

Government Services at One Acre Fund

Alan Harlam and Barrett Hazeltine, Brown University

Across East Africa, rural smallholder farmers—who make up the majority of the region’s poor—toil to ensure that they are able to produce enough food from their small plots to feed their families. Although they are some of the world’s hardest-working people, they often lack the agricultural tools (hybrid seed and fertilizer), know-how, and market access to be successful. One Acre Fund, a social enterprise based in East Africa, is attempting to change this. Its present strategy is to work intensively with small farmer groups, supplying them modern farm inputs, training, delivery, financing, and post-harvest support. Andrew Youn, One Acre Fund’s founder and Executive Director, is pleased with the success of the organization to date. It is currently serving 175,000 families in the four countries where its core program operates—Kenya, Rwanda, Burundi, and Tanzania (see a map of One Acre Fund’s operating areas in **Exhibit A**). By 2014, it expects to extend its reach to more than 200,000 families. One Acre Fund’s leadership realizes, however, that the number of families in East Africa that would potentially benefit from its services is roughly 50 million, and scaling its intensive core program to reach all of them might take decades.

Another option has recently developed—to work with African governments in an *implementation* capacity to supply fertilizer or seed, marketing services, or farmer training throughout their countries. This option would greatly expand the reach of One Acre Fund, but its impact is uncertain. Youn and his partners ask themselves whether they should redouble their highly effective support of individual farmers, or redirect resources toward government partnerships.

The Situation of African Smallholders

The World Bank estimates that approximately seventy percent of the world’s poor live in rural areas, depending primarily on agriculture for income and employment.¹ Paradoxically, the world’s poorest farmers struggle to feed themselves. Many live in the more remote parts of the planet, without access to basic agricultural innovations that reached richer areas decades ago. The “Green Revolution,” which helped raise agricultural yields dramatically through improved farming methods and seed, largely bypassed these farmers.

The situation is particularly acute in sub-Saharan Africa. Roger Thurow, an international expert on food security, summarized Africa’s farming problem as follows:

If agriculture has a final frontier, it is Africa. After agriculture transformations in Asia and Latin America since the 1960s, Africa remains the one place where the

¹ World Bank, <http://data.worldbank.org/topic/agriculture-and-rural-development>

farming potential has barely been scratched. African agriculture has less irrigation, less fertilizer use, less soil and seed research, less mechanization, less rural financing, fewer paved farm-to-market roads than any other farming region in the world.²

In the words of the Gates Foundation, Africa's rural poor "get their food and income by farming small plots of land about the size of a football field. Most of them barely get by—struggling with unproductive soil, plant diseases, pests, and drought."³ Most farmers in this part of the world are women who support large families—the fertility rate in Rwanda, for example, is approximately 5.5⁴—with limited land.

As a result of this situation, many poor farmers across Africa face an annual "hunger season" of meal-skipping and substitution as the previous season's harvest begins to run out. This hunger season can last anywhere from three to six months, depending on the severity of the food shortage. The malnutrition created by this situation has immediate and permanent effects. In rural East Africa, roughly ten percent of children die before reaching age one, with more than half of deaths related to hunger and malnutrition. Those who survive find it hard to reach their full potential—half of those surviving meet the international definition of "physically stunted."

Genesis of One Acre Fund

Andrew Youn first traveled to Bungoma, a town in Western Kenya, in 2005, during a summer internship between years of his MBA at Northwestern University's Kellogg School of Management. He was struck by the fact that everyone in the area was a farmer—the success of their farming determined the success of the entire family.

He was further struck by the fact that some farmers thrived, while others struggled just to meet the basic needs of feeding their families. Youn met one farmer who was yielding two tons of grain per acre. Yet her neighbor was yielding four times less food per acre. She had lost a child, and her family lived in what he considered to be inhuman conditions. Youn asked a lot of questions about what these two farmers were doing differently. The answer seemed shockingly simple: the successful farmer used hybrid seed and fertilizer, and spaced her seeds properly. The total cost of this innovation was about \$60 USD per acre—an amount hopelessly unaffordable for the impoverished farmer.

Youn decided to begin bridging the gap by loaning farmers the inputs they needed and providing some simple training. He bought seed and fertilizer and hired five Kenyan field staff, with whom he maintained daily phone contact while finishing business school. Together, Youn and this small team found an initial group of 40 farmers. Despite the team's inexperience and inevitable mistakes, those farmers' excellent harvests told Youn he had come across an enormous opportunity.

² "Agriculture's Last Frontier", *Wall Street Journal*, May 27, 2008.

<http://online.wsj.com/news/articles/SB121185343060221769>

³ Gates Foundation, <http://www.gatesfoundation.org/What-We-Do/Global-Development/Agricultural-Development>

⁴ World Bank, <http://data.worldbank.org/indicator/SP.DYN.TFRT.IN>

Youn also enlisted a Kellogg classmate—Matthew Forti, who would become One Acre Fund’s founding Board Chair and, in 2013, the Director of One Acre Fund USA—to help with the initial business development for the infant organization. After graduating, Youn returned to Bungoma, where he began the arduous work of getting One Acre Fund off the ground. From the beginning, the organization decided on some key principles that have remained in place: the organization’s headquarters would be near its farmers, allowing One Acre Fund to learn from and respond to its clients. It would not provide “handouts,” but rather would provide farmers a service that would enable permanent changes in their farm productivity—and would expect farmers to pay for this service. Most importantly, the organization dedicated itself to “dreaming big” from the beginning. As Forti recalled, “from One Acre Fund’s very inception, we wanted to challenge ourselves to scale meaningfully—to make a real dent in Africa’s food security problem.”⁵

“Core” Program Model

One Acre Fund leveraged being embedded amongst East Africa’s rural smallholders to develop its core program. Staff talked with farmers to gain an understanding of what they needed to succeed. The early revelation that some farmers were successful, while others struggled, had suggested that fertilizer was an important factor. However, the team quickly found that the *individual* items farmers needed to achieve a good harvest (e.g., financing for farm inputs) were in fact relatively common. It was the *multiple* barriers they faced that prevented them from reaching success.

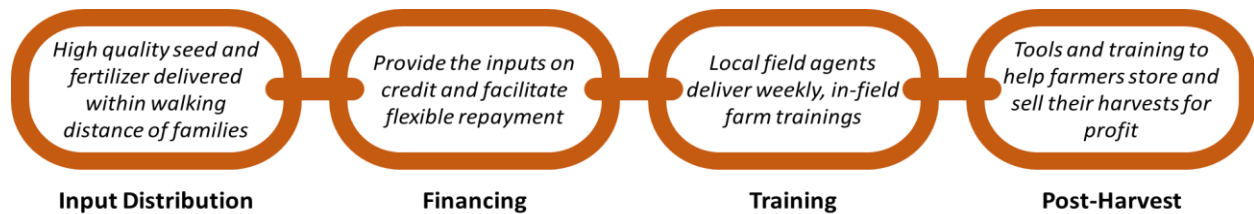
For example, although financing was widely available throughout East Africa even in 2007, many farmers could not purchase fertilizer and seed because these were not available in their village. Similarly, even if fertilizer and seed could be obtained, farmers almost always lacked the knowledge to use them effectively. Ineffective use created minimal gain in harvest and risked long-term soil quality depletion. The organization realized that an effective solution needed to be a complete solution, which addressed holistically the various failures in the farmers’ value chain.

This insight led to the first major component of One Acre Fund’s model—the “complete bundle.” One Acre Fund decided to provide farmers:

- High-quality agricultural inputs like seed and fertilizer;
- Financing (credit with flexible repayment);
- Training;
- Post-harvest support.

This bundle of services (shown in **Figure 1**) was intended to provide a complete value chain for farmers. Without any one piece, the other pieces became substantially less valuable.

⁵ Email dialogue with Matthew Forti, February 21, 2014.

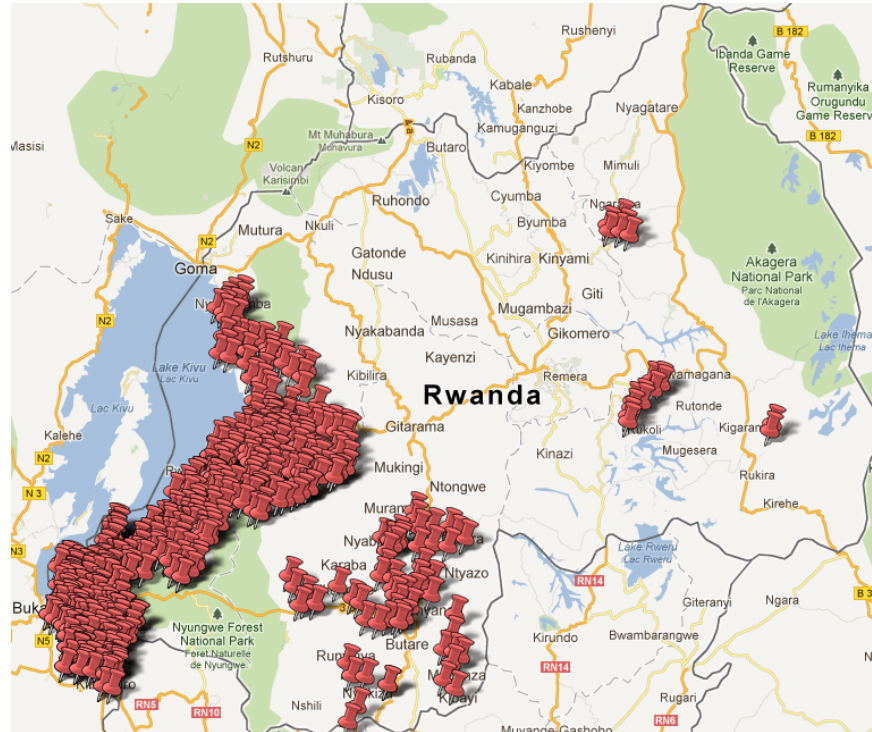
Figure 1: One Acre Fund's Service Bundle

Source: One Acre Fund.

One Acre Fund strengthened the financing and training components of the chain and lowered transaction costs by organizing its farmers into groups of five to eight, who generally attended trainings, planted, and repaid as a unit. This group structure served as a social “credit check” on clients, as well as ensuring that training on planting methodology embedded itself deeply into farming communities.

The second major innovation of One Acre Fund's core program model was *effective rural distribution*. One Acre Fund quickly realized that one of the major factors contributing to its clients' persistent poverty was that they lived in extremely remote areas of Africa, beyond the reach of most businesses, NGOs, and government agricultural services. One Acre Fund built a network of “rural market points” that put its entire bundle of services within walking distance of its farmers. One Acre Fund's distribution points in Rwanda (as of 2012) are shown in **Figure 2**.

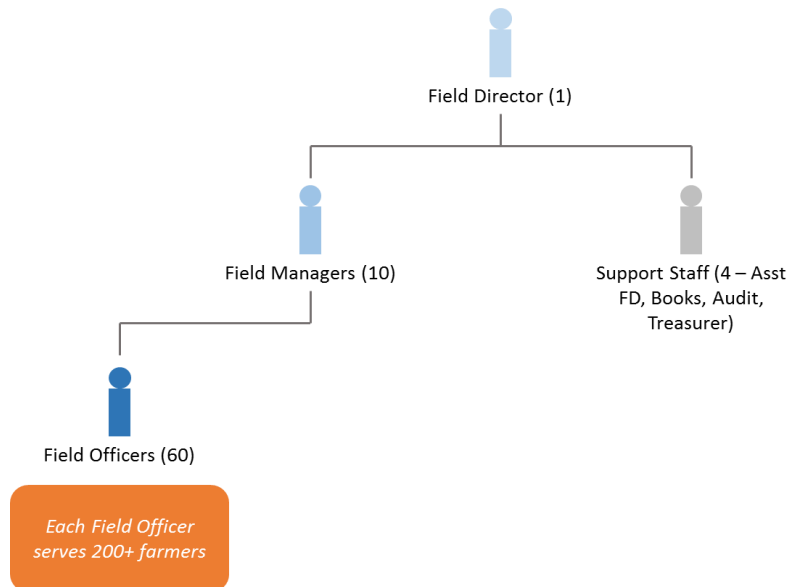
Figure 2: One Acre Fund's Rwanda Distribution Points as of 2012



Source: One Acre Fund.

In order to consistently deliver its bundle of services in extremely rural areas, One Acre Fund employed a standardized operating process. At the heart of the operating model was the Field Officer, a full-time One Acre Fund staffer (often a local farmer herself) who would interact with the same cohort of clients on a daily basis. When entering a new community, One Acre Fund first mobilized farmer groups and attached a Field Officer to at least ten of these groups. The Field Officer administered One Acre Fund's services—including enrollment, distribution of inputs to clients, training, and recovery of repayment. Over time, each Field Officer's responsibility was expected to expand to serving approximately 200 farmers.

As shown in **Figure 3**, Field Officers were supervised by Field Managers. At full scale, each district of operations would have ten field managers, supervising 60 field officers, serving 12,000 farmers.

Figure 3: Core Program District Operating Unit

Source: One Acre Fund.

One Acre Fund invested heavily in codifying what the field units did (e.g., standard operating procedures for hiring line-level staff, enrollment of farmers in batches of 1,000 or more, standard training curricula for each crop, and other procedures). The organization also trained an army of middle- and upper-managers to fill the field leadership roles. In anticipation of further expansion, the organization proactively building tiers of management staff through an intensive management “fast track” program.

Strategic Priorities

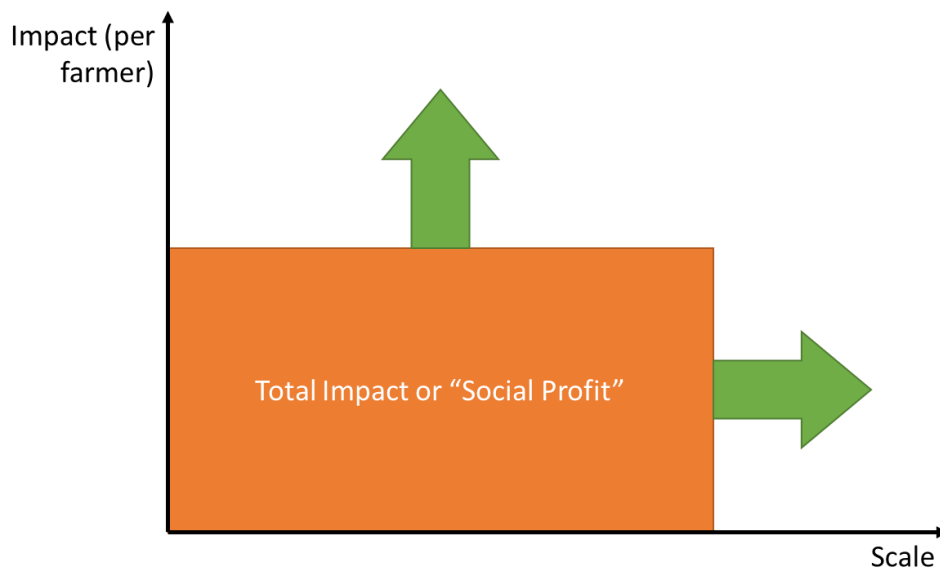
From its inception, One Acre Fund decided to target three strategic priorities:

- **Impact:** The average gain in farm profit, after farmer repayment, on every planted acre.
- **Scale:** Number of farmers served by One Acre Fund.
- **Sustainability:** The percentage of field expenses (farm inputs, field staff, and field administration) covered by farmer repayments.

One Acre Fund believed that the overall goal of any social enterprise should be to maximize positive social impact. Internally, the organization envisioned a rectangle that defined overall impact as in **Figure 4**. The y-axis is average impact per farmer, and the x-axis is the total number of farmers; both are crucial in determining the overall success of the organization. The model also suggests multiple, complementary

paths to success—deepening the average impact of its services *and* reaching as many poor farmers as possible. *Financial sustainability* adds a third dimension—cash—that allowed One Acre Fund to have the resources to repeat its positive impact year after year.

Figure 4: One Acre Fund’s Approach to Social Impact



Source: One Acre Fund.

Impact

In its first year of operation, One Acre Fund had received positive anecdotal evidence of its overall impact on farmers’ incomes. It decided to validate these findings with an impact measurement methodology that was scientifically sound but also scalable. For its core program, the organization sampled a random set of farmers in the One Acre Fund program and compared them to a random sample of farmers who had not planted with the organization (a control group). Monitoring agents then visited the fields of both groups to weigh and inspect the amount of harvest per acre. Agents revisited farmers several times afterward as they consumed and/or sold their harvest, to determine its overall value in current prices.

An illustrative summary of One Acre Fund’s core program impact is shown in **Exhibit B**. Although results vary from crop to crop and farmer to farmer, the organization has consistently validated a roughly 100 percent increase in farm profitability, net of repayment to One Acre Fund. The organization supplemented this impact data with extensive use of process-oriented Key Performance Indicators (KPIs) in order to understand whether the model was working as intended, why or why not, and how to quickly change course. For example, plant germination rates serve as an indicator of adherence to One Acre Fund’s planting method recommendations. A low germination rate KPI might indicate that fertilizer had been over-applied and “burned” seeds, preventing them from germinating.

Scale

One Acre Fund quickly decided to aim as high as possible when it came to scale. It would be a small victory to create an organization that could meaningfully impact the lives of a few thousand farmers, but the scale of the hunger problem in Africa alone amounted to roughly 50 million households. The organization set itself a goal of reaching one million farm families by 2020.

One Acre Fund grew in two ways. First, it sought to improve the density of clients it served in existing areas of operation, with a goal of enrolling at least 20 percent of the farming households in the areas it operated. Second, it decided to expand relatively aggressively into different geographic areas, from its original base in Western Kenya. This geographic expansion was a key part of reaching its scale milestones, and would also validate the core program model in different geographic, agricultural, and political contexts.

Sustainability

From the beginning, One Acre Fund committed itself to reaching financial sustainability. Asking farmers to pay for its services ensured that farmers were invested in the program, rather than passive beneficiaries. It also ensured that One Acre Fund could leverage donor dollars more efficiently allowing it to permanently commit to serving its customers.

At its early stages, a new One Acre Fund core “operating unit” operated at relatively low financial efficiency. As it grew, however, and as the client-to-Field Officer ratio improved, the unit was able to achieve a relatively high degree of financial sustainability. **Exhibit C** shows the financials for a sample core operating unit operating at “full scale” (approximately 12,000 clients). As of 2013, the organization’s overall field sustainability (the portion of field costs—including farm inputs, staff salaries, and field administrative costs—covered by farmer repayment) was just over 70 percent. By 2017, One Acre Fund aims to achieve breakeven in one of its mature countries of operation.

Growth of the Core Program to Present

With a clear strategic direction centered on impact, scale, and sustainability, One Acre Fund’s core program became the foundation for its expansion in East Africa starting in 2006. One Acre Fund’s founder and Executive Director, Andrew Youn, started the program in 2006 with approximately 100 farm families in Bungoma, Western Kenya. The Kenya program grew exponentially thereafter, reaching 12,000 clients by 2010 and roughly 60,000 clients in 2013.

In 2006, Andrew met Eric Pohlman, a former Peace Corps volunteer, who he asked to set up a pilot operation for One Acre Fund in western Rwanda, on the hilly shores of Lake Kivu. Expanding into a second country was seen as an important early test of the One Acre Fund model. In Pohlman’s words,

In year one, when Kenya got started, it was interesting to One Acre Fund to think about a pilot in another market, to see if our approach would work in multiple demographics. Rwanda was particularly interesting, given its high population density, the percentage of the population working in farming, and low fertilizer adoption—less than 3 percent. Rwanda was basically a perfect market for One Acre Fund.⁶

Pohlman began the Rwanda program in 2007, with an initial client enrollment of approximately 50 farmers. From there, the Rwanda program accelerated at a similar pace to that of Kenya.

In 2011, after several years of operating in Rwanda, One Acre Fund was ready for another new country launch. It chose Burundi, a country close to Rwanda and with relatively similar farming conditions. As with Kenya and Rwanda, Burundi quickly began to make a substantial contribution to One Acre Fund's overall client numbers. **Exhibit D** summarizes the growth of One Acre Fund's core program since inception.

By the end of 2013, One Acre Fund was reaching roughly 130,400 farmers across East Africa with its model of providing them a complete agriculture "value chain." It was also using its core service offerings of staple crops like maize, beans, and sweet potatoes as a jumping off point for the development of life-changing innovations for its farmer network. Products like tree and vegetable seeds, solar lights, and harvest storage technologies were developed with the help of farmer input. The successful products were offered to the entire network as an additional way to boost One Acre Fund's multi-year impact.

One Acre Fund realized in 2013 that it was still serving only a drop in the ocean of need that was Africa's hunger problem. If One Acre Fund expanded its core program along its projected growth path, it would reach roughly 425,000 farmers by 2016—still less than one percent of the total population in need. 425,000 was an impressive figure, but One Acre Fund wanted to do more. Senior leadership began to think about ways it could expand beyond its core program to rapidly reach more farmers.

Distribution Arrangements in Rwanda and Burundi

A potential pathway to aggressive scale-up suggested itself in the course of One Acre Fund's experience operating in Rwanda and Burundi—working with the government, serving as a nationally certified distributor of fertilizer, and thus quickly reaching many more families.

In 2008, the Government of Rwanda took a bold, proactive step to boost the usage of fertilizer by the country's smallholder farmers. It decided to create a fertilizer subsidy program, which would consist of the following three prongs:

1. The Government would leverage its economies of scale to *import* fertilizer directly, in quantity, to boost the overall supply of fertilizer in the country.
2. The Government would *subsidize* the fertilizer price, to increase interest and uptake by farmers.

⁶ Phone interview with Eric Pohlman, January 29, 2014.

3. Private sector entities would *distribute* fertilizer to farmers throughout the country, under license from the Government, in order to spur private sector involvement in the fertilizer supply chain.

This model was selected because it was seen as the best way for the government to spur the development of an eventually viable private sector market for fertilizer, with widespread adoption by farmers.

In 2009, One Acre Fund became one of the Rwandan government's licensed distributors. At the time, One Acre Fund had been established for a little over two years, serving roughly 5,000 clients in the country. Despite One Acre Fund's relatively small reach, the government chose to license it as a distributor because the Ministry of Agriculture considered its bundled approach a promising model for increased farm output and wanted to maintain the viability of this nascent venture. In the next few years, the Rwandan government continued to spur the development of a fertilizer market in the country through its import and subsidy program. Between 2009 and 2013, the government auctioned the rights to sell fertilizer on a district-by-district basis, with One Acre Fund taking on a greater number of districts each year.

The government's subsidy program was highly successful, with fertilizer adoption increasingly exponentially during its course. In 2013, deeming its initial push successful and noting that a private-sector model was now viable, the Government of Rwanda decided to privatize the importation of fertilizer. Through a competitive bid process, One Acre Fund was named a sole importer and distributor of fertilizer for ten districts and became one of two national importers of fertilizer in the country.

As its role in Rwanda's fertilizer supply chain grew, Rwanda's Ministry of Agriculture also engaged One Acre Fund to strengthen farmer training programs in the country, leveraging the expertise in farmer training the organization had gained through its core program. In Pohlman's words, "we had learned through our operations how to do effective in-field farmer training and saw an opportunity to work with the Ministry and its impressive network of 14,000 existing volunteer community farmer-trainers."⁷ As of 2014, One Acre Fund helped to train this extension agent network in its core program methods and provide them with pictorial training materials to use with farmers. It will also distribute "good planting practice" flyers to 500,000 farmers throughout the country.

One Acre Fund opened its Burundi operation in 2011. In 2013, at the same time the Government of Rwanda was privatizing its fertilizer importation, the Government of Burundi instituted a new nationwide fertilizer subsidy program (PNSEB). Burundi opted for a similar framework as Rwanda, but decided to go immediately with private fertilizer importation. As in Rwanda's program, the Government of Burundi instituted a model where (1) private vendors imported fertilizer, (2) the government subsidized the country-wide fertilizer price, and (3) private vendors distributed fertilizer throughout the country.

Similar to Rwanda, One Acre Fund bid at a public auction to be an importer and distributor under PNSEB and was chosen in part because it had a solid distribution infrastructure in place in the areas where it operated. One Acre Fund opted to become a national importer in Burundi so that it could offer a competitive price to farmers, ensure on-time delivery of fertilizer, and guarantee fertilizer quality.

In both Rwanda and Burundi, One Acre Fund partnered with the governments to train and capitalize local fertilizer retail outlets—called Agro-Dealers—which then existed side-by-side with One Acre Fund's core

⁷ Ibid.

program. This was a win for the governments, which wanted to spur advanced input adoption, One Acre Fund, which wanted to do the same, and farmers, who began to benefit from more options. The Agro-Dealers occupied a position of healthy competition with One Acre Fund's core program. Pohlman explained that "having baseline access to fertilizer across Rwanda through retail outlets is a necessity for the country, and we wanted to be part of building that."⁸ In Burundi, One Acre Fund was similarly involved in helping to set up the Agro-Dealer network. Margaret Vernon—One Acre Fund's Burundi Country Director—recalled that "this was a significant amount of work, but I think that One Acre Fund handled it well."⁹ The result was beneficial for Burundi's farmers.

In both countries, the Agro-Dealer network provided primarily a retail service, selling fertilizer at the government-subsidized price, along with other farm inputs that farmers might find useful. In many cases, Agro-Dealers also provided basic education on fertilizer usage best-practices and sometimes set up demonstration plots near their stores. One Acre Fund continued to pride itself on the in-depth, one-on-one touch it maintained with enrolled farmers as well as its ability to deliver fertilizer to farmers' doorsteps—on average its deliveries came substantially closer to farmers' fields than the Agro-Dealers could. Overall, the kick-start given by the government subsidy schemes and retail networks was competition that One Acre Fund welcomed.

Why did One Acre Fund agree to take a major role in government-sponsored distribution in Rwanda and Burundi? An obvious reason was to support the respective Ministries of Agriculture, especially when they were embarking on important agricultural policy shifts. One Acre Fund saw governments increasingly taking progressive steps that were consistent with its mission of empowering smallholder farmers, and wanted to play as supportive a role as possible. Increasing fertilizer adoption, part of the first link in One Acre Fund's service bundle, would advance the organization's overall goals. Finally, these government partnerships would positively impact both clients and non-clients, hopefully attracting more farmers to the other services offered by One Acre Fund's core program.

The Potential of Government Services

One Acre Fund had originally entered into fertilizer distribution in Rwanda and Burundi in order to stay in full compliance with government-mandated shifts in the agricultural policy landscape, but quickly saw the enormous potential that these partnership might offer. The credibility of One Acre Fund's core program had led to fertilizer distribution contracts, which in turn had led to farmer training flyers. What else might be possible? These accomplishments suggested to One Acre Fund's leadership that providing services to African governments could be a promising strategic option for reaching more impoverished farmers. Partnering with governments was a potential model for rapidly accelerating One Acre Fund's impact on agriculture in Africa.

One Acre Fund was also influenced by signs of interest in its program from African governments outside its core operating areas of Kenya, Rwanda, Burundi, and Tanzania. In 2013, One Acre Fund conducted exploratory talks with members of the Ethiopian Agricultural Transformation Agency (ATA)—a

⁸ Phone Interview with Eric Pohlman, January 29, 2014.

⁹ Phone Interview with Margaret Vernon, February 3, 2014.

government agency charged with improving the policy environment for agriculture in the country—around potential partnerships. Similarly, in 2013, One Acre Fund received an expression of interest from the Government of Malawi around potential partnership opportunities. Another avenue for government services—providing training support to government extension agents or directly to farmers—is now being tested there. One Acre Fund created an illustrated “good planting practice” flyer, distributed through government-owned depots to roughly 1,500 farmers, to see if this had a measurable yield response.

One Acre Fund’s government services work presents a number of possible routes for impact. Several models for government services are being considered:

1. Nationwide inputs distribution. One Acre Fund would manage the input supply chain for entire countries. This would build off its current work operating fertilizer supply chain services in Rwanda and Burundi. This might also move beyond fertilizer to include seed supply where relevant. One Acre Fund would directly import, distribute, and market agricultural inputs on behalf of the country involved. The organization estimates these services could reach an additional 600,000 farmers at a 33 percent gain in farm income by 2016.
2. Marketing and demand stimulation. One Acre Fund would partner with African governments to leverage its marketing expertise to promote the use of seed and fertilizer (which is an order of magnitude lower than anywhere else in the world, presenting an enormous opportunity). For example, in 2014, One Acre Fund is distributing 500,000 fertilizer marketing flyers. These might then be accompanied by a mass marketing campaign including demonstration plots, new retail outlets, and radio spots. The organization thinks this work might be able to reach another 500,000 farmers with a roughly 33 percent gain in income attributed to advanced input adoption.
3. Nationwide training services. One Acre Fund would work through existing governmental farmer training (“extension”) agents, to provide standardized tools and training. “Good planting practice” flyers, distributed in countries like Rwanda and Malawi, are currently being tested by One Acre Fund. It estimates that these materials could provide a roughly ten percent yield improvement for roughly 650,000 families by 2016.

Measuring the impact of any specific government services partnership is very difficult, partly because the programs have not yet been fully implemented, and partly because they forego the direct relationship with farmers that is central to One Acre Fund’s core program. Stephanie Hanson, One Acre Fund’s Director of Policy and Outreach, explained that “there are some challenging strategic questions around [impact] measurement that One Acre Fund will have to grapple with in the next couple of years.”¹⁰ Indications from early government services pilots suggest that they might achieve anywhere from ten to forty percent of the impact of the core program.

By 2016, One Acre Fund conservatively estimates that its core program will improve profitability for 425,000 farmers by an average of 100 percent (**Exhibit C**). Government services, on the other hand, might reach anywhere from 1,000,000 to 1,750,000 farmers in the same time period. If farm productivity were increased for each of these farmers by an average of one-third, then the total impact would be the same as that of the core program. **Figure 4**, above, shows the argument graphically: Overall impact can be increased either by increasing impact per farmer or the number of farmers served. Government services,

¹⁰ Phone interview with Stephanie Hanson, February 5, 2014.

which would almost certainly generate less impact for individual farmers, might nonetheless create a similarly-sized overall impact by 2016.

Strategic Questions

The strategic question facing One Acre Fund's leadership is whether, and how much, to invest in government services. The government services option appears to be feasible, but will it best advance the aims of One Acre Fund? How will it compare to One Acre Fund's core program along the three key axes of impact, scale, and sustainability?

The most crucial uncertainty is around impact. One Acre Fund has long believed that each link in the value chain depicted in **Figure 1** must be provided as a *bundle* in order to be effective. Supplying government services would amount to providing only one of the links in the value chain—a departure for the organization that it believes will have substantially less impact than its core program. Focusing on a single aspect of the chain would appear to make the most sense in countries where the other links are already flourishing. Stephanie Hanson pointed out that providing government services will allow One Acre Fund the chance to rigorously evaluate the independent impacts of different, complementary parts of its core program bundle.¹¹ Is it possible that an individual link in the chain can be effective on its own, or does the impact fall apart without the other pieces? For example, One Acre Fund had evidence suggesting that fertilizer, used on its own, had a positive impact for farmers, but far less so than when provided in conjunction with high-quality training on how to dose it effectively and avoid long-term soil degradation.

By contrast, One Acre Fund has consistently validated the overall 100 percent gain in farm income from its 175,000-farmer core program. Its close relationship with each of these farmers allows the organization a relatively high degree of confidence in its impact assessments. The more intensive nature of the core program confers other advantages as well. Due to its unique, close, and multi-year relationship with farmers, the core program serves as a vehicle for One Acre Fund's innovations, which have led to the introduction of highly impactful products like solar lights and sustainable forestry tree seeds into its program offerings (see **Exhibit E** for One Acre Fund's current innovations pipeline). The depth of the farmer relationship has also proven an effective vehicle for staff development. The organization's field officers are often picked from its existing farmer base and then aggressively promoted. Working intensively with farmers has given One Acre Fund a staff of some 2,000 field staff from whom to draw on for leadership and innovation.

The flip side of this intensive farmer engagement is that the core program, while highly scalable by the standards of many social enterprises, is difficult to roll out on a scale and pace consistent with One Acre Fund ambitions. Expansion requires time, money, and, crucially, people. Although One Acre Fund has created a replicable process for adding new operating units, it is a people- and resource-intensive process, requiring the recruitment, selection, and training of roughly 75 people per unit. Opening a new region or country is even more exacting, in that the logistical, human, and financial infrastructure must be built mostly from scratch.

¹¹ Ibid.

Government services provides a potentially different model. A hypothetical government services partnership could serve many people—in principle all of the farm households in a country—with dramatically lower overall setup costs for One Acre Fund due both to the relative simplicity of the program and the ability to leverage existing government infrastructure. The need for intensive staff recruitment and development would be substantially lowered. It is this advantage in scalability that would allow One Acre Fund’s government services unit to potentially reach 1.5 million farm families within a few years of its inception.

The comparison between the core program and the potential of government services raises fundamental questions about One Acre Fund’s strategy for achieving overall impact. Should the organization be entirely agnostic about its approach, provided the overall size of impact (average impact per farmer multiplied by number of farmers) is the same? Another key issue is the repositioning of its approach to staff development and retention. Government services would likely present fewer overall opportunities for staff growth, particularly for the local staff who make up the vast majority of the organization’s overall staff footprint.

What is the organization’s core competency? Are the organizational competencies required for the core program adaptable to those required for government services, and can the organization manage the needed transition if it decides to pivot to government services? Finally, which move best positions the organization for impact in an uncertain future policy environment? Is it better to have the advantages of a totally owned and proprietary core program or should it collaborate with, and leverage the reach of, increasingly engaged and progressive African governments?

Conclusion

One Acre Fund faces a choice between redoubling its investment in its core program and moving aggressively into government services. Another option is creating a hybrid of some sort—operating its core program in some countries, a government service in others, or even both models in the same country. But with a hybrid, some major questions remain. If a fertilizer distribution program were offered in the same country as the core program, how many farmers might desert the core program because they believe fertilizer is enough? And how would the competing resource and staffing priorities be resolved with two relatively separate models competing for attention? It is clear that executing a hybrid program would require thoughtful planning.

The organization wants to take the time to evaluate its options carefully, but it may need to move boldly if it wants to have a role in the implementation of these government services. And aside from the interest of governments, what about the interests of other stakeholders, like donors? It is unclear if they will be as interested in government services as they have been in the core program.

More crucial than any of these questions, however, is the question of impact. To date, One Acre Fund’s core program has been very effective, reaching 175,000 smallholder farmers in East Africa. But the leadership estimates the number of farmers in Africa who could benefit from One Acre Fund’s services is 50 million. Government services offer a compelling potential way to reach this vast need quickly. Government services projects can reach many more farm families, but the depth of the impact is far from

clear. One Acre Fund has explored several of these implementation partnerships on a trial basis, but not enough to have confidence in the impact numbers. Should One Acre Fund make a strong commitment to government services now, even at the cost of the resources dedicated to the core program? The risk of focusing on government services is high, but so is the reward. Key amongst these large risks is that the organization might need to fundamentally reorient itself. What strategic path should the Youn, Forti, Pohlman, Vernon, and One Acre Fund's other senior leadership take?

Exhibit A: One Acre Fund’s Operating Area in Africa

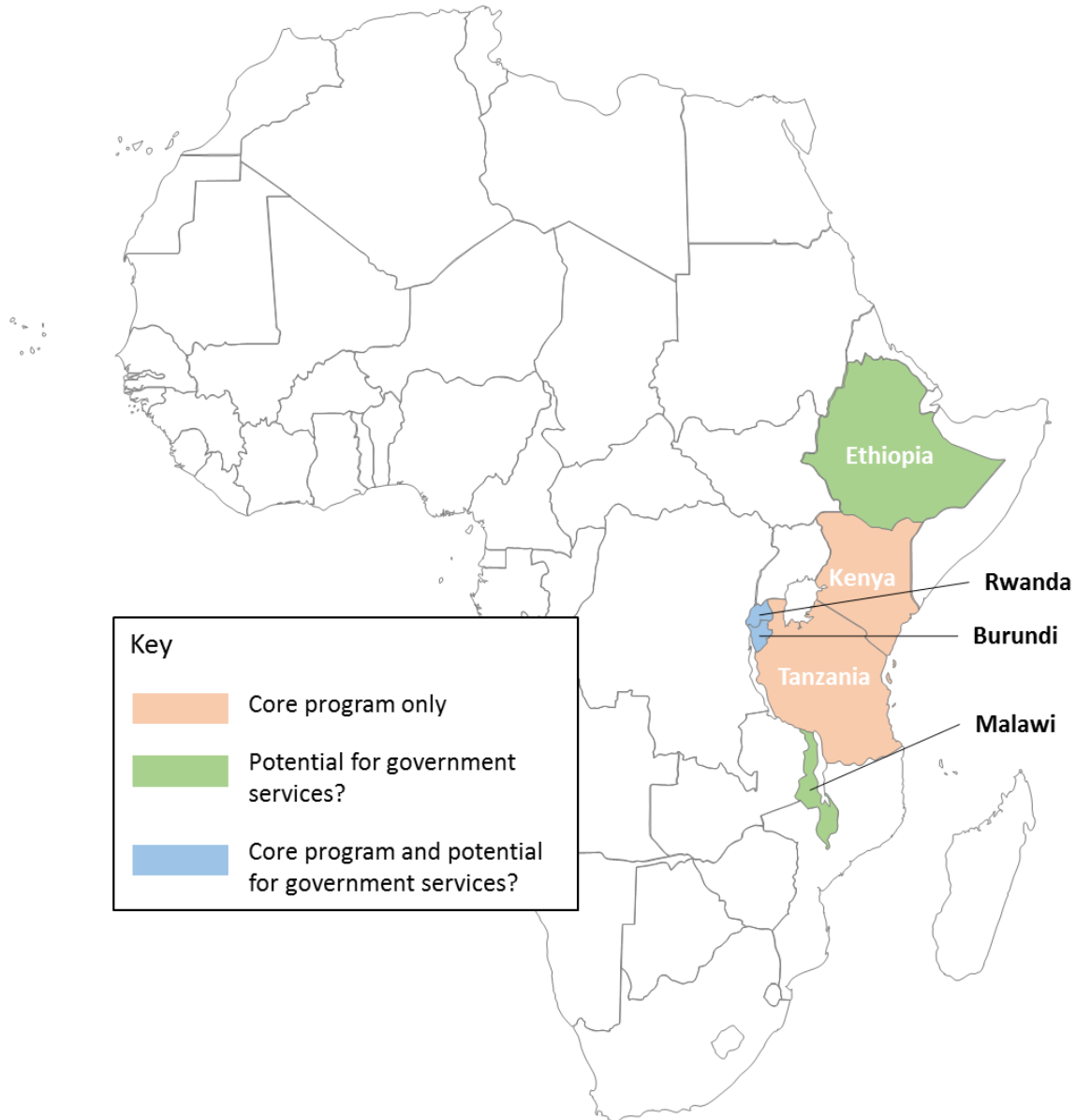


Exhibit B: Core Program Impact Model

Illustrative model of core program impact for an average One Acre Fund farmer in Kenya, planting one-half acre of maize.

All figures in USD

	Standard Local Farming Method		One Acre Fund Package	
Cost				
Fertilizer				
Planting Fertilizer	\$	10.00	\$	22.00
Top-Dress Fertilizer	\$	5.00	\$	16.00
Maize Seed	\$	4.00	\$	9.00
Crop Insurance	\$	-	\$	5.00
One Acre Fund Training	\$	-	\$	10.00
Total Costs	\$	19.00	\$	62.00
Income				
Maize Harvest (kilograms)		250		500
<i>Post-Harvest Spoilage</i>		25%		15%
Value per Kilogram	\$	0.55	\$	0.60
Adjusted Harvest Value	\$	103.13	\$	255.00
PROFIT FROM 1/2 ACRE OF MAIZE	\$	84.13	\$	193.00
Δ PROFIT FROM ONE ACRE FUND				129%

Exhibit C: Financials for a Sample Core Operating Unit

Operating Unit 3-year Expansion Model

All figures in \$ USD

	Year 0	Year 1	Year 2	Year 3	Cumulative
Summary Assumptions and Metrics					
Clients	500	3,500	6,000	12,000	21,500
Acres Under Cultivation	315	2,100	4,200	9,600	15,900
Field Officers	12	20	30	48	98
Gross Margin					
Cost of Goods Sold	(27,674)	(190,991)	(390,365)	(911,525)	(1,520,555)
<i>Fertilizer</i>	(17,978)	(124,129)	(253,712)	(592,466)	(988,285)
<i>Seed</i>	(5,555)	(38,178)	(78,073)	(182,305)	(304,111)
<i>Other</i>	(4,141)	(28,684)	(58,580)	(136,754)	(228,159)
Associated Costs (insurance, non-repayment)	(4,646)	(32,219)	(66,963)	(141,905)	(245,733)
Farmer Repayment	42,372	292,446	607,365	1,418,373	2,360,556
Gross Margin	10,052	69,236	150,037	364,943	594,268
Expenses					
Staff Salaries	(38,000)	(68,000)	(100,000)	(157,625)	(363,625)
Staff Training, Transport, Overhead	(15,375)	(26,625)	(39,500)	(62,750)	(144,250)
Input Transport and Storage	(5,250)	(34,750)	(68,250)	(152,750)	(261,000)
Marketing	(1,750)	(12,375)	(20,875)	(40,875)	(75,875)
Office	(5,375)	(9,000)	(13,625)	(21,750)	(49,750)
Headquarters Support	(12,500)	(21,000)	(31,500)	(50,375)	(115,375)
Total Expenses	(78,250)	(171,750)	(273,750)	(486,125)	(1,009,875)
Total Field Income (Deficit)	(68,198)	(102,514)	(123,713)	(121,182)	(415,607)
Income (deficit) per client	(136.40)	(29.29)	(20.62)	(10.10)	
% Sustainability (inclusive of COGS)	38.3%	74.0%	83.1%	92.1%	

Exhibit D: Core Program Scale Projections

	TOTAL	YoY Growth	Kenya	Rwanda	Burundi	Tanzania	New Countries	
Actual	2006	120	N/A	120				
	2007	600	400%	500	100			
	2008	4,100	583%	1,900	2,200			
	2009	12,000	193%	5,500	6,500			
	2010	30,500	154%	12,500	18,000			
	2011	75,250	147%	33,000	42,000	250		
	2012	138,000	83%	78,000	54,000	5,000	1,000	
	2013*	130,400	-6%	60,500	54,000	9,600	4,300	2,000
Projected	2014*	202,600	55%	80,000	88,000	24,600	9,000	1,000
	2015	315,000	55%	130,000	130,000	35,000	15,000	5,000
	2016	425,000	35%	170,000	170,000	50,000	25,000	10,000

* 2013-2014: Pause in Kenya program growth due to maize virus (MLND).

Exhibit E: One Acre Fund's Kenya Innovation Pipeline

* LR = Long Rains / * SR = Short Rains

* Process of iterative trialing means that trials may not always proceed linearly across phases.

Product	Most Recent Trial Phase				
	0: Research	1: Nursery Trial	2: Trial District	3: Core District	4: Full Scale
AGRICULTURAL PRODUCTS					
Sorghum	2012	2012	2014 LR	2014 SR	2013
Finger Millet	2012	2012	2012	2013	2013
Maize (Ongoing Seed / Fertilizer Trials)	2014 LR	2008	2014 LR	2013	2010
Common Bean	2010	2011	2014 LR	2014 SR	2013
Sukuma Wiki	2010	2010	2010	2010	2010
Grevillea Tree	2010	2014 LR	2013	2014 LR	2013
Soil Organic Matter	2014 LR	2014 LR	2014 LR		
Soil Acidity / Lime	2014 LR	2014 LR	2014 LR		
Maize + Bean Intercrop	2014 LR	2014 LR	2014 LR		
Dryland Rice	2013	2013	2014 LR	Trial Packet	
Groundnuts	2013	2013	2014 LR	Trial Packet	
Soybean	2013	2013	2014 LR	Trial Packet	
Boma Rhodes	2013	2013	2013	2014 LR	
Desmodium	2013	2013	2013	2014 LR	
Low Rainfall Techniques	2014 LR	2014 LR	2014 LR		
Maize + Soybean Intercrop	2014 LR	2014 LR	2014 LR		
Fodder Trees	2014 LR	2014 LR	2014 LR		
Maize + Bean Intercrop	2014 LR	2014 LR	2014 LR		

Wheat	2013	2014 LR			
Maize Pesticides	2013	2014 LR			
Bean Fungicides	2013	2014 LR			
Sunflowers	2013	2014 LR			
Cowpeas	2014 LR	2014 LR			
Indigenous Vegetables	2014 LR	2014 LR			
Red Onions	2013	2014 LR			
Carrots	2013	2014 LR			
Pigeon Pea	2014 LR	2014 LR			
NON-AGRICULTURAL PRODUCTS					
Solar Lights	2009	2009	2010	2011	2011
Waterguard	2008	2009	2010	2011	2011
Dairy Cow Top Up	2013	2014	2014		
Poultry Care	2013	2014			
Electronic Surveying	2013	2013	2014	2014	
Efficient Cookstoves	2013	2014			
Water Storage + Transport	2014	2014			
Anti-Diarrhea Kit + Sanitation (& shoe) Training	2014				
Land Tenure Registration + Credit Access	2014				
Storage Technologies	2014				
Long lasting insecticide bednets + Indoor Residual Spraying	2014				
Savings Top Up	2014				
OAF Stockist Trial	2014				
Solar Power (Radio, meter systems, etc.)	2014				
Community Products (Improved toilets / borehole / biofort / road)	2014				
Dewormer Pills	2014				
Chlorine Dispensers	2011	2012	2014		