



THE INITIATIVE FOR SMALLHOLDER FINANCE

## BRIEFING 09

### CASE STUDY: THE RETURN ON INVESTMENT FROM TECHNOSERVE'S COFFEE INITIATIVE

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THE INITIATIVE FOR  
SMALLHOLDER FINANCE



## CASE STUDY: THE RETURN ON INVESTMENT FROM TECHNOSERVE'S COFFEE INITIATIVE

In November 2007, TechnoServe launched the first phase of a program called the Coffee Initiative in East Africa, funded by a four-year grant from the Bill & Melinda Gates Foundation. This initiative aimed to boost the incomes of over 182,000 East African smallholder coffee farmers.

The project was premised on the opportunity for East African countries to increase market share in the specialty coffee industry. To capture the opportunity and address the complexity and operational gaps facing the industry in East Africa, TechnoServe took an integrated approach by providing agricultural and capacity-building technical assistance to key participants across the coffee value chain, including financial providers.

At the heart of the project is the “coffee service provider model,” in which private export companies provide farmer cooperatives with fee-based services. This model creates a commercially symbiotic relationship through which private exporters provide ongoing support and follow-up training to low-cost rural coffee processing stations known as wet mill cooperatives. Donors can exit the program, as a viable, sustainable system has been established.

The project management team emphasized data tracking and performance monitoring, which has allowed TechnoServe to estimate the return on investment from the initiative. The data shows that TechnoServe's early work in Rwanda reached a positive return on investment over a ten-year timeframe. However, the headstart in Rwanda allowed the replication of the model in Ethiopia to break even much faster, within four years.

This granularity in cost and benefit tracking allows funders to recognize where their investments contribute to catalyzing early stage models versus replicating or scaling models. In the case of the Coffee Initiative, as the initial funding from the Bill & Melinda Gates Foundation winds down, TechnoServe is transitioning to more diversified sources of funding for the Coffee Initiative, comprised of public donors, corporate partners (including some of the world's largest coffee roasters), and financial institutions. Coffee companies, which have a long-term interest in ensuring sustainable production, are increasingly able to build the costs of technical assistance into their business operations budgets which will ultimately make the project scalable and sustainable.

According to TechnoServe's management team, the Coffee Initiative generated several relevant lessons, including the importance of leveraging good data, committing to a long time horizon, being flexible with partners, and coordinating across the value chain. These principles have already helped motivate other private sector companies, including financial providers, to get involved and invest their own capital and resources to make the Coffee Initiative sustainable.

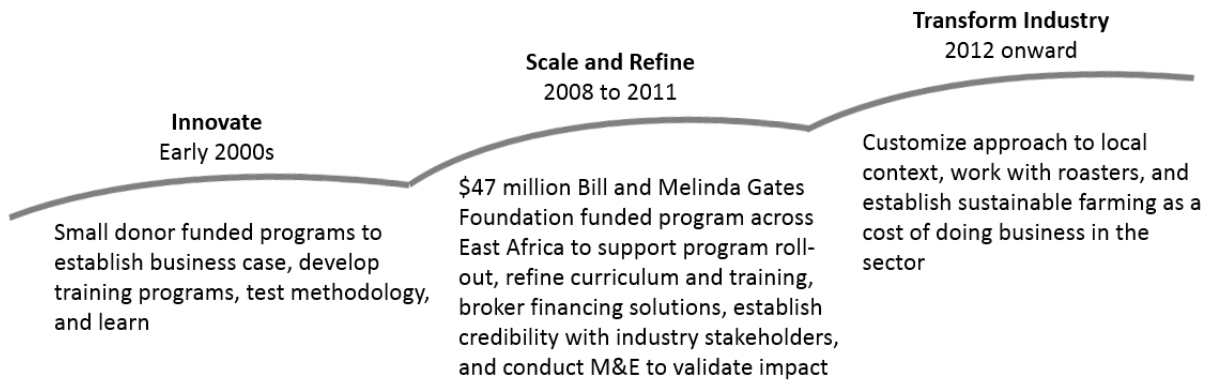
## ABOUT THIS BRIEFING

*This **Initiative for Smallholder Finance** briefing is the ninth in a series about catalyzing smallholder finance. In our previous two briefing notes, we offered an overview of the **anatomy of the market for agricultural technical assistance in developing countries** and discussed the **linkages between technical assistance and smallholder financing**. Those briefings emphasized the importance of increasing coordination among actors to improve knowledge transfer, share best practices and lessons learned, and improve the quality of technical assistance delivery.*

*In that spirit, this briefing offers a case study of a TechnoServe project aiming to increase incomes of smallholder coffee farmers in East Africa. Although the project was complex and produced many lessons to share, this briefing focuses in particular on the value of technical assistance to increase access to finance, crowd-in the private sector, achieve scale, and generate value for an industry.*



Figure 1: Phases of the Coffee Initiative



**In November 2007, TechnoServe launched the first phase of the Coffee Initiative in East Africa, funded by a four-year grant from the Bill & Melinda Gates Foundation.**

This initiative aimed to boost the incomes of East African smallholder coffee farmers through three specific, integrated objectives:

- i) Establish a farmer training program, known as “**farm college**,” that educates smallholder coffee farmers on sustainable agronomic practices to increase their yields;
- ii) Provide **business support** to farmer cooperatives to establish or upgrade low-cost rural coffee processing stations, known as wet mills,<sup>1</sup> and improve coffee quality; and
- iii) Strengthen the overall value chain and create lasting market linkages to enhance the global competitiveness of East African specialty coffee, particularly by enabling the cooperative businesses to **access sources of credit and sustainably integrate into markets.**

The Coffee Initiative built on a model developed through field pilots TechnoServe led with support from USAID and private donors in the early 2000’s (see Figure 1). The Gates Foundation’s funding of the Coffee Initiative enabled TechnoServe to scale and refine the technical assistance model to reach more than 180,000 farmers, broker financing solutions for cooperative businesses, and

establish credible partnerships with industry stakeholders.

The project was premised on the opportunity for East African countries to increase market share in the **specialty coffee industry**. In addition to having the potential for global growth in the market, East African countries also had the long-term opportunity to increase market share due to their competitive cost advantage. Ethiopia, Kenya, Rwanda, and Tanzania have natural advantages—such as rich soil, high altitude, and ideal climate—that allow them to produce some of the best coffees in the world. Furthermore, these high quality specialty coffees, known as washed coffees, receive significant premiums compared with unwashed coffee. However, given a range of constraints, including limited access to capital for smallholder coffee producers, only 30% of East Africa’s coffee is fully washed; the majority is low-quality, unwashed coffee.

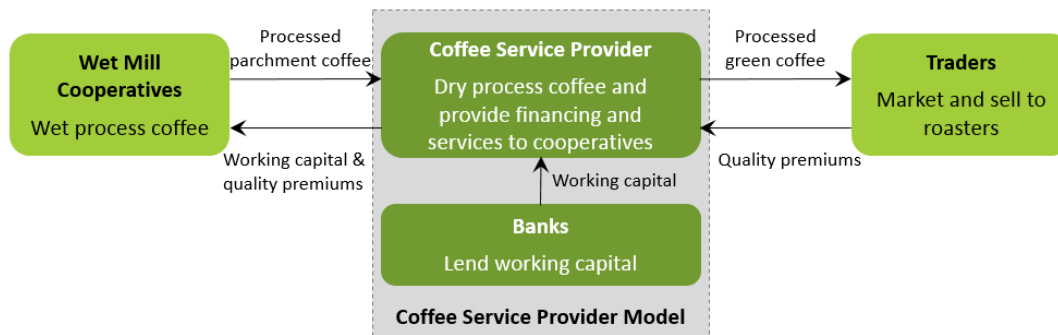
To capture this opportunity and address the complexity and operational gaps facing the industry in East Africa, **TechnoServe took an integrated approach**, providing agricultural and capacity building technical assistance to key participants across the coffee value chain, including financial providers.

## Overview of Approach

During the first four-year phase of the Coffee Initiative, the project worked with more than 285 existing and new **coffee cooperatives** to invest in wet mill machinery, obtain needed working capital credit, improve coffee processing quality, and access premium export markets. It also worked with over 30,000 of the cooperatives’ smallholder members to increase yields through an intensive agronomy training program. Throughout the



Figure 2: Coffee Service Provider Business Model



project, program leaders paid special attention to building systems to overcome identified barriers, such as women's participation, environmental degradation, and limited access to finance while also investing in management information systems to enable weekly performance monitoring.

**At the heart of TechnoServe's project is a "coffee service provider (CSP)" business model** in which private export companies provide coffee farmer cooperatives with fee-based services (see Figure 2). Through the coffee service provider model, a local private coffee exporter agrees to do the following:

- Provide working capital to farmer groups during harvest season to cover wet mill operating expenses;
- Process coffee parchment into high-quality green coffee;
- Leverage expertise to market coffee and obtain premium prices for green coffee; and
- Provide price risk management services to protect farmers against losses and monitor financial and stock transactions to enforce accountability and strong management practices.

**In exchange for these services, the coffee service provider takes a percentage of the cooperative's sales (typically 5% to 7%).** The coffee service provider model is a commercially symbiotic relationship that leads to a sustainable model in which private exporters provide ongoing support and follow-up training to wet mill cooperatives. Donors can exit the program, as a viable and sustainable system has been established.

**From a financing perspective, coffee service providers typically borrow from local or international lending**

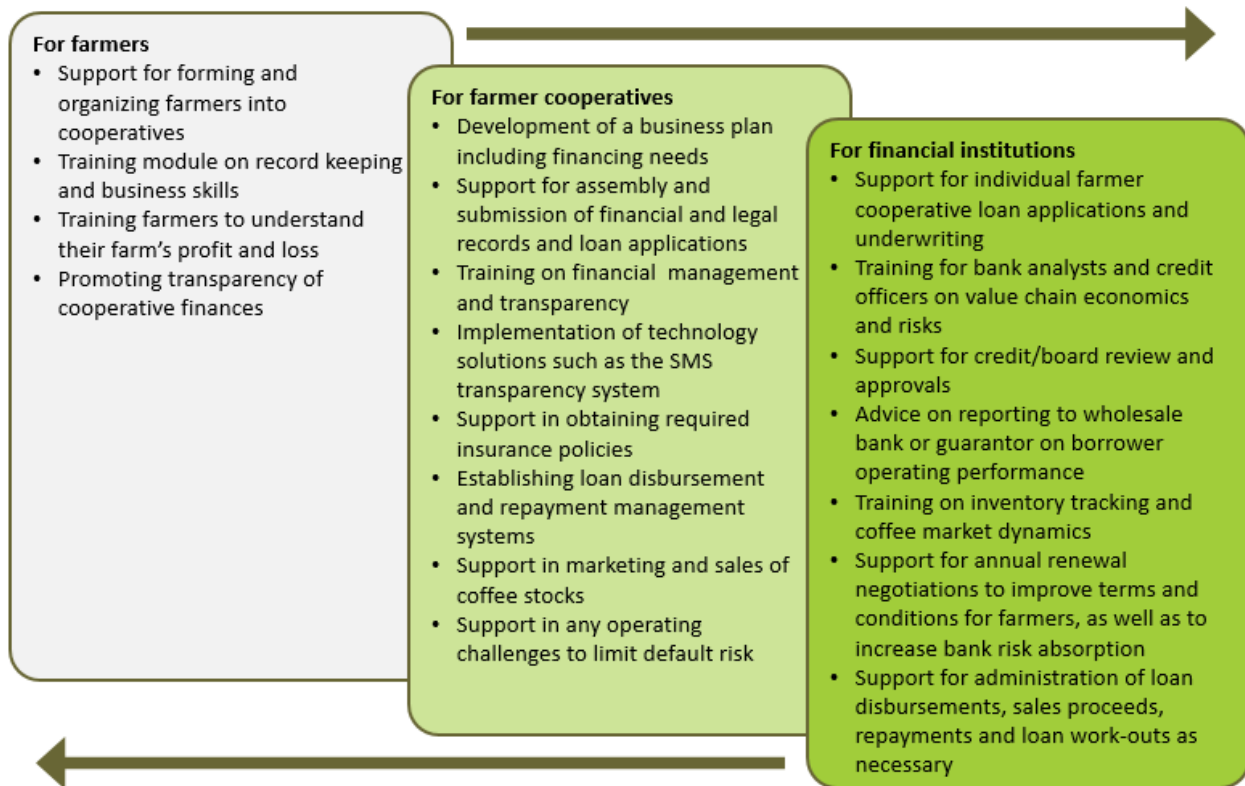
**institutions and on-lend to cooperatives.** TechnoServe's facilitation approach varied in each country depending on a spectrum of factors, particularly the state of financial services infrastructure in the country. In Rwanda, for example, the coffee service providers already existed and the liberal banking sector allows coffee service providers to apply for loans directly from banks. These loans are often secured by either fixed assets collateral or via factoring. However, these coffee service providers did not extend working capital credit to coffee cooperatives prior to TechnoServe's intervention. TechnoServe enabled the coffee service providers to on-lend to cooperatives by developing an innovative SMS-based technology solution to track inventory stocks, benchmark individual cooperative operating performance, and disburse working capital installments in a timely manner. By comparison, Ethiopia's more conservative financial sector required TechnoServe to adopt a hands-on approach by partnering directly with local banks and brokering third party guarantee mechanisms to enable the required flow of capital.

**Across the value chain, TechnoServe delivered technical assistance to key industry participants that was customized to the particular policy and financial system context of each country and facilitated the necessary linkages between the stakeholders involved.** For smallholder farmers and cooperatives, this support included agronomy, business management, and financial skills capacity building. Coffee service providers received training in business model administration, price risk management, and quality assurance. Banks received support in loan underwriting and applications for cooperatives, training of bank analysts and credit officers on value chain economics and risks, reporting requirements on operating performance, and administration of loan disbursements, sales proceeds, and repayments (see Box 1).



**Box 1: Technical assistance provided to support smallholder financing**

To promote access to finance for smallholder farmers, TechnoServe delivered targeted financial advisory services across the value chain in parallel:



## Achievements

**Working hand-in-hand with 285 farmer cooperatives, the Coffee Initiative** supported farmers to install 145 new wet mills and improve 140 existing wet mills between 2008 and 2011 throughout all four program countries. These wet mill businesses, in turn, supported 195,408 coffee farmers – exceeding the original target of 182,000 farmers – and created more than 1,500 new rural jobs during the three- to four-month harvest season.

**Several leading specialty coffee roasters developed close partnerships with the Coffee Initiative and its clients,** which resulted in these roasters increasing their purchases from East Africa. For instance, the “Uzuri African Blend” from Peet’s Coffee & Tea consists entirely of coffee from Coffee Initiative clients and represents the company’s first African coffee blend. Similarly, high-end coffee roasters Intelligentsia and Stumptown Coffee Roasters have marketed individual Ethiopia wet mill client coffees as single-origin products with the cooperative name displayed on the coffee package.

**New financing mechanisms in Rwanda and Ethiopia enabled smallholder coffee producers to access critical investment and working capital.** In Rwanda—in partnership with exporters including Rwanda Trading Company—TechnoServe established the coffee service provider model that has made sustainable linkages connecting coffee industry players along the value chain, from working capital lending, through processing, marketing, and export. By the end of the four-year program, over 30,000 Rwandan farmers benefited from a 42% increase in yields on average, with some farmers increasing yields up to 75%. Additionally, farmers were able to obtain increased average price premiums ranging from \$0.90 to over \$1.00 per kg of green coffee, depending on the season. This price increase resulted in an average increase in coffee incomes of over 50% per farmer. Further, 50 Rwandan cooperatives now receive more than \$3 million in working capital from lenders annually, without further TechnoServe involvement required.

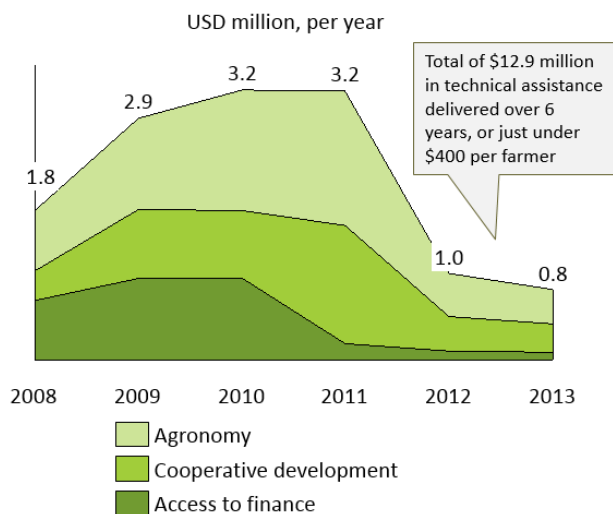
In Ethiopia, TechnoServe partnered with an Ethiopian bank, Nib International Bank, and the International Finance Corporation (IFC) to establish a \$10 million risk sharing facility. The facility enables more than 60 cooperatives to access up to \$250,000 of working capital per cooperative annually from Nib. Loans are disbursed based on cash flow requirements and collateralized by coffee stocks. Building upon a successful track record, Nib has increased its risk share over time and new partner banks have started to lend. In 2011, the Coffee Initiative brokered a similar risk-sharing agreement between the Cooperative Bank of Oromia and Netherlands-based Rabobank, which provided \$2 million in working capital loans to client cooperatives, thus expanding financing alternatives to coffee cooperatives.

## Return on Investment

The total technical assistance package in Rwanda cost \$12.9 million over six years<sup>2</sup> from 2008 to 2013. The technical assistance peaked in 2011 and has wound down towards the end of the project as TechnoServe exits and passes ownership to other supply chain actors (see Figure 3).

Donor investment of \$12.9 million in technical assistance from TechnoServe incentivized an additional ~\$5.6 million of investment from farmers and cooperatives themselves for production and quality improvements, as well as additional incremental investment from coffee service

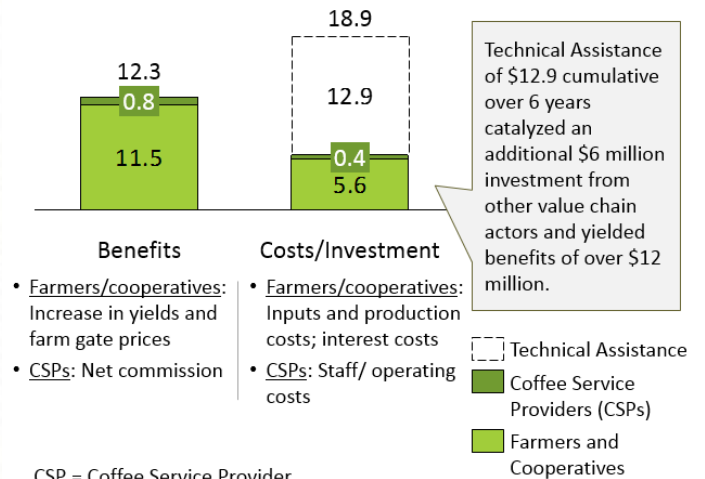
Figure 3: Technical assistance delivered (Rwanda)



Source: TechnoServe Coffee Initiative

Figure 4: Project cumulative costs and benefits by stakeholder (Rwanda)

USD millions, cumulative over life of project from 2008 to 2013



CSP = Coffee Service Provider

Benefits and costs are cumulative over 6 years. Investment costs and benefits exclude the principal amount of the annual credit extended (~USD 3 million per year) but include the estimated income and expenses earned and incurred by each of the stakeholders in direct relation to the project.

Source: TechnoServe Coffee Initiative

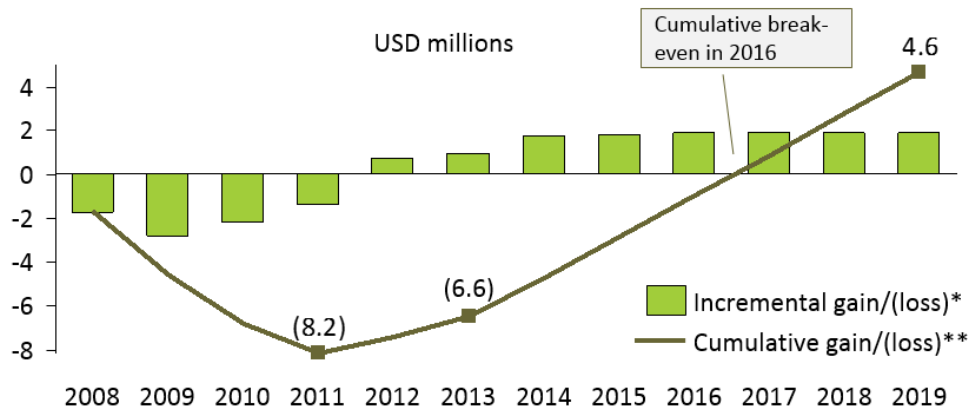
providers of at least \$400,000 for staff and operating costs. Overall inflow of new investment totaled almost \$19 million (see Figure 4).

During the project life, incremental benefit generated to various stakeholders as a result of project investments totaled over \$12 million, a significant portion of which accrued to smallholder farmers directly. More critically, after the wind down of TechnoServe's support, the catalyzed investment by project stakeholders has resulted in an incremental gain (project benefits minus project costs) of about \$1.9 million annually<sup>3</sup> for farmers and coffee service providers in perpetuity. Therefore, even factoring in the technical assistance funded by the Bill & Melinda Gates Foundation of \$12.9 million, the project is expected to reach a cumulative break-even by 2016.

While this break-even benchmark is notional in concept because the grant money from the Bill & Melinda Gates Foundation will not be repaid to the Foundation, it does demonstrate that the projected gains will exceed the total project investment after ten years (see Figure 5).



Figure 5: Estimated incremental and cumulative project gain (Rwanda)



\* Incremental gain is the estimated total benefits minus total costs incurred in that year in direct relation to the project by farmers, coffee service providers, and technical assistance.

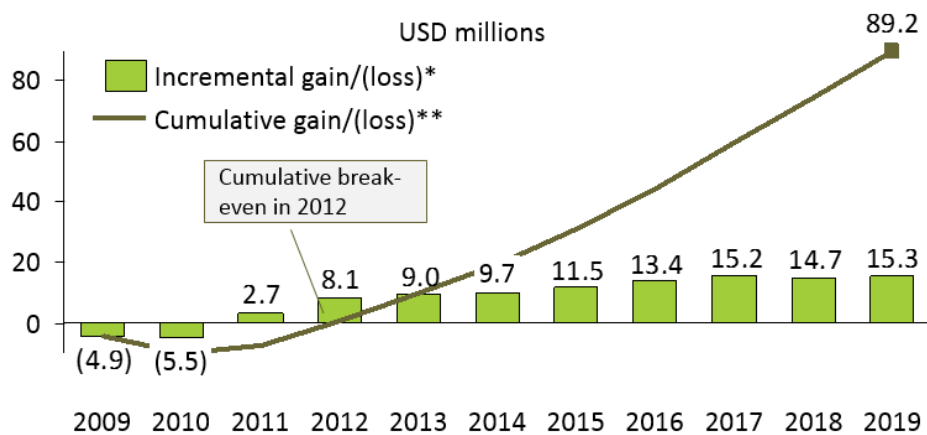
\*\* Cumulative gain is the sum of all estimated incremental gains and losses since the beginning of the project.

Source: TechnoServe Coffee Initiative

Furthermore, Rwanda was one of the first countries where this project was implemented; innovations, trials, and methodology refinements were transferred to the implementation in Ethiopia, as well as other project countries, where the opportunity to increase farmer incomes in specialty coffee was and continues to be substantial. As mentioned earlier, Ethiopia's more conservative financial sector required that TechnoServe customize certain elements of the design. But with a "head start" given the lessons learned in Rwanda, coupled

with lower operating costs and the ability to reap economies of scale from the size of the market in Ethiopia, the project was able to break even much more quickly, within four years (see Figure 6), and had reached over 96,000 farmers by the end of the first four-year phase of the intervention, even when accounting for the significant investment that went into brokering and providing ongoing support for early cooperative capital investments and a \$10 million annual working capital facility.

Figure 6: Estimated incremental and cumulative project gain (Ethiopia)



\* Incremental gain is the estimated total benefits minus total costs incurred in that year in direct relation to the project by farmers, coffee service providers, and technical assistance.

\*\* Cumulative gain is the sum of all estimated incremental gains and losses since the beginning of the project.

Source: TechnoServe Coffee Initiative



## Sustainability and Transfer of Incentives

TechnoServe's emphasis on tracking granular cost and benefit data allows funders to recognize where their investments contribute to catalyzing early stage models versus replicating or scaling models. As the funding from the Bill & Melinda Gates Foundation for the Coffee Initiative's follow-on phase in Ethiopia winds down in 2015, TechnoServe is transitioning the program's funding to a more diversified model of funders. Public donors, including IDH Sustainable Trade Initiative, and the International Fund for Agricultural Development (IFAD), are providing support. Funding also now comes from corporate partners, including some of the world's largest roasters. Coffee companies—which have a long-term interest in ensuring sustainable production—are increasingly able to build the costs of technical assistance into their business operations budget which will ultimately make the project scalable and sustainable. Financial institutions and coffee service providers now pay a small fee to sustain the technology developed by the Coffee Initiative that monitors cooperatives' cash flows. These funding sources will enable TechnoServe to reach an estimated 80,000 additional smallholder in the next few years through the initiative.

**According to TechnoServe's management team, four important enablers have allowed the Coffee Initiative to ensure sustainability by transferring incentives from donors to the coffee industry.**

**First, the project had real sustainable impact on farmers' lives**, with millions of incremental dollars now flowing every year into the pockets of smallholder farmers.

**Second, farmers, cooperatives, banks, and coffee service providers created knowledge and capacity locally.** The technical assistance package was sufficiently practical, risk-tolerant, and beneficial to be adopted without the need for ongoing donor-funded reinforcement.

**Third, the local private sector and financial providers were closely involved from the onset** and were incorporated into the business case to sustain the provision of services and credit to farmers. For instance, in Rwanda, the adoption of the coffee service provider model enabled TechnoServe to exit without jeopardizing cooperatives' continued access to finance and export services.

**Fourth, a workforce built by TechnoServe has gone on to play influential roles in the private sector, local government, and coffee sector institutions.** The initiative trained over 500 coffee professionals, most of whom are now working to drive ongoing industry transformation in the private sector. This diffusion of talent, primarily entrepreneurial young people, across the industry will continue to have a transformative effect on the policy and business landscape for East African coffee.

## Applying Lessons Learned

**TechnoServe originally envisioned the Coffee Initiative as a long-term initiative that would scale up to reach at least one million East African smallholders, or roughly 25% of the total Arabica coffee farmers in East Africa.** To ensure sustainability, the initiative focused on designing a set of interventions that were viable for the majority of the region's farmers and could withstand market and weather shocks, regulatory changes, and other obstacles. Program leaders improved interventions—be it the “farm college” or efforts to attract financing for the farmer-owned wet mill model—iteratively over the years based on lessons learned.

According to TechnoServe's management team, the Coffee Initiative generated several lessons relevant to future projects, including the importance of leveraging good data, committing to a long time horizon, being flexible with partners, and coordinating across the value chain. More specifically, TechnoServe's management team reports that they intend to apply the following lessons learned to subsequent interventions:

- **Good data is essential to ensuring sustainability of and further investment in programs.** Collecting performance data from a program can be challenging, time-consuming, and expensive, but it is essential to establish an evidence base and business case to drive further investment that leads to sustainability. In addition to investing heavily in project evaluation systems, TechnoServe invested into an independent evaluation (conducted by Laterite, an economic and social research firm) that validated that the business model was cost effective. Such transparency and data analytics helped motivate other private sector companies, including financial providers, to get involved and invest their own capital and resources.



- **A commitment to a long time horizon was required to invest in structuring financial solutions** within complicated ecosystems, policy environments, and multiple counterparties. TechnoServe found that the long-term vision of the Coffee Initiative enabled the origination of financing mechanisms via the coffee service provider model in Rwanda and a multi-party risk sharing facility in Ethiopia. With the benefit of time, TechnoServe was able to build trusted relationships with key partners, provide focused support to wet mill businesses, and demonstrate the business case to coffee service providers, local banking partners, and coffee buyers. The organization's experience in this case is comparable to investment expectations within the impact investing industry, in which optimizing for both financial and social returns often requires a long-term view.
- **Typically, no one financial partner will be able to deliver all the necessary solutions, so a mix of financial institutions may be required and will likely evolve over time.** In the Coffee Initiative, partners ranged from donors to commercial banks to development finance institutions to coffee trading companies, and the mix of participation changed over time.
  - In Rwanda, TechnoServe worked with a local bank and facilitated donor-sponsored guarantees for initial capital investments into new wet mills. Over time, the guarantees were phased out and the coffee service providers began to provide working capital financing directly to farmers without TechnoServe support.
  - In Ethiopia, the commitments from local and development banks, as well as international traders, to support financing solutions are fostering development of financing alternatives for wet mill businesses, but the phase-out of guarantees by donors, development institutions, and TechnoServe is still in progress.
- **To achieve maximum impact and flow of capital, all areas of the value chain must be addressed and coordinated.** TechnoServe found that delivering agronomy training to increase

production at farm level and improving coffee processing methods was insufficient; it was also necessary to focus on creating market linkages and addressing cross-cutting issues including access to finance.

**The scale of the project allowed the Coffee Initiative to make strategic investments and attract financial and private sector partners early on that laid the foundation for later effectiveness.** Over time, the Initiative has been able to refine methodologies, improve operational efficiencies, and drive cost efficiency. The project's scale also attracted financial partners and private sector investment, which helped build sustainability and ensure that market demand will drive ongoing replication and scaling.

**TechnoServe continues to explore and test mechanisms to drive transformation at greater scale.** By bringing in new public and private partners and replicating the model in other coffee markets, TechnoServe aspires to drive change in the coffee industry and improve the livelihoods of over half of East Africa's coffee farmers by 2030.

## NOTES

<sup>1</sup> A wet mill is a centralized factory with a de-pulping machine that converts coffee cherries into high-quality and value specialty coffee. The alternative to processing coffee at a wet mill is processing cherries at home in a hand pulping machine. This typically produces lower quality and value coffee, known as semi-washed or ordinary coffee.

<sup>2</sup> Note that follow-on funding from the Bill & Melinda Gates Foundation extended the four-year phase in Rwanda for another two years for a total of a six-year program.

<sup>3</sup> Incremental gain is the estimated total benefits minus total costs incurred in that year in direct relation to the project by farmers, coffee service providers, and technical assistance. It does not include existing revenues and costs outside of the project.

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## ABOUT TECHNOSERVE



TechnoServe works with enterprising people in the developing world to build competitive farms, businesses, and industries. We are a nonprofit organization that develops business solutions to poverty by linking people to information, capital, and markets. Our work is rooted in the idea that given the opportunity, hardworking men and women in even the poorest places can generate income, jobs and wealth for their families and communities. With more than four decades of proven results, we believe in the power of private enterprise to transform lives.

## ABOUT THE INITIATIVE FOR SMALLHOLDER FINANCE

The Initiative for Smallholder Finance is a multi-donor initiative hosted by the Global Development Incubator to build research and development infrastructure in the smallholder finance industry and make progress toward filling the gap in financing through targeted product development, piloting, and partnerships. The Initiative's sponsors include BMZ Federal Ministry for Economic Cooperation and Development, the Citi Foundation, Ford Foundation, KFW Development Bank, MasterCard Foundation, Skoll Foundation, and USAID. In addition, the Initiative's advisors include the Aspen Network of Development Entrepreneurs, Business Action for Africa, Business Fights Poverty, CGAP, Root Capital, and TechnoServe.

For the original report that led to the creation of the Initiative for Smallholder Finance, see "[Catalyzing Smallholder Agricultural Finance](#)" (2012).

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## AUTHORS:

This briefing was authored by Dan Zook from the Global Development Incubator in collaboration with Jane Abramovich and Paul Stewart from TechnoServe. Sara Wallace provided editorial and design support.

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