

Impact Study:

Farmer-oriented disruptions in the agricultural inputs and services sector in Sierra Leone



Adam Smith
International

Executive Summary

Between 2014 and 2017, the Sierra Leone Opportunities for Business Action (SOBA) programme sought to catalyse a better connected and more capacitated agri-input sector. The objective of this was to create viable business opportunities among Freetown-based input distributors, provincial agro-dealers, and international input suppliers to pursue the smallholder farmer market across the country. SOBA's strategy for intervention was to focus on Freetown distributors who, as they became effective distributors, effect change upstream and downstream in the agri-inputs supply chain.

Failures in the market for agricultural inputs cut across the agriculture sector in Sierra Leone. Agricultural productivity across Sierra Leone has been limited by shortages of good quality fertiliser, absence of good quality, and locally appropriate seeds and crop protection inputs, a very limited availability of information and advice for farmers tailored to their particular local conditions and crops.

At the centre of the failure in the agri-input market was a highly fragmented distribution network. There was a profound disconnect between the small number of existing local agro-dealers in the provinces, where the majority of farmers are located, and the few Freetown-based inputs distributors. With some exceptions, the distributors in Freetown and the local agro-dealers across the rest of the country were not trading.

In the short time since SOBA began its work in the inputs sector, Sierra Leone's agri-inputs market has seen some significant developments that are promising indicators that the sector is moving towards the vision SOBA has for it.

The agri-input sector is significantly more connected than it was in 2014, thanks to emerging agent distribution models among Freetown-based distribution first movers, TJAL and Nianda in particular. Their success has changed attitudes across the sector, demonstrating that smallholders in the provinces are a viable market. Norms of doing business are also changing, reflected by a rush to the provinces as distributors seek to establish themselves outside Freetown.

The more connected domestic sector is changing perceptions internationally, resulting in new linkages and trade relationships as international suppliers invest in partnerships with distributors and wholesalers to bring new products to the Sierra Leone market.

Impact Study: Farmer-oriented disruptions in the agricultural inputs and services sector in Sierra Leone

Having an agronomists on staff and investing in demonstration plots has also become the norm among Freetown distributors, a critical role for them as the success of their business becomes increasingly dependent trialling new products and educating their customers on their superior benefits

These advances are all the more striking given that between May 2014 and March 2016, the country was gripped with the Ebola crisis which further exacerbated the fragmentation of the sector and nearly ground investment to a halt.

This paper presents the key disruptions to system dynamics brought to the market by market actors, and how these resulted in shifts in collective behaviour, in terms of the networks and norms that define how the market operates. The possible systemic change remains in its early stages. There are many areas that require improvement and where recently-achieved advances could still unravel. However, the changes in collective behaviour represent emergent properties in the market system, and reflect underlying structural change. This suggests that the gains made will endure and lead Sierra Leone's agri-input market towards continued, positive change. The 'Disrupting System Dynamics Framework

This paper uses the 'disrupting system dynamics' framework to assess whether SOBA's efforts to bring change to the agri-inputs and services sector are contributing to a significant 'systemic change' in the market. The framework was developed for and published by USAID as part of the Leveraging Economic Opportunities programme, and is authored by Marketshare Associates. The disrupting system dynamics framework, illustrated below, emphasises that deep change in market systems depends on shifts in collective behaviour among market actors, in terms of how the networks that connect them are structured, and the underlying norms that shape how market actors interact with each other.

This paper explores how SOBA's interventions were developed to respond to the specific history and conditions of the Sierra Leone context, and led to disruptions in the market that causes changes in the market systems networks and norms, resulting in sustainable impact at scale for poor women and men in Sierra Leone.

The framework is available [here](#):

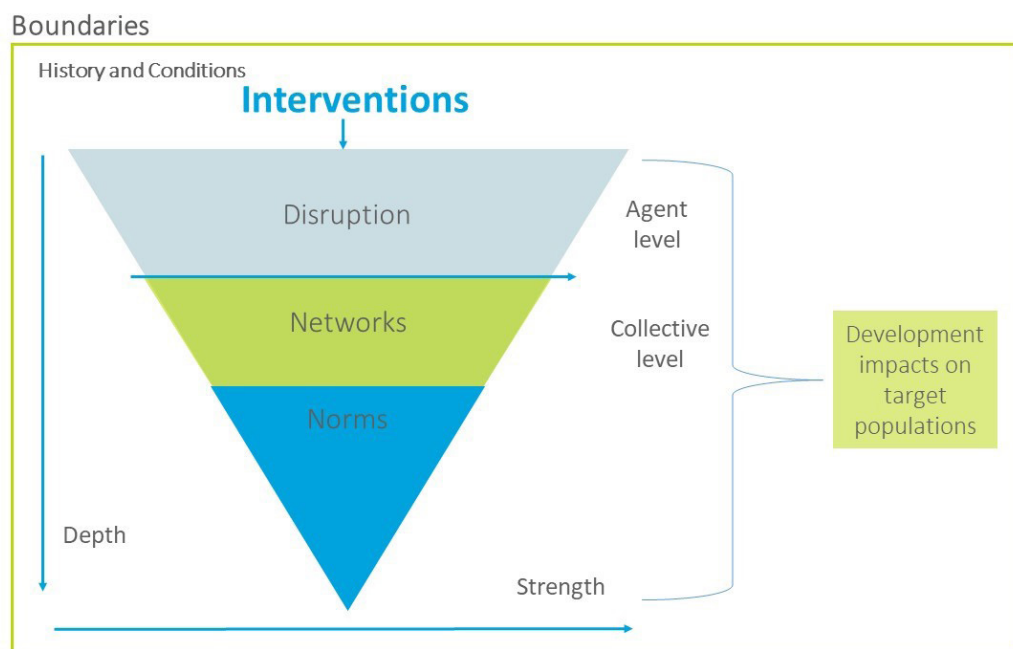


Figure 1: Disrupting System Dynamics Framework

Methodology of the Case Study

This case study draws on SOBA's in-house programme insights and monitoring and results measurement data, complemented with a series of interviews the author held with SOBA's key private sector partners and SOBA's core team to identify and triangulate key findings and outcomes.

Introduction to SOBA

Sierra Leone Opportunities for Business Action (SOBA) is a private sector development programme that uses a market systems approach to facilitate pro-poor economic growth in Sierra Leone. The programme collaborates with private sector businesses in three primary areas: **(1) agriculture, (2) sustainable energy, (3) professional services and entrepreneurship markets**, to trial and to scale innovation and inclusive business practices that reduce poverty and improve economic opportunities for poor women and men. SOBA is funded by UK Aid and implemented by Adam Smith International.

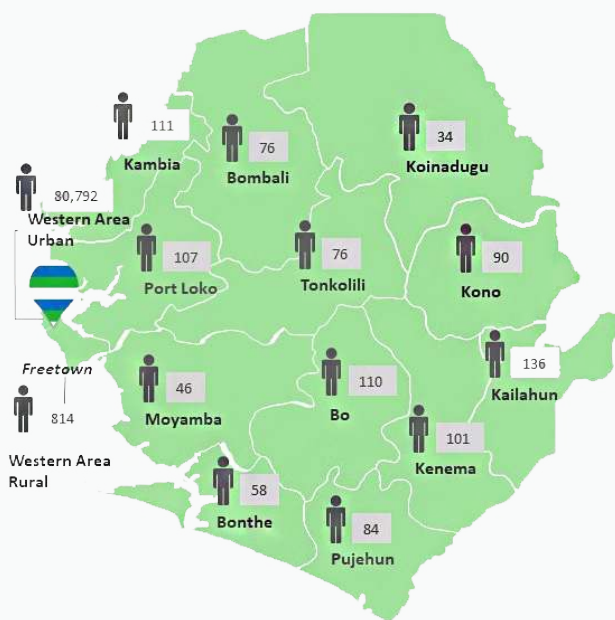
SOBA's first phase ran from September 2013 to January 2016. During this period, the programme adapted its delivery to respond to the Ebola emergency. By close, it had sustainably increased the incomes of 29,025 women and men in Sierra Leone. SOBA's second phase was due to run from February 2016 until January 2018.

In October 2016, DFID decided to "ramp up" SOBA's activities and close early to prepare for a new follow-up programme. It accelerated its investment in Sierra Leone through SOBA over a final 8-month period for the project from January to August 2017. During this phase, SOBA increased its investment to accelerate the sustainable adoption and adaptation to the new models and innovations that had proven successful and to promote replication and crowding in of other market players to the models.

History and conditions of Sierra Leone's agri-inputs and services sector

Status of agriculture and food insecurity in Sierra Leone

Despite past challenges, Sierra Leone's abundant natural resources provide it with a strong base for economic growth, especially in agriculture. Agriculture is a key economic driver for the country, contributing more than 50% of GDP. It is also the primary source of income for most of Sierra Leone's population. It employs two thirds of Sierra Leone's labour force, mostly as smallholder farmers, who operate on farmers 0.5-2.0 hectares and earn less than \$1.25 a day.

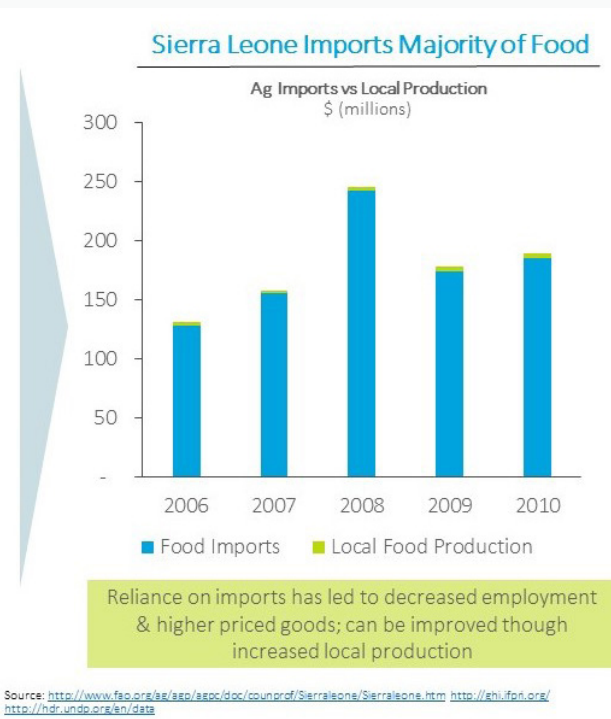


Diversity in agriculture is very limited: rice, Sierra Leone's staple crop, contributes 75 % of agricultural GDP and is grown by 80 % of farmers. 693,000 tonnes of rice was produced in 2013. Other domestic food crops include cassava, yams, peanuts, corn, pineapples,

coconuts, tomatoes, and pepper.

Though agriculture plays a key role in Sierra Leone's economy, the country relies on imports to feed its population. Sierra Leone's population has insufficient food access, and suffers from very high levels of hunger. Sierra Leone is among the world's 10 hungriest nations; there were only 5 countries with hunger levels higher than Sierra Leone in the 2015 Global Hunger Index. Only 15 % of Sierra Leone's population was food secure in 2015, with 43 % severely food insecure. Malnutrition severely affects Sierra Leone's children as nearly 40 % of children under the age of five suffer from stunting.

Low agricultural productivity limits available food and drives the need for imported food. Reliance on imports has led to decreased employment and higher priced goods. As Sierra Leone's population is projected to grow at 3.2 % annually, the need to close the current food gap through increased agricultural production is imperative. The opportunity for agriculture to drive economic growth and reduce poverty is just as significant.



Research for OCA's Seed Tech Investor Presentation confirms a significant opportunity for the agriculture inputs sector, which the World Bank predicts it to be worth \$8 billion by 2020. However, limited access to agri-inputs remains a significant constraint for millions of farmers. It is estimated that nearly 3 million farmers are underserved by current input providers. This includes farmers in Sierra Leone's key arable provinces (Makeni, Port Loko and Tonkolili), estimated to account for \$ 2.5 billion of the national agricultural market. Improving access to the agri-input sector is an imperative to increasing economic growth and stabilising national food security.

Constraints in Sierra Leone's agri-input sector

SOBA's focus on agri-inputs and services as a market system in its own right emerged from its activities in the rice and vegetables sectors at the onset of the programme. These experiences indicated that the failures in the market for agricultural inputs were binding constraints, cutting across the agriculture sector. Specifically, agricultural productivity across Sierra Leone was significantly limited by shortages of good quality fertiliser, absence of good quality, locally appropriate seeds and crop protection inputs, a very limited availability of information and advice for farmers tailored to their particular local conditions and crops.

At the centre of the failure in the agri-input market was the highly fragmented distribution network. There was a profound disconnect between the small number of existing local agro-dealers in the provinces where the majority of farmers are located, and the few Freetown-based input distributors. With some exceptions, the distributors in Freetown and the local agro-dealers across the rest of the country were not trading.

Provincial agro-dealers were typically trading basic fertilisers and recycled seed. Fertiliser was either imported through traders from Guinea or Mali, or acquired informally from the Government of Sierra Leone's fertiliser subsidy programme. Agro-dealers would purchase fertiliser from recipients who preferred to sell their allocation rather than to use it, or got hold of it illegally through the government programme. Fertiliser from Guinea coming into Sierra Leone sometimes also originates from Guinea's own government fertiliser distribution programme.

In 2015, several input distributors existed in Freetown, though all were characterised by varying volumes and consistency of trade. These included Seed Tech International, Holland Farming, Salone Seeds, Fresh Salone, and TJAL Enterprises. These distributors typically imported, or traded between themselves, a myriad of products including fertiliser, seeds, agro-chemicals and agro-equipment. The quality and variety of these inputs was significantly higher than what was available at provincial agro-dealers. The distributors' customers were predominantly government, NGOs, large farms, and farmers close to Freetown – with the vast majority of sales originating from large contracts. They rarely engaged in active distribution outside the capital and broadly failed to perceive the upcountry market as an opportunity at all.

As a result, total sales and turnover were limited. Sales volumes were so low that international suppliers did not deem Sierra Leone a market worth investing in. Without supplier interest or active engagement, distributors were unaware – and often lacked access to information – regarding competing or new agri-input product and technology options that would be suitable in Sierra Leone.

A Vision for Change

SOBA's vision for change was that a better connected and more capacitated agri-input sector would create viable business opportunities among Freetown-based input distributors, provincial agro-dealers, and international input suppliers to pursue the smallholder farmer market across the country. Through a variety of distribution models and strategies, Freetown-based distributors could upskill and collaborate with agro-dealers throughout Sierra Leone to pursue farmers as core customers together. Distribution arrangements could encompass joint marketing efforts to build demand among farmers and credit line development to fund wider access.

By growing their market through these networks of agro-dealers, distributors could create more compelling value propositions for international input suppliers, attracting investment to introduce much needed new and expanded product and service lines to the market.

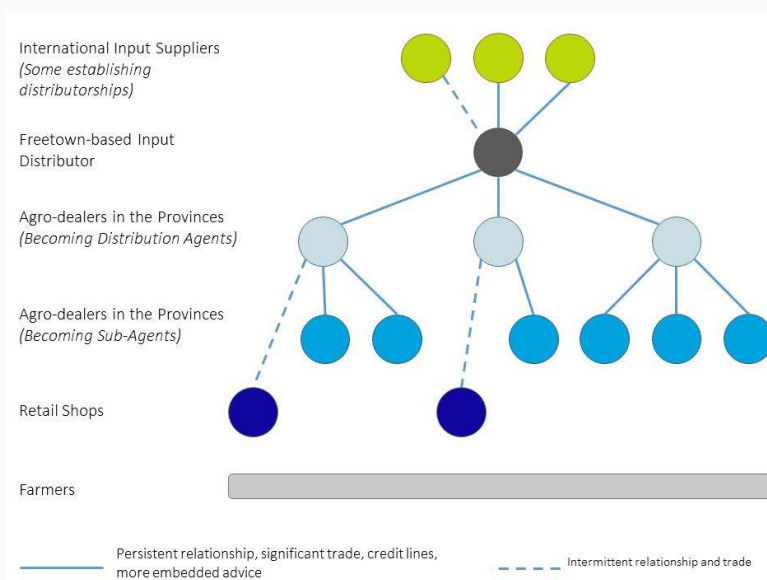
SOBA's intervention strategy

SOBA's intervention strategy focused on Freetown distributors who, as they became effective distributors, would leverage change upstream and downstream in the agri-inputs supply chain (see the figure illustrating the vision for the structure of the market). This has involved:

- Building distributors' organisational capacity to pursue more complex distribution strategies targeted to farmers, namely in areas of inventory management, accounting and financial planning, marketing and branding, and human capital;
- Piloting new lines of business that targeted smallholder farmers by investing in distribution networks and strategies, such as agro-dealer programme set-up. Specifically, SOBA cost-shared some pilot expenses to buy-down the risk of innovation, and offered technical assistance to plug the distributors' skills gaps.
- Leveraging the improvements in organisational capacity and growing distribution networks to attract interest from international input suppliers to bring new products to Sierra Leone and to push improved agronomic information and advisory.

A critical underpinning of the original strategy was that although SOBA would co-invest with specific distributor partners to develop their agro-dealer schemes, SOBA would also invest to upskill agro-dealers themselves. This would have significant spill-over benefits for the sector as a whole, as those agro-dealers move to other distributors, or go on to establish international distributorships themselves, or build up their own networks of sub-agents – as many have.

Figure 4: Illustration of SOBA's vision for the structure of the agri-inputs market



SOBA employed a graduated, performance-based approach to partnership and investment. Typically, investment phases lasted several months, allowing for frequent review and adaptation. As partners moved through pre-investment and investment phases, the following principles governed SOBA's deployment of capital:

- Performance-based triggers: no performance, no money
- Cost-shared: no skin in the game, no money.
- Risk capital, not growth capital. SOBA is not a commercial financier.
- Creative deployment mechanisms, such as technical assistance, guarantees on loss, debt financing, exposure visits, or network linkages.
- Grants are a last resort; SOBA will not typically offer them.

As of July 2017: Is Sierra Leone's agri-inputs market on a new evolutionary path?

In the short time since SOBA's work began in 2014, Sierra Leone's agri-inputs market has seen some significant developments that are promising indicators that the sector may be moving towards the vision SOBA has for it.

The agri-input sector is significantly more connected than it was in 2014, thanks to emerging agent distribution models led by innovation leaders among Freetown distributors, TJAL and Nianda in particular. Their success has changed attitudes across the sector, demonstrating that small farmers in the provinces are a viable market. Norms of doing business are changing, reflected by a rush to the provinces as distributors seek to establish themselves outside Freetown. The more connected domestic sector is changing international supplier perceptions, resulting in new linkages and strengthening international relationships as international suppliers invest in partnerships with distributors to bring new products to the Sierra Leone market. Having an agronomists on staff and utilising demonstration plots has also become the norm among Freetown distributors, a critical role for them as the success of their businesses becomes increasingly dependent on educating their customers.

These advances are all the more striking given that between May 2014 and March 2016, the country was gripped with the Ebola crisis which further exacerbated the fragmentation of the sector.

The possible systemic change remains in its early stages. Lots of things are still not working well and improvements could unravel. Nevertheless, this section presents the key disruptions to system dynamics brought to the market by market players, and how these have created shifts in collective behaviour, in terms of the networks and norms that define how the market operates. The changes in collective behaviour hopefully represent emergent properties in the market system, and reflect underlying structural change. This hopefully suggests that the gains that have been made will endure and lead the agri-input market towards continued positive change.

TJAL disrupts the market

The emergence of TJAL Enterprises in the market – as an enthusiastic first mover in developing an agent distribution network – and the attention that others have paid to its rise is central to the story of a new evolutionary path.

TJAL Enterprises is an agro-dealer and fumigation services company that has been in operation for the past 28 years. It was founded by Amadou Tejan Jalloh in Sierra Leone and relocated to Conakry, Guinea during the war. The business experienced rapid growth during this time and created an opportunity for Mr. Jalloh to go back to Sierra Leone. In 2001, he re-opened the TJAL branch at 2 Kingtom Bridge, Freetown Sierra Leone. Today, this location is operated by Mr. Jalloh's nephew, Chernor Jalloh, who serves as the Sierra Leone branch manager. TJAL sells fertilisers, pesticides, fungicides, herbicides, seeds, insecticides, farming tools and safety equipment. Originally, they sold this solely from their Freetown shop. In 2014, TJAL was a small one store business; family owned, and family-run. During that time, Mr. Jalloh estimated that operational expenses amounted to USD 1,345 and revenues were USD 1,750 per month.

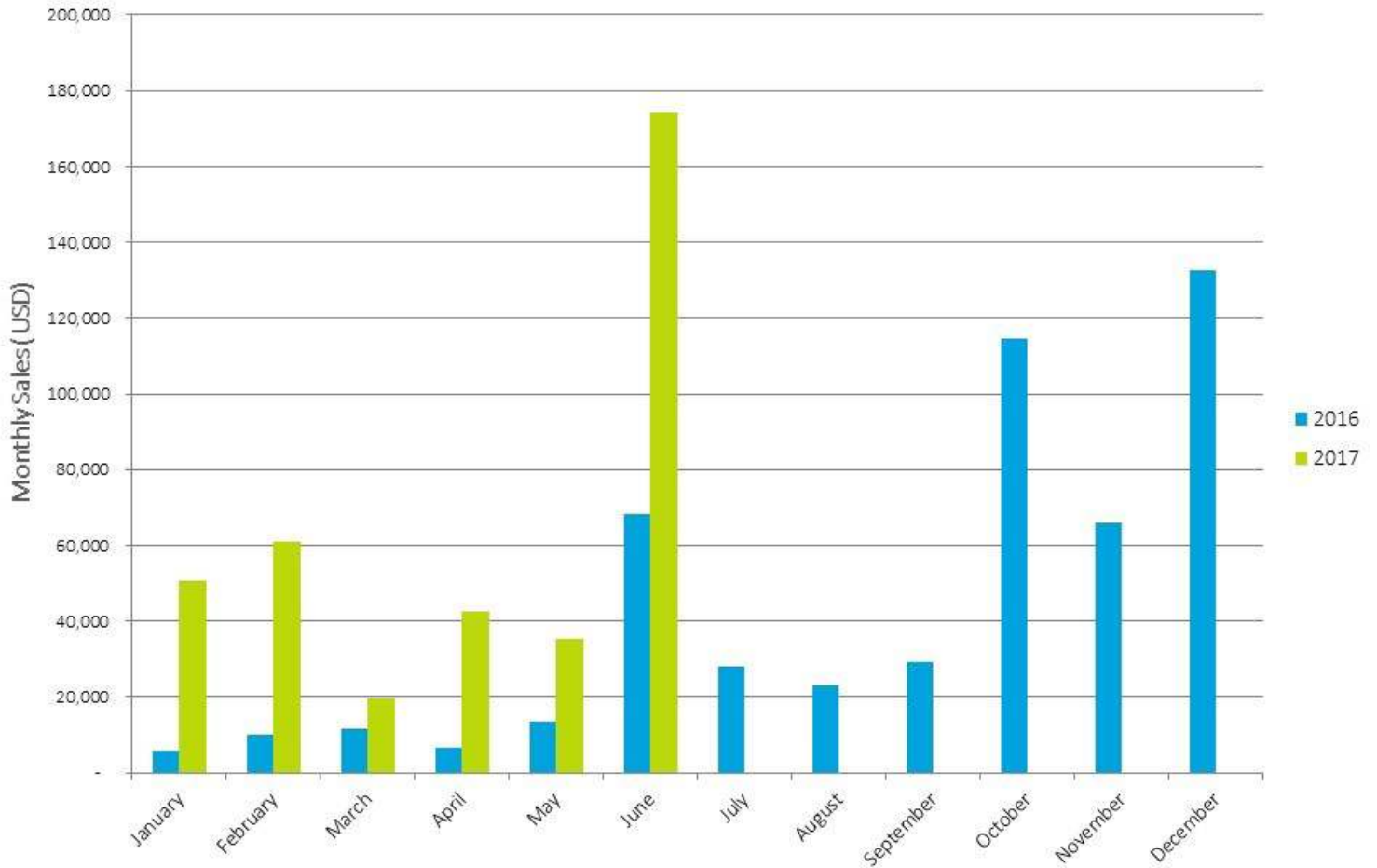
However, TJAL has proven fast-moving and expressed eagerness to expand investment in Sierra Leone, making them an ideal partner for SOBA. SOBA officially partnered with TJAL in August in 2015 and realised that before talks of expansion were to take place, certain hurdles had to be overcome. In other words, TJAL had the will to innovate, but not the skill to do so. When SOBA first started discussions with TJAL, they had many challenges as a business to serve the wider market for their agri-inputs and supplies. There were no records of Costs of Goods Sold (COGS), gross margin per product or loss estimates. There were no inventory controls in place or an understanding of stock levels. Receipts were not provided for most of the transactions, and there were no reliable records of sales and expenses for previous months. Without basic bookkeeping and financial controls, the business was handicapped and locked in a cycle of poor management, low investment, low sales and growth. Under these circumstances, TJAL was only able to serve a minuscule number of farmers.

In the first phase of partnership, SOBA worked closely with the TJAL team to address these challenges. Together they developed a performance improvement strategy and associated 4-month plan. SOBA made a series of investments and agreed on an effective implementation strategy with Mr. Jalloh to ensure processes and progress. Within the first two months, SOBA implemented QuickBooks software and provided an eight-week thorough accounting training.

SOBA helped TJAL generate cash flow statements, and completed a two-year audit to prepare them for potential future investment. In one year, TJAL's business experienced an incredible transformation, with a second phase of partnership with SOBA. By using the QuickBooks accounting system, the company was to generating periodic financial statements to improve management decision making.

They introduced stock cards as a means to improve inventory management and control. They translated their packaging labels and information from French to English for Sierra Leone destined products. They improved the quality assurance options, focussing on storage facilities (pallets) for fertilisers and AC/temperature control of seeds in storage. They

revamped their customer service by conducting regular visits to farmers and making customer calls. They performed monthly inventory control and disseminated their newly-established product and price list to key distributors. They developed a product price list for wholesale and retail clients, and adopted new product lines that cater to the poultry sector.



Finally, SOBA worked with TJAL to launch an agent distribution model for input distribution across the country (Phase 3 of partnership), enabling expansion. This meant transforming TJAL from a brick and mortar business to a dynamic network of distribution agents with the ability to reach more farmers across Sierra Leone.

TJAL and SOBA mapped out and visited potential distribution agents in Bo, Freetown, Kabala, Lungi, Mile 91 and Port Loko. They made their pitch to agents and asked that anyone interested reach out to them. It was a self-selection process that attracted only the most serious potential agents.

The agent distribution model proved to be highly successful. Early on, 8 out of 17 ag-dealers pitched to join TJAL's agent network, signed contracts and placed first orders. Sales relationships emerged following a 10-day ag-dealer recruitment trip throughout the country by TJAL Sierra Leone Manager, Cherner Jalloh, and SOBA Senior Intervention Lead, Josphat Mwahunga. In just one month, 50% had placed repeat orders with TJAL and investments in training agents were increased within two months of operating the agent model so that more agents could be on-boarded quickly. Mr. Jalloh undertook a second recruitment drive and ag-dealer follow-up visit, to showcase value held on upcountry sales opportunities and regular customer/ag-dealer engagement.

In the past 6 months, with SOBA's technical assistance, TJAL has focused on putting in place further building blocks for efficient and effective management of their agent distribution model. The objectives of these improvements were to increase sales, loyalty, manage inventory and avoid shortages of stock, as well as reduce costs of sales. This has included:

- Developing its first marketing plan for engaging with farmers through their agents;
- Putting in place simple customer relationship management tools to help them to stay in touch

with their agents and other key customers at least once a week to gather orders and hear about trends at agent level;

- Establishing order and delivery schedules and standardised routings, with communications plan aimed at agents;
- Initialising gathering data to support future product forecasting by making estimates of seasonal and customer trends across 7 top selling products;
- Building systems to improve human resource management and corporate culture, including developing an organogram and job descriptions for staff that better underpinned TJAL's new agent focus.

TJAL now has a national network of 32 agents and 224 sub-agents and independent retail shops taking increasingly large credit lines to trade quality fertiliser, seeds and agro-chemicals. The network serves an estimated 40,000 smallholder farmers. It has grown its monthly sales – primarily fertiliser – from USD 1750 in June 2015 to USD 174,000 in June 2017. Almost all of this is through its agent network. This is the first agent network in the country.

As of June 2017, SOBA has mapped 224 recurrent trading relationships downstream of TJAL, through TJAL's 32 agents, reaching approximately 40,000 smallholder farmers.

Changing norms of doing business: Smallholders in the provinces are a viable market

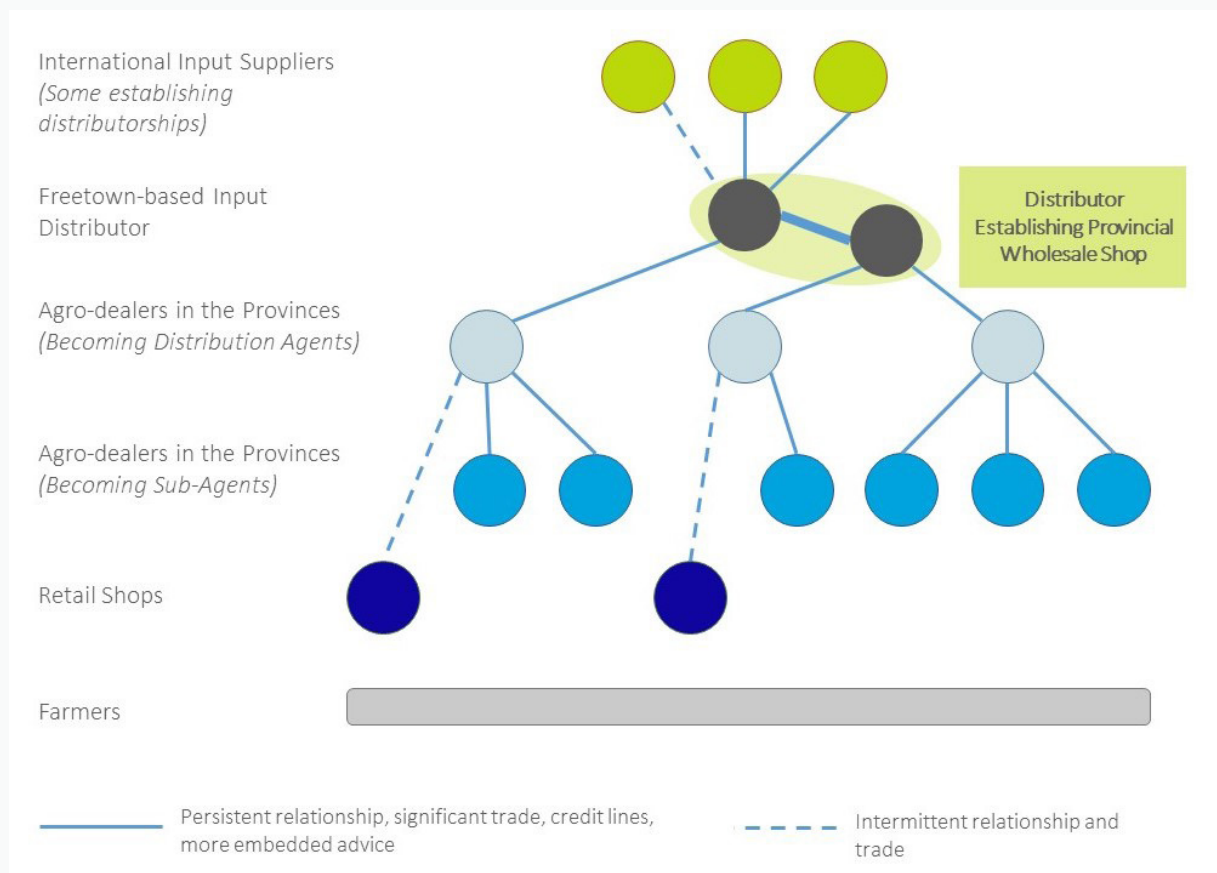
Distributors in Freetown have taken notice of the rapid rise of TJAL from a small two-shop outfit to the largest agro-dealer network in the country, and the attractive business it has developed serving the smallholder market beyond Freetown. In what seems to be becoming a 'rush to the provinces', distributors who previously only focused on Freetown-based contracts are now pro-actively investing to service smallholder farmers themselves.

Other partner companies include Seed Tech International and Nianda. Seed Tech, previously Sierra Leone's largest, government and contract-client dominated, distributor has set up a retail store in Makeni and is establishing other shops in Bo and Kabala the end of

2017, as well as plans for two others next year (location to be decided), moving to provincial markets in order to serve small farmers.

Nianda, Sierra Leone's newest inputs distributor, with whom SOBA has partnered to introduce hybrid vegetable seeds to Sierra Leone, has also recognised the model TJAL is using to expand commercial interests. Nianda launched its own agent-based distribution model in 2017. At print, Nianda had signed, supplied and trained seven agents.

Nianda and Seed Tech are following TJAL's example that smallholders in provinces are a viable market, pursuing smallholder farmers in the provinces. In 2017, Nianda has so far set up new sales points in Bamoi, Bo, Bombali, Kabala, Kambia, Kenema Kono, Pujehun and Sierra Rutile. Seed Tech has established a store in Makeni and also opening one in Bo and one in Kabala by the end of 2017.



Changing structure of the market:

Investing in agro-dealer relationships

The rapid expansion of TJAL's agent network and the crowding in of Nianda and others in engaging more closely with agro-dealers in the provinces is serving to better connect the market. This has become apparent in the first 6 months of 2017 as the nature of relationships deepen between distributors and agro-dealers, while the flows of information, finance and material increase substantially.

Through their agent networks, distributors now extend credit lines to encourage an increase in volumes of inputs traded. Through stronger, more persistent relationships with agents, distributors are also able to increase the quality of embedded advice and information that they provide their agents. This is also a channel to market their products and create demand

among smallholder farmers.

TJAL and Seed Tech are now establishing wholesale shops in major centres outside Freetown that will further strengthen the relationships and flows between distributors and harder-to-reach agro-dealers.

Positive downstream knock-on effects have also been documented, including TJAL's agents in turn investing to strengthen their relationships with their resellers, who in many cases are becoming sub-agents, receiving credit lines through their dealers and embedded services themselves.

Investments made by distributors and agro-dealers in building relationships with their resellers reflects shifting norms towards collaborative patterns of behaviour based on shared interest, compared to more extractive or patronage-based relationships previously more apparent.

Getting to Scale: Working at different levels in the value chain to accelerate restructuring

The limited organisational capacity of provincial agro-dealers has slowed the process of growing TJAL's agent distribution network, and strengthening the capacity of the sector as a whole. As part of SOBA's ramp-up from January – August 2017, SOBA therefore launched the agro-dealer development programme. The programme offered agro-dealers in TJAL's agent network direct support in organisational development particularly in the areas of bookkeeping, branding and marketing, product training, and running demonstration and information events with farmers.

This initiative represented a shift in how SOBA intervened in the sector. Whereas to date SOBA had focused its support on distributors – considered the critical leverage point in the system – the agro-dealer development programme saw SOBA engaging directly with agro-dealers in the provinces. SOBA's rationale for this was multi-dimensional:

First, the pace of growth of TJAL's agent network was so great, that its sustainability was vulnerable to weakness. In light of SOBA's shortened implementation period, there was less time to build the capacity of agents through TJAL. SOBA decided to get more hands on directly with the agro-dealers.

Second, TJAL's network was quickly taking on most, if not all, the most capable agro-dealers in Sierra Leone as agents. For other distributors offering differentiated products from TJAL – such as Nianda – it made sense that they considered some of the same agro-dealers for their own agent networks. With this in mind, SOBA's direct support to agro-dealers would have spill-over benefits not only for TJAL, but for other distributors also embarking on building agent distribution networks, and most importantly, to farmers who would benefit from more competitive distributors.

Finally, as agro-dealers in TJAL's network saw the benefits of participating in a formalised agent network, many of the largest agro-dealers became interested in formalising their own distribution networks. Some of these 'super dealers' also had their eye on graduating to becoming credible distributors in their own rights, with aspirations of importing significant volumes of inputs themselves. The agro-dealer development programme therefore was also a way for SOBA to broaden the sector's capacity, and nurture new entrants in the distribution business among agro-dealers. For example, SOBA has developed a How-To Agent Guide for this reason, to respond to the many requests from agro-dealers, and others, wanting to professionalise their agent programmes.

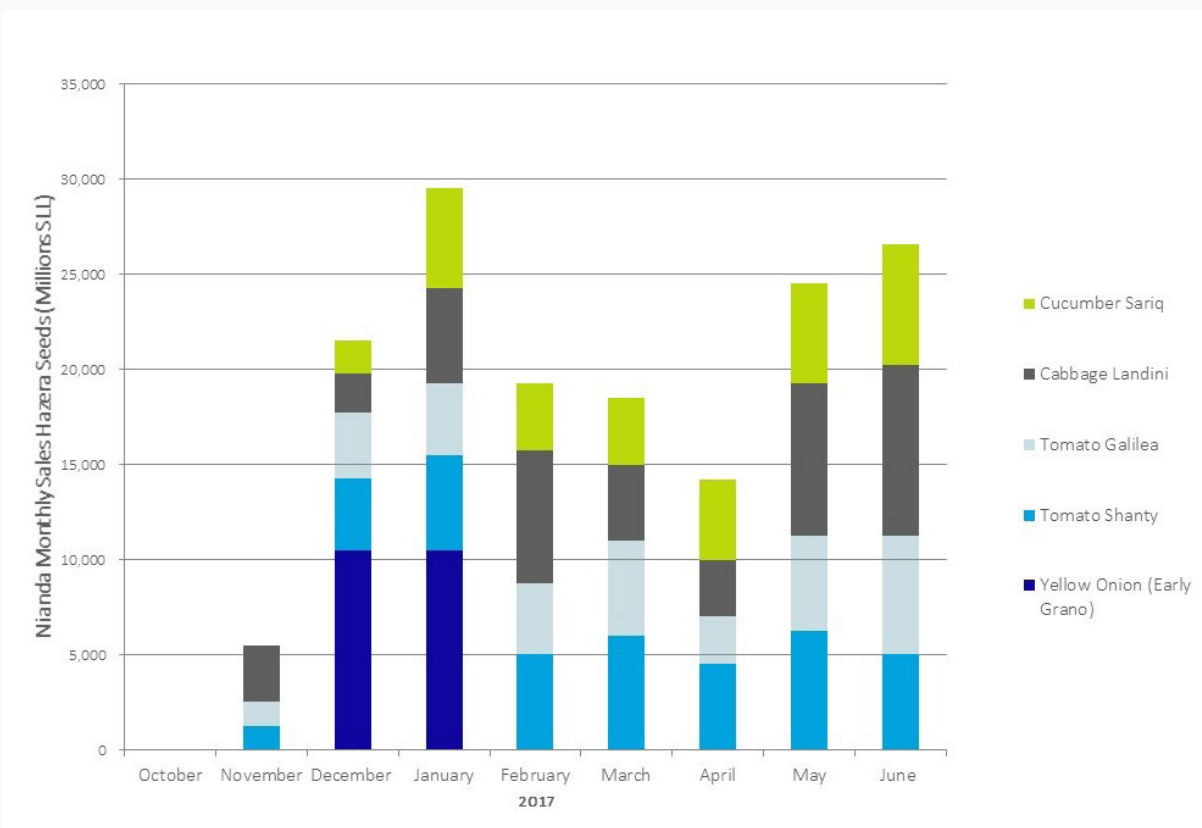
New international partnerships

A number of important, new partnerships between local distributors and international suppliers have developed over the last two years, often brokered by SOBA. As a result, crucial inputs previously unavailable in Sierra Leone are now available. Moreover, as the networks of dealers strengthen, these new inputs are making their way to smallholder farmers faster than ever before.

Leading global hybrid seed producer Hazera has established a partnership with local distributor Nianda (see box below for spotlight on SOBA’s partnership with Nianda). Since January 2017, one of Hazera’s agronomists has visited Sierra Leone to support Nianda every three months. In early 2017, together they ran four very successful demonstration plots to pilot and prove the appropriateness of hybrid seeds for cabbage,

carrots, watermelon, onions, peppers and herbs. Nianda is now expanding its demonstrations to 17 additional sites (21 in total). Nianda has also recruited seven agro-dealers as agents and has established credit lines for them to distribute Hazera seeds. The success of Hazera seeds has already gained significant recognition among farmers, dealers, and GoSL. In September 2017, when the Hazera agronomist next visits, he will support Nianda to train 64 government extension agents in good agriculture practices using the hybrid seeds.

Following TJAL’s strong growth in Sierra Leone over 2016, in early 2017, French vegetable seed supplier Technisem approached TJAL to become its in-country representative and prime distributor. TJAL’s Guinean parent company has been Tehnisem’s representative in Guinea for some time and previously TJAL in Sierra Leone would source its seed through its parent



company. Now, Technisem sends its seed directly to Sierra Leone, TJAL locally gains the benefits of Technisem's promotions, and has received technical catalogues on seed and agrochemical characteristics to help it identify and promote appropriate products for Sierra Leone. TJAL has also secured new suppliers in Spain (Sustainable Agro Solutions) for Diammonium Phosphate, and Calcium Ammonium Nitrate fertilisers, and foliar (liquid application) fertilisers, including boron and adhesives to use with plant protection agents. Like Technisem, this company has also travelled to the region in 2017 to train TJAL on product management and application.

Value Prime Enterprises is an international agricultural input supplier focused on business-to-business partnerships serving West Africa, based out of Nairobi, Kenya. Value Prime supplies a diverse range of high-demand inputs that are currently unavailable in-country, and offers small batch and just-in-time shipments via air freight, and credit options. Following

its visit to Sierra Leone - encouraged and cost-shared by SOBA – and meetings with distributors in February 2017, Value Prime has adapted its model, practices and offering for scaling sales in Sierra Leone and the sub-region. To date, Fresh Salone, Nianda and TJAL have all made orders with Value Prime worth a total of more than USD 50,550, which given Value Prime's focus on specialist inputs shipped in small batches, is a good sign.

With SOBA's support, Seed Tech has developed a business and financial growth plan and is seeking USD 4120,000 investment towards planned rice seed multiplication and processing facility upgrades as well as upcountry retail shop expansion. A number of investors have come to Sierra Leone to meet with Seed Tech – including AgDevCo and Cordaid. Although at the time of writing Seed Tech is yet to secure an investment partner, Cordaid is engaged to invest. They plan to send an indicative term sheet to Seed Tech by the end of July 2017.

Norms of doing business: Offering agronomic advisory

A notable change in attitude among distributors over the past 2 years is the perceived importance of offering agronomic advisory to agents and farmers. This is evidenced by the growing number of distributors who have agronomists on staff, and the increasing use of demonstration plots.

In 2015, none of the major distributors had agronomists on staff. As of July 2017, TJAL, Nianda and Fresh Salone all have full-time international and national agronomists on staff – in many cases, more than one. All not only plan to retain these into the future, but also believe that they are central to their businesses.

In 2017, Nianda, TJAL and Seed Tech have all invested in demonstration plots – independently of SOBA's support – as a means to educate and to attract consumers. These are significant financial and management outlays.

This reflects a significant reorientation for distributors towards pro-active use of embedded, good agronomic practice advisory as a means through which to demonstrate value to their market. Embedded advisory is used as a marketing tool, particularly with respect to the introduction of new products to the market. At TJAL, it was the early assignment of the new agronomist to refresh the distributor's product list, which led to him to recommend that the owner seek out suppliers of an expanded range of fertilisers, foliars and other crop protection enhancers.

The stronger ties with international suppliers also benefit local distributors when they have agronomists on staff as suppliers offer training opportunities. In the case of Hazera, the supplier sent an international agronomist to Sierra Leone to work with their local counterpart at Nianda. This close partnership has been a significant determinant in the success of Nianda's Hazera-supported demo plots.

Partnership spotlight: How SOBA and Nianda partnered to bring Hazera hybrid seeds to the market

What SOBA did:

1. Provided technical assistance to Nianda to develop and to build the firm's strategic outlook, business and financial case, governance, and overall operational capacity.
2. Provided technical guidance and cost-shared to establish presence and to grow farmer outreach through demonstration plots that test and show Hazera seed viability and serve as promotional and Good Agricultural Practice (GAP) skill development channels as well as Farmers Market activity.
3. Provided technical guidance and cost-shared with Nianda to develop and to implement a communications and marketing strategy aimed at growing farmer clients.
4. Provided technical guidance and cost-shared with Nianda to develop a robust bookkeeping and operations management system, ensuring that Nianda has streamlined operations and monthly accounts.
5. Evaluated the interventions and impact of all activities.

What Nianda did:

1. Dedicated staff time to complete strategic outlook, business and financial plan, and governance structure, with SOBA guidance.
2. Cost-shared with SOBA to establish demonstration plots with Hazera inputs that utilised GAPs, with guidance from Hazera and firm agronomist.
3. Co-developed a marketing, communications and sales strategies targeting farmer clients, with SOBA guidance.
4. Provided agro-advisory services via the demonstration plots and to farmers as delineated within the marketing, communications and sales strategies – mobilizing and upskilling target farmer clients.
5. Kept and shared detailed business information and records with SOBA in order for the Project to maximize the effectiveness of technical assistance and to track sector performance and progress.
6. Cost-shared with SOBA to hire agronomists, bookkeeper, shop attendant / operations person to manage business growth.
7. Cost-shared on Farmers Market event activities, including taking lead role in mobilising farmers and coordinating set up with farmer group leaders and other partners, as a mechanism for growing brand awareness and farmer clients.
8. Kept and shared detailed business information and financial records with SOBA in order for the Project to maximize the effectiveness of technical assistance and to track sector performance and progress.

Still early stages

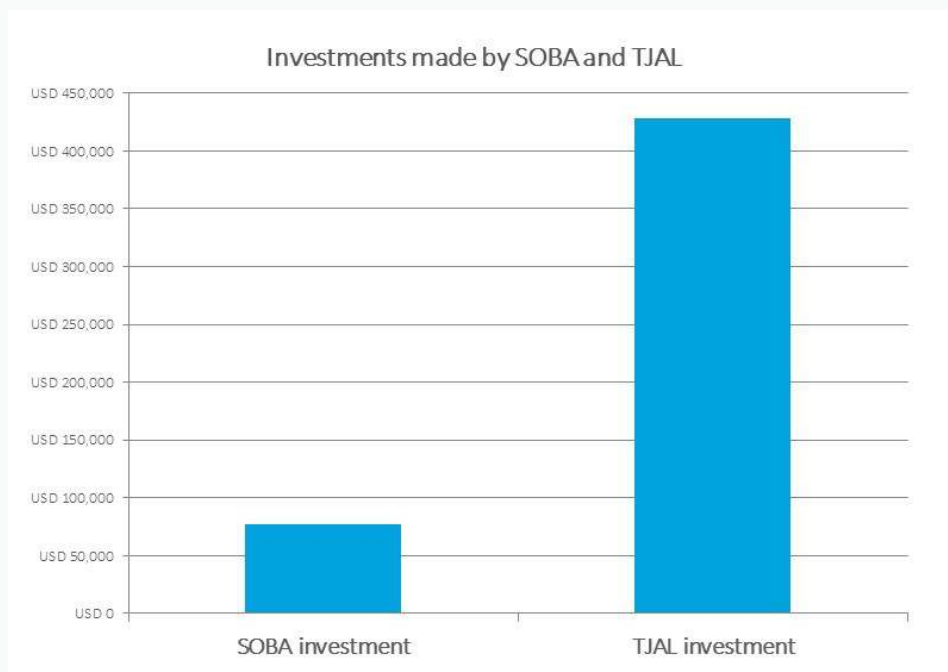
The pace of growth and change has been extraordinary. With this, there are problems, and ongoing adaptation. Promisingly, the businesses are interested and able to continue to invest in spite of set-backs, suggesting that progress is likely to continue on this evolutionary path that pursues smallholder markets in the provinces.

For example, nascent as they are, the agro-dealers networks are experiencing significant growing pains. Capacity limitations and inexperience are still apparent. Demand has been so high, and unpredictably so as it's such a new market, that TJAL has faced three damaging stock-outs in the past 12 months – running out of fertilisers and failing to meet orders on a timely basis. These are challenges that SOBA has been working intensively with TJAL on over the past 6 months and hopefully TJAL will be in a stronger position to manage growth in the future.

Attempts at running demonstration plots jointly with its leading agents have also run into trouble. There were seed germination problems in plots that TJAL had supported a number of its prime agents to establish, in April that probably reflected poor storage and seed inventory management practice. TJAL quickly rectified this issue, and replanted with short-maturing crops,

with good germination results. Some of these demo plots have unfortunately since suffered from being planted late. With early rains arriving soon after the plants had been transplanted, damaging the crops.

There have also been some concerns that agents – who were responsible for allocating land and supervising the cultivation – had not selected the most appropriate land, and care-takers responsible for the plots were not monitored closely enough and did not weed enough to give the vegetables the best opportunity to grow. On the other hand, some agents who did not suffer from the rain, and who attended to the plots closely, got great results. This experience demonstrates that building capacity takes time, especially where new capabilities are collective – as in the case of distributor-agent demo plot collaborations – and TJAL and its agents are still learning how to run them effectively. Since these experiences, TJAL has begun to plan for further demo plots, learning from these experiences by focusing on working with agents with the most commitment, identifying better parcels of land, and resolving to have TJAL's agronomist invest more time with the agents and their care-takers – indicating that despite the setbacks, TJAL intends to continue ahead, learning from past mistakes to deliver better.



Underpinning the evolutionary change – co-opting aid and government distribution

The new trajectory of the agri-inputs sector is still vulnerable to swinging back towards contract-based input delivery, depending on how large contract opportunities in the future come to market. The two most significant sources of risk are large aid programmes focusing on smallholder agriculture productivity and the government's ongoing policy of subsidised fertiliser distribution. These initiatives create lucrative markets for distributors and agro-dealers to chase, diverting their attention to investing in reaching the farmer on a commercial basis. It is essential therefore that these large influences explore how they can best structure their investments in supporting smallholder farmers in ways that minimise perverse incentives that undermine the continued development of the smallholder orientation of the commercial input sector, or ideally find ways to promote it further.

Impact of Government subsidised fertiliser on the commercial market

The practice of agro-dealers acquiring fertiliser diverted from the government programme to create a number of damaging distortions on the market, in addition to the obvious risk for agro-dealers involved in trading illegally-procured fertiliser.

Firstly, fertiliser from the governments' distribution programme – particularly Sierra Leone's – is known for being of poor quality, leading to poor results for farmers, undermining farmers' interest in using fertiliser in the first place. Secondly, these sources of fertiliser do not come with the option of procuring other products, especially not quality products, such as seed or crop protection chemicals. Nor does it come with advice for effective use on which its benefits depends. Finally, purchase prices of this fertiliser is below the price for legitimately sourced, good quality fertiliser. Agro-dealers typically simply increase their own margins rather than pass on some of the savings to farmers.

In the long-term, the combination of low price, poor quality, lack of embedded information and advice, and unreliable availability together erodes farmers' demands and willingness to pay formal market prices for fertiliser.

The government fertiliser subsidy programme also has the significant effect of diverting the attention of distributors away from pursuing commercial smallholder markets in favour of large contracts to supply the government fertiliser for its programme.

Exploring smart subsidies in government distribution

In December 2016, the Ministry of Agriculture, Forestry and Food Security (MAFFS) approached SOBA to help it develop new policy proposals for discussion by parliament, exploring alternatives to the current approach of the Government's fertiliser subsidy programme. MAFFS recognises that the private sector and agri-input distributors play an important role in driving farmer productivity and performance through effective and efficient distribution of inputs and embedded advisory services. MAFFS also recognised that its own fertiliser subsidies programme was undermining the development of this private sector.

SOBA ran a pilot 'smart subsidies' scheme whereby 2,063 targeted farmers received coupons for fertiliser, mainly through private agro-dealers in TJAL's agent network. The pilot was completed in June 2017 and results have been positive, showing that of those which received the coupons, 1,944, approximately 94%, redeemed them. SOBA will present the results and lessons to MAFFS in August 2017, as a contribution to the policy debate.

The smart subsidy pilot centered around selected farmers receiving a card with a barcode. The barcode is readable with a smart phone and brought up an account the farmer's photo and personal information. The account was credited with the designated subsidy allowance, which in the pilot came to half the price for two bags of fertiliser (around SLL 250,000). Selected farmers received their cards and were given a designated window to redeem their subsidy at one of three agro-dealers (TJAL agents), where they were required to pay the balance of the remaining cost for the fertiliser themselves.

Agents themselves had received the fertiliser from TJAL on credit, and therefore could collect an agreed margin (comparable to their usual margin) from the cash payment made by the farmers, and pass on the remainder to TJAL as credit repayment. TJAL subsequently could redeem its outstanding balance from the government – the value of which was automatically confirmed as a result of the farmers having scanned their barcode cards at the agro-dealers.

The smart subsidy pilot will hopefully kick-start a serious review of the harmful effects of the government's fertiliser subsidy programme on the input market and its ability to promote good agriculture practice and quality input use. The smart subsidy scheme demonstrates how the Government can move towards a subsidised fertiliser distribution approach that works through the commercial sector, promoting links with smallholder farmers.

The pilot scheme is only the first step, however. It is not at this time known whether the government will choose to scale up this approach. Furthermore, if the smart subsidy approach to distribution is adopted, it will increase the opportunities for government contracts among distributors, and could have a perverse incentive of drawing their attention away from pursuing commercial smallholder markets.

Feed the Future

USAID launched its Feed the Future initiative in Sierra Leone in 2016. The programme targets improved nutrition and incomes for farmers in the Tonkolili District of Sierra Leone. Through the initiative, Feed the Future aims to establish agri-inputs agents with expanded product lines and embedded advisory throughout Tonkolili.

At the onset, the programme partnered with Fresh Salone to scale-up the open-field kit distribution model designed and piloted under Fresh Salone with SOBA's guidance. Fresh Salone now operates large, open-field demonstration plots throughout Tonkolili and through which it will resale inputs. Feed the Future expanded its engagement to TJAL in 2017, agreeing to support continued agent development into Tonkolili.

The programme's interest to scale up distribution strategies designed and developed under SOBA is promising. It marks a shift for USAID from direct delivery to market-oriented investment and reflects SOBA's influence in Sierra Leone. However, like with the smart subsidy scheme, the programme also poses risks – with the potential to reinforce contract-based delivery as well as to push distributors to invest and to grow toward markets that cannot sustain them.

Conclusions and Recommendations

Demonstration effect is strong in Sierra Leone's small market: Because Sierra Leone is a small country, and the agri-input sector is itself limited to a few major players, the demonstration effect from the first mover – in this case TJAL Enterprises – proved very strong. As a result, second mover response was quick, with Freetown-based distributors replicating distribution and embedded advisory with just a few months' lag.

SOBA's engagement with second movers helped to accelerate response: SOBA's ability to encourage crowding in by second movers – Nianda, Seed Tech, Fresh Salone – has in large part also depended on SOBA's strong relationships with these players. SOBA established partnerships with all major distributors in Sierra Leone and most agro-dealers. Repeated engagement and established trust helped to spread information and to build conviction early on that contributed to quick replication.

Growth was underpinned by investment to strengthen business health and fit for small farmers: The very limited business management capacity across the sector has been a real challenge for deploying a market systems development approach. For distributors to prepare to service small farmers – the most expensive and difficult to reach consumer segment – requires distributors to develop entirely different organisational set-ups and team skills (e.g. shifting from winning key contracts, to maintaining consistent relationships with key agents). In Sierra Leone, where at the time of SOBA's initial engagement, most distributors had significant weaknesses in business fundamentals, such as accounting, inventory management, and branding, SOBA has had to invest significant, hands-on business development support in key partners to bring them to a point where they could properly pursue new business approaches – more so than a market systems development programme would have need to in a more established economy and market.

Fast-paced growth brings fragility: The types of systems and skills that underpin performance change as businesses grow. What is required to run a successful shop as opposed to one shop and ten agents as opposed to three shops and 32 agents is all very different. For example, customer management strategies adapt from regular phone calls to more sophisticated and data-driven systems. Each season, SOBA partners experience new and more complex challenges that require greater depth in experience, skill, and leadership. The pace of growth has been so high that distributors haven't had time to get comfortable with systems and tools before they've needed to upgrade for the next season.

Continued investment to strengthen the agri-inputs market is needed: Sierra Leone's agri-inputs sector is headed in the right direction: valuing, targeting and responding to farmers. A distribution network now exists and through which valuable products, services, and information are offered. Distributors understand the value of advisory services and plan to continue these ongoing. Investors and suppliers are entering Sierra Leone, recognising the opportunity. However, more work is required. The reach, depth, range, and quality of products, services, and information is not enough. Moreover, government, research, and educational institutions that strengthen agricultural sector performance are substandard at best. To continue to return dividends on SOBA's investment, follow-on investment and support will be required to continue to upgrade performance.

Market systems initiatives require time to scale impact. The change SOBA has been able to affect is remarkable given the short duration of the programme and the seasonal nature of agriculture. Market systems initiatives deliver best over longer durations and when they can leverage relationships, networks, and high performers to introduce continued innovations that reflect growing market complexity. The programme might have achieved significantly greater impact had it been given time.