegetables of consistent quality more affordable to urban consumers, Twiga now buys more from medium- and large-scale farmers and less from smallholder farmers. While increasing the benefits it can offer consumers, this shift away from smallholder farmers means at least some of those farmers will likely have to return to selling to traders. Twiga is now developing a marketplace to help these traders become agents and better aggregate smallholder farmer output.

Clearly, there are real trade-offs between financial returns and smallholder farmer inclusivity, and farmer-allied behaviors cannot be taken for granted. Intermediary intention is critical to not only attaining but also sustaining some of the long-term economic benefits a farmer-allied intermediary model can bring.

## A second model

The experience of another Kenyan aggregator, Tulaa, illustrates how an innovative model designed to serve smallholder farmers can follow a different growth trajectory. Similar to Twiga, Tulaa focuses on




horticultural products from smallholder farmers—primarily potatoes, cabbage, watermelon and onions—and uses a digital platform to aggregate supply and match it with demand. One difference is that Tulaa focuses on bulk sales to wholesalers in the urban markets of Nairobi and Mombasa; another difference is the kind of capital it must attract.

While Twiga’s mission is focused on meeting urban consumer demand, Tulaa was set up expressly to serve smallholder farmers and help them access the market. Initially in partnership with financial institutions, eventually lending on its own, Tulaa’s original offering was microfinancing to farmers. Over time, it has added many other supports, including tailored input packages available on credit through rural retailers; agricultural advice delivered to farmers over SMS; a call center staffed with agronomists to answer farmer questions; logistics support, including crop collection at the farm gate; and a digital platform that enables traceability of product to farmer as well as quality guarantees and auditable payment history. All of these supports help farmers enjoy the economic benefits of an improved supply chain (see Figure 17).

At Tulaa’s core is a digital platform with transparent price and volume data, supplemented with a significant on-the-ground analog integration of farmers into the supply chain. A network of lead farmers called “agents” communicate which crops are in demand, sign up smallholder farmers and accept credit applications. These agents collect from the farm gate and conduct quality assessment to deter-

**Figure 17:** The Tulaa model of farmer-allied intermediary

	Investment in enhancing farmer livelihood
Output choice	<ul style="list-style-type: none"> <li>✓ <b>Market signaling:</b> actively signals through agent network that signs farmers up for specific crops on platform</li> </ul>
Sustainable intensification	<ul style="list-style-type: none"> <li>✓ <b>Access to financial and operational inputs:</b> coordinates input packages on credit for farmers; established a network of distributors</li> <li>✓ <b>Assistance on good agricultural practices:</b> no in-person technical advice, but agronomic advice pushed via SMS and agronomists on staff at company-operated call center</li> </ul>
	<ul style="list-style-type: none"> <li>✓ <b>Predictable, transparent price and volume:</b> available on its platform</li> <li>✓ <b>Pay quickly to improve farmer cash flow:</b> pays upon delivery via mobile money; also offers inputs on credit, decreasing farmers’ preharvest expenses</li> </ul>
Market access	<ul style="list-style-type: none"> <li>✓ <b>Farmer organization:</b> organizes around lead farmers who input orders and coordinate platform sign-up</li> <li>✓ <b>Storage and logistics:</b> collects directly from farm gate</li> <li>✓ <b>Price premium for quality:</b> pays a premium slightly above prevailing market prices based on quality assessment at farm gate</li> </ul>
	<ul style="list-style-type: none"> <li>✗ <b>Repeat/long-duration purchase agreements:</b> no binding agreements or contracts</li> </ul>
	<ul style="list-style-type: none"> <li>✗ <b>Value-add activities:</b> allocates company shares to farmers through a “farmer trust”</li> </ul>

 In place  
  Partially in place  
  Not in place

Source: Bain & Company



Farmer-allied services add to the cost of doing business, extending the time it takes to reach positive unit economics.

mine whether farmers should be paid a slight premium. Tulaa hopes that by helping its smallholder farmers fully integrate into formal supply chains, they will enjoy higher, more reliable incomes over the long term.

Though helpful to farmers, all these services add to the cost of doing business, extending the time it takes for the company to reach positive unit economics. Early-stage, tech-enabled models allied with smallholder farmers, such as Tulaa's, are unlikely to yield the kind of financial returns investors have come to expect from proven fintech models in other fields. For this reason, Tulaa has rightly relied on patient capital investors and grants that allow the company to keep investing in its farmer-allied practices. To meet its goal of breaking even by 2021, Tulaa will have to increase revenue tenfold and will require continued fund-raising.



## Key insights:

- Horticulture value chains have high potential in countries with solid food security (including access to affordable caloric staples) and growing urban demand for fresh fruits and vegetables, though more efficient and effective aggregation and connection of farmer supply to retailer demand are required.
- A tech-enabled aggregator can achieve positive unit economics and attract more commercial capital, even at an early stage, by focusing on specific high-volume, high-velocity value chains; closely managing post-harvest losses; and leveraging technology to reduce unit costs.
  - Technology can match fragmented suppliers (farmers) with fragmented buyers (urban vendors) and efficiently manage product flows and inventory as the intermediary scales.
  - Quick turnover of product allows faster working-capital cycles and collection of more data from farmers and vendors—data that can be used to establish trading histories and thereby better assess and price the risks of lending.
  - Highly perishable items have a high risk of waste, but also increased upside if post-harvest losses are well managed. Reducing post-harvest losses, about 30% of the price of bananas, was a big opportunity in Kenya.
- Entrepreneur intent dictates the scope, depth and duration of investment in smallholder farmers, and that, in turn, affects the profitability of the intermediary business.
  - Models that are highly focused on smallholder farmers and that address a full range of value chain bottlenecks will be less profitable than firms operating in the same value chain that are not explicitly farmer-allied.
  - Intermediaries that are intentionally allied with smallholder farmers are likely to require far greater amounts of philanthropy and impact-oriented patient capital, especially in their early stages.



## **Cereals: Solving the “staple crop conundrum” in Nigeria by selling to local anchor buyers**

Cereals such as maize, sorghum and millet represent nearly half of the calories consumed in sub-Saharan Africa each day. Of the local cereals, maize is the most popular in eastern and southern Africa, accounting for nearly 50% of calories consumed in those regions and approximately 20% in western Africa. In the top producing countries, smallholder farmers grow approximately 80% of the maize crop, but they are doing so inefficiently. The gap between yields in sub-Saharan Africa and the global average has steadily increased over the years, and today, the region’s output is 2.7 times lower than global levels of productivity. This is one reason why from 1970 to 2010, as the region’s population grew, cereal imports to sub-Saharan Africa also increased 5% per annum.

Cereal value chains, such as that of maize in Nigeria, have long presented a conundrum to entrepreneurs and investors. Compared with other crops, staples have lower margin potential. The biological and economic characteristics of their value chains make it challenging to build profitable, scaled, farmer-allied intermediaries. For example, infrequent harvests (one to two per year) mean farmers do not have regular cash flow with which to buy inputs. Staples can be consumed with minimal processing, further limiting margin upside. Farmers are prone to side selling as well, so securing a sufficient quantity of produce for processing is a big challenge for intermediaries in a value chain that relies on scale to achieve profitability. To ensure high-quality cereal, intermediaries often must buy and keep this inventory since smallholder farmers seldom have the infrastructure to properly store crops. That adds to costs and cuts into profits as well.

Recently, a few promising intermediary models have emerged in cereals, and they have some common characteristics:

- A large, secured source of demand from a reliable buyer that uses the crop in a high-value consumer good and that is willing to pay a premium price for a reliable supply of quality produce;
- High farmer engagement that builds loyalty and improves farmer productivity and crop quality;
- Innovation that enables efficiency, reduces post-harvest loss and improves quality;
- Ruthless efficiency in aggregation and transportation; and
- Vertical integration to maximize margin.

In 2012, a start-up Nigerian aggregator, Babban Gona, pioneered a model that exemplifies many elements of this approach. In Nigeria, smallholders account for more than 70% of maize production, and many factors contribute to low productivity, including poor-quality inputs such as seeds and fertilizers, humid storage conditions, and breakage during manual deshelling, cleaning and sorting. In all, 15% to 20% of production is lost. Of what's left, half ends up in animal feed, and only 15% meets the quality standards required for consumer packaged goods such as cereals, baby food and beer. Combined with drought, this high rate of crop loss and low quality has left Nigeria with one of the highest maize prices in sub-Saharan Africa.

Three critical elements of Babban Gona's approach have helped it address these long-standing issues.





First, it successfully captures a premium price for providing a reliable supply of quality maize to large buyers, including Nestlé, which uses it in cereal sold in Nigeria. It has done this in part by helping nearly 70,000 smallholder farmers improve their crops and increase their average yield, now double the national average. Babban Gona also stores and holds maize to sell later, when it is in shorter supply and prices are higher. The company shares the profit from this arbitrage with farmers, resulting in a premium over the average price farmers get from traditional traders at the farm gate. As a result, the average annual net income per hectare of farmers working with Babban Gona has nearly tripled.

Second, by allying directly with them and bringing such clear financial benefit, Babban Gona has convinced farmers to abandon traditional sales channels and to significantly decrease side selling. The company works closely with farmers who join its co-op, coordinating packages of inputs that they can purchase on credit and offering connections to providers of equipment that individual farmers may not be able to purchase (including tractors). Through a group of local co-op leaders, Babban Gona offers training to farmers, and its agents make field visits, helping to ensure best-practice farming methods are followed in its dispersed smallholder network. Once the maize is produced, Babban Gona purchases each farm's output at market price, transports the crop from the farm gate, and passes back to farmers any premium realized on sales to Nestlé or other buyers.

Babban Gona makes a series of staggered payments to farmers throughout the year. This includes pre-harvest loans in the form of in-kind inputs, payment upon deposit of the grains with Babban Gona and bonuses for premium-priced cereal. Farmers enjoy a larger and more regular flow of cash, contributing to their loyalty to the company and encouraging them to keep selling to Babban Gona.

The third critical element of Babban Gona's business model is how it minimizes post-harvest loss and maximizes efficiency. Its more than 50 geographically dispersed collection centers have the capacity to store 150 metric tons of crop in optimal conditions. Each center gathers the output of roughly 200



**Figure 18:** The Babban Gona model of farmer-allied intermediary

Investment in enhancing farmer livelihood	
Output choice	<ul style="list-style-type: none"> <li>✓ <b>Market signaling:</b> agent network promotes farming as career and informs crop choice</li> </ul>
Sustainable intensification	<ul style="list-style-type: none"> <li>✓ <b>Access to financial and operational inputs:</b> coordinates provision of tailored input packages for farmers on credit, and contracts to provide equipment services</li> <li>✓ <b>Assistance on good agricultural practices:</b> conducts field visits and extensive training through local, franchised co-op leaders</li> </ul>
	<ul style="list-style-type: none"> <li>✓ <b>Predictable, transparent price and volume:</b> guarantees 100% of volume at stable price for its franchised co-ops</li> <li>✓ <b>Price premium for quality:</b> yes</li> <li>✓ <b>Pay quickly to improve farmer cash flow:</b> shortens farmer cash flow cycle with preharvest loan, payment on delivery and later premium bonus</li> </ul>
Market access	<ul style="list-style-type: none"> <li>✓ <b>Farmer organization:</b> sets up small, village co-ops; selectively recruits then extensively trains co-op leaders</li> <li>✓ <b>Storage and logistics:</b> stores produce, helping to reduce aflatoxin levels; then markets produce on behalf of farmer when prices are highest</li> <li>⊗ <b>Repeat/long-duration purchase agreements:</b> no binding agreements or contracts, but volumes are guaranteed for franchised co-ops</li> </ul>
	<ul style="list-style-type: none"> <li>✓ <b>Value-add activities:</b> allocates company shares to farmers through a “farmer trust”</li> </ul>
	<p> <input checked="" type="checkbox"/> In place              <input checked="" type="checkbox"/> Partially in place              <input type="checkbox"/> Not in place         </p>

Source: Bain & Company

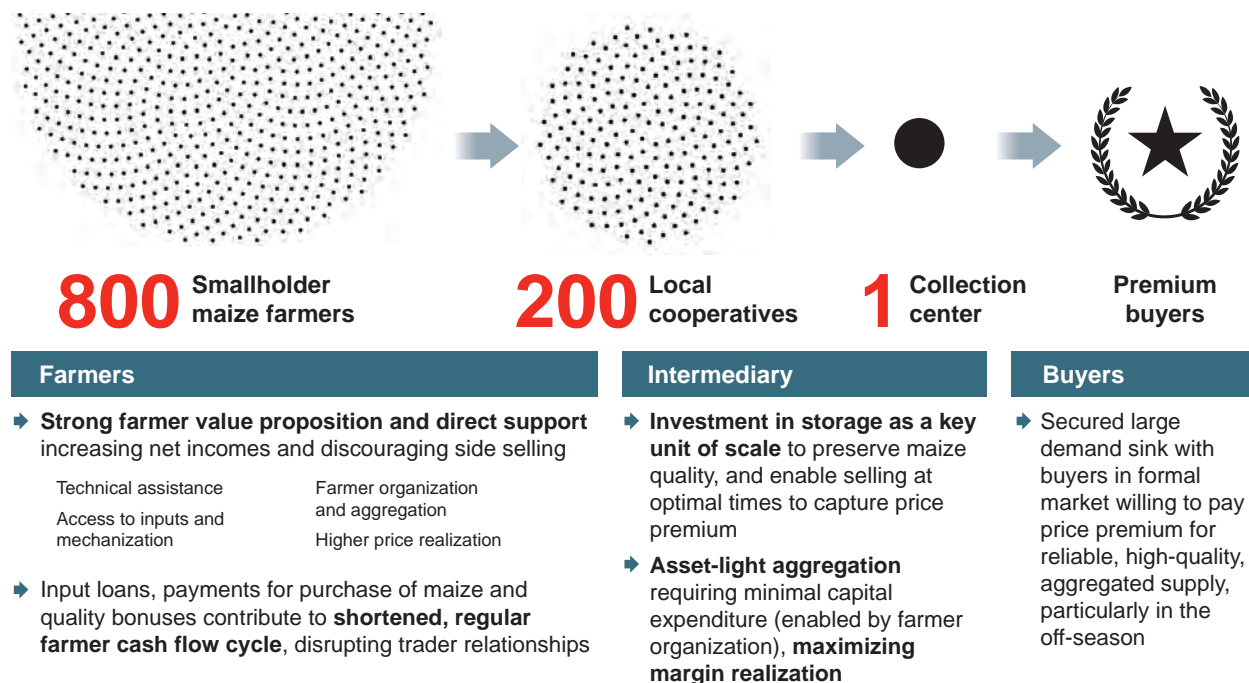
local cooperatives—the company calls them “trust groups”—that coordinate distribution, quality inspection and the mechanized deshelling of 800 smallholder farmers’ yearly harvests. The company’s high-quality storage minimizes the development of aflatoxins produced by fungi on maize and other crops and, as noted, makes it possible to sell when prices are higher (see *Figures 18 and 19*).

The success of this model enabled Babban Gona to reach more than \$20 million in revenue in just over six years. Its unique model caught the attention of early donors who provided grants that supported farmer organization and the validation of the new aggregation and storage models. Once validated, major debt and equity investments supported loans to smallholder farmers for the purchase of seeds and other inputs, an expansion of the number of collection centers, and efforts to reach more farmers.

## Other cereal-focused farmer-allied intermediary models

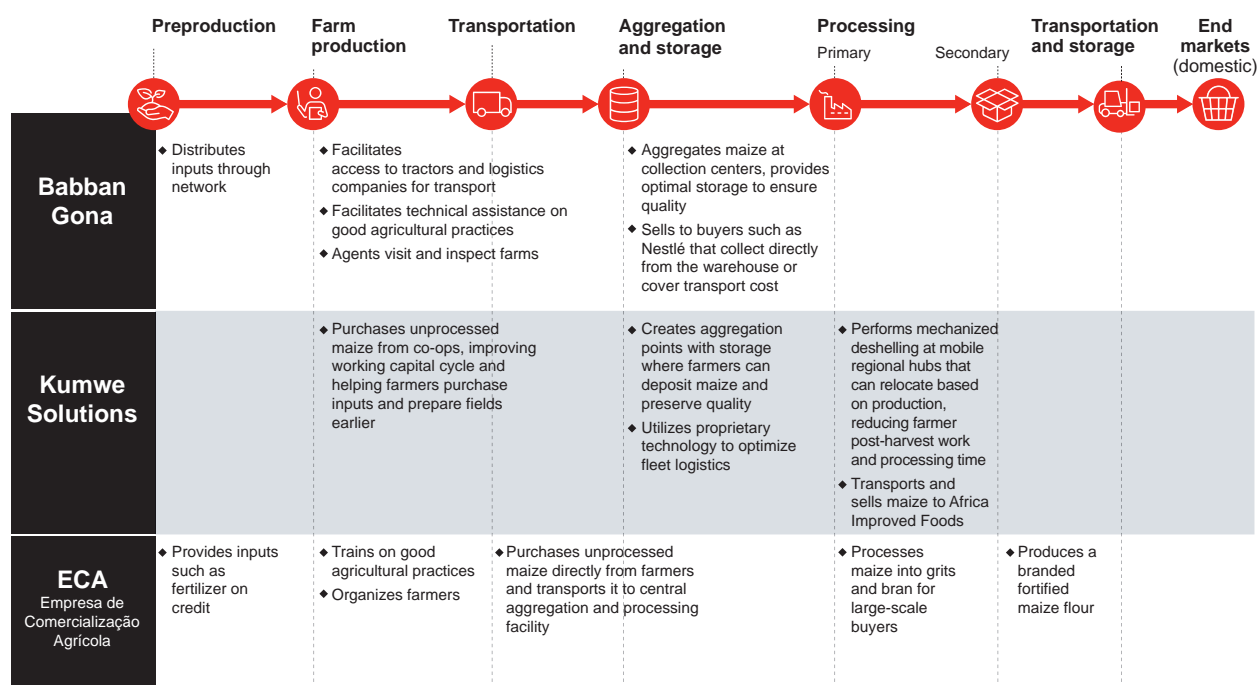
Similar to Babban Gona, other intermediaries have also found success by building on large, secured demand from a premium buyer; engaging with farmers to build their loyalty and improve productivity and crop quality; innovating to reduce post-harvest loss and improve quality; increasing efficiency; and integrating vertically (see *Figure 20*).

**Figure 19:** Babban Gona connects smallholder farmers and local cooperatives to premium buyers



Sources: Babban Gona; management interviews

**Figure 20:** Despite structural challenges, there are successful farmer-allied business models in staple crops



Source: Bain & Company



Securing a large, reliable buyer for staple crops ensures stability and sustainability of operations.



In Rwanda, Kumwe Solutions' revenue has reached nearly \$3 million in just three years by following these steps. It offers innovative harvest services to farmers, including large-scale mechanized mobile deshelling and drying equipment that local communities can access at processing hubs. Its proprietary technology for optimizing fleet logistics, combined with its network of collection, storage and processing hubs, has greatly improved the efficiency of the supply chain. The time it takes for goods to move from harvest to end buyer has dropped from 67 days traditionally to just 6 days currently. Moreover, Kumwe's process has eliminated key maize quality challenges, reducing 90% rejection rates from premium buyers to less than 1%. As a result, Kumwe has quickly become Rwanda's largest aggregator of local maize. Its maize is sold to Africa Improved Foods, a joint venture between the government of Rwanda and a consortium of private/public entities that supply food to the UN's World Food Programme, a large, reliable buyer willing to pay a premium for safe, high-quality, locally produced products. Further, Kumwe has built trust with farmers and improved their cash flow by paying within one to three days of harvest. With their maize improving and time to market shrinking, farmers have enjoyed better incomes, which, in turn, reduce side selling and encourage investment in future maize production.

A second company, Empresa de Comercialização Agrícola (ECA), follows these same principles, operating as both a processor and as a profitable vertically integrated brand in the Catandica region near the western border of Mozambique. It also sells to well-established buyers—namely, major breweries and feed producers. ECA processes maize into grits and bran for these large corporate buyers and into a branded fortified maize flour of its own, Bella Xima, for local consumers. Excise tax concessions from the government designed to encourage sourcing from Mozambique's smallholder farmer base motivate major breweries and feed producers to buy from ECA. ECA advises farmers on crop choice and provides them with tailored packages of inputs on credit. It transports maize and processes it as well, and its integrated model is working. Revenue has more than doubled over the past five years, to more than \$3 million in 2018.

## Key insights:

- Securing a large, reliable buyer for staple crops ensures stability and sustainability of operations.
  - Having buyers that pay a price premium for higher quality ensures that there is margin available for intermediaries to invest in ongoing engagement with smallholder farmers.
- Business model innovations in aggregation that are clearly compelling to farmers are critical to disrupting traditional sales channels and securing quality and quantity of supply.
  - Innovations that shorten cash flow cycles for farmers build farmer loyalty, enabling more farm investment and reducing side selling.
  - Innovations that enhance crop quality are key to buyers paying a premium for safe ingredients and may encourage them to source more locally.
- A low-margin value chain requires scale and ruthless efficiency.
  - In addition to price increases from large buyers willing to pay a premium for quality, cost reduction from operational efficiencies and high return on investment technologies improve margins.
- Diversification into processing can provide an additional profit stream and may be necessary to target other end markets, such as beer and animal feed, in order to generate margins that improve smallholder farmer livelihoods.
- More philanthropic and impact-oriented patient capital is often required to support necessary farmer-level interventions, especially in earlier stages.
  - Grants are critical for farmer aggregation through co-op organization and other means as well as for training in good agricultural practices.
  - It may be difficult to achieve high returns given the structurally small margins of these value chains, but the food security benefits are significant. Government subsidies may be well placed here given this important social benefit.







“ When farmer-allied intermediaries are the linchpins of their respective supply chains, they can fuel better economic development and nutritional outcomes.

3.



Vitamin B12  
Vitamin B1  
Vitamin B2

0.25mg  
1.5mg  
0.3mg  
0.75mg  
0.15mg

0 792382 319343

**Maize Flour**  
**UNGA SAFI WA MAHINDI**  
Product of Buffalo Millers Limited  
"Quality Before Quantity"  
NET WT 1/2 KG

  
**MFALME**  
**UNGA**



**Maize Flour**  
**GRADE 1 UNGA SAFI WA MAHINDI**  
A Product of Buffalo Millers Limited  
"Quality Before Quantity"  
NET WT 1/2 KG

KILAS  
G...  
W...  
M...

Inf...  
Energy  
Carbohydrate  
Moisture  
Fibre  
Protein  
Oil

Total  
Zinc  
Folate  
Vitamin  
Vitamin  
Vitamin



**MFALME**  
**UNGA**



**Maize Flour**  
**GRADE 1 UNGA SAFI WA MAHINDI**  
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"Quality Before Quantity"  
NET WT 1/2 KG



## Chapter 3: Farmer-allied intermediaries as the linchpin of collaborative action

### A new approach to development and investment

When farmer-allied intermediaries are the linchpins of their respective supply chains, they can fuel better economic development and nutritional outcomes.

But the intermediaries can't get there entirely on their own. To play this role at scale, they depend on an enabling ecosystem. In the case of dairy, the Indian government laid critical groundwork for sector development. In Kenya, the prevalence of digital technology and relative availability of capital are key. Secure “demand sinks” provided by corporate buyers selling packaged consumer products to growing markets in Nigeria and other African countries have made it possible for cereal intermediaries to achieve commercial viability.

Our thesis is that to transform a smallholder-based agricultural supply chain—that is, to encourage its industrialization and commercialization; to make it more farmer allied, profitable and sustainable—requires a new approach informed by these ecosystems.

That approach should be three things.

- **Value chain specific:** Each value chain has different biological and economic characteristics. Programs, interventions and funding must be tailored for the unique dynamics of the relevant commodity value chain.





- **Intermediary anchored:** Farmer-allied intermediaries serve as a key leverage point, controlling the financial and material flows within a value chain. They are the route to market for smallholder farmers and often the most efficient and effective channel by which productivity-improving supports can reach the farmers. Intermediaries can also facilitate the growth of agricultural input companies by encouraging the use of their products. The profitable scaling of these intermediaries propels the broader development of the value chain, and any investment or development program should prioritize it.
- **Aligned and coordinated:** Accelerating the growth of these intermediaries will require a range of capital—including grants, debt and equity—and other supports, such as farmer training and organization. The broader ecosystem will also have to develop through supportive government policies, the creation of industry associations, building out open repositories of shared data and other activities. For maximum impact, there must be alignment and coordination on the outcomes targeted, the actors involved, and the programs and financing instruments deployed.

The ultimate goals are those we have written about earlier—namely, enhanced farmer livelihoods, more resilient food systems, better nutritional outcomes and greater socioeconomic development. An ecosystem of scaled, profitable, competitive, and farmer-allied intermediaries and supporting enterprises will get us there.

To date, some of the most successful efforts at building this kind of ecosystem have involved export-oriented high-margin cash crops. The East Africa Coffee Initiative (EACI) and the ComCashew program show how systems orientation can improve farmer livelihoods and add economic value beyond the farm gate. They also illustrate the significant value of large-scale sector development programs with long horizons as well as the need for philanthropic and patient capital.



EACI's express goal is to improve the livelihoods of smallholder coffee farmers. With approximately \$65 million in funding from the Bill & Melinda Gates Foundation, EACI, led by TechnoServe, helped farmers in Ethiopia, Kenya, Rwanda and Tanzania organize into cooperatives and set up and run low-cost wet mills to process green coffee beans. TechnoServe offered training and enhanced access to financing, and it linked coffee growers and processors to 20 global coffee roasters, including Starbucks. Before EACI's launch in 2008, East African coffee production represented approximately 4% of global supply and was growing at less than 1% a year. Today, the four countries that EACI worked with supply 6.4% of global coffee, part of a rebound of regional coffee production that EACI helped support, and these four countries account for more than half of production on the continent, up from 34% in 2008. Over time, the program reached approximately 270,000 smallholder farmers who enjoyed an average increase in productivity of 38% and a jump in income of between 13% and 62%.

Similar results can be found in western Africa and Mozambique, where ComCashew has significantly increased investment in cashew processors. With almost \$90 million in funding over a period of 12 years from the Bill & Melinda Gates Foundation, Germany's Federal Ministry for Economic Cooperation and Development, and others, ComCashew has helped processors deepen links to farmers through loyalty packages that include training; access to information, inputs and warehousing; certification and traceability systems; and financing. By increasing domestic drying, shelling, roasting and sorting by quality, ComCashew has retained profits locally that historically went to offshore processors in India and Vietnam.

Important systemic improvements include ComCashew's introduction of a guarantee facility that spreads banks' risk in lending to processors as well as the education of financing providers about processor



Accelerating the growth of these intermediaries will require a range of capital—including grants, debt and equity.

**Figure 21:** How the Ethiopian Agribusiness Accelerator Platform (EAAP) is transforming the Ethiopian honey industry

	Outcome	Actors and activities	Financing instruments	
<b>Farmer</b>	Bring 6,000 smallholder farmers into formalized supply chains with access to harvesting, training and expertise	TechnoServe to deliver contract farming and technical assistance	Grants	☑
	Provide 2,000 farmers with access to modern beekeeping technologies to achieve a greater than 35% yield increase	Rural savings and credit co-ops	Low-interest credit	☑
<b>Intermediary</b>	Provide matching seed capital (around \$600,000) to incubated businesses and access to more than \$1.5 million in financing for accelerated and incubated businesses	EAAP provides seed grants to participants, and Co-op Bank of Oromia, CBE, DBE provide credit	Seed grants for capital purchases and credit for working capital and trade financing	☑
	Through training, improve operation and financial management of small and medium-sized enterprises in honey business operation	Generalist and specialist mentors; accounting experts	Grants	☑
<b>Buyer</b>	Secure one or two international buyers of honey produced	International importers—for example, Honningcentralen, Tichel and Sohn	Not applicable	☑
<b>System level</b>	Support one or two quality testing labs to achieve international certification	University-affiliated quality testing labs	Grants for equipment purchases and certification training	☑
	Establish and support rapid growth of one or two recognized, widely available domestic honey brands by improving processor access to packaging	Packaging companies	Not applicable	☑

☑ In progress    ☑ Achieved

Notes: CBE=Commercial Bank of Ethiopia; DBE=Development Bank of Ethiopia  
Sources: EAAP; Ethiopian ATA; Bain analysis

needs and the economics required to encourage more lending. ComCashew worked with industry boards and governments on crop supports from marketing to favorable regulation. Since its launch, raw cashew nut production has grown approximately 10% per year across the five countries targeted—namely, Ghana, Benin, Burkina Faso, Côte d’Ivoire and Mozambique—and now accounts for a third of global supply. In the process, ComCashew has reached more than 500,000 smallholder farmers, generally doubling their net income and helping create more than 130,000 new cashew processing jobs.

More recently, the Ethiopian Agribusiness Accelerator Platform (EAAP) was created by the Ethiopian Agricultural Transformation Agency, a strategy- and delivery-oriented government agency charged with accelerating the growth and transformation of Ethiopia’s agriculture sector. EAAP’s mission is to build sustainable, competitive agricultural value chains by catalyzing agribusiness entrepreneurs who link the country’s smallholder farmers to markets.

It started with honey and wax, and over the past two to three years, EAAP has incubated more than half a dozen smaller, early-stage processors. It has also accelerated the growth of larger, export-focused processors; facilitated the setup of contract farming schemes; and created a supporting ecosystem of banking partners, quality-testing labs and input suppliers. After systematically identifying bottlenecks in the honey value chain, it has worked to coordinate the actors and types of capital needed to address them (see Figure 21).



Since late 2017, the EAAP has mobilized approximately \$20 million in funding for investment in the honey value chain. It has worked directly with 21 honey processors, 6 of which are owned by women, and, on average, it has quadrupled the revenue of these businesses. The platform has now reached more than 6,500 farmers. For those farmers who have received modern inputs, income has increased 87%.

## Closing the financing gap for intermediaries

Insufficient access to capital is the biggest obstacle to African agricultural intermediaries' growth. This is true across all forms of financing. As stated in our introduction, there is a significant debt financing gap, estimated at \$80 billion a year, for agricultural SMEs in sub-Saharan Africa. In addition, current levels of impact-oriented equity investment are also inadequate: An estimated \$440 million was invested in agricultural SMEs between 2013 and mid-2018, of which roughly \$80 million went to intermediaries in the "missing middle," where farmer-allied intermediaries, including some we have profiled, most often fall.

Three reasons for this investing shortfall became clear when we interviewed nearly 50 agribusiness investors, most impact-oriented, about the challenges of agriculture investing in Africa.

- **Lack of investable pipeline:** Many small agricultural enterprises are informal businesses and lack the foundational criteria investors require. This includes clean financial statements, management talent, a track record and clear, achievable growth aspirations. When investors screen for intent and behavior that allies with smallholder farmers, the pipeline further narrows. Incubator and accelerator programs that have emerged in recent years to build early-stage enterprises tend to focus predominantly on tech businesses, attracted by their promise of higher returns and scale.

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*"Finding small and medium-sized enterprises is not hard; we get daily requests for support. But the majority of the time, they don't meet our criteria, primarily due to poor management, bookkeeping and a lack of track record."*

—Agricultural impact investor

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- **High firm-level risk:** Investment risk is high partly because these intermediaries lack financial and management capacity and partly because they are often illiquid with only limited exit options.
- **Unattractive financial returns due to system limitations:** Intermediaries can struggle to secure enough high-quality supply from smallholder farmers at affordable prices within their

required time frames. The local policy environment is often unstable: Price controls shift, new tariff policies are established, and unexpected taxes are levied. In addition, transportation, energy and irrigation infrastructures are not always sufficient.

*“There is huge demand in places like Nigeria and Ghana for their own food production and food processing. But the problem is that 9 times out of 10, they’re not even able to secure the raw inputs they need.”*

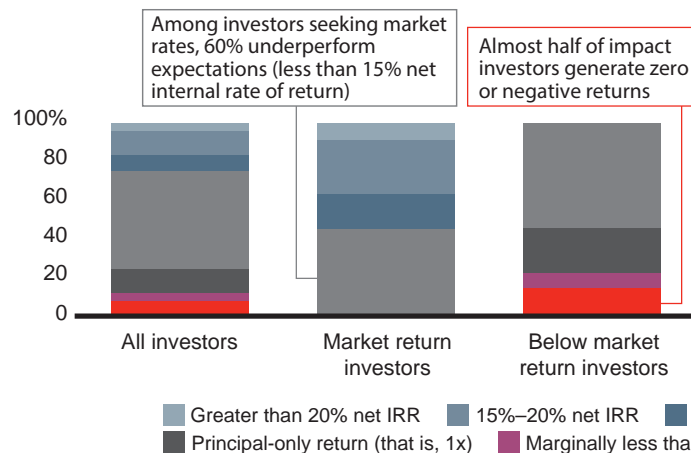
—UK-based impact investor

The returns on African agricultural investment are chronically disappointing (see Figure 22). Among investors seeking market returns, more than 60% report returns lower than the 15% net

**Figure 22:** For investors in African agriculture, returns lag expectations

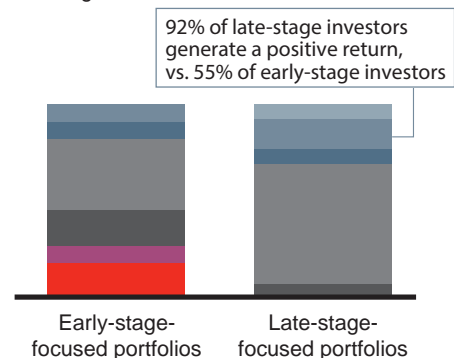
**Returns are generally lower than expected, and nearly 75% of investors realize returns less than 10%**

Realized returns by investor expectation



**Returns for early-stage-focused portfolios are lower**

Realized portfolio returns by investor life-stage focus



Notes: Market return investors defined as investors who aim for returns greater than or equal to 15%, while below market return investors are those that expect less than a 15% return; marginally less than principal is defined as returns of 0.90x to 0.99x, and significantly less than principal is defined as zero to 0.89x; investor focus is self-reported and based on size of businesses in portfolio; early-stage focus refers to investors predominantly investing in companies with less than \$5 million in revenue; late-stage focus refers to investors predominantly investing in companies with greater than \$5 million in revenue; net IRR stands for net internal rate of return  
Sources: Investor survey and interviews; Bain analysis

internal rate of return expected. Even among investors comfortable with returns below market, typically impact oriented, more than 20% report not being able to return their principal.

Portfolios focused on early-stage or seed investments have a particularly tough time. Almost half report losses or recovering their principal only. At the same time, there are no investment home runs sizable enough to make up for those losses. This leaves impact-oriented funds effectively shrinking, unable to return their principal. One way to begin to address this is by diversifying portfolios by geography, crop, business type and life stage to allow them the capital to support early-stage businesses. They will also have to adjust their return expectations accordingly.

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*“If I go into the seed space [in Africa agriculture], I’m going to lose money ... and there’s no single business that will blow it out of the park and carry the portfolio. ... In the venture stage, at best, we’d preserve capital, probably worse. ... In our growth portfolio, we’re looking at businesses that want to expand. There we’re looking at making, after costs, 3% to 5% across a portfolio.”*

**—Early-stage agriculture impact investor**

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Innovations in financial instruments, such as the use of venture debt—that is, uncollateralized lending to early-stage companies that have already raised equity investment—and other revenue-sharing mechanisms, can partially address these challenges. But impact investors generally have less capacity or incentive to solve broader system issues on their own. Those that do undertake activities to address system bottlenecks will inevitably be taking on costs that compromise their returns.

Debt financing available to agricultural intermediaries is also limited, hurt by the high transaction costs of lending to small enterprises as well as inherent firm-level and systemic risks. In research conducted by Dalberg, eastern Africa’s local banks cite “high risk” and “high cost to serve” as the two biggest barriers to lending to agricultural SMEs. Loans to companies selling within domestic markets rather than those selling to export markets, such as coffee or cocoa producers, were 2.5 times more likely to default. Smaller loans carry the same servicing costs as larger loans but have a 94% higher risk of default. And even where loans are available, they often carry such high interest rates as to be unaffordable to a small enterprise, or they contain payment terms that don’t match actual enterprise cash flow.







Innovations in impact lending—including forms of short-term accounts receivable financing that use buyer commitments for collateral—have expanded the debt available, with members of the Council on Smallholder Agricultural Finance, for example, extending 35% more credit annually to sub-Saharan African agricultural enterprises since 2013. Innovations, however, have been largely confined to a limited amount of dollar-denominated, short-term trade financing for export-oriented cash crops such as coffee and cocoa.

Closing the large and persistent capital gap faced by the agricultural intermediaries of sub-Saharan Africa can only be done through a combination of four activities.

**Governments need to play a more active role in catalyzing local bank lending to agricultural intermediaries.** They can start by addressing some of the challenges banks face—for instance, strengthening credit reporting and payments systems (including electronic systems), subsidizing transaction costs, and improving contract enforcement. One example from Mexico, Sistema de Estímulos a la Banca, subsidizes the administrative and screening costs for small borrowers.

Government-subsidized insurance or credit guarantees to agricultural intermediaries (similar to those Rwanda’s Business Development Fund offers) can reduce systemic risks such as crop failure or new government policies. To overcome a lack of collateral, governments can support new lending systems, such as factoring or leasing, and the use of flexible forms of collateral, such as warehouse receipts, something the government of India legalized in 2007. Other options include modernizing



Significantly greater amounts of philanthropic capital are needed.



insolvency regimes and expanding the lending system to include nonbanks, agent banking and digital banking.

Finally, governments can lend directly through state-owned banks or support other banks' efforts to develop their capacity. Strong policy mandates can also have a powerful effect. One example: The Indian government requirement that commercial banks lend at least 18% of their adjusted net bank credit to agriculture has significantly benefited the Indian dairy sector.

**Significantly greater amounts of philanthropic capital are needed.** Philanthropic capital can help address upstream constraints, build capacity of agricultural intermediaries, and unlock commercial lending and equity by offloading systemic risks. These grants can help farmer-allied intermediaries support the organization and training of smallholder farmers, improving the reliability and quality of supply. They also make it possible for intermediaries to get the technical assistance (financial, managerial, operational) they need to scale. Also, grants in the form of credit guarantees or first-loss vehicles can effectively reduce the risk of lending to or investing in these intermediaries, thereby facilitating greater capital flows. Grant matching by governments and others can unlock still greater amounts of philanthropic capital.

In recent years, there has been an unfortunate decline in philanthropic capital for large-scale initiatives with longer time horizons that support intermediaries and value chain transformation. In 2007, 30% of all agriculture grants from the Bill & Melinda Gates Foundation were large grants exceeding \$20 million, but by 2018, that had fallen to just 4%, according to Bain & Company analysis. Hopefully, the trend will swing back.





**Significantly greater amounts of truly patient capital are needed.** More highly risk-tolerant, truly patient capital is needed to support the growth of early-stage agricultural enterprises, particularly farmer-allied intermediaries that are building and validating their business models.

Because of the moderated financial return expectations and longer horizon for payback—7 to 10 years vs. the 3 to 5 years typical with commercial capital—patient capital can be critical for intermediaries in the missing middle, enabling them to adapt and grow their repeatable model. This should help the enterprises become more attractive to investors over time, unlocking further equity investing and commercial lending from traditional sources. Perhaps most importantly, this type of capital should be explicitly focused on supporting businesses that are in turn supporting smallholder farmers.

**Capital providers need to expand their use of blended financing instruments.** Blended financing, which takes advantage of the role that different capital providers can play, is growing 25% a year globally, and 10% of those deals include an agricultural focus. This class of financing leverages philanthropic and patient capital to reduce risk and mobilize commercial capital investments, mostly in developing markets.

Some common instruments include concessionary fund structures, such as first-loss vehicles that blend higher and lower risk-tolerant capital from public and private sources; concessionary risk mitigation instruments, including political risk insurance and currency hedging by governments and DFIs intended to reduce the risk faced by other capital providers; and philanthropically funded technical assistance structures integrated into a broader investment portfolio, providing for advisory services to strengthen enterprise operations.

Capital providers must pursue the use of such blended financing mechanisms more aggressively when lending

**Figure 23:** Existing collaborations address certain challenges but not all the elements required for African farmer-allied intermediaries to succeed

Association type	Association	System challenges addressed					
		Farmer production	SME pipeline	SME capital	SME expertise	Corporate purchase	System enablers
Research, coordination and advocacy	Grow Africa	☑		☑	☑	☑	☑
	Institute for Smallholder Finance	☑					☑
	Council on Smallholder Agricultural Finance	☑		☑	☑		
	SME Finance Forum			☑	☑		☑
Investment and implementation	Stawi Africa (formerly Prosper Africa)		☑	☑	☑		☑
	Alliance for Inclusive and Nutritious Food Processing			☑	☑	☑	
	Solutions for African Food Enterprises				☑	☑	
	Alliance for a Green Revolution in Africa	☑		☑	☑		☑
	Farm to Market Alliance (formerly PPP)	☑		☑	☑	☑	
	Malawi Oilseeds Sector Transformation	☑			☑	☑	☑
	Lending for African Farming	☑		☑			
YieldWise Food Loss	☑			☑	☑		

☑ Primary focus    ☑ Secondary focus

Note: SME stands for small and medium-sized enterprises  
Source: Organization/initiative websites

to or investing in early-stage agricultural intermediaries given the inherent systemic risks and firm-level challenges.

Underlying all this is one fundamental reality: If they want to have a significant impact on smallholder farmers, all funders and investors need to adjust their expectations both for financial returns and the time horizon over which they can be paid back or exit the investment. This is especially true when it comes to investing in early-stage, farmer-allied intermediaries in lower-margin value chains. This is the trade-off of backing farmer-allied intermediaries—namely, lower returns in exchange for greater impact transforming African smallholder agriculture.

### Three models of intermediary-anchored collaboration

The complex systemic challenges of transforming smallholder agriculture require collaborative action.

The ever-increasing list of collaborative efforts to date is encouraging (see Figure 23). Still, there are limitations with current efforts. Some focus on just one or two levers to effect change and lack an integrated approach across all system challenges. Others have too broad a focus, spanning too many countries or too many crop value chains. Insufficient capital or a lack of long-term commitment is a problem, too. So is a tendency to bring similar organizations together instead of mobilizing a broader group of actors across sectors that could offer important and complementary contributions. Misalignment of partner objectives can be an issue as well.



The greatest shortcoming of all, however, is the failure to focus explicitly on strengthening the role of high-potential, high-performing farmer-allied intermediaries as the crucial anchor of multistakeholder collaboration. The appropriate catalyst for these collaborative efforts will depend on specific value chain dynamics, including smallholder farmer productivity, crop quality, whether there is a critical mass of commercially viable intermediaries and a concentration of downstream buyers that can commit to significant purchase volumes at premium prices.

There are generally three viable intermediary-anchored models. Each requires coordinated effort by many stakeholders. The specific catalyst of change defines the model.

## **Model No. 1: Inclusive corporate supply chains with farmer-allied intermediaries**

**Value chain context:** A large customer, typically a corporation, commits to buy from farmer-allied intermediaries. A strong economic and operational case exists for buying from smallholder farmers in order to ensure security of supply, volume and quality. The buyer is often willing to pay a premium to an intermediary (or directly to farmers) as an incentive for farmers to grow the crop and sell into their supply chain. This type of smallholder-focused supply chain model has perhaps been most successfully scaled in export-oriented cash crops, such as coffee. Examples in local supply chains, however, do exist and will likely become even more important going forward as companies look to serve the growing demand for food and beverages, such as beer and packaged cereals, in domestic African markets.

**Typical catalysts:** Corporate multinationals or family-owned businesses often working with an enterprise that aggregates, organizes and facilitates farmers' access to inputs and markets.





**Key elements/conditions of model:** Requires sufficient potential margin for corporations to be willing to invest in the supply chain. The company will have to balance internal tension between procurement, which aims for the lowest unit cost possible for raw materials, and sustainability goals, including improving farmer livelihoods. The best solution is to establish a single point of accountability, a role responsible for balancing those goals and managing trade-offs. If the total cost of local procurement cannot be justified, corporations will move to other sources of supply, but when grants are available to offset the cost of the public good of training farmers, corporations are more likely to continue and grow these programs. Their efforts may not always involve large numbers of farmers, however, as the corporation is typically focused on optimizing specific asset utilization (for example, processing machinery) and may have access to other sources of supply, such as a large corporate-owned nucleus farm or large-scale commercial farms.

### Examples:

- **Coca-Cola Project Nurture (mango and passion fruit, Kenya and Uganda).** Launched in 2010, Project Nurture was an \$11.5 million partnership between Coca-Cola, TechnoServe and the Bill & Melinda Gates Foundation. It aimed to double the income of more than 50,000 small-holder mango and passion fruit farmers selling to Coca-Cola, which used the fruit in juices it produced and sold in Kenya and Uganda. Serving as the chief implementer of the program, TechnoServe advisers trained farmers, often using demonstration plots, on good agricultural practices, such as planting trees or vines, controlling pests and diseases, and soil management. By increasing the volume and quality of local farmers' fruit, Coca-Cola reduced its costs, lead times and sourcing risks, while farmers' net revenue increased by 142%.
- **Anheuser-Busch InBev Nile Breweries Limited and Cervejas de Moçambique (sorghum and cassava, Uganda and Mozambique).** In May 2016, Anheuser-Busch InBev



(then SABMiller) began working with TechnoServe to source sorghum, barley and cassava from smallholder farmers in Uganda and Mozambique to be used in the development of two new local brands of beer, Ugandan Eagle and Mozambican Impala. These two new affordable beers experienced significant sales growth, more than 25,000 smallholder farmers enjoyed higher incomes, and local governments collected increased tax revenue.

- **Nespresso Gigante Central Wet-Mill initiative (coffee, Colombia).** To increase its supply of high-quality, sustainable Colombian coffee, Nespresso worked with TechnoServe to identify a farmer cooperative called the Asociación de Cafeteros el Desarrollo (ACD) to manage the operations of a central wet mill. In 2015, ACD and Acumen set up Gigante Central Wet-Mill, which they own together, with Acumen investing \$460,000. ACD owns a majority of the company, empowering local farmers and minimizing the risk that they will drop out. Nespresso pays the mill premium prices for high-quality coffee and offers technical assistance administered by local coffee exporter SKN Caribecafe as well as TechnoServe. Since its opening, Gigante Central Wet-Mill has benefited almost 80 smallholder coffee farming households, increasing their incomes by about 35%.

## Model No. 2: Investor acceleration of farmer-allied enterprises

**Typical value chain context:** Includes a relatively strong pipeline of investable enterprises in a more developed ecosystem, though many of these enterprises still struggle to attract commercial capital because of a combination of misaligned returns expectations and poor investor understanding of the relevant value chains.



The complex systemic challenges of transforming smallholder agriculture require collaborative action.

**Typical catalysts:** Impact investors.

**Key elements/conditions of model:** Requires patient or blended capital and the provision of other support, such as access to talent and strategic, operational and technical advice to accelerate intermediaries' growth trajectories and attract additional capital.

## Examples:

- **Technical Assistance Facility of the African Agriculture Fund (TAF) (Nigeria, Malawi, Cameroon, Sierra Leone, Burkina Faso, Ethiopia, Zambia and others).** Between 2011 and 2018, TAF, administered by TechnoServe, provided tailored assistance and expertise to agribusinesses that had received investments from the nearly \$250 million African Agriculture Fund. That fund, backed by development finance institutions from Europe, Africa and North America as well as by private equity fund manager Phatisa, aimed to provide African agricultural companies with the capital they needed to expand, to increase the local availability of affordable food, and to benefit both farmers and consumers. Financed by the EU through the International Fund for Agricultural Development, TAF worked with 12 companies to design, strengthen and expand their farmer-allied business strategies, connecting them to the technical expertise needed to implement those plans.

All told, TAF helped more than 26,000 farmers, as well as entrepreneurs and consumers, and it increased smallholders' net incomes by more than \$1.3 million. One successful example is Norish Business in Ethiopia, a diversified food manufacturer specializing in fortified food and animal feed production. Norish is one of three manufacturers certified by the UN's World Food Programme for the production of "super-cereal," a highly nutritious corn-soya blend for young children six months old to two years old.

Supported by a TAF investment in 2015, Norish established a contract agreement with 11 local maize co-ops that supplied 2,500 metric tons of maize in the 2016 production year, approximately 30% of Norish's requirements at the time. Also, 1,500 smallholder farmers received training on agronomic practices for maize and soybean production, and they were given improved hybrid maize and soy seeds. TAF subsidized the purchases so that farmers paid 50% of the cost of seeds at the beginning of the season and the remaining 50% upon harvest, increasing their cash flows throughout the year.

- **Acumen's Resilient Agriculture Initiative (east and west Africa).** Acumen has developed this initiative to invest more than \$30 million in east and west African early-growth stage, innovative agribusinesses that enhance the productivity, incomes and climate resilience of smallholder farms. These include aggregator and digital platforms that bundle solutions of inputs, finance and technical assistance as well as innovative financial services that provide payment, credit and insurance solutions to farmers.



To mitigate the systemic risks inherent in smallholder agriculture, the initiative plans to use blended finance, including catalytic first-loss funding, to deploy equity and quasi-equity investments, with ticket sizes less than \$3 million. The intent is to help early-stage agribusinesses bridge the funding gap between seed and angel investments (typically less than \$1 million) and midmarket private equity funds with ticket sizes larger than \$5 million. There will also be a dedicated technical assistance grant facility to help companies tackle critical operating challenges, including farmer training. This initiative is anticipated to reach 10 million members of smallholder farming families and 12 to 15 agribusinesses over the coming decade.

### **Model No. 3: Intermediary-anchored industry and sector development**

**Typical value chain context:** India dairy, EACI, ComCashew and the EAAP are all good examples of this model. It applies where value chains have significant upstream productivity gaps, requiring substantial grant or public funding to create common benefits, such as the adoption of good agricultural practices and farmer organization.

**Typical catalysts:** Governments, foundations, multilaterals, corporate consortiums.

**Key elements/conditions of model:** Of the models we describe, this one requires the broadest coordination and alignment of multiple stakeholders in order to ensure that downstream demand matches upstream productivity and that the full value chain becomes as efficient as possible. Because they seek to invest in and create broad industry-wide benefits, governments often need to play a key role in these transformations. The size and duration of the investment required are typically much larger than those of the other, often more targeted models.

#### **Examples:**

- **HortInvest Rwanda (horticulture, Rwanda).** HortInvest aims to professionalize Rwandan horticulture and increase its economic contribution by supporting the growth of agricultural SMEs, providing farmer and cooperative training on good agricultural practices, and increasing both domestic and export demand for specific crops by strengthening supply chains and the broader environment. It also aims to increase food and nutrition security for highly vulnerable households. The HortInvest project hopes to increase the incomes of at least 44,000 smallholder farmer households that grow fruits and vegetables across six districts in northwestern Rwanda from 2018 to 2021. The project has a budget of approximately \$18 million from the Embassy of the Kingdom of the Netherlands in Rwanda, with an additional \$5 million innovation and investment fund partly funded by private sector partners.
- **Global Dairy Platform: Dairy Nourishes Africa (dairy, Africa).** A consortium of dairy companies, scientific bodies and other partners, the Global Dairy Platform has collaborated precompetitively for more than a decade to increase the understanding and consumption of dairy as an integral part of a nutrient-rich diet and to advance the sector's role in sustainable food production across the world (see *Figure 24*). The platform is launching the Dairy Nourishes Africa

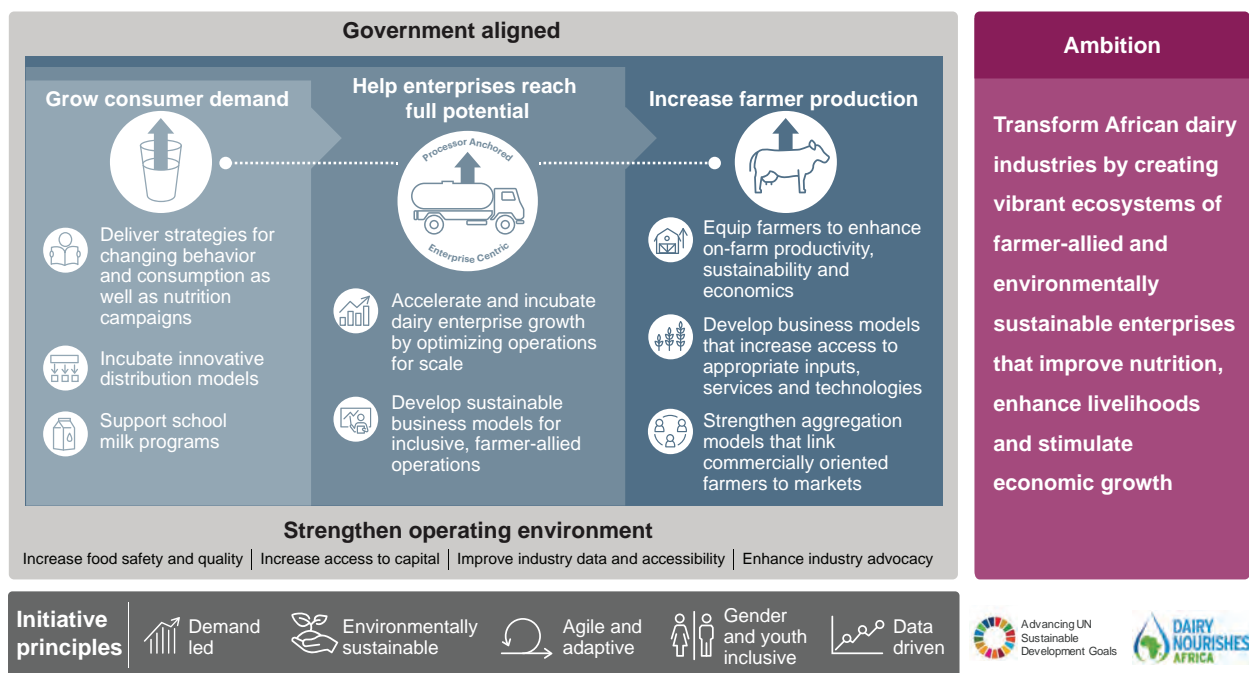
(DNA) initiative, a new kind of public-private partnership that utilizes a “whole value chain” approach, from grass to glass, leveraging the collective strength and expertise of the global dairy industry. DNA seeks to transform the African dairy industry by creating vibrant ecosystems of farmer-allied enterprises that improve nutrition (especially for children younger than five), enhance livelihoods, stimulate economic growth and ensure environmental sustainability.

The DNA initiative is specifically designed to strengthen local African enterprises and institutions, helping them to succeed. It will take an enterprise-centric and government-aligned approach coordinating across a range of stakeholders to grow consumer demand, drive dairy enterprises to their full potential, sustainably increase farmer production and create a supportive operating environment in which the dairy industry can thrive.

Initial pilots, expected to begin this year in Tanzania, aim to double smallholder farmer income and increase processed dairy sales by 150% in two years while accelerating the path of high-potential farmer-allied dairy processors toward profitable scale. The repeatable model will then be rolled out and adapted for other countries, possibly including Ethiopia, Kenya, Rwanda and Uganda.

As these three models show, there is no single formula for collaboration centered on farmer-allied intermediaries. Different players can be instrumental, different crops involved, different geographies covered. The common thread is the farmer-allied intermediary.

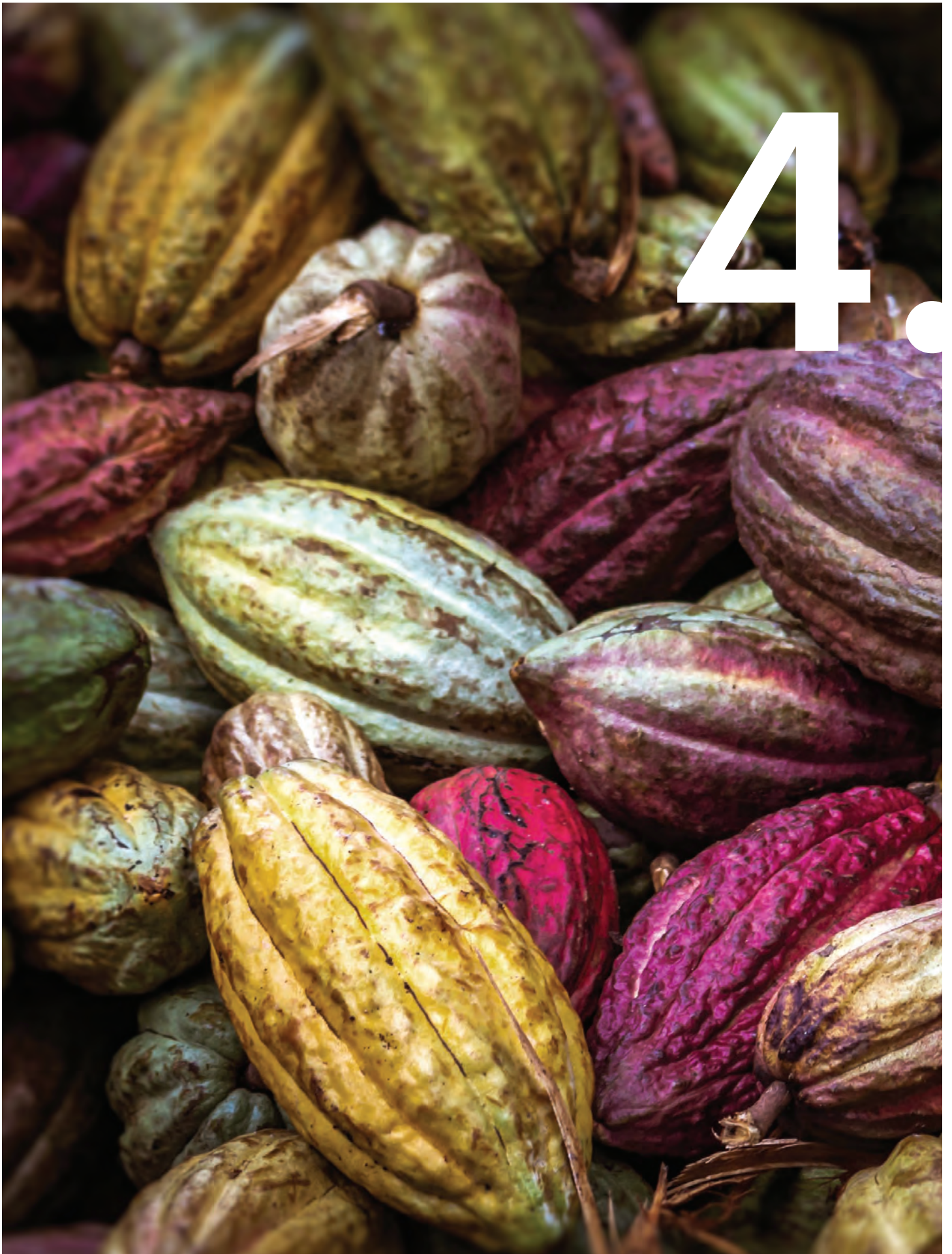
**Figure 24:** Dairy Nourishes Africa’s strategic framework for ecosystem development



Source: Bain & Company

“ As smallholder farmers do better, rural poverty declines. Farmer-allied intermediaries also bring profits and economic activity beyond the farm gate. They create jobs. They help make affordable, nutritious food available for Africa’s growing population.









## Chapter 4: A call to action

In countries that have progressed beyond subsistence farming and where a sizable number of commercially oriented smallholder farmers exist, significantly more emphasis and funding should be directed toward the profitable scaling of farmer-allied intermediaries. We have seen farmer-allied intermediaries serve as the linchpin of value chains, enabling farmers to access markets and improve their livelihoods in sustainable ways. As smallholder farmers do better, rural poverty declines. Farmer-allied intermediaries also bring profits and economic activity beyond the farm gate. They create jobs. They help make affordable, nutritious food available for Africa’s growing population.

Farmer-allied intermediaries come in different forms, sizes and stages of maturity, but two things are consistently true: There are far too few of them, and those that do exist are not able to grow fast enough.

Agriculture is a system, and for farmer-allied intermediaries to grow profitably, a wide array of actors will need to come together to support them and help amplify their impact.

Capital and other support must be tailored to help farmer-allied intermediaries that have already achieved threshold scale accelerate their progress and impact—and must incubate early-stage enterprises so that they can grow and meet thresholds for bank lending and investor interest.

It is not easy to optimize smallholder farmer impact and financial returns simultaneously, nor is it easy to achieve other goals, such as delivering affordable food to local, largely low-income populations. The decision to continue sourcing from smallholder farmers, even as an intermediary scales, requires





resolve and a conscious commitment to stay farmer allied. This may negatively impact the interests of other stakeholders, including those of financial investors looking to meet near-term investment goals, buyers and end customers demanding the lowest price possible, and workers deserving fair wages and professional growth. Funders and corporate buyers, when not sensitized to the complexity of these trade-offs, may inadvertently exacerbate tensions for the entrepreneur and encourage business choices that weaken an intermediary's farmer-allied orientation.

Our time horizons for change also seem to have shrunk. The duration of development grants has generally become shorter, frequently five years or less. Some patient capital impact investors don't seem all that patient either, looking to return capital to investors and potentially exit investments after 3 to 5 years rather than the 7 to 10 (and sometimes longer) that are often required. If actors in the development ecosystem are serious about large-scale agricultural transformation in sub-Saharan Africa, timetables must be collectively reset. Patience in this case is not about compromising on performance or condoning mediocrity; it is simply recognizing the hard work to be done and what it actually takes to change systems and build vibrant industries.

Governments play a particularly crucial role in changing the system conditions that will enable farmer-allied intermediaries to thrive.

Early-stage impact investors' poor returns in agriculture are, to a large degree, a by-product of operating in sub-Saharan Africa. Poor infrastructure, including irrigation, storage, roads, logistics, cold chain and electricity; relative scarcity of technical and management talent; minimal farmer organization and low farm productivity; challenges in accessing affordable financing; and unpredictable policies and regulations—these all add to the cost of doing business, starting a spiral of dampened returns,





Governments are in a unique position to address many systemic challenges and change the operating realities of these businesses.

lower capital flows and stunted growth.

Governments are in a unique position to address many of these challenges and change the operating realities of these businesses. India's dairy sector illustrates the impact that multidecade government commitment can have on the progress of a vibrant industry through infrastructure development, farmer organization and training, rural financing, and priority enterprise lending to the agricultural sector.

Such large-scale successes are all too rare. In 2003, the African Union created a set of strategies and goals for agricultural transformation, food security and prosperity called the Comprehensive Africa Agriculture Development Programme (CAADP). Sixteen years later, the great majority of African governments have yet to meet the CAADP goal of spending 10% of their budget on agriculture. In 2017, only 3% of total government expenditure on the continent was directed toward agriculture.

Ethiopia is an exception that provides compelling evidence of how government resolve and persistent investments could dramatically alter the trajectory of a country's agricultural development and, in turn, economic growth. Ethiopia grew GDP between 7% and 13% annually from 2008 to 2018, faster than any other country in sub-Saharan Africa. It is one of the few countries on the continent to consistently exceed 6% growth in agricultural output, the threshold established by the African Union as necessary for agriculture-led economic development, achieving between 5% and 17% growth per year between 2004 and 2015.

Central to this success is how the government has prioritized the agricultural sector's transformation, including the creation of the Ethiopian Agricultural Transformation Agency (ATA) as a critical, strategic

enabler of that transformation. Over the years, ATA has designed and overseen a comprehensive program of initiatives and interventions that improve smallholder farmer production and productivity.

For example, launched in 2012, the Ethiopian Soil Information System aims to map soil types across the country to inform fertilizer policy and recommendations with the intent of significantly increasing crop yields. To date, it has collected hundreds of thousands of soil samples using remote sensing satellite technology and other state-of-the-art techniques, and it created 22 regional soil-type maps with associated fertilizer recommendations. The TIRR package (which stands for teff, improved seed, reduced seed rate and row planting) was introduced in 2011 to reduce the amount of seed sown by smallholder farmers by 90% by planting much smaller quantities of improved varieties of teff (a critical staple in the Ethiopian diet) in rows, thereby reducing weeding labor and allowing for intercropping of pulses. In just four years, the intervention was estimated to have reached 2.2 million farmers, increasing their yields by up to 70%. Commercial Farm Service Centers is another project to increase access and use of inputs. Operating across 20 woredas (or districts) in Oromia, Amhara, SNNPR and Tigray, the project aims to serve more than 175,000 smallholder farms as a one-stop shop for high-quality inputs, including fertilizer, seeds, agrochemicals and veterinary drugs, as well as a training resource on agricultural technologies to increase farmers' yields and the commercialization of their output.

More recently, ATA has increased its programmatic focus on enabling agricultural commercialization and market development. Introduced in 2015 to 2016 and focused on priority crops across the four major agricultural regions in Ethiopia, the Agricultural Commercialization Clusters initiative has





more than doubled the national marketable surplus of these crops by providing inputs and extension services to smallholder farmers and coordinating efficient aggregation and transport of their produce to end markets. A pilot project aims to provide smallholder grain farmers (maize, wheat, teff) with sufficient and reliable storage capacity in specific geographies by constructing modern warehouses and mobile storage units with capacities of between 500 and 3,000 metric tons. The pilot has increased the quantity of high-quality grain available to be marketed through formal channels.

These programs build from a foundation of farmer support. Ethiopia famously has one of the highest ratios of public extension agents per smallholder farmer; at approximately 1-to-500, it is 2 times that of Kenya, 3 times that of Malawi, and 5 times higher than Tanzania.

Whether the ATA model is relevant to or replicable in other sub-Saharan African countries can be debated. But the ATA experience has reinforced two important lessons.

- Large-scale smallholder agricultural transformation can only happen when there is explicit recognition at the highest levels of government that such transformation is crucial not just to lifting smallholder farmers and their communities out of poverty but also to the broader growth of the economy through ag-related industrialization and commercialization.
- There is a need to build and strengthen government capacity in the planning and implementation of interventions that target key bottlenecks at the farmer, enterprise and enabling ecosystem levels and that build on capabilities across public, private and social sectors.

Governments have the opportunity to catalyze financing, too. They can do so through policies that encourage commercial bank lending for SME working capital and asset financing. They can pursue import, export and tax



policies that stimulate local production and processing. Tax incentives that reward local sourcing, for example, can help create large-scale demand sinks for crops from commercially oriented smallholder farmers and enable the commercial viability of farmer-allied intermediaries.

But while governments can do a lot, they are just one actor in the system. Foundations, bilaterals and multilaterals are uniquely positioned to catalyze and fund large-scale, long-term and integrated value chain development efforts. These institutions provide critical philanthropic funding that enables the creation of “commons” benefits—namely, things no profit-seeking firm or investor has the incentive to deliver. These include training farmers on good agricultural practices that improve productivity and environmental sustainability, farmer aggregation and organization, providing first-loss guarantees to encourage lending or investment, and offering technical assistance to accelerate an intermediary’s growth and path to profitability. If these programs put farmer-allied intermediaries at their center, in time, more lenders and impact investors will become interested in supporting them.

Impact-first investors (including DFIs) must provide sufficient patient capital to help farmer-allied intermediaries build their repeatable models and signal to debt providers that these businesses have financial backers. Commodity traders and food and beverage corporations can provide large, secure demand and price premiums based on quality, helping intermediaries scale and become commercially viable. Over time, this serves companies’ business interests, too, by helping them to better manage supplier risk, increase employment in the countries where they operate, and optimize tax incentives for local sourcing. Banks have the greatest amount of capital, and that is what is most required to facilitate the flow of agricultural goods. Working closely with bilaterals, multilaterals, foundations, DFIs, impact investors, and corporations will help banks better understand and share the structural risks of lending to agricultural intermediaries. Nongovernmental organization implementers and

Impact-first investors must provide sufficient patient capital to help farmer-allied intermediaries.



technical assistance providers can increase their focus on strengthening the capacity of farmer-allied intermediaries. For maximum impact, they should be expansive in their program design and engagement of other important actors in the system, and they should be assertive on the length of time it truly takes to transform value chains.

Across this broad system, actors must more conscientiously align on their target outcomes, actions and capital deployment. When it comes to transforming smallholder agriculture, no single actor or initiative, no matter how brilliant or groundbreaking, can on its own deliver long-lasting impact. Too often, funders and implementers succumb to the “not invented here” syndrome, choosing to design and launch new initiatives rather than build on and coordinate with what’s already working on the ground. Coordination and collaboration have to become the norm rather than the exception. This is all the more so because the appropriate catalyst or specific form of collaboration will differ depending on the value chain dynamics of the crop involved as well as the stage of development of the relevant financing and enterprise ecosystem.

Collaboration can be notoriously difficult. Success will require an honest alignment around the ambition and outcomes to be achieved and the respective role each organization can and should play. It will require building and managing partnerships across sector and organizational boundaries, rigorous project management, and agile adaptation that evolves based on what works and what doesn’t.

Finally, it will take vigilance to remain focused on the needs of those we are trying to support—the farmer-allied intermediaries and the farmers with whom they work.





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# Interviews conducted

## Profiled company management interviews

This paper is about the critical role of farmer-allied intermediaries, and we are indebted to a number of them that both facilitated our field research and generously shared the details of their own journeys, including the struggles, achievements and lessons they learned as they built and grew their companies.

### **Asas Dairies Ltd.**

Fuad Jaffer, CEO

### **Babban Gona**

Kola Masha, founder

Adaeze Usuh, principal, corporate finance

### **Dodla Dairy**

Dodla Sunil Reddy, founder

Venkat Krishna Reddy Busireddy, CEO

Sebastian Joseph, quality head

Prabhakar Reddy, production head

### **Empresa de Comercialização Agrícola (ECA)**

Grant Taylor, CEO

Alison Taylor, CFO

### **Kumwe Solutions**

Cyril Khamsi, founder and CEO

### **Tulaa**

Hillary Miller-Wise, founder and CEO

Aadil Saxena, CFO

### **Twiga Foods**

Grant Brooke, board member, cofounder

Peter Njonjo, CEO, cofounder

Mahia-John Mahiaini, CFO

## **Additional individuals and organizations interviewed**

Anurag Agrawal, Aavishkaar  
Leila Ahlstrom, USAID (*former*)  
Jonathan Barnow, TechnoServe  
Gaëlle Bonnieux, responsAbility  
Elicia Carmichael, Root Capital (*former*)  
Maya Chorengel, TPG, The Rise Fund  
David Dayhoff, Partners in Food Solutions  
Joris de Vries, Hooge Raedt Social Ventures  
David Dewez, Incofin Investment Management  
Chris Donohue, TechnoServe  
Emmanuel Egyam, Injaro  
Hanna Felleke, Ethiopian Agribusiness Accelerator Platform  
Jim Fitzpatrick, Ingredient Sourcing Solutions  
Willy Foote, Root Capital  
Afshin Ghassmi, CDC Group  
Jane Grob, TechnoServe  
Kindra Halvorson, TechnoServe  
Riëlla Hollander, Triodos Investment Management  
Daniel Hulls, AgDevCo  
Kate Hyder, Root Capital  
James Jenkin, Clinton Giustra Enterprise Partnership  
Robert Johnson, Clinton Giustra Enterprise Partnership  
Chris Jurgens, Omidyar Network  
Katarina Kahlmann, TechnoServe  
Saliya Kanathigoda, GIZ  
Johnson Kiragu, Partners in Food Solutions  
Ben Knoll, Partners in Food Solutions  
Songbae Lee, Calvert Impact Capital  
Fiona Lukwago, Africa Enterprise Challenge Fund  
Agnes Mueni Manthi, Root Capital  
Mirafe Gebriel Marcos, Ethiopia Agricultural Transformation Agency  
Allert Mentink, SME Impact Fund  
Brad Merchant, Palladium  
Ernest Mintah, African Cashew Alliance  
Karel Nierop, Triodos Investment Management  
Nupur Parikh, TechnoServe  
Tim Rann, Mercy Corps' Social Ventures Fund  
Richard Rogers, Rogers MacJohn  
Reihem Roy, Omnivore

**Frank Rubio**, Oikocredit (*former*)  
**Jinesh Shah**, Omnivore  
**Vikram Sharma**, TechnoServe  
**Seth Silverman**, Factor[e] Ventures  
**Samuel Ssenyimba**, Bill & Melinda Gates Foundation  
**Patrick Starr**, USAID (*former*)  
**Paul Stewart**, TechnoServe  
**Jonathan Thomas**, TechnoServe  
**Abigail Thomson**, TechnoServe  
**Yasser Toor**, Solon Capital Partners  
**Pavlos Troulis**, Ethiopian Agribusiness Accelerator Platform (*former*)  
**Joke van der Ven**, Triodos Investment Management  
**John Vercoe**, 8 Miles  
**Rita Weidinger**, GIZ/ComCashew  
**Brent Wibberley**, TechnoServe  
**Florian Winckler**, GIZ/ComCashew  
**Simon Winter**, Syngenta Foundation  
**Karina Wong**, Small Foundation  
**Rizwan Yusufali**, TechnoServe

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