Fintrac University
KNOWLEDGE & LEARNING BRIEF

Volume 1: February 2015

Achieving Large Scale Smallholder Impact: A Case Study in Kenya

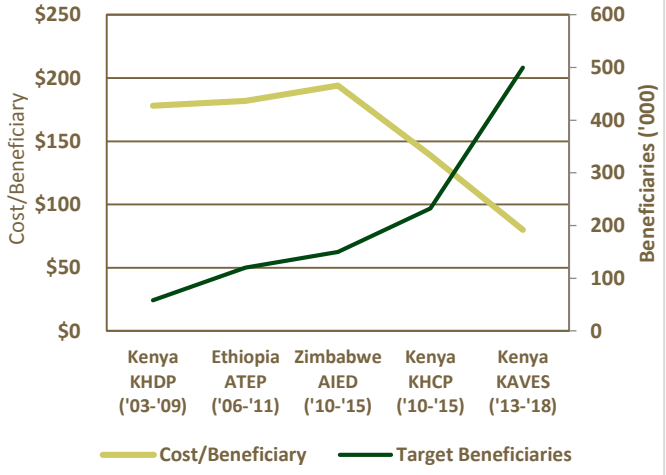
A pressing challenge facing smallholder agricultural development projects is how to achieve substantial positive socioeconomic gains at the population level, cost effectively. This question points to a necessary focus on impact, scale, and efficiency. The solution may be found in the commercial diffusion of practical technologies to a critical mass of rural smallholder farmers, enabling them to meet market demand, thereby stimulating investment in new services from local private sector providers.

This brief explores the approach employed by Fintrac Inc. on the USAID Kenya Agricultural Value Chain Enterprises (KAVES) project in its first two years of implementation, sharing successes and lessons learned.

Figure 1 below illustrates rising direct beneficiary targets juxtaposed against declining implementation cost per farm household beneficiary for five Fintrac-implemented projects over the past 10 years in Eastern and Southern Africa. The implications of this data are potentially two-fold. First, the trend suggests that early stage intensive engagement is required to reach increasingly higher numbers of direct beneficiaries. Second, cost effective approaches are necessary to continue achieving substantial positive impact for smallholders as beneficiary targets rise.

The KAVES field methodology to achieve early-stage direct impact and scale initially focused on identifying three primary factors: (1) local partners with existing smallholder outreach; (2) existing and opportunistic market systems; and (3) proven labor-saving technologies that increase smallholder productivity and competitiveness.

Figure 1: Rising Targets, Declining Unit Costs
(Source: Fintrac CIRIS M&E System)



During project start-up, KAVES prioritized local partners with existing on-the-ground capacity and expansive relationships with farming communities. Given the geographic area of project operation, these partners by necessity were largely civil society organizations, since the more resourced private companies were initially risk adverse given remote locations. The purpose of partnerships is always to engage farmers, disseminate knowledge and good agricultural practices, and introduce the basic technologies necessary to increase market-led production and attract private investment in new services.

During its initial 23 months KAVES initiated new services to 165,496 beneficiary smallholder households (53 percent women) through an array of local partnerships. An estimated 86,000 of these small-scale farmers generated new income and/or established new relationships with commercial partners.

These upfront efforts to introduce proven technologies, practices, and market relationships create incentives for smallholders while at the same time reducing the risks for local commercial service providers of investing in new geographies, new smallholder suppliers, and new smallholder customers. As smallholder demand for improved inputs and capacity to achieve a critical mass of high quality outputs expands, we anticipate population level growth in incomes through an increasing number of commercial agribusiness partnerships.

KAVES targets opportunistic market systems by initially selecting and continually evaluating those that represent the widest and deepest potential impact at the smallholder level. To do so, the project employs an indexing tool to rank the factors influencing inclusive growth including: (1) rapid expected returns; (2) high value; (3) market availability; (4) technical knowledge requirements; (5) local adaptability; and (6) perceived risk. These index criteria resulted in an initial focus on banana, French beans, passion fruit, sorghum, and dairy. KAVES' added commitment to staple crops targets the intensification of maize production to free up scarce land for higher value horticulture and dairy production.

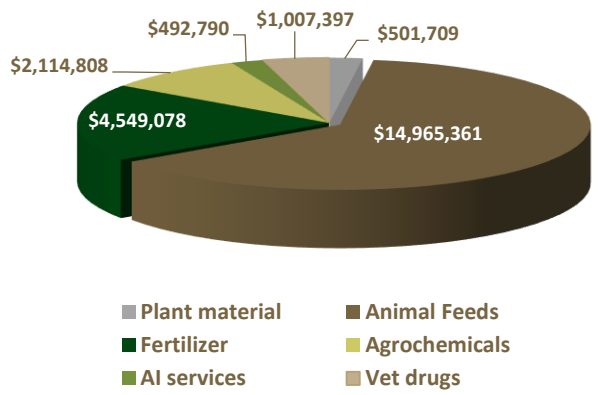
The identification and support for commercial expansion of proven technologies also starts with an indexing tool – one that ranks the primary factors influencing broad-based smallholder uptake: (1) local availability; (2) affordability; (3) rapid expected returns; (4) limited technical know-how requirements; (5) perceived risk; and (6) evidence of

effectiveness in the local environment. Based on these criteria, KAVES focused on improved planting material, fertilizer, agrochemicals (herbicides, pesticides), artificial insemination services, veterinary drug treatments, and improved feeds/supplements – as well as new postharvest technologies such as hand held cultivators, mechanized sorghum threshers, maize shellers, and hermetic bags for household grain storage.

The data collected on direct impact from project activities to date confirms the efficacy of the KAVES approach in terms of stimulating inclusive smallholder commercialization on a large scale. Figure 2 shows key production input technologies purchased in the private market by direct project beneficiaries in the most recent production cycle alone (*data collected from a statistically significant random sample of 2,500 beneficiaries*).

We estimate that the project has already stimulated total private sector input purchases of $23.6 million by direct beneficiaries through the most recent production cycle. The data suggests significant and increasing revenue streams to attract private sector investment in the smallholder market for improved inputs.

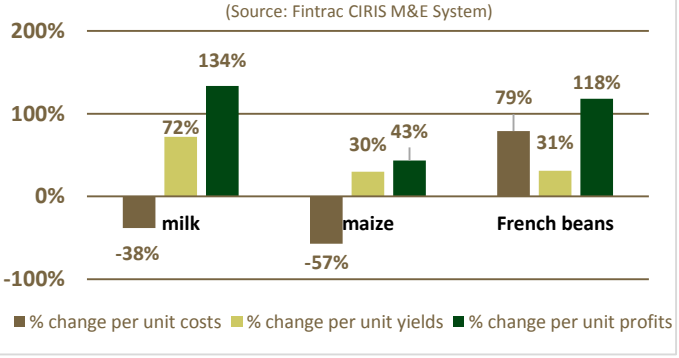
Figure 2: Value of Private Sector Input Sales: 1 Cycle
(Source: Fintrac CIRIS M&E System)



The private market for postharvest technologies also shows early signs of robust demand as a result of project activities. To date, 32,692 beneficiaries have participated in postharvest trainings, and 60,072 hermetically sealed bags, valued at $122,385, have been sold by commercial suppliers. Average rates of return for maize stored in hermetically sealed bags in Kenya range from 21 to 107 percent[1] across several KAVES target counties.

Intensive farm level capacity building by local partners has resulted in significant farm level impact. Figure 3 shows the change in per unit production costs, yields, and profits following KAVES capacity building interventions for milk, maize, and French beans.

Figure 3: Smallholder Farm-level Impacts
(Source: Fintrac CIRIS M&E System)



The resulting annual farm-gate profits from KAVES activities equates to $433/hectare for maize producers, $867/cow for milk producers, and $2,571/hectare for French bean producers. KAVES also facilitates formal forward purchase contract arrangements between processors, exporters, and small-scale farmers in the passion fruit and French bean sectors – generating $1.15 million sales to date for nearly 3,900 farmers. While a significant proportion of output market transactions have taken place in the informal spot market, we expect formal contract arrangements to expand as smallholder commercialization reaches a critical mass.

At this early stage it is premature to measure the indirect impact of KAVES interventions; however, research findings suggest that boosting demand for agricultural technologies and services through "linkages" and "spillovers" will expand the indirect impact of direct income gains[2]. An example of linkages under KAVES includes building market-based relationships between producers and commercial agribusinesses, while an example of spillovers include replication of production technology uptake by non-project supported farmers following demonstrated success.

Lessons Learned

- Higher numbers of beneficiaries need not be the primary end goal of agricultural development projects. Enabling substantial returns on investment in the smallholder market segment will deliver transformational impact.
- Demonstrating success with early adopters of proven technologies is a prerequisite for rapid adoption by non-project supported farmers and attracting increased investment from private sector service providers.
- Smallholder commercialization requires intensive capacity building, and local civil society partners can be key to providing an initial presence in remote rural areas.
- Reaching scale and impact requires technologies that farmers recognize are effective, save resources, generate rapid returns, and are widely available in production zones.
- Identifying "new" technologies is unnecessary; instead, target existing technologies that exhibit returns on investment for farmers and commercial providers (e.g. animal feeds have a particularly large impact at low cost).

References:

1. Jones, M., Lowenberg-DeBoer, J. "Updating Ex-Ante Economic Analyses for Purdue Improved Crop Storage (PICS) Bags in Sub-Saharan Africa: The Cases of Senegal, Kenya and Ghana". Working Paper #14-5. Department of Agricultural Economics, Purdue University, 2014.

2. Snodgrass, D. Agricultural Transformation in Sub Saharan Africa and the Role of the Multiplier. USAID LEO Report. 2014

Key Terms:

Direct Beneficiaries: Fintrac adheres to a stringent definition of direct beneficiary which is focused on achieving substantial returns on project investments in terms of smallholder impact. KAVES defines it as "those who come into direct contact with a set of interventions (goods or services) provided by the activity. The intervention needs to be significant, meaning that if the individual is merely contacted or touched by an activity through brief attendance at a meeting or gathering, s/he should not be counted as beneficiary. Individuals who receive training or benefit from activity-supported technical assistance, good, or service provision are considered direct beneficiaries."

Indirect Beneficiaries: A household that does not have direct contact with the activity, but still benefits.

Zone of Influence (ZOI): The KAVES ZOI includes the following counties, by agro-ecological zone: *Western/high-rainfall zone:* Trans Nzoia, Bungoma, Elgeyo-Marakwet, Uashin Gishu, Busia, Kakamega, Nandi, Vihiga, Siaya, Kisumu, Kericho, Homa Bay, Nyamira, Bomet, Kisii, Migori. *Eastern/semi-arid zone*: Meru, Tharaka-Nithi, Machakos, Kitui, Makueni, Taita Taveta.

About the Fintrac University Knowledge & Learning Brief Series:

Fintrac University is an e-learning platform designed to build Fintrac's global staff capacity in agricultural development practices, strategies, and processes. The Knowledge & Learning Brief Series was created for Fintrac University as a set of evidence-based analyses examining the efficacy and local sustainability of the Fintrac methodology across various development contexts. Each paper highlights a particular project component or approach within or across countries, and examines whether the data validates our goal of sustainable impact for smallholder farming families. As part of our commitment to external as well as internal learning, we are making these papers available to the wider international agricultural development community to share lessons learned from our field programs and contribute to the vital discussion around how best to achieve the goal of locally-led poverty reduction.

To learn more please contact the author, our Agriculture Knowledge Manager, Adam Keatts: akeatts@fintrac.com