SOWING GROWTH

CATALYZING BROAD-SCALE DEVELOPMENT THROUGH THE CULTIVATION OF INCLUSIVE AGribusinesses, FEATURING CASE STUDIES FROM TANZANIA

Master of Arts in Law and Diplomacy Capstone Project

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Note from the Author

From September 2013 to August 2014, I completed a research fellowship in Tanzania, analyzing the role of smallholder farmers in the supply chains of food and beverage companies. Juice and beer companies, the focus of my research, work with smallholder farmers in myriad ways in order to secure the fruits and starches they need for operations. Doing so provides a convenient local supply for the company in the near-term, while diversifying procurement options over the long-term. It also contributes to national and international development objectives by engaging the rural poor as producers, bolstering a company’s corporate social responsibility (or “shared value” or “sustainability”) agenda.

One of my key takeaways from this research in Tanzania was the overlooked potential for an emerging cadre of small- and medium-sized agribusinesses to meet both the business and development objectives of local sourcing activities. A natural intermediary, these agribusinesses engage smallholder farmers in their operations to increase their own volumes, and they sell the final goods to end customers or processors. Strategically placed in the community and having significant business acumen, they can provide appropriate extension services to smallholder farmers (often a challenge for outside companies) while also identifying profitable market opportunities for crops (often a challenge for smallholder farmers).

My coursework and research at the Fletcher School have focused on exploring the potential for these agribusinesses to serve as a conduit for achieving development at scale. By anchoring the many agricultural development efforts and growing number of social finance tools to inclusive agribusinesses, could we achieve sustainable and far-reaching poverty reduction? More specifically, how can these development actors catalyze positive impact through inclusive agribusinesses? To explore this further, the following paper examines several key concepts, specific to the Tanzanian context:

- The potential for agribusinesses to achieve positive social impact through the inclusion of smallholder farmers;
- The challenges faced by an agribusiness owner attempting to operationalize such a model on the ground; and
- The ecosystem of actors that can help overcome these challenges and bring successful agribusinesses to scale.
Executive Summary

Global demand for agricultural products continues to increase, along with the pressure to meet it through more sustainable and traceable practices. This is an opportunity for smallholder farmers in Africa, where underutilized land has the potential to be transformed into higher yields and the enabling environment is increasingly favorable to the private investment needed to make it happen. Indeed, to develop the agriculture sector in Africa, smallholder farmers will need to be integrated into commercially viable value chains whereby farm-level production is improved and markets accessed.

One way of achieving this private sector led agricultural growth is through inclusive agribusiness models, in which smallholder farmers are engaged as suppliers. The central agribusiness in these schemes typically provides inputs, technical assistance, and marketing services to participating farmers and, in return, receives greater access to land and yields. As the development community seeks to improve the livelihoods of smallholder farmers around the world, linking its funding and programming to inclusive agribusinesses presents an efficient way to effectively reach thousands of farmers and connect them to profitable enterprises.

In order to better understand how an inclusive agribusiness operates on the ground, the challenges it encounters, and ultimately how the development community can catalyze its positive impact, 3 case studies were collected through field research in Tanzania. All 3 agribusinesses examined here focus on horticultural crops but have different business models and reasons for including smallholder farmers. However, although each company engages smallholder farmers for a different purpose – often, to develop community relations and/or to supplement supply – they all include similar activities in their respective programming. And, while the central agribusiness is always the impetus for smallholder programs, each looks to non-profit partners to implement their various components. Where an agribusiness relies heavily upon the volumes grown through a smallholder program or invests significantly in its facilitation, formal contracting arrangements are used to structure their purchasing agreements.

Despite their differences, the cases examined here illustrate that there is an opportunity to create positive impact through inclusive agribusiness models if key threats can be overcome in going to scale. The critical constraints which emerged from these case studies include the following:

- A **poor enabling environment** in which there is insufficient infrastructure, unclear land titling, and lack of available labor (both skilled and unskilled);
- The threat of **attrition from smallholder programs** if implementing partners are not identified, funding sources not secured, and incentives not found favorable among participating farmers;
- An **inefficient marketing system** in which many intermediaries between the farm and market cause higher prices and lower profit margins for producers; and
- **Insufficient financing** that forces agribusinesses to coordinate among disparate sources and navigate their various terms, timelines, and requirements.
Many of these challenges that agribusinesses face are the same as those being addressed by the development community. However, it can be challenging to coordinate among the many different stakeholders working on these issues and ensure that their activities reach the businesses that could benefit from them. By finding solutions to the constraints outlined here and anchoring them to inclusive agribusiness models, there is an opportunity to achieve mutually beneficial outcomes for smallholder farmers, business owners, and development stakeholders.
Introduction

Of the estimated 700 million people living below the international poverty line of $1.90, the vast majority live in rural areas and rely upon agriculture as a source of income and livelihood.\(^1\) Global poverty is becoming further concentrated in Sub-Saharan Africa where today, over 40 percent of the population lives in poverty.\(^2\) Key to improving economic opportunities in the years ahead will be agricultural growth. The agriculture sector accounts for 65 percent of all employment and over 30 percent of gross domestic product on the continent.\(^3\) Overcoming the entrenched challenges of low technology adoption, poor market linkages, and lack of infrastructure will be critical for improving yields and increasing incomes.

As demand and preferences for agricultural products shift globally, opportunities for Africa’s primarily smallholder farmers are increasing. Population and urbanization rates continue to increase, and the heightened demand for food will require a 50-60 percent increase in agricultural production. Rising incomes and growth of the middle class contributes to this pressure, and is especially true in developing economies where a majority of the growth will take place. The demand for higher value foods – including meat, fruits, and vegetables – and increased use of biofuels will effect the types of crops cultivated in the future. Preferences for high quality, ensured safety, and socially and environmentally conscious food products are also on the rise.\(^4\)

There is an opportunity for smallholder farmers in Africa to benefit from these trends and meet the growing demand for greater volumes, higher quality, and more traceability in agricultural value chains. In the developed markets, agricultural productivity and cultivation has nearly reached its limits, yet in developing countries there is still considerable land that is underutilized. Globally, more than 70 percent of arable land is in developing countries, where smallholder farmers are the primary cultivators. Indeed, over 80 percent of food consumed in these regions is grown by smallholders on approximately 500 million farms.\(^5\) An estimated 2 billion people live on these smallholder farms, representing an enormous opportunity to reach a breadth of individuals through agricultural development. The World Bank has estimated that growth in the agriculture sector can be at least twice as effective in reducing poverty as compared to other sectors of the economy by raising farm incomes, reducing food prices, and creating other employment opportunities.\(^6\)

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Recognizing the opportunity and need for economic growth and development, there has been a revived interest in Africa’s agriculture sector. Despite a decreasing trend between the late 1980’s and throughout the 1990’s, development aid for agriculture has been on the rise again since the early 2000’s. A number of high-level global platforms for African agriculture and food security have also emerged, including the Grow Africa Initiative and the New Alliance for Food Security & Nutrition, which focus on engaging the private sector. Private companies and investors are also getting more involved in agriculture in their own right. Impact investors see lending to agribusinesses as a means to reach the rural poor through sustainable growth, and the nascent private equity industry in Africa views agribusiness as a core sector for investment. Finally, the corporate social responsibility offices of major corporations blend development and business when it comes to agriculture, seeking to secure access to agricultural supplies over the long-term while also striving to support community development in a meaningful way.

Overview of Inclusive Agribusiness

Developing the agriculture sector in Africa will require the establishment of commercially viable value chains that engage smallholder farmers. Inclusive agribusiness models serve as the backbone of such value chains and engage individuals at the bottom of the economic pyramid either as suppliers of crops or as customers of inputs, technology, or services. Inclusive agribusinesses can also indirectly engage low-income individuals by creating opportunities for employment and small- and medium-sized enterprises (SMEs). These often emerge to provide complimentary services within an agricultural value chain, for example transportation services or processing activities.8

This paper focuses exclusively on the inclusive agribusiness models that engage smallholders as producers, specifically through contract farming methods.9 Often referred to as “out-grower models,” such agribusinesses typically take on their own core production, processing, or marketing activity while sourcing a certain volume of crops from smallholder farmers. Although they often involve a legal contract that stipulates the purchasing agreement between buyer and seller – outlining the pricing procedure, quantity to be exchanged, and quality required – informal contracts may also be used. Informal contracts are not binding agreements but still provide a marketplace for smallholders and outline purchasing procedures and requirements.10 The terms “contract” and “out-grower” shall thus be used here to discuss those that are both formal and informal in nature.

Contract farming models have the potential to reach hundreds or thousands of smallholder farmers and provide them with socioeconomic benefits. The facilitating agribusiness often provides a variety of services to smallholders in order to ensure it receives the quantity and quality of supply it requires. This can include any combination of input provision, extension services, and credit access. Such models can therefore be mutually beneficial to both the agribusiness and the smallholder. If terms of the purchasing contract are not equitably established, however, there is a risk that the relationship may be exploitative of the smallholder farmers. Careful attention must be paid to ensure that the risks of production and benefits from the sales are fairly shared between the agribusiness and the smallholder farmers.

Supporting an inclusive agribusiness – either financially or through technical assistance – can catalyze its potential for social impact. A development actor can provide funding or programming to a single agribusiness that in turn engages several hundred or thousand smallholder farmers in its operations. Smallholder farmers are able to access the trainings, inputs, and credit provided by the agribusiness and benefit from having a pre-determined off-taker. Such activities are intended to improve the volume and quality of smallholders’ yields and ensure higher and more stable incomes. Earnings can then be used by smallholder households for needed goods and

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services, including school fees, medicine, roofing, and even more productive agricultural assets. Figure 1 on the following page summarizes this theory of change.

Setting up an inclusive agribusiness and structuring the terms of its purchasing contracts can be challenging, especially when trying to coordinate disperse smallholders with low levels of production or access to infrastructure. The primary challenges faced by an agribusiness when trying to operationalize a business inclusive of such farmers include the following:  

- **Organizing farmers** – Smallholder farmers can be spread across rural areas with potentially poor transportation infrastructure. This makes negotiations, training, monitoring, and collection difficult. Forming farmers’ groups can facilitate more efficient processes and the collective voice it provides farmers can make communications easier.

- **Developing a sense of trust** – An agribusiness and a smallholder farmer represent different values and motivations. They each have their own production practices and risk appetites. Without developing a mutual respect and understanding for the other party, there is concern that one side may not fulfill their portion of the contract.

- **Assessing market information** – Asymmetric information prevents both the buyer and seller from knowing the true supply, demand, and prices for various agricultural crops. It is difficult for the agribusiness to forecast the number of suppliers and total volume that will be possible in a remote and unpredictable setting. Smallholders also have little access to market price information and rely upon traders and middlemen for making sales decisions.

- **Improving agricultural practices** – Smallholder farming is typically characterized by low use of technology – including seeds, machinery, and techniques – resulting in low yields and poor quality. This can be the result of insufficient access to such inputs and/or a lack of knowledge regarding modern agricultural practices.

- **Securing purchasing contracts and/or other agreements** – Negotiating the purchasing contract – whether it’s a formal or informal agreement – can be a challenge. This may be the result of an inability to physically access the dispersed farmers or to clearly communicate the terms and expectations. Regardless of the final agreement, reneging on the contract and side-selling to another buyer remains a threat.

- **Ensuring consistency in supply** – Given the above challenges – in particular, poor agricultural practices and difficulty in communicating terms of a contract – it can be difficult to ensure smallholders’ supply consistently meets the quantity and quality required by the agribusiness.

- **Accessing complimentary services** – It can be difficult to provide all of the services required to bring a large group of smallholder farmers into a commercially viable value chain. This can be especially true when providers of inputs, finance, and other services are not available or are not willing to work with smallholder farmers who may have non-traditional collateral.

11 For a good summary of the challenges faced by inclusive agribusinesses, see GIZ. Growing Business with Smallholders: A Guide to Inclusive Agribusiness (pp. 27-29).
Figure 1. Theory of Change\textsuperscript{12}

*How development actors can achieve impact through supporting an inclusive agribusiness*

\textsuperscript{12} Created by the author.
• **Having reliable water, power, and transport infrastructure** – In many of the developing contexts where inclusive agribusinesses are trying to operate there is insufficient infrastructure. Lack of reliable or consistent water, electricity, and roads can make it extremely difficult to operationalize a profitable business, let alone one that is inclusive.

It is because of these myriad challenges that inclusive agribusiness models so often include activities to improve smallholder technology and production; provide knowledge and training; establish clear contracts; and strengthen the broader enabling environment for agriculture. Many of these challenges and their corresponding solutions mirror those that the development community seeks to address through its own programming. Indeed, given their access to funds and technical expertise, agribusinesses will often solicit the support of donor agencies, foundations, and NGOs to provide or supplement some of the above activities. But more strategic, deliberate efforts could be undertaken to align the objectives and programming of the develop community with those of inclusive agribusinesses.
Case Studies from Tanzania

To better understand the ways in which the development community can effectively inject financial and technical support into inclusive agribusinesses – and thus increase the likelihood for social impact – 3 case studies of Tanzanian agribusinesses were examined: Sasumua Holdings Limited, EA Fruits Farm & Co Limited, and Bagamoyo Fruits Company Limited. These young enterprises, all focused on horticultural crops and in their early growth stages, illuminate how inclusive agribusinesses operate behind the scenes and grapple with balancing a profitable business and successful out-grower program. This section of the paper will first provide a brief summary of each of the different cases, before turning to the common challenges they face in operationalizing their inclusive business models. Ultimately, understanding how these agribusinesses are developing and launching their business models can shed light on where the development community can assist in overcoming constraints, scaling effective methods, and facilitating overall success.

Summary of Case Studies

Box 1. Sasumua Holdings Limited

**Overview:** Sasumua is a 6,000 ha horticultural estate located in the southern area of Tanga. The company is focused on pineapple production but will also expand its cultivation of bananas, tomatoes, and watermelons under irrigation once water is secured through catchment dams. Sasumua is currently finalizing plans to develop a pineapple juice concentrate processing facility, with a capacity of 100,000 tons. It will expand its pineapple plantation to cover 3,000 ha and ultimately produce 85,000 tons for processing. Pineapple juice concentrate will be exported to the European market while other horticultural crops will be sold fresh into local market channels. Given the fractured nature of the current agricultural marketing system, however, Sasumua is working with a coalition of partners to develop a new, professionally managed market for fresh produce in Dar es Salaam.

**Smallholder Engagement Model:** The company engages smallholders through several different mechanisms: 1) An out-grower scheme with current pineapple producers wherein Sasumua provides technical expertise and advice on cultivation of the crop. A non-profit partner will facilitate the program and there will be an informal agreement to purchase pineapples for processing; 2) An out-grower scheme with new pineapple producers wherein Sasumua will provide significant inputs and training. A formal purchasing agreement will stipulate sales of the crop to the company for processing; 3) An in-grower scheme wherein individuals living on company-owned land will be asked to grow specific crops in exchange for tenancy; and 4) A block farming scheme wherein Sasumua will provide irrigation and technical assistance on blocks of land managed by local sub-villages. Participating farmers can choose which crops to grow and to whom to sell, with Sasumua being an option.

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13 A complete case study of each agribusiness is available in the appendix.
14 Cover photo of pineapples being grown on Sasumua land.
Box 2. EA Fruits Farm & Co Limited

Overview: EA Fruits is a social enterprise based in Bagamoyo and Dar es Salaam that seeks to bring fresh horticultural crops grown by smallholders from farm to market with zero waste. The company does not engage in production activities itself, but instead focuses on developing and managing a cold storage distribution system. Plans are in place to build 6 simple, solar-powered collection centers across Tanzania over the next 2 years to serve as hubs for smallholder sales and support services. A network of transport vehicles will pickup and bring the produce to a central facility in Dar es Salaam. Here, it will be sorted, cleaned, packaged, and stored until delivered to the end customer. To-date, the company has been aggregating fresh produce from smallholders and distributing it to retail, hotel, and wholesale customers in Dar es Salaam but has been constrained by high costs from vehicle and storage rentals. Further, with limited storage capacity, the company has had to sell much of its stock to wholesale middlemen to prevent spoilage – something it hopes to minimize once its own facilities and transportation vehicles are in place.

Smallholder Engagement Model: All of EA Fruits’ produce is sourced from smallholder farmers. Approximately 80 percent of this supply comes from farmers who cultivate their own land. Once the collection centers are operational, these smallholder farmers will bring their produce to the centers and receive payment based on an established list of prices according to crop and grade. Here, EA Fruits will also provide support services to smallholders to help them achieve the desired quantity and quality outlined in its pricing system. Formal purchasing agreements will be negotiated with each supplier based on the crops and volumes they wish to produce for EA.

The additional 20 percent of the company’s produce comes from “franchisee” farmers who are given access to a plot of the company’s 110 ha of land. These plots are outfitted with modern equipment including irrigation and greenhouses. The franchisees do not pay for the land or its equipment, but do grow and sell under contract with EA Fruits. The company hopes that its higher prices – made possible by the reduction of product waste in its improved distribution system – will incentivize smallholders’ and franchisees’ loyalty to the company and commitment to supplying a high quantity and quality of produce.

Photos of pineapples and greenhouses located on EA’s franchisee land.
Although all 3 of these companies are focused on horticultural crops, each employs a very different business model. Sasumua is focused on production and processing, and because of its large land-holding is not reliant on out-grower farmers to secure volumes. The company instead views its grower schemes as components of broader community engagement and development efforts. EA Fruits, on the other hand, does not produce its own crops and must therefore rely completely on those grown by smallholders. It is working to establish formal purchasing agreements with both its out-grower and franchisee farmers. Similarly, BFCL depends upon the volumes grown by smallholders to supplement its own production and plans to utilize formal contracting agreements as well. For a comparison of the 3 case studies, see Table 1 below.
Table 1. Comparison of Case Studies

<table>
<thead>
<tr>
<th></th>
<th>Core Function(s)</th>
<th>Types of Smallholder Engagement</th>
<th>Arrangements for Smallholder Engagement</th>
<th>Rationale for Smallholder Engagement</th>
<th>Value Proposition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sasumua</strong></td>
<td>• Production • Processing</td>
<td>• Out-grower</td>
<td>• Low engagement (supplemented by partner), informal purchasing agreement</td>
<td>• Desire to contribute to community development</td>
<td>• Consistent, high-quality brand for horticultural products</td>
</tr>
<tr>
<td></td>
<td>• In-grower (Tenant)</td>
<td>• In-grower</td>
<td>• High engagement, formal purchasing agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Block farmer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EA Fruits</strong></td>
<td>• Collection • Distribution</td>
<td>• Out-grower</td>
<td>• Low engagement (supplemented by partner), formal purchasing agreement</td>
<td>• Need to procure all products</td>
<td>• Waste-free distribution with high-quality customer care</td>
</tr>
<tr>
<td></td>
<td>• In-grower (Franchisee)</td>
<td>• In-grower</td>
<td>• High engagement, formal purchasing agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BFCL</strong></td>
<td>• Production • Collection</td>
<td>• Out-grower</td>
<td>• Low engagement, (supplemented by partner), formal purchasing agreement</td>
<td>• Need to procure some products</td>
<td>• Provider of sweeter, less acidic MD2 pineapple</td>
</tr>
</tbody>
</table>

Although the smallholder programs of each of these agribusinesses are still in their early stages, they are being designed to provide farmers with the technical assistance, trainings, inputs, and credit that are common of many out-grower models. The companies plan to guide the overall direction of each program and serve as an off-taker for the crops. But in most cases the central agribusiness is looking for a non-profit partner to help support the implementation of the actual program. While the companies can leverage their crop-specific expertise and set the parameters for production practices, each seeks to engage an outside partner to facilitate the supplemental activities, including: organizing farmers, conducting trainings, providing inputs, and identifying credit options.

There are several exceptions, however, when the central agribusiness wishes to remain intimately engaged in all aspects of its smallholder program. Sasumua, for example, is assisting a group of farmers switch over to pineapple production for the first time. As this requires more oversight and support, the company will facilitate the provision of inputs and other extension services itself. Similarly, EA Fruits manages a small franchisee model wherein the company provides land, greenhouses, and irrigation systems to participating farmers. Due to the significant investments required in these grower schemes, both companies oversee the programs directly and seek formal contracts with the participating farmers to help ensure cost recovery.
Setting up contracts can be time-consuming, however, and there always remains a threat of side-selling. Where other incentives can be leveraged and reliance on volumes is not as high, informal purchasing arrangements can be used with smallholder suppliers. Sasumua, for example, has an out-grower program with pineapple farmers in which the company provides technical assistance and serves as a potential market, but the farmers are not obligated to sell to them. Competitive prices and positive community relationships are used by all 3 agribusinesses as ways to encourage loyalty between the growers and companies. However, formal purchasing agreements still appear to be the norm. Both EA Fruits and BFCL are moving away from informal aggregation among smallholders to the use of more formal contracting arrangements.

It is important to note that all 3 of the agribusinesses examined here are still in their early stages, especially with their smallholder programming. It is therefore difficult to gauge the long-term viability of their business models and estimate the potential for social impact. Table 2 below provides an overview of the strengths, weaknesses, opportunities, and threats to achieving such balanced financial and social returns in the future. Closer examination of the threats these agribusinesses face can highlight potential areas where outside partners could intervene to increase the likelihood of their success; this is what will be discussed in the next section.

Table 2. SWOT Analysis

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
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</thead>
<tbody>
<tr>
<td>• Local presence in the community</td>
<td>• Portfolio of activities extend beyond their core (i.e. smallholder organization, infrastructure development)</td>
</tr>
<tr>
<td>• Crop-specific expertise</td>
<td>• Exposure to weather, pest, and other risks</td>
</tr>
<tr>
<td>• Market knowledge and access</td>
<td></td>
</tr>
<tr>
<td>• Networks of customers and suppliers</td>
<td></td>
</tr>
<tr>
<td>• Financial credibility</td>
<td></td>
</tr>
<tr>
<td>• Portfolio of activities extend beyond their core (i.e. smallholder organization, infrastructure development)</td>
<td></td>
</tr>
<tr>
<td>• Exposure to weather, pest, and other risks</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Growth potential for local food products</td>
<td>• Poor enabling environment</td>
</tr>
<tr>
<td>• Access to produce grown by smallholders</td>
<td>• Attrition of smallholder suppliers</td>
</tr>
<tr>
<td>• Community of development partners</td>
<td>• Inefficient marketing system</td>
</tr>
<tr>
<td>• Policy environment favorable to private sector led agricultural development</td>
<td>• Insufficient financing options</td>
</tr>
</tbody>
</table>

Catalyzing Growth: Identifying Constraints and Potential Solutions

Despite their differences, the 3 agribusinesses examined here face a similar set of challenges with regards to scaling their inclusive models. The owners of these companies have been resilient while launching their businesses in a country with little technical or financial support for early stage agricultural enterprises. And, they continue to work on addressing and overcoming challenges inherent to the country’s infrastructure, regulatory environment, and agricultural

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17 Based on author’s analysis, Table 2 includes common characteristics among the 3 case studies in regards to their ability to manage a profitable business while simultaneously engaging smallholder farmers in their supply chains.
marketing system. But these businesses cannot take on every issue themselves, especially if they want to remain financially sustainable and in a position to engage smallholder farmers. The major threats to the success of these agribusinesses are expounded upon below before turning to a more exhaustive list of constraints, potential solutions, and key stakeholders who should be engaged.

**Poor Enabling Environment**

*Insufficient infrastructure.* A lack of sufficient and reliable infrastructure can be a major hindrance to operationalizing any business in Tanzania. For the agribusinesses examined here, accessing water was a significant obstacle to scaling the irrigation systems critical to their growth and competitiveness. Drilling boreholes is a common solution, but Sasumua has gone beyond even this; the company is developing a set of water catchment dams to secure its required volumes of water. Poor road systems and a lack of storage options are also a major challenge when dealing with horticultural crops which are highly perishable. This has lead EA Fruits and BFCL to invest in cold storage transportation and/or collection centers in order to prevent post-harvest losses.

*Unclear land titling.* Land titling also remains an issue in Tanzania, where discrepancies still exist between national- and village-level systems. Many land titles continue to go unregistered, creating risk for both an agribusiness and a smallholder farmer as shifts in policy or interpretation thereof can threaten one’s access. For smallholders, there is a concern of village land becoming part of a land deal to a private investor. And, for an investor, there is the threat of encroachment or revocation. Sasumua, the largest land owner among the 3 cases featured here, still has individuals living on land that is included in its title deed. In this instance, the company plans to engage these individuals through an in-grower program where they will be able to retain tenancy in exchange for cultivating crops on behalf of the company.

*Lack of available labor.* Additionally, operationalizing an agribusiness where there has been little precedence for the formal economy makes it challenging to find individuals with the right experience or skillsets. Sasumua has worked closely with its casual laborers to provide employment opportunities as well as the types of hours and benefits that accommodate local circumstances. But the company still struggles to find sufficient workers during the local harvesting season, when many workers are tending to their own farms. EA Fruits faces an employment challenge of a different type. As the company continues to grow it will require more highly-skilled senior managers but struggles to find those with salaries it can afford.

**Attrition of Smallholder Suppliers**

*Need for coordination and funding support.* While an agribusiness has much to offer and gain from a smallholder scheme, it does not have all of the financial and technical resources required to implement an out-grower program. There is a need for outside support to take on some of the organization of smallholder farmers, distribution of inputs, and setup of credit options. All 3 of the agribusinesses examined in this paper plan to work with a nonprofit partner to help facilitate their smallholder programs.

Without sufficient coordination and funding support, there is a serious threat that smallholder farmers will not participate in the grower schemes facilitated by these agribusinesses.
Outside resources and expertise are needed to develop smallholder programs that are well-tailored to local needs and are effective at raising farmer yields and incomes. If such incentives are not in place, participants may attrite and sufficient supply may not be available. This is of serious concern for EA Fruits and BFCL who rely on the volumes of produce grown by their out-grower farmers.

**Inefficient Marketing System**

**Costly intermediaries.** The agricultural marketing system in Tanzania is extremely fractured, with a high number of intermediaries between the farmer and end customer. This increases the complexity and costs of the value chain and lowers profit margins for producers – both for the agribusiness and the smallholder farmers supplying to them. It is such a challenge that each company examined here is attempting to reduce the number of intermediaries between it and its customers. EA Fruits seeks to eliminate middlemen by developing its own collection and transportation infrastructure, handling produce all the way from the farm to the end customer. Sasumua is also tackling this challenge directly, working with a group of partners to develop a brand new, professionally-managed marketplace for fresh agricultural products in Dar es Salaam.

**Insufficient Financing Options**

**Lack of early stage investors.** There are few investors in the country with the mandate to take on early stage agricultural investments, given their long start-up phase and inherent risks. Some impact-oriented investors are increasingly providing debt or equity to inclusive agribusinesses, given their potential to generate social returns. However, their offerings are limited to specific uses and often must be combined with other sources of financing.

**Disparate funding options.** Given that no one investor is willing to take on all of the financing risk, agribusiness managers must aggregate funding from many different sources. EA Fruits, for example, uses a U.S. dollar loan, local bank debt, prize money, and grant funding all to supplement its own shareholders’ equity. Financing options are available, but they are piecemeal, making it difficult to find the right amount at the right time.

**Stakeholder Support**

These challenges are not unique to the agribusiness industry, but rather, are the result of ongoing market failures in Tanzania. They are already the focus of many development efforts to strengthen the business environment, encourage more investment, and improve the socioeconomic condition of the public. Yet, it can be difficult to coordinate the many activities of these various stakeholders and align their efforts in a way that improves their efficiency and effectiveness. Table 3 below gives a more comprehensive list of the constraints that emerged from the 3 case studies, potential solutions to address them, and the stakeholders who are well-positioned to take the lead on each.
Table 3. Key Constraints to Launching and Scaling Inclusive Agribusiness Models\(^{18}\)

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Example(s)</th>
<th>Solution</th>
<th>Key Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessing sufficient water resources</td>
<td>Sasumua has drilled boreholes and built a catchment dam; EA Fruits has also drilled boreholes; BFCL continues to explore options for its own irrigation</td>
<td>Expand development of water infrastructure and engage or subsidize agribusinesses in the process</td>
<td>GOT(^{19}) IFIs &amp; DFIs(^{20}) Multi-Stakeholder Orgs(^{21})</td>
</tr>
<tr>
<td>Accessing reliable road and power infrastructure</td>
<td>BFCL is building a collection center near the main highway to avoid reliance on a poor feeder road; EA Fruits will use solar power for its collection centers</td>
<td>Expand development of road and power infrastructure and engage or subsidize agribusinesses in the process</td>
<td>GOT IFIs &amp; DFIs Multi-Stakeholder Orgs</td>
</tr>
<tr>
<td>Lack of clear, predictable land regulations</td>
<td>Sasumua will engage smallholders living on its estate through an in-grower program</td>
<td>Expand efforts to officially register land titles</td>
<td>GOT Donors &amp; NGOs</td>
</tr>
<tr>
<td>Hiring and retaining local talent</td>
<td>Sasumua hires casual laborers who have little experience in the formal sector; EA Fruits seeks highly-skilled talent but finds it challenging to do so at an affordable cost</td>
<td>Support skills development of local labor</td>
<td>GOT IFIs &amp; DFIs Donors &amp; NGOs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support tertiary education and retention of highly skilled talent in-country</td>
<td>Donors &amp; NGOs Academia</td>
</tr>
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</table>

\(^{18}\) Compiled by the author. Note, while the challenges are taken from the case studies analyzed, the potential solutions and lead stakeholders have been proposed by the author.

\(^{19}\) Government of Tanzania (GOT)

\(^{20}\) International Finance Institutions (IFIs) and Development Finance Institutions (DFIs)

\(^{21}\) Membership organizations or other types of platforms that facilitate dialogue and activities among actors across the agricultural value chain
<table>
<thead>
<tr>
<th>Constraint</th>
<th>Example(s)</th>
<th>Solution</th>
<th>Key Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Poor Enabling Environment</strong></td>
<td></td>
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<tr>
<td>Accessing reliable weather data (i.e. temperature and rainfall)</td>
<td>Sasumua spent several years collecting its own weather and market data</td>
<td>Develop a repository of publicly available data through existing government channels and/or aggregating privately stored data</td>
<td>GOT Donors &amp; NGOs Private Sector</td>
</tr>
<tr>
<td>Accessing reliable market prices and demand cycles</td>
<td></td>
<td>Strengthen the accuracy and reliability of market price data being collected</td>
<td>Donors &amp; NGOs Private Sector</td>
</tr>
<tr>
<td>Registering new plant varieties</td>
<td>Sasumua and BFCL seek to grow new MD2 variety of pineapple but planting material is unavailable</td>
<td>Sponsor registration of plant varieties that can support private sector growth and tax revenues</td>
<td>GOT Donors &amp; NGOs</td>
</tr>
<tr>
<td><strong>Attrition of Smallholder Suppliers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding smallholder programming</td>
<td>Sasumua, EA Fruits, and BFCL all seek partners to offset the costs of smallholder programming</td>
<td>Provide funding for components of smallholder programs not directly linked to core business operations</td>
<td>IFIs &amp; DFIs Donors &amp; NGOs</td>
</tr>
<tr>
<td>Coordinating and facilitating smallholder programming</td>
<td>Sasumua, EA Fruits, and BFCL all seek partners to support the implementation of smallholder programming</td>
<td>Implement activities of smallholder programs that support the improved outcomes of farmers linked to an inclusive agribusiness</td>
<td>IFIs &amp; DFIs Donors &amp; NGOs</td>
</tr>
<tr>
<td>Providing credit for smallholder inputs</td>
<td>Sasumua plans to provide inputs on credit to some of its out-growers in the short-term but seeks a financial partner to do so in the long-term, as does EA Fruits and BFCL</td>
<td>Provide credit for smallholder inputs by leveraging the collateral of core agribusiness or input supplier</td>
<td>Commercial Banks</td>
</tr>
<tr>
<td>Preventing side-selling</td>
<td>Sasumua, EA Fruits, and BFCL all plan to negotiate contract agreements with farmers and provide competitive prices and benefits to incentivize adherence</td>
<td>Support the development of sound, equitable contracting agreements between agribusinesses and smallholder farmers</td>
<td>GOT Donors &amp; NGOs Academia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uphold and respect contracts in a court of law</td>
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<tr>
<td></td>
<td></td>
<td>Track what contracting arrangements are most effective and share best practices</td>
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<tr>
<td>Constraint</td>
<td>Example(s)</td>
<td>Solution</td>
<td>Key Stakeholders</td>
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<tr>
<td>Inefficient Marketing System</td>
<td>High degree of market fragmentation</td>
<td>Support the development of a formal, regulated market</td>
<td>Donors &amp; NGOs Private Sector</td>
</tr>
<tr>
<td></td>
<td>Sasumua is leading a coalition to establish an entirely new, professionally-managed fresh produce market</td>
<td>Engage previous traders and middlemen in new SME opportunities to support agriculture sector</td>
<td></td>
</tr>
<tr>
<td>Insufficient Financing Options</td>
<td>Financing start up and early growth stages</td>
<td>Support early business planning and feasibility studies to ensure agribusinesses are ready for investment</td>
<td>IFIs &amp; DFIs Donors &amp; NGOs Impact Investors</td>
</tr>
<tr>
<td></td>
<td>Sasumua and EA Fruits struggled to find early investors and BFCL has yet to do so</td>
<td>Provide first loss guarantees to offset early stage risk of an agribusiness</td>
<td>Donors &amp; NGOs</td>
</tr>
<tr>
<td></td>
<td>Provide flexible loan terms to accommodate unique needs of an early stage agribusiness</td>
<td></td>
<td>Impact Investors</td>
</tr>
<tr>
<td></td>
<td>EA Fruits has struggled to find the right funding at the right time in the right currency</td>
<td>Provide one-stop-shop financing by expanding or supplementing one’s product offerings through innovation and partnership</td>
<td>Donors &amp; NGOs IFIs &amp; DFIs Commercial Banks Impact Investors Multi-Stakeholder Orgs</td>
</tr>
</tbody>
</table>
Myriad organizations and institutions are working on the challenges outlined here, having long recognized these constraints to Tanzania’s economic growth and development. On the enabling environment, projects range from major infrastructure works to small community initiatives. Technology is being increasingly used for innovative solutions to some of these entrenched challenges to operating in the country. USAID, for example, is using mobile technology to crowd source land ownership information and support the registration of individual titles through its Mobile Application to Secure Tenure (MAST) project. Mobile phone operators are also developing cell phone apps through which farmers can obtain market price information. In general, the issue of accessing market information and connecting to profitable sales channels is a component of many NGO projects. Although, market strengthening seems to be integrated into smaller projects more frequently than it is addressed at a systemic level.

For out-grower programs in particular, many NGOs and, to a lesser extent, DFIs have specialized programming around coordinating their various activities. This includes recruiting and organizing participating farmers, facilitating workshops, identifying or supplying inputs, and accessing credit options. On the latter, 3 of the leading commercial banks – CRDB Bank, National Microfinance Bank (NMB), and Equity Bank – are increasingly providing finance for out-grower programs, often providing the financing for inputs either to the central agribusiness or to an input supplier. Finally, accessing seed capital for the agribusiness itself appears to be improving, with financing options available from impact investors (namely Root Capital and AgDevCo), entrepreneurship awards, and challenge funds. Looking ahead, the private equity market, although still quite nascent in Tanzania and the East Africa region, is prioritizing the agribusiness sector.

Indeed, there is an ecosystem of actors working to address the constraints outlined in Table 3. However, the fact that these are still current issues for the agribusinesses examined in this paper implies that there is more to be done, at least in aligning such activities with those who are working to launch and scale inclusive business models that could benefit from their solutions.
Conclusion

In Tanzania, 3 young agribusinesses – Sasumua, EA Fruits, and BFCL – are scaling up inclusive business models that have the potential to engage thousands of smallholder farmers in commercially viable value chains. Although each is focused on providing horticultural crops to meet growing local demand, they have quite different business models. To meet the needs of their operations, each company engages smallholder farmers through different combinations of out-grower and in-grower schemes, formal and informal contracts. The greater the amount of upfront costs an agribusiness incurs on behalf of the smallholder program, the more stringent the contracting agreement tends to be. And, where an economy of scale is secured within the central agribusiness, there is less reliance upon smallholder supplies. If land is limited, however, there is greater dependence on ensuring smallholders continuously deliver sufficient quantities of the quality needed.

The agribusinesses analyzed here will each provide significant guidance and support to smallholder farmers in order to communicate the requirements of their supply and provide training on how to achieve these standards. In order to recover the costs of these grower schemes and ensure sufficient volumes, the companies which depend on smallholder supply will need to establish a system of incentivizing and rewarding farmers to maintain their loyalty and commitment, even if formal contracts are established. Despite their differences in rationales and models for the grower schemes, each of the agribusinesses incurs significant burden on its time, staff, and budget in order to set up, manage, and fund such a program. As such, each agribusiness is looking to partner with others who can take on certain activities – for example, recruiting and organizing farmers, procuring inputs, or providing credit.

Attempting to bring their agribusinesses to scale in Tanzania presents an array of additional challenges aside from establishing smallholder programs. The 3 agribusinesses examined in this paper all struggle to find sufficient funding on an ongoing basis. Although multiple financing options exist – through grants, loans, and equity – it is challenging to find the right funding tool at the right time in the right amount. Additionally, access to reliable water resources and transport infrastructure has also been a tremendous challenge and has required each agribusiness to invest in developing these on their own. Lastly, a fractured market system in Tanzania means thin profit margins for these companies and their smallholders. In an attempt to overcome losses due to the inefficiencies in the current agricultural markets, 1 agribusiness – Sasumua – is facilitating the piloting of a completely new marketplace in Dar es Salaam. The others are taking on more of the collection and transportation services themselves in order to cut out intermediaries between them and their customers.

The good news is that there is an energetic community of public and private stakeholders working on many of the challenges these agribusinesses face in the operating environment and in setting up smallholder programs. But their work is done in an ad hoc, uncoordinated manner. Development partners often work on their own timelines and budgets, and these may not correspond with the project needs of an agribusiness. However, there is tremendous opportunity to achieve mutually beneficial outcomes if the development community can leverage inclusive agribusinesses as anchors for their ongoing programming.
By supporting an agribusiness that utilizes a contract farming method, the development community can effectively reach thousands of smallholder farmers in a more efficient and effective way. The development community has robust capacity and technical expertise working with smallholder farmers, and by developing programming around those who are already engaged in a contract farming scheme, it could have a clearly defined exit strategy. Often, development projects are constrained by a limited timeframe, after which local capacity must take them over. In this case, however, the central agribusiness would still be present after project close-out to continue working with the smallholders and to be a reliable off-taker for their produce. The more of the smallholder-oriented activities that the development community can take on, the more the agribusiness can focus on operationalizing its own business model and ensuring it can offer a value proposition to the smallholder farmers over the long-term.

There is emerging evidence that investing in inclusive agribusiness models can lead to more smallholders being engaged, higher yields achieved, and greater incomes earned. How these outcomes will translate into social impact, however, is still to be determined. But there is excitement around the potential to generate a breadth and depth of impact through such models, given its clear theory of change. Now is the time for even greater action, as new agribusinesses finalize their models and begin setting up their smallholder programs and contracting schemes. By measuring the impact of one model versus another and differences between smallholder communities with and without an inclusive agribusiness, we can begin to better understand, share, and scale what works.
Appendices

Appendix A: Sasumua Holdings Limited

Located just outside the small village of Kwamsisi in the Tanga region of Tanzania, Sasumua Holdings Limited (Sasumua) is preparing to scale up the production and processing of its horticultural crops. Having secured 6,000 hectare (ha) of land in 2007, the company has spent the past 8 years experimenting with various crops and market opportunities in an area lacking reliable weather and pricing data. Now, having determined that its greatest opportunities are in processing pineapples and growing a select number of horticultural crops under irrigation, the company is moving forward on developing a processing facility and expanding its area under cultivation. To ensure operations are successful, the company will still need to tackle several ongoing challenges inherent to the region – namely, lack of sufficient water resources and an efficient marketing channel.

As the company moves forward with its business plan, it will bring smallholder farmers into operations through several mechanisms. First, an out-grower scheme will include both farmers who are already producing pineapples as well as those who will learn for the first time. Both groups will receive training and support from Sasumua, which will ultimately purchase and use their volumes for processing pineapple juice concentrate. Second, an in-grower scheme is being developed to engage individuals living on company-owned land to grow crops in exchange for tenancy. And third, a system of block farming will be established in partnership with local communities. Blocks of land provided by sub-villages will receive irrigation from Sasumua and be made available to community members for raising crops. Through these out-grower, in-grower, and block farming schemes, Sasumua seeks to ensure that the broader community benefits from the company’s operations and the market opportunities it has identified.

Background: A Legacy of Family Farming Takes on Tanzania

Sasumua director Rory Nightingale (Nightingale) is no stranger to agriculture in East Africa. His family has been farming in Kenya since 1906, focusing on cereals, vegetables, and livestock in the country’s central highlands. The name “sasumua” comes from the Kikuyu word for a white flower that grows on the slopes of Mt. Kenya, and it was the name of the original family estate. When Nightingale first went to neighboring Tanzania it was for a separate business opportunity, but his family was always keen to pursue a larger-scale farming operation there. Nightingale stayed abreast of potential opportunities and eventually came across the land that would become the new Sasumua estate.

The land had an interesting history to it. In the 1970s it was titled off for a 10-year cooperative agreement between the Russian and Tanzanian governments for a cotton estate. However, at the end of the term, there was little cotton to show for all the planning and investment that had gone into the project. The governments decided not to make further investments into the

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22 Personal interview and site visit with Rory Nightingale, director, Sasumua Holdings Limited on March 23, 2016.
estate, and it was eventually privatized. Over the next 2 decades the land was sold to 2 different investors but was never fully developed. This frequent turnover, however, meant that the land title had been clearly defined and observed over time. This, in addition to its good soil and large size, made the land an attractive opportunity to Nightingale. He and 3 partners purchased the land in 2007 and took over the area in 2008 which, with the exception of 1 small field, was entirely undeveloped. The next step was figuring out what to do with all that land, and then, how to do it.

Establishing a Plan: Of Land and Opportunities

The founders of Sasumua set out to experiment with different crop varieties and market opportunities in order to determine their competitive advantage in the region. Since there was not reliable historical data on temperature, rainfall, or market prices for agricultural goods, they needed to collect and analyze this information during the initial development phase, making it a lengthy one. The company began by testing cereal crops for which Nightingale had experience in Kenya. However, despite their ability to grow in high temperatures, the rainy season was too short to provide enough water for the varieties available in Tanzania. Irrigation was possible, but not at scale. Sasumua next undertook trials of 40 different horticultural crops, eventually selecting 12 to pilot under field conditions and test in the market. The climate seemed to be better suited for fruits and vegetables, but one limiting factor persisted: insufficient access to water. Some of the more promising crops were dependent upon establishing a robust irrigation system, especially bananas, so the company began exploring where rainwater catchment dams could be built. In 2015, together with social investor AgDevCo, Sasumua built the first of such dams on 1 of 4 sites identified.

While it waits to see if and when this dam will fill, Sasumua has turned its attention to pineapple, a less water-reliant crop with strong market opportunities – the fruit has the potential to be sold both fresh or processed, locally or internationally. The local market for fresh pineapple becomes saturated between the months of November and February, as thousands of nearby farmers harvest and sell their yields at the same time. However, Sasumua is exploring new planting techniques that will allow it to harvest pineapple in the off-season. Additionally, by focusing on a higher-quality and larger-sized fruit, the company hopes to deliver a more competitive product and develop favorable brand recognition. For the international market, however, consumer tastes for fresh pineapple favor a different variety than what is commonly available in Tanzania. Therefore, to export, the company will need to pursue processing opportunities. As canning is largely dominated by a few key players, namely Del Monte and Dole, the company has decided to produce pineapple juice concentrate.

By 2015, the company had a finalized business plan for scaling up its operations at the Sasumua estate. The plan includes completion of a pineapple processing facility by 2018 in partnership with a South African company that brings a wealth of experience in pineapple processing, including how to use process waste to produce other end products. To supply the volumes needed for this 100,000-ton facility, Sasumua’s pineapple plantation will be expanded to cover approximately 3,000 ha at any given time. This plantation will produce approximately

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23 MD2 is preferred for its sweeter taste as compared to the Smooth Cayenne variety which is readily available in the Tanzanian market. The MD2 variety has not yet been registered in the country and planting material is sparse, although Sasumua continues to pursue ways to grow this new variety.
85,000 tons of pineapple while the remaining 15,000 tons can be sourced from smallholder farmers in the region. The company will also continue pursuing other horticultural crops – namely bananas, tomatoes, and watermelons – expanding their production to 100 ha once water has been secured through the new catchment dam. In the future, when additional dams are built, Sasumua will be able to bring more crops under irrigation as well. Finally, the company also plans to raise cattle for beef production on its fallow land, growing from a current herd of 650 to 3,500-4,000.

Creating the Market: Addressing the System Directly

While pineapple juice concentrate (PJC) will initially be exported to Europe, Sasumua’s fresh products will be sold through local and regional marketing channels. There is a tremendous opportunity to serve the growing demand for horticultural crops in East Africa where population and urbanization rates continue to grow. As people move from rural areas to urban centers, there are more city-dwellers to feed with fewer farmers to feed them, creating an opportunity for those who remain in agriculture. The challenge, however, will be reaching consumers through the existing market system, one which is extremely fractured and inefficient. For agricultural products to move from producers to consumers, they must pass through a series of actors including farm agents, transporters, market brokers, and retailers. This frequent exchange of hands raises prices and dilutes transparency through the process. Farmers have very little knowledge about the prices offered or products demanded in the marketplace while retailers have little information about the origin of their goods.

Rather than sell into this broken system, Nightingale is instead working through a consortium of partners known as the East African Farmers Market (EAFM) to develop an entirely new system for fresh produce in Tanzania. EAFM seeks to develop a fresh produce market modeled after South Africa’s wherein traders work on commission for producers. All transactions are made through an electronic, cashless system which tracks price, volume, and grade data. By tracking and making available such information, producers can be more strategic about what, where, and when to sell while buyers can track the availability of inventory and specific brands. To Sasumua, establishing a commercially viable marketplace is paramount to its future success. Beyond just better prices, such a system would encourage the emergence of small- and medium-sized enterprises to provide complimentary services like transportation, packaging, and brokering. This will prevent Sasumua from having to take on such logistics itself and allow the company to focus on its core: producing high quality fresh products for local consumption.

A commercial pilot for a professionally-managed fresh produce market is planned for Dar es Salaam, Tanzania. The Africa Enterprise Challenge Fund (AECF) has committed $800,000 in grant funding for the pilot, an amount that Sasumua has matched. Additional financing, however, will be needed to cover the $4 million of estimated costs. Given that a new, regulated fresh market system could have tremendous impact on the incomes received by farmers and the opportunities for enterprises to provide complimentary services, the company is looking for donor and NGO partners who may be willing to contribute the remaining funds.
Engaging the Community: Grower Schemes and Development Projects

As Sasumua prepares to scale up operations and supply to the local and international markets, it will engage community members through farming initiatives and development projects. Through out-grower, in-grower, and block farming schemes, the company will provide technical expertise, trainings, inputs, as well as marketing opportunities for local farmers. Volumes produced by those who participate can then be purchased by Sasumua for its new processing facility or transported along with its fresh produce to local markets. Other development projects will target a broader group of community members through education and health initiatives, part of the company’s longer-term philanthropic objectives.

\textit{Out-Grower Farming}

Through its out-grower program, Sasumua will work directly with local farmers in 1 of 2 ways: 1) \textit{current} pineapple farmers will receive technical assistance to improve cultivation along with the option to sell to Sasumua; and 2) \textit{new} pineapple farmers will receive technical assistance and inputs on credit to begin cultivation along with a formal contract to sell to Sasumua. Outside partners will be brought in to supplement the company’s efforts and further support this out-grower programming.

The first of these 2 models will focus on current pineapple farmers in nearby Kiwangwa, an area well-known for the production of this crop. By working closely with a non-profit partner, Sasumua will identify promising farmers to participate and receive training on best agricultural practices for pineapples. This will include how to select proper fertilizers, apply pesticides, and manage plant maturation for more efficient harvests. These techniques will ensure the growers are able to produce a high quality product that meets all requirements for the new Sasumua facility (and thus, for export as PJC to the European market). The initial group of farmers will serve as a model within their communities, hopefully incentivizing others to join the out-grower program.

While Sasumua will play a key role in this model of the out-grower program – primarily through the provision of technical assistance – it will not require formal contracts be signed with the farmers. As the industry is prone to side-selling, the company would like to ensure that it can provide useful support without establishing a reliance on or from the farmers. It hopes that the participating farmers will benefit from improved agricultural techniques and be better qualified to supply to Sasumua, as well as other buyers, but there will be no requirement to sell solely to the company. Because it will not take on the full risk or return of investing in these farmers, the company is seeking a non-profit partner who will be able to take on the funding and implementation of this out-grower initiative.

In contrast, the second model of the out-grower program will target farmers who live adjacent to the Sasumua estate but do not yet grow pineapples. To bring these farmers into a new value chain will require more significant support and oversight from Sasumua. The company’s agronomists will provide the farmers with extension services, and inputs will be provided on credit – either from the company or a financial partner. Sasumua will also establish a nursery through which it will provide pineapple seedlings to the participants. To ensure that this out-grower program is viable, the company will use a more formal contracting arrangement with the
participating farmers in order to ensure it receives sufficient volumes. Sasumua plans to use the final pineapples produced for its PJC facility, although exporting fresh pineapples may be an option in the future, especially if the MD2 variety becomes a viable option.

**In-Grower Farming**

Sasumua is also experimenting with the idea of an in-grower program to engage individual farmers who are living on company-owned land. In exchange for their continued tenancy on the estate, these farmers would be asked to grow specific crops for Sasumua. Potential crops could include those already grown on the estate – pineapples, for example – or they may expand into agroforestry. On the latter, the company could improve its environmental impact by re-introducing native species to the area while also investing in a future supply of lumber for its operations.

**Block Farming**

Sasumua is also working with nearby sub-villages to develop a block farming program in which village leaders provide land and Sasumua provides water for community members to cultivate crops. Each sub-village where a rainwater catchment dam is established will be engaged in this block farming partnership. The sub-village will make available 5-20 ha of land and establish a governing body to manage which community members will be given a unit on which to farm. Sasumua will provide these farmers with trainings, focusing on the company’s core horticultural crops but also encouraging the cultivation of staple crops that can be used for local consumption (maize, for example). While the volumes produced on the block farms can be sold to any buyer, Sasumua is a potential off-taker and could deliver the produce to the local market on behalf of the farmers.

**Community Development Projects**

Outside of its grower schemes – which naturally contribute to the company’s philanthropic endeavors – Sasumua has also outlined an explicit portfolio of community projects to support the education, health, and overall economic development of the region in which it operates. Based upon a village needs assessment completed by the non-profit Swisscontact, the company has established short- and long-term priorities for its initiatives. This year, Sasumua will begin building 4 preschools in nearby sub-villages, as well as an adult education center in Kwamsisi village. Over the longer-term, the company will also explore opportunities in maternal health, mobile health solutions, and water services.

The strategy behind both its out-grower and development initiatives is to build strong relations with the local community. While the grower schemes do provide an opportunity to strengthen Sasumua’s business operations – through increased access to high quality supply – this is not the company’s sole objective in undertaking such programming. The company believes there is a moral obligation to engage the community through economic opportunities and provide the social services needed to improve livelihoods. As many of their target beneficiaries are farmers, they are well-positioned to play a role in improving local agricultural practices. The company has
also served as a major employer in the community – especially of women – hiring between 100 and 600 casual laborers depending on their stage of operations.\textsuperscript{24}

Since the company first entered the community and began hiring and sourcing from locals, they have seen visible improvements in the quality of life. In the coming years, they plan to track and measure data on living standards to be able to quantitatively measure this social impact. A baseline survey has now been completed and will be revisited approximately every 5 years. Although community engagement and development are high priorities for the Sasumua leadership team, it is still distinct from bottom-line strategy. To keep the resources and approaches for each separate, Sasumua plans to setup a non-profit organization through which it can manage its community develop efforts.

**Financing the Company**

During its initial startup phase, Sasumua has been largely financed by the founding shareholders. One outside investor that has provided capital is AgDevCo, a social investor focused on early stage agricultural ventures. AgDevCo has supported Sasumua’s first catchment dam and in-field irrigation with an investment of $2 million. The social investor holds a 17.5 percent minority stake in the company.

To date, Sasumua has raised a total of $9 million in committed capital, of which $6 million has been spent. Moving forward, the company is targeting Development Finance Institutions (DFIs) to secure the funds required for its new processing facility and expanded pineapple plantation, which is estimated to require $20 million.

In fiscal year 2015, Sasumua generated $200,000 in revenue and had a gross margin of roughly 50 percent. Once fully operational, the company expects to bring in $22.5 million in annual revenue and increase its margin by earning a price premium for being a high-quality brand. Almost 80 percent of revenues will come from pineapple products while the remaining 20 percent will come from bananas, other horticultural crops, and beef products.

**Looking Ahead: Challenges on the Horizon**

As Sasumua moves forward with its new business plan, it will continue to come up against several key challenges. Of utmost importance will be accessing sufficient water resources. The success of many of the company’s crops hinge upon the establishment of an intensive irrigation system. Finding water supply and managing its use is not only a challenge for Sasumua but for the broader agricultural sector as well. Land is also of concern; regulation on titling remains unclear and public concern regarding rights to occupancy is exacerbated by a lack of formal titles in the country.

\textsuperscript{24} During its commercial pilots, Sasumua employed approximately 600 individuals, primarily as casual laborers. At the time of writing, in April 2016, that figure was closer to 100. This number is expected to increase once again as the company operationalizes its business plan.
Working in a region where there have been few opportunities in the past for formal employment can also make it difficult to find and retain highly trained and motivated labor. Sasumua has worked closely with its employees to develop schedules and incentives that are aligned with their needs and desires. However, the company still competes with the local harvesting and planting cycles, during which community members must be at home to attend their own farms.

Finally, one of the greatest challenges in the years ahead will be accessing profitable markets in a region characterized by fractured and inefficient marketing channels. To overcome this barrier, Sasumua is working to develop a new, regulated market for fresh produce in Dar es Salaam as it continues to scale its own operations. Although attempting to overhaul the current agricultural marketing system will come with risks and unknowns, the payoffs are critical to the company. If it is successful, not only will Sasumua benefit from better margins, but the country of Tanzania stands to gain from having a more transparent marketplace whereby the quantity and quality of produce demanded by the public can be adequately met.
Appendix B: EA Fruits Farm & Co Limited

EA Fruits Farm & Co Limited (East Africa Fruits or EA Fruits) is a social enterprise based in Dar es Salaam that is turning food waste into economic opportunities for smallholder farmers. The company purchases fresh fruits and vegetables from smallholders — grown on their own land or that provided by the company — and cleans, sorts, packs, and distributes for the end customer. Through an efficient cold storage and distribution system, EA Fruits can significantly reduce post-harvest losses and trading costs, resulting in high-quality products for its customers and fair prices for its suppliers.

The company is led by 2 energetic entrepreneurs – Elia Timotheo and Peter Msafiri – who first began the business in 2011. The company has steadily grown and is now scaling and formalizing its collection and distribution infrastructure. Construction is underway for a new, central facility in Dar es Salaam, and development of regional collection centers will begin over the next 2 years. Looking ahead, CEO Timotheo has a big vision for expanding EA Fruits to other countries in Africa, Asia, and Europe. But the business model must first prove its ability to generate strong financial and social returns in Tanzania.

The Opportunity: Turning Agricultural Waste into Farmer Incomes

In East Africa, nearly half of all agricultural produce goes to waste. Poor production practices, lack of storage options, and a highly fractured trading system all contribute to the high post-harvest losses that occur between farm and fork. Each year in Tanzania alone over 4.5 million tons of food are wasted – a total value of $800 million. Produce that does make it to market must pass through a number of traders and middlemen, which increases prices significantly. By the time a product reaches its final consumer, it can cost as much as 4 times what was initially paid to the farmer.

Yet the demand for fresh produce in the region is increasing as population and urbanization rates continue to grow. Through a more efficient storage and distribution system, EA Fruits seeks to meet this increasing demand by cutting out waste between farm and market. This requires cold storage technology and streamlined logistics, but presents an opportunity to deliver more volumes more efficiently. By cutting out the middlemen, such a system can also generate greater profit margins which can be returned to smallholder farmers in the form of higher prices.

The Model: Managing Logistics from Farm to Fork

EA Fruits does not engage in direct production of the horticultural crops it sells. Instead, it focuses on developing and managing the collection, transportation, packaging, and marketing for fruits and vegetables grown by smallholder farmers across Tanzania. The company seeks to

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25 Personal interview and site visit with Elia Timotheo, CEO, and Peter Msafiri, marketing director, of EA Fruits on March 24, 2016.
empower farmers to maintain autonomy over their own farms and crops, while providing support in using good agricultural practices and choosing crops that will be profitable. For the past 3 years, EA Fruits has been aggregating produce from farmers and selling it in Dar es Salaam, but it has had to rely on rented trucks and storage space, driving up costs. Over the next 3 years, the company seeks to solidify its relationship with its suppliers and develop its own cold storage distribution system, including a larger processing facility in Dar es Salaam. The business model requires the company to remain engaged across the entire agricultural value chain – indirectly supporting production and directly managing collection, transportation, processing, and sales.

**Production: Smallholders & Franchisees**

EA Fruits works primarily with farmers who have access to and use their own farmland. But the company also owns and outfits a small portion of land that “franchisee” farmers can use for production of crops under the EA brand. The company has a total of 110 hectares (ha) on which it has built a farmhouse, drilled a borehole, installed irrigation, and constructed 2 greenhouses. Currently, hired workers are maintaining the land, using the greenhouses for tomatoes and peppers; irrigating open fields for watermelons, tomatoes, and peppers; and using rain-fed fields for pineapples. Ultimately, however, there will be a total of 15 greenhouses and 15 franchisees, each with their own block of land. These farmers will not be required to pay EA Fruits for use of the land or equipment, but they will be under contract to sell yields to the company. They can choose what they wish to produce before the contract is structured, and compensation is based upon the prevailing market price plus a premium for quality. A transparent and competitive pricing system is meant to incentivize a higher quantity and quality of production by the franchisee farmers. This franchising model allows EA Fruits to remain engaged in the production side of its operations and pilot certain crops and techniques on its own land.

The more prominent way EA Fruits sources its produce, however, is through smallholder farmers. To-date, aggregation has occurred in an ad hoc manner, but the company is developing a network of collection centers to formalize its engagement with these suppliers. Between 2016 and 2017, 6 collection centers will be built across Tanzania, primarily in the northern and southern highlands. At each center, EA Fruits hopes to reach 200 farmers living within a 15-20 kilometer radius through extension services and the purchasing of crops. Over time, these centers will serve as resource hubs where farmers can access information on where to obtain credit services, purchase inputs, and hire equipment and services. A partner organization will be engaged to set up this smallholder program and provide the complimentary services required to support their production.

Similar to the franchising model, smallholder farmers will have a formal contract arrangement with EA Fruits and will be compensated based on the company’s set prices for various levels of quality. The farmers determine what they will grow – crops in high demand include mangoes, oranges, tomatoes, and onions – before the contracts are negotiated. The company plans to leverage its competitive prices to secure farmer loyalty and incentivize the production and delivery of consistent quantities and quality. A system is also being developed to help smallholder suppliers build their credit worthiness through “liquid paper.” Farmers will receive an electronic

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26 The farmers from whom EA Fruits sources typically have plots of approximately 0.5-1 ha.
27 Collection centers are planned for Kilimanjaro, Tanga, Morogoro, Mbeya, Iringa, and a sixth location which is still to be determined.
receipt for the delivery and payment of their produce, and their performance with the company will be tracked over time. 2 financial organizations have already committed to accepting this liquid paper as a form of collateral for microfinance loans – the Tanzania Agricultural Development Bank and Kiva. Over the long-term, EA Fruits would like to see its suppliers managing their farms in a financially sustainable manner and investing in improved technology to improve their production practices (for example, through greenhouses or irrigation).

**Collection, Transportation, & Processing**

The first 2 collection centers will be completed by the end of 2016, with the remaining 4 coming online in 2017. These cold storage facilities will be solar powered and serve as the point of entry for fresh fruits and vegetables into EA Fruits’ supply chain. Once produce is delivered to a collection center, it will be inventoried and scheduled for pickup. Its source will also be documented at this time so that its exact origin can be traced throughout the process. A chief operating officer, based in Dar es Salaam, will coordinate logistics among the collection centers, dispatching cold storage trucks to pickup produce for transport along the most efficient routes possible. Upon delivery to the central processing facility in Dar es Salaam, the produce will then be cleaned, sorted, packaged, and stored until final shipment to the customer.

Over the next year, EA Fruits will procure a fleet of vehicles to support the transportation and distribution of its products, approximately 4 trucks and 4 motorbikes in total. Construction of the central processing and storage facility in Dar es Salaam is already underway, with plans to be fully operational by the end of 2016. Owning and operating its own vehicles and facilities will vastly reduce EA’s costs over the long-term and enable the company to achieve its mission of bringing produce to market with zero waste. A well-managed cold storage distribution system can extend the shelf life of products and reduce the time required to transport them to market.

**Sales & Customer Care**

EA Fruits is focused on marketing its products to retail outlets both domestically and regionally (and eventually internationally). The leadership sees an opportunity to replace imports of fresh fruit and juice concentrate in Tanzania and meet the demands of a growing middle class that now prefers shopping in supermarkets. Currently, however, only 25 percent of EA Fruits’ sales go to retail stores and kiosks, while 30 percent go to hotels and restaurants and 45 percent go to wholesale markets. The company hopes it can shift some of its wholesale channel into retail once its new distribution infrastructure is up and running. This system is designed to store larger volumes of product for longer periods of time, thus removing the need to sell excess product to wholesale customers. The target is to reach 60 percent sales in retail and 10 percent in wholesale.

Through its sales and marketing functions, EA Fruits seeks to differentiate itself by providing high quality customer care. It is one of the first companies in Tanzania to advertise free replacement of spoiled or low quality products. Maintaining strong relationships with its customers through such service is a major component of the company’s value proposition.

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28 To-date, approximately 50 percent of the company’s costs have come from rental fees associated with trucks and storage.
Finding Funders: More than just Financial Support

Timotheo will admit that when they first began looking for financing the company was little more than just an idea. When one of the first funders showed up for a site visit, all that existed was less than a hectare of pineapples and a mud hut. The company first got off the ground largely through the support of its 6 original shareholders.29 These initial shareholders include the mother of Timotheo (herself an entrepreneur) and the father of Msafiri, who each contributed financial support to the young venture.

While still in its early stages, several investors did see the potential in EA Fruits and stepped in with equity or debt. The first was an angel investor from Belgium who was introduced to EA in 2013 through the BiD Network. Providing $65,000 in exchange for an equity stake, the angel investor encouraged EA’s leadership to further formalize its plan. This strengthened the company’s financial position considerably and made it more attractive for the approval of a loan from the Tanzanian Investment Bank (TIB), one of the largest banks supporting agriculture in Tanzania. TIB’s support further increased investors’ confidence, and in 2015 AgDevCo also committed $400,000 in debt to EA Fruits to be utilized over a span of 2 years. As a social investor, AgDevCo is able to take on more risk than other credit providers, offer deeper technical advice, and provide more flexible repayment terms. Through its lengthy due diligence process, AgDevCo helped EA Fruits strengthen its operational structure and set up a framework for tracking social impact. This loan, however, is in U.S. dollars presenting a challenge for the company which primarily operates in Tanzanian shillings. Finally, Fledge LLC – a U.S.-based accelerator where Timotheo spent 10 weeks incubating the EA Fruits business model and building a strong investor network – holds a small equity stake in the company.

EA Fruits has also secured several grants and awards – both direct investment and long-term commitments – to finance its operations. Grants of $250,000 and $150,000 from the Africa Enterprise Challenge Fund (AECF)30 and an African Entrepreneurship Award,31 respectfully, will be used for building the collection centers and funding working capital to purchase crops from smallholder farmers. An additional $5,000 in prize money was awarded to EA Fruits in 2015 from SEED Africa. Beyond the money, each of these early financial partners has provided a tremendous amount of mentorship to EA Fruits while its leadership was developing and launching the company.

Returns: Financial and Social Targets

In 2015, EA Fruits brought in $660,000 in revenue. A majority of this, approximately 80 percent, was from the sale of produce grown on smallholder farms, while the remaining 20 percent was from company-owned land. Although EA Fruits is still operating at a loss, it expects to break

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29 1 of the original shareholders has since left the company.
30 The AECF awards funding to private companies through rounds of competition. It is a partnership initiative of the Alliance for a Green Revolution in Africa (AGRA) and is managed by KPMG International Development Advisory Services (KPMG IDAS).
31 The African Entrepreneurship Award provides mentorship and funding to African entrepreneurs and is managed by BMCE Bank of Africa.
even in 3 years’ time. Growth in both its net profit margin and revenues are expected, with these figures rising to 2 percent and $1.3 million after 1 year, 10 percent and $2.1 million after 3 years, and 19 percent and $7 million after 6 years, respectively.

As a social enterprise, EA Fruits is also concerned with the socioeconomic impact of its business on the community – specifically, on the smallholder and franchisee farmers with whom it works. 3 of the company’s partners – AgDevCo, AECF, and SEED Africa – are also interested in defining and measuring metrics to track the company’s impact on crop yields, post-harvest losses, household income (female income in particular), child education, and water supply. Beyond such metrics, EA Fruits is collecting qualitative information from farmers on the challenges and concerns they face so as to better adjust their services and agricultural support for suppliers. Some of the most pressing issues farmers have shared to-date involve market access, pricing, and access to credit.

The company has found initial signs of positive impact on farmer incomes. Smallholder farmers who participate in the EA supply chain have, on average, increased their incomes from $640 per year to $1,700. Once the collection centers are operational, EA Fruits anticipates incomes to rise again, to $2,500 per year. Franchisee farmers are expected to earn $2,000 per year under the EA business model, slightly lower compared to other supplies but many of their production costs have been covered by the company. Currently, the company is working with 254 smallholder farmers but seeks to reach 3,000 smallholders and 15 franchisees in the coming years.

Future Threats and Concerns

Timotheo has a big vision for expanding EA Fruits in the future, both regionally and internationally. But they must first get the model right in Tanzania, a task threatened by several social, economic, and logistical issues. Internally, as the company continues to grow it will need to expand its staff and recruit the appropriate technical expertise. Key roles that will need to be filled include that of chief operating officer and farm manager. However, the cost of staffing has been extremely high, forcing the company to consider alternative ways to find good talent. One approach they are exploring is partnering with an NGO to have volunteers come work with EA Fruits for a set period of time.

Another ongoing challenge has been raising funds. Although financing options are available, it has been difficult for EA Fruits to align the interests of potential funders with its own timetable and financing needs. This will continue to be a challenge as the company seeks to identify an additional $300,000 of capital. Furthermore, of its existing funding, EA Fruits currently has a U.S. dollar loan and needs to quickly find a revenue stream in the same denomination in order to hedge the risk of dollar appreciation. While exploring export opportunities, EA Fruits is also in discussions with some of its hotel customers about the possibility of receiving payment in dollars.

And finally, one of the most critical threats to EA’s continued operations is the commitment and loyalty of smallholder and franchisee farmers. EA Fruits will need to offer attractive prices and favorable extension services to make it an attractive business proposition for the farmers to
continue supplying to the company. Additionally, the company will need to develop a system for ensuring adherence to a set of quality standards. EA Fruits hopes that it can establish such a structure through a positively reinforcing cycle whereby competitive prices incentivize farmers to deliver high quality products; high quality products fetch good prices while an efficient cold storage distribution reduces costs; and strong profit margins can be used to pay the competitive prices that incentivize farmers.
Appendix C: Bagamoyo Fruits Company Limited

Bagamoyo Fruits Company Limited (BFCL) is a small farming operation that began in 2005 with just 4 hectares (ha) of pineapples. Located 40 kilometers outside of Bagamoyo town in Tanzania, BFCL is attempting to bring a new, sweeter variety of pineapple to the country and differentiate itself in the local fresh market. The company will augment its own production with that of smallholder farmers living in the area. At a new collection and storage facility, these smallholders will be able to receive technical assistance on meeting the standards of BFCL and sell their produce to the company at set prices. Over the long-term, BFCL has a vision to be one of the largest producers of pineapple in Tanzania and eventually export to the international market. Achieving this will require a significant scale up of the MD2 variety which is entirely new to the Tanzanian agriculture sector as well as the buy-in of smallholder farmers on whose volumes BFCL relies.

Getting Started: A ‘Sweet’ Business Idea

BFCL began in 2005 as the modest farming operation of director Abdallah Mashausi (Abdallah). Having spent parts of his childhood living in some of Tanzania’s agricultural communities, Abdallah grew up with a passion for agriculture. Officially registered in 2007, BFCL has expanded beyond its initial 4 ha to over 40 today. Not all of this land has been cleared and cultivated, however, as Abdallah continues to test which types and varieties of crops will be grown. In the years ahead, he plans to focus on pineapples and seeks to differentiate BFCL as a supplier of the new, sweeter MD2 variety.

In 2008, through conversations with European buyers, BFCL began to learn about the MD2 variety that was widely popular in international markets, and Abdallah was introduced to farmers in both Ghana and Costa Rica who were farming MD2. The same year, Eloc Farms Managing Director James Cole visited Tanzania and trained BFCL staff on good agricultural practices and began a small nursery for the first MD2 seedlings in Tanzania. In 2012, BFCL and the Tanzania Agriculture Productivity Program (TAPP) – a USAID initiative implemented by Fintrac Inc. – collaborated to import 9,000 MD2 suckers to develop a nursery. Some of BFCL’s MD2 pineapples have been harvested since 2014 and sold into local grocery chains.

As the company works to scale up its production of the MD2 variety, along with the seedlings that will be required to do so, it continues to grow and sell the traditional variety of pineapple – Smooth Cayenne. Additionally, BFCL has and will continue to experiment with other crops including passion fruit, tangerines, and papaya. At present, however, the farm is reliant upon rainwater which restricts what can be grown and the number of harvests possible. The company has considered building a dam which would allow it to grow passion fruit – which is in high demand for juice processing – and explore opportunities to harvest pineapples in the off-season. Currently, BFCL sells approximately 70 percent of its pineapple to the local wholesale and retail

markets and 30 percent to the major juice processing company Azam. As cultivation shifts to MD2, BFCL hopes that consumers will prefer its sweeter taste and lower acid content as compared with local varieties. Being an early-mover on MD2 could be a major break for the company who seeks to be a prominent pineapple producer in Tanzania. In the future, once the company is producing higher volumes, Abdallah envisions moving into the export market as well.

To improve distribution and sales, BFCL will construct a cold storage facility along the main roadway that runs north-south along the coast of Tanzania, connecting Bagamoyo to the economic hub of Dar es Salaam. This will increase efficiency, especially during the rainy season when it is difficult to transport produce from the farm to the main road. The facility will be built to accommodate BFCL’s forecasted volumes as well as additional volumes that the company plans to aggregate from smallholder farmers in the surrounding area. This will allow BFCL to sell at a larger scale and support local farmers in obtaining better prices. Produce will be brought to the facility by BFCL and these smaller farmers and stored until it is picked up or transported to the final buyer.

In fiscal year 2017, Abdallah predicts that BFCL will have $30,000 in revenues. Once the company is fully operational – with approximately 20 ha of pineapple under cultivation – he expects the number will grow to $60,000-$120,000, with margins of 15-25 percent. At present, BFCL is still reliant on its directors to finance operations. However, as the company prepares to scale up, it will be important for to collaborate with local and foreign investors. Developing the storage facility and exploring potential processing opportunities could be areas to engage such investors.

Smallholder Farming: Augmenting BFCL’s Volumes

BFCL plans to augment its own volumes with that of nearby smallholder farmers in order to meet the demand of its customers. The company is limited in what it can produce on its 40+ ha of land. Purchasing from neighboring farms not only supplements its own supply but it also provides a market opportunity for these farmers. The forthcoming collection center will serve as a hub where smallholder farmers can deliver their produce – receiving payment in accordance with market prices – and receive technical assistance on improving quantity and quality. BFCL staff will provide information to farmers on ways to access credit and procure inputs to ensure that they are able to implement best agricultural practices. This collection center is expected to be operational and purchasing from smallholder farmers by 2018. In the future, the company will also hire a quality assurance manager to conduct site visits of suppliers’ farms. This will ensure the consistency and quality of produce from smallholder farmers who will have a formal purchasing agreement from BFCL. Abdallah believes that working with smallholders will be mutually beneficial to both the company and community.

Challenges in Going to Scale

As BFCL continues to expand production and aggregation of pineapple – and potentially other horticultural crops in the future – the company must contend with the challenges inherent to
the agriculture sector as well as those unique to its business model. Environmental concerns that affect the sector as a whole include those related to water management and land use. Accessing water resources for irrigation can be difficult and expensive. Furthermore, as demographic trends and climate change place increased pressure on water resources, the amount available for agricultural purposes may diminish over the long-term. For land, getting an official title remains a challenge. Without it, however, a change in policy or interpretation of land rights can affect one’s access. Finally, there will of course always be the unexpected threats that come with operating any business. In 2015, for example, the company experienced a fire that wiped out two-thirds of its pineapple crop.

BFCL will also face unique challenges as it seeks to scale up production of the MD2 variety and aggregate from smallholder farmers. MD2 planting materials are unavailable in Tanzania, as well as the broader East Africa region, and multiplication without using tissue culture technology will inhibit scaling up of MD2 production in the country. BFCL is working with various tissue culture labs to address the needed seed volumes, quality, and uniformity. Separately, to support its engagement with smallholders, BFCL will require the support of a partner organization to assist in organizing the farmers and facilitating the services they may need, including trainings, finance, and post-harvest management. If the smallholder program is not a financially or socially attractive opportunity for the farmers – or if another buyer comes in with a higher price – BFCL will be unable to secure the volumes it needs.