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TechnoServe Coalition for Smallholder Sourcing

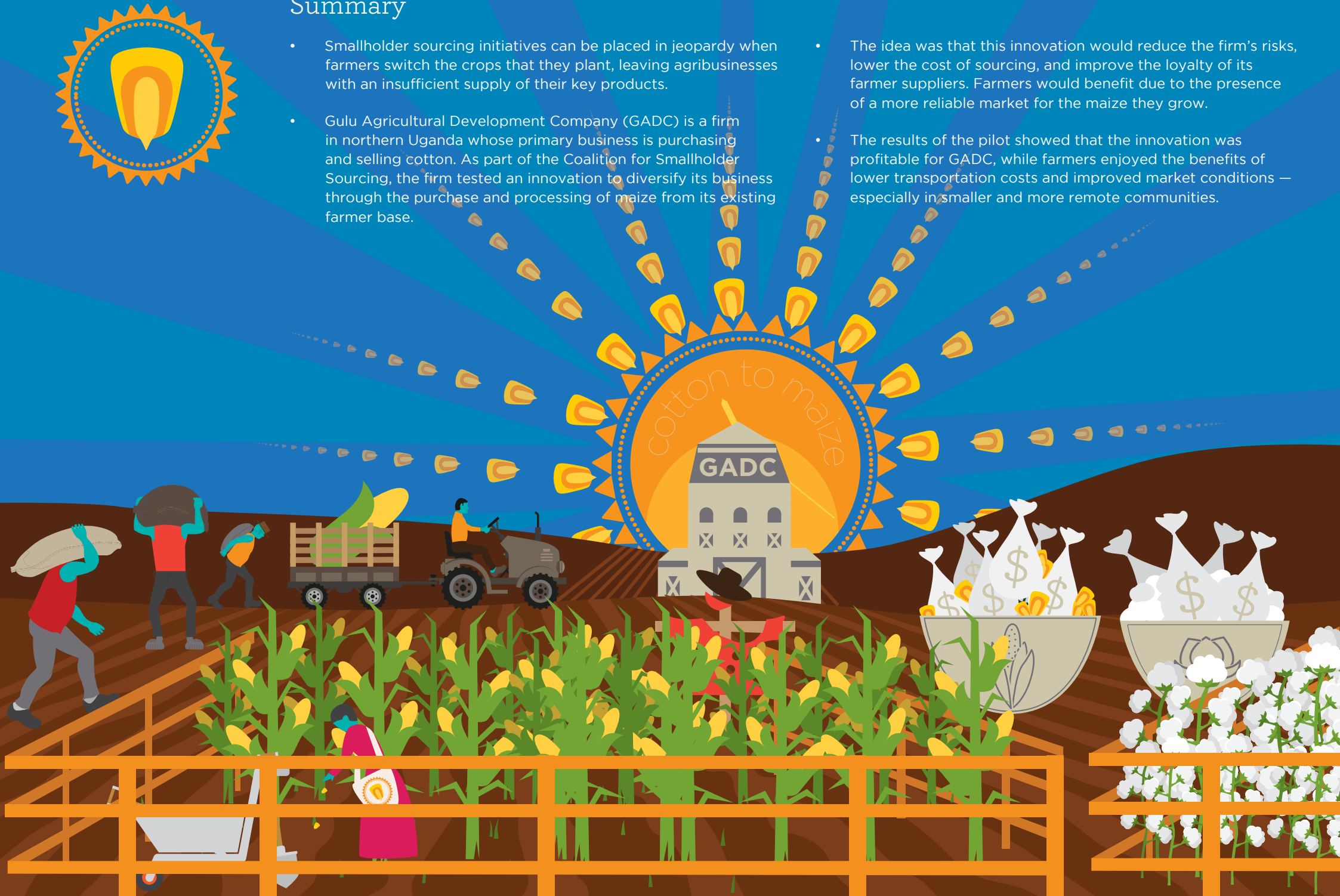
Diversification and Value Addition as Strategies to Improve the Long-term Viability of Smallholder Sourcing

Results and lessons from northern Uganda



Summary

- Smallholder sourcing initiatives can be placed in jeopardy when farmers switch the crops that they plant, leaving agribusinesses with an insufficient supply of their key products.
- Gulu Agricultural Development Company (GADC) is a firm in northern Uganda whose primary business is purchasing and selling cotton. As part of the Coalition for Smallholder Sourcing, the firm tested an innovation to diversify its business through the purchase and processing of maize from its existing farmer base.
- The idea was that this innovation would reduce the firm's risks, lower the cost of sourcing, and improve the loyalty of its farmer suppliers. Farmers would benefit due to the presence of a more reliable market for the maize they grow.
- The results of the pilot showed that the innovation was profitable for GADC, while farmers enjoyed the benefits of lower transportation costs and improved market conditions — especially in smaller and more remote communities.





Context

Smallholder sourcing arrangements have the potential to drive significant shared value in the context of African agriculture. These systems link networks of smallholder farmers with buyers, and offer the promise of a symbiotic relationship where companies can access raw materials locally, and farmers have a reliable off-taker, access to inputs, financing, and technical expertise.

Despite the promise and potential, smallholder sourcing arrangements are fraught with persistent challenges. For agribusinesses that rely on smallholders, recurring challenges include low and inconsistent production volumes from farmers, side selling and non-recoverability of input financing, and the high costs associated with reaching small, geographically dispersed farmers and providing basic extension services.

Low and inconsistent production can threaten the financial viability of smallholder sourcing initiatives for private agribusinesses, and changes in production are often driven by decisions made at the household level. Smallholder households typically choose which crops to grow each season in an effort to maximize profits and food security, and they may therefore abandon a crop for a number of valid reasons. For agribusinesses that are focused on a single commodity, shifting farmer loyalties between crops can lead to large production swings. For example, farmers will likely move away from cotton if the price in the previous season was low, choosing another cash crop instead. When an agribusiness has fixed installed capacity and a heavy overhead cost structure, large production swings can threaten the existence of the business.



The Coalition for Smallholder Sourcing

The Coalition for Smallholder Sourcing is a TechnoServe-led partnership between three private agribusinesses with large-scale outgrower schemes in place (Gulu Agricultural Development Company, JFS-SAN, and Plexus Mozambique Limited) and a high-caliber research partner (IDInsight). The Coalition allows for the piloting and rigorous evaluation of company-led innovations (e.g., new strategies, models of engagement, technologies) that have win-win potential for the participating companies and smallholder farmers.



The Innovation

Gulu Agricultural Development Company (GADC) is a private agribusiness that operates in northern Uganda. GADC began as a cotton ginning and export company in 2009, buying organic and conventional seed cotton from smallholders, ginning it into lint, and exporting it. GADC has since diversified into sesame, sunflower seed, and chilies.

Such diversification has been one core element of GADC's business strategy, allowing the firm to mitigate the risks associated with fluctuations in production and market conditions of a single crop; and because the same farmers often grow multiple crops, this strategy has allowed GADC to leverage and deepen its buying and

extension infrastructure across several complementary revenue streams.

The second core element of GADC's business strategy has been finding niche ways to create more value and derive higher margins, which can be passed on to farmers to maintain market share if required. For example, in cotton and sesame, GADC earns higher margins through organic certification of its factories and its supply chain and can more effectively compete with conventional cotton buyers.

As part of the Coalition for Smallholder Sourcing (see text box), GADC innovated by diversifying into maize buying and milling. This

innovation had two elements aligned to GADC's business strategy: diversification and value addition.

Diversification. By introducing maize to its crop portfolio, GADC was continuing its strategy of diversification, but was now diversifying beyond export cash crops into a staple widely grown by farmers in northern Uganda.

Value addition. By moving beyond maize trading and setting up maize and animal feed milling, GADC was aiming to create a vertically integrated supply chain that could add more value and capture larger margins, allowing the company to pass some onto farmers if required to capture market share.

With match-funding through the Coalition for Smallholder Sourcing, GADC invested in purchasing basic maize milling and animal feed blending equipment, developing and delivering maize agronomy training to 30,000 farmers around Gulu, and buying, processing, and marketing maize products on the local market. The firm decided to use existing buyer networks and infrastructure (i.e., village stores) to source the additional crops. The hypothesis was that the expansion into maize would drive shared value by benefiting the company and smallholder farmers in a variety of ways, and strengthen the long-term viability of smallholder sourcing for GADC.

Expected Company Impact

- **Lower cost of sourcing** across the firm's crop portfolio due to deepening engagement with the existing farmer base to get more value from the relationship.
- **Reduced risk** through diversification into a crop that is already widely grown.
- **Improved farmer loyalty** across the crop portfolio. Unlike cotton and sesame, maize has two planting sessions, providing GADC staff more opportunities for extension and buying. GADC will also be seen as the buyer of choice across a variety of crops. The improved loyalty could support better volumes of core cash crops.



Expected Farmer Impact

- **Reduced uncertainties** associated with maize marketing and sales due to the entry of a reliable, trusted buyer. This is expected to be more pronounced for farmers in remote markets with limited maize buyers.
- **Reduced transportation costs** for maize due to GADC's deep buying networks and the presence of the firm's buying depots, typically at the village level.
- **Greater competition and higher prices** due to the entry of a new buyer with higher margins and free of financing constraints.

Commercial Impact

Analysis conducted by Dalberg on the commercial impact of this new business shows that even in its early stages, the innovation has been successful from a commercial perspective for GADC, and many of the expected impact pathways have been realized.

GADC purchased 914 metric tons of maize in 2015-16 and 1,590 metric tons in 2016-17. GADC is selling maize locally, in and around Gulu, under the "Layibi's Finest" brand. The company generated US\$268,000 in revenues from sale of maize products in its first year, and maize revenues grew 121 percent year on year. GADC's maize

business turned profitable from its second year, and generated a net profit margin of 9 percent in 2016-17.

The total investment cost for this innovation was approximately US \$750,000. Dalberg estimates that GADC's maize business will generate an internal rate of return of 38 percent and an annual EBITDA of US\$522,000 if GADC scales up maize buying across all areas by 2022. See main cost drivers for this innovation on next page.

While maize is still a small share of GADC's overall revenue, the company reports that this new business line has allowed the company to form a stronger foundation for its operations in two critical ways.

First, for GADC, the maize business has emerged as an alternative to cotton that can be scaled up or down depending on the size and scale of the cotton harvest. While cotton is GADC's core business, the crop is prone to global price volatility, and the boom-bust nature of the international cotton trade presents an existential threat to firms unable to get through poor years. GADC has invested in inexpensive and modular maize milling equipment that can be scaled up in years of low cotton production. GADC's focus on diversification is not driven by maximizing maize profits, but rather

building an operational foundation to maintain utilization of assets and farmer networks in down years in cotton.¹

Second, the maize business line has allowed GADC to diversify both its value chains and its markets. While GADC exports its other products (cotton lint, sesame, sunflower seed, and chilies), maize is offered for sale on the domestic market. This can shield the company from the volatility of international trade, since the local maize market may not follow the same international market trends.

In terms of farmer loyalty, research conducted by IDinsight (see more below) confirmed that farmers feel more loyal to GADC when they are provided with key services such as transport and training, but ultimately will sell to the buyer with the highest price.



MAIN COST DRIVERS FOR THIS INNOVATION

		COST DRIVERS	COST %	
Setup cost drivers		Property, plant and equipment: warehouse, weighbridge, land, maize mills	56%	Critical : Upfront donor co-funded investment in equipment and CAPEX was critical as the high cost of capital in Uganda and high perceived risk makes lending a challenge
		Operational: salaries, travel, maize agronomy training and workshops for 30,000 farmers	37%	
		Other requirements: office costs	7%	
Ongoing cost drivers		COGS: maize purchases, poultry feeds, fuel (field)	56%	Seems high but should not be the main focus: open maize markets result in competitive prices needing to be paid to farmers
		Processing: wages, electricity, fuel (generator), machine maintenance	37%	
		Sales and distribution: outbound logistics, marketing	7%	Important (based on interviewee input): Marketing and brand-building are crucial to success

Source: Dalberg analysis, stakeholder interviews, company

¹ Dalberg analysis



Farmer Impact

IDinsight conducted qualitative research and analysis to assess the perceived impact of GADC's expansion on the maize market and household welfare. IDinsight's assessment included interviews with 72 maize farmers and 18 GADC field officers. IDinsight conducted qualitative surveys on farmer planting and selling behavior, maize market perceptions, and opinions regarding GADC's entrance into the maize market.² Overall, the evidence suggests that GADC had a positive impact on maize market accessibility and reliability, as well as on farm-gate prices in "weaker" (smaller and less established) maize markets. The positive effects in well established markets cannot be confirmed, but the impact has been neutral at worst.

Maize market accessibility. GADC has strong and deep buying networks that often reach farmers in their villages, far from main trading centers where most other buyers are located. A majority of farmers reported that GADC made the maize market more accessible to them, and evidence suggest this was especially true in villages that are farther away from main markets. When asked why they would want to sell to GADC in the future, 37 percent of surveyed farmers mentioned that GADC provided transport for farmers and that GADC stores were located closer to the farmer's villages/plots than other buyers. One farmer said, "The market has been brought closer to the people. We do not have to take [maize] long distances as before to sell." This had a positive impact on farmer profitability, since maize growers experienced lower transport costs.

Maize market reliability. Because farmers in some areas were uncertain about whether they would be able to find reliable buyers for their maize before GADC began purchasing the crop, they tended to plant it only in small quantities, for home consumption, to minimize risk. In these areas with less-developed maize markets, farmers reported that GADC's participation made the maize market more reliable, offering a "ready" market that they could rely on to buy any maize that they grew. GADC is a well-respected and trusted company in many parts of northern Uganda, and farmers were eager for GADC to start buying maize. Several farmers mentioned this as a factor in their planting decisions, with one stating, "If [GADC] confirms that they will start buying maize, I will increase the size of my maize garden, because in our area getting good markets for crops is not easy."

Maize demand and prices. There was a general positive perception among surveyed farmers that GADC's entry into the maize market had resulted in higher maize prices. However, the maize price in Uganda has been steadily increasing over the past few years, making it difficult to draw conclusions about the true impact of GADC. Furthermore, GADC purchased small quantities of maize in 2016-2017, and due to its small market share, it is unlikely to have made a significant impact on demand and prices in most markets. However, IDinsight did find more conclusive indicative evidence that GADC's entry increased maize demand and prices in weaker markets. In these small markets, farmer interviews provide indicative evidence that household welfare improved due to GADC's expansion into maize, although true causality cannot be determined due to lack of a control group.

² While most evaluations through the Coalition for Smallholder Sourcing have been designed as randomized controlled trials (RCTs), we were not able to implement this evaluation as an RCT because GADC did not feel it could limit maize buying to certain randomly selected farmers or villages. This was due to administrative limitations, and concerns around negative reactions from farmers excluded from the treatment group.



Critical Success Factors

While this case study offers evidence that a strategy of diversification and value addition can improve the long-term viability of smallholder sourcing arrangements, this is a complex innovation that needs to be carefully considered, adapted, and implemented to deliver success. Below, we draw out some critical success factors and learnings from GADC's experience.

Selecting the right crop. Maize was a good crop in this context for several reasons. First, GADC's existing farmer suppliers have experience growing maize, and it is widely cultivated in northern Uganda, both for home consumption and sale. By selecting maize, GADC therefore avoided having to provide the amount of intensive extension and input provision that they would for a less established crop. Second, scaling up and down purchasing volumes, as GADC intended to do, can create risk for the firm's reputation and farmer welfare if producers are left without access to a market at harvest time. However, by selecting a food crop with strong existing demand, GADC can scale back maize buying while limiting those negative impacts, since farmers can sell maize to other buyers or store maize for home consumption. Third, as GADC confirmed

through market research, the market has strong local demand in northern Uganda and neighboring South Sudan, and there were no well entrenched local maize milling competitors in the region.

Limiting capital costs and overhead. GADC's use of small and inexpensive maize mills, rather than large and expensive ones, allowed the firm to engage in value addition and gradually build up its business without burdening itself with high overhead costs. Additionally, GADC installed locally produced hammer mills that produce the coarse *posho* meal that is preferred in northern Uganda. The maize mills are modular: the number can be increased to scale up production.

Ensuring high quality implementation. Given the complex nature of this innovation, the impact will depend critically on how effectively it is designed and carried out. Success will require strong middle-management with the capacity to understand local market conditions, adapt appropriately, and create new processes and systems for implementation.