



Building a Sustainable and Competitive Cocoa Value Chain in Peru

A Case Study of the Economic Development Alliance Program
for San Martín, Huánuco, and Ucayali
2010 – 2015



TECHNOSERVE
BUSINESS SOLUTIONS TO POVERTY

*Américo Hernández Montenegro,
cocoa farmer, San Martín region*



*Front cover, clockwise L to R:
Delly Neyra Portocarrero, cocoa farmer, San
Martín Region; CCN 51 cocoa pods on tree;
handful of cocoa beans*

A LETTER FROM THE VICE PRESIDENT



TechnoServe is pleased to present “Building a Sustainable and Competitive Cocoa Value Chain in Peru,” a case study of a five-year program to transform the cocoa market and improve small farmers’ livelihoods in Peru.

In partnership with the U.S. Agency for International Development, the Government of Peru, the PIMCO Foundation, and other private and public sector supporters, TechnoServe implemented the Economic Development Alliance program in the regions of San Martín, Huánuco, and Ucayali from 2010 to 2015. Intervening across the value chain, we worked with farmers, producer organizations, artisan chocolatiers, and chocolate businesses to improve their efficiency and competitiveness.

TechnoServe and its partners used various innovative approaches to strengthen the productive and commercial capacity of over 21,000 program participants. As a result of these efforts, cocoa now offers an improved livelihood for these farmers, small business owners, and their families.

This case study discusses the program background and context, documents the intervention framework, and analyzes insights and lessons learned. TechnoServe believes that the Economic Development Alliance model has strong potential to be scaled up in Peru and in other cocoa-producing countries. This document is a tool for other organizations considering similar interventions.

Sincerely,

A handwritten signature in black ink that reads "Andrei Belyi". The signature is fluid and cursive.

Andrei Belyi
Vice President, Latin America and the Caribbean
TechnoServe



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I. EXECUTIVE SUMMARY

In 2010, the Peruvian Government and the U.S. Agency for International Development (USAID) identified an opportunity to increase the competitiveness of Peru's smallholder cocoa farmers by consolidating the gains of the Alternative Development Program in former coca growing regions. With their support, TechnoServe launched the Economic Development Alliance, a public private partnership, to achieve this objective.

Over five years, the program assisted more than 21,000 smallholder cocoa farmers – more than 40 percent of the total in Peru according to the Ministry of Agriculture – to sustainably increase their productivity and sales. Participating farmers increased their yields on average by 38 percent and sold US\$10.5 million dollars of cocoa beans directly to exporters through “Commercial Blocks” formed by the program, which reduced farmers’ reliance on intermediary traders and increased their profits.

The Economic Development Alliance was designed to support the Government of Peru’s efforts to transition smallholder farmers from producing coca to cocoa. With financial support from USAID and other public and private sector partners, TechnoServe implemented the program in the regions of San Martín, Ucayali, and Huánuco – working with farmers, producer organizations, and local government to sustainably strengthen the nascent cocoa value chain.

TechnoServe pursued two business opportunities identified by USAID and the Peruvian government: to increase smallholder cocoa production and to improve access to markets. Simply put, the Eco-

nommic Development Alliance worked with farmers to produce more cocoa and sell it for better prices. The program offered innovative, locally-adapted agronomy training to boost smallholder farmers’ cocoa yields, strengthened existing producer organizations’ sales strategies and management practices, and linked farmers to cocoa buyers.

As the Economic Development Alliance has just completed its intended scope of work, TechnoServe believes this is an opportune time for reflection. This case study examines the cocoa market and the program context, reviews the program’s model of intervening across the value chain (production, aggregation, and market access), and discusses insights and lessons learned.

The case study identifies insights in three key areas. First, the agronomic techniques promoted by the program are highly effective at improving productivity. TechnoServe recommends scaling up the approach, incorporating small changes to improve efficacy. Second, cocoa producer organizations need ongoing support, particularly to secure access to credit but also to increase export sales, develop links to buyers, and improve management. And third, future interventions should further leverage the Peruvian Government’s oversight and support.

Participating farmers increased their yields on average by 38 percent and sold \$10.5 million dollars of cocoa beans directly to cocoa exporters.

II. COCOA MARKET OVERVIEW

THE GLOBAL COCOA MARKET

Worldwide, approximately 5 million farmers cultivate and harvest cocoa beans from the cacao tree (*Theobroma cacao*). Most cocoa farmers are smallholders: 90 percent have farms with fewer than five hectares, and many are men and women who live in poverty, earning an income of less than US\$1.25 per day.

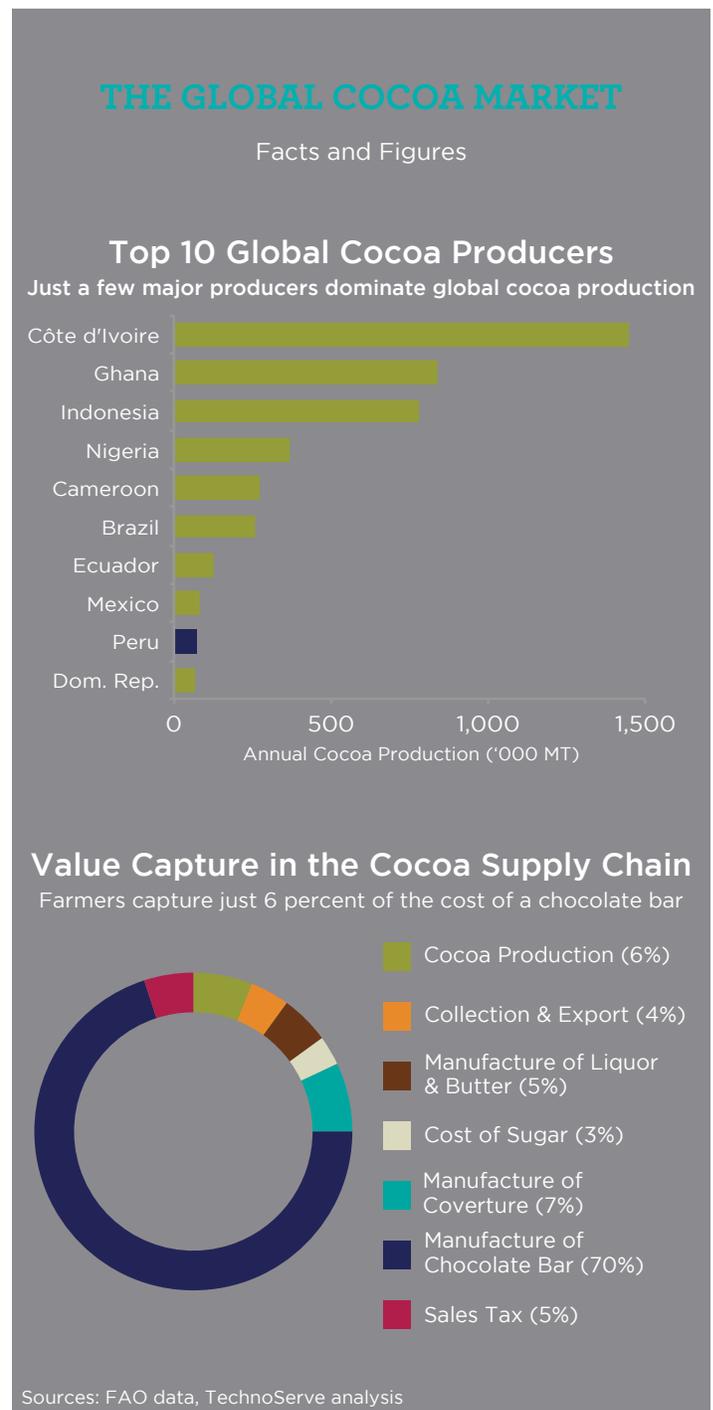
Just three countries – Cote d'Ivoire, Ghana, and Indonesia – dominate global cocoa bean production, accounting for two-thirds of all output. Latin America, on the other hand, represents a relatively small share of the market; the region's 190,000 cocoa farmers produce only 16 percent of the world's total supply. However, total production is growing faster in Latin America than in any other region, at 8 percent annually.

Cocoa bean supply has not kept up with steadily growing demand. In many producing countries, the average cocoa farmer is relatively old, and younger generations are unwilling to enter production, due to the sector's low profits and instability. This deficit has tripled the price of cocoa over the past 15 years, and the deficit is expected to continue growing, to as much as 1 million metric tons by 2020.

On top of supply shortages, international chocolate companies increasingly care about where cocoa is sourced from and how it is produced. Hershey, Mars, Ferrero, and other major chocolate companies have pledged to purchase 100 percent certified cocoa by 2020 through multiple certification programs. However, the market pays only a small – though not insignificant – premium for certified cocoa, and there is an ongoing debate about how much smallholder farmers actually benefit from these programs.

While millions of farmers produce cocoa beans, the rest of the value chain is highly consolidated; a handful of traders and chocolate companies have

most of the market share. These upstream players capture the majority of the value in the cocoa market: chocolate producers receive 70 percent of the final price of a chocolate bar, while farmers receive only 6 percent.



COCOA PRODUCTION IN PERU

Peru is the world's ninth largest cocoa producer, but its output is just 1.6 percent of global production (at 71,000 MT in 2014). Although a small player, Peru is the second-largest producer of organic cocoa, and total production and exports are growing rapidly – nearly doubling since 2008. Approximately 60 percent of production is exported, either as raw cocoa beans or cocoa derivatives.

Peru's 45,000 cocoa farmers have an average farm size of two hectares, and only about 20 percent belong to a producer association or cooperative. Over one-quarter of production is certified as organic, fair trade, and/or sustainable. As of 2012, the average yield was about 650 kilograms per hectare, the highest in Latin America, but still with room to grow. Peruvian farmers' cash production costs are below average for Latin America but are four times higher than major producers like Côte d'Ivoire, Ghana, and Indonesia, where low input use results in lower yields. In this context, Peruvian farmers must achieve high yields and reduce their cost-to-output ratio in order to produce cocoa competitively.

Most Peruvian farmers cannot earn a full income from cocoa production; for example, the aver-

age cocoa income for a producer in San Martin is about US\$1,900 per year, well below the country's US\$3,200 annual minimum wage. As a result, the average farmer spends only about half of his or her time cultivating cocoa, and most producers generate additional income through other crops and off-farm labor. Low incomes are primarily due to low productivity and small plots of land – less cocoa means fewer sales, which means less income. Adding to this problem, many farmers sell their production to intermediary traders who offer low prices.

In this context, USAID, the Peruvian Government, and TechnoServe identified two business opportunities, which formed the Economic Development Alliance's core strategy:

- **Increase Productivity:** Although yields in Peru are the highest in Latin America, farmers can produce more cocoa on existing farms, growing incomes without significantly increasing costs.
- **Improve Access to Markets:** To help cocoa farmers get better prices, there is an opportunity to improve aggregation through producer organizations and improved market linkages.

COCOA PRODUCTION IN PERU

Facts and Figures



Number: 45,000 cocoa producers
Association Membership: 20%
Average Farm Size: 2 ha



Volume: 60,000 MT (12% annual growth)
Harvested Area: 91,000 ha (7% growth)
Certified Production: over 25%



Farm Gate Price: 80-85% of export price
Exports (Volume): 34,000 MT
Exports (Value): \$146 million

Premium for Certification

	Price Premium (US\$ per MT)	Percent Premium (Given price of US\$2,650/MT)
UTZ	\$50	1.9%
Organic	\$180	6.8%
Fair Trade	\$200	7.5%

Sources: FAO data, ICCO, Peruvian Ministry of Agriculture, TechnoServe analysis

III. PROGRAM OVERVIEW

PROGRAM CONTEXT

Since the 1960s, the Peruvian Government, with support from USAID and other international donors, has implemented a policy of eradicating coca. Over the last two decades, policymakers and development agencies have formed a consensus that eradication efforts are more effective when paired with “alternative development” – the promotion of other income-generating crops such as coffee, cocoa, and oil palm.

In Peru, cocoa has proved to be a particularly wise investment as an alternative development crop. The combination of significant public sector investment (from USAID and the Peruvian government), strong global demand, and favorable local growing conditions has translated into a substantial expansion of production over the last decade.

In 2010, USAID and the Peruvian government identified a strong business case for further intervention

in the cocoa value chain. Although the government continued to plant new cocoa farms and total production was growing, many small farmers were not producing cocoa competitively. USAID engaged TechnoServe to help farmers improve their competitiveness through productivity-enhancing agronomic training and by strengthening producer organizations to improve cocoa aggregation and market access.

To carry out this work, TechnoServe partnered with private sector supporters, Peru’s National Commission for Development and Life without Drugs (DEV-IDA), and the regional governments of San Martín, Ucayali, and Huánuco. Together, these partners formed the Economic Development Alliance, which worked from 2010 to 2015 to improve smallholder cocoa farmer livelihoods and to strengthen the nascent cocoa value chain.



KEY PROGRAM PARTNERS

The Economic Development Alliance used a private-public partnership model, and TechnoServe's many partners played a critical role in the program's success.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID): USAID is the U.S. government agency working to end global poverty and enable resilient, democratic societies. As the Economic Development Alliance's primary donor, USAID was a key partner in developing the intervention strategy and managing program implementation.

PUBLIC AND PRIVATE SECTOR SUPPORTERS: A number of other organizations generously contributed funds and in-kind resources to support the Economic Development Alliance, including: the PIMCO Foundation, the Peru Opportunity Fund, the World Cocoa Foundation, the West Foundation, Weidemann Associates, and the Government of Peru's Agroideas and Pro-compite programs.

NATIONAL COMMISSION FOR DEVELOPMENT AND LIFE WITHOUT DRUGS (DEVIDA): DEVIDA is the Peruvian Government agency that oversees coca eradication and alternative development efforts. DEVIDA and TechnoServe worked closely to align program interventions with the Peruvian government's policies and strategies.

PRODUCER ORGANIZATIONS: The Economic Development Alliance partnered with 23 cocoa producer associations and cooperatives. These organizations were critical for strengthening the cocoa value chain by improving aggregation and facilitating market access for farmers.

REGIONAL GOVERNMENTS: TechnoServe worked closely with the regional governments of San Martín, Ucayali, and Huánuco. Local government partners supported project implementation by coordinating activities and providing agronomic training through government extension agents.

VALUE CHAIN INTERVENTIONS

In order to increase productivity and improve cocoa sales, TechnoServe intervened at several levels of the cocoa value chain: production, aggregation, and market access.

Production: In order to increase cocoa productivity, TechnoServe identified a unique set of high-yielding agronomic practices, now known as the Synchronized Fertilization and Pruning Technique (or "TAPS," its Spanish acronym). TechnoServe scaled up TAPS by establishing demonstration plots and farmer field schools to train smallholder cocoa farmers. TechnoServe also supported the planting of new cocoa farms.

Aggregation: Small-scale cocoa farmers need to aggregate their production in order to achieve the volumes required to sell directly to cocoa exporters. The Economic Development Alliance improved cocoa aggregation by strengthening producer organizations through business advisory services and by facilitating access to finance. To achieve further economies of scale, the project organized Commercial Blocks of several producer organizations, which aggregated large orders of cocoa beans to meet exporters' quantity requirements.

Market Access: The Economic Development Alliance worked to promote increased cocoa sales by program-supported producer organizations. TechnoServe supported artisan chocolatiers and market promotion events to raise the international profile of Peruvian-origin cocoa. Additionally, TechnoServe facilitated cocoa sales by organizing business rounds for producer organizations to network with buyers and by directly connecting Commercial Blocks with cocoa exporters.

The program's activities and impact across these links in the value chain are summarized graphically in Box 1. The core of this case study illustrates how the project intervened in each of these areas.

PROGRAM IMPLEMENTATION AND RESULTS

The Economic Development Alliance carried out its work in two phases. TechnoServe and its partners implemented the first phase from 2010 to 2013 only in the San Martín region – where cocoa farms were relatively well established thanks to nearly a decade of public sector investment. In 2014, USAID approved a two-year project extension to expand the project into the Ucayali and Huánuco regions, where the cocoa value chain was less established and needed support. Both program phases focused on strengthening the value chain at several levels – production, aggregation, and market access – to improve farmer livelihoods and ensure the value chain’s sustainability.

Over five years, the Economic Development Alliance trained more than 21,000 smallholder cocoa farmers, 31 percent of whom were women, increasing yields by 53 percent in San Martín and 15 percent in Ucayali and Huánuco (where farmers recently underwent training and productivity continues to improve). TechnoServe also worked with



23 producer organizations to which these farmers belonged, providing business development services and mobilizing US\$8.1 million in finance. Additionally, the project organized 19 cocoa and chocolate promotion events. Over five years, Commercial Blocks formed by the program sold US\$10.5 million of cocoa beans directly to exporters, and artisan chocolatiers sold over US\$800,000 of chocolates.



*Alberto Dávila,
cocoa farmer,
San Martín region*

THE ECONOMIC DEVELOPMENT ALLIANCE

Interventions and Results Across Peru's Cocoa Value Chain



Production

Aggregation

Market Access

Smallholder Cocoa Farmers

Producer Organizations

Commercial Blocks

Cocoa Buyers

Project Interventions

- Establish demonstration plots for farmer field schools
- Train farmers in best agronomic practices
- Establish new cocoa farms in Ucayali and Huánuco regions

- Provide business development services to producer organizations
- Facilitate access to finance and investment
- Facilitate cocoa aggregation

- Promote Peruvian cocoa
- Provide business development services to chocolatiers
- Facilitate market linkages and sales contracts
- Organize promotional fairs

Results

- 21,010 farmers trained
- 10,858 ha under improved agricultural practices
- 859 ha new cocoa farms
- 38 percent increase in yield
- 16.1 percent growth in household income

- 17 producer organizations develop and implement business plans
- 8 Commercial Blocks organized and exporting cocoa
- \$8.1 million financing and investment mobilized

- 19 cocoa promotion events organized or supported
- \$16.4 million incremental sales
- \$10.5 million (4,829 MT) sales by Commercial Blocks
- \$767,555 in sales by artisan chocolatiers

IV. PRODUCTION

INTERVENTIONS: PRODUCTION

When cocoa was first promoted as an alternative crop in San Martín a decade ago, the main priority was to substitute cocoa for coca, rather than to develop competitive cocoa farms. Most farmers did not know how to efficiently produce on their new cocoa farms. Several organizations responded to this knowledge deficit by promoting different – and sometimes conflicting – agronomic techniques to increase productivity. As a result, many cocoa farms continued to experience low productivity and were generally uncompetitive. In this context, the Economic Development Alliance partnered with small cocoa farmers to increase their productivity.

In 2011, TechnoServe set out to develop a productivity-enhancing technique for consistent use throughout San Martín. This method became known as the Synchronized Fertilization and Pruning Technique (known by its Spanish acronym “TAPS”). TechnoServe developed TAPS by working with a family in San Martín that had achieved extremely high cocoa yields to document, standardize, and adapt their agronomic practices for a wide audience. TechnoServe then partnered with La Molina National Agricultural University to validate the science behind TAPS and to refine the technique so that it could be applied in a stepwise, low-cost manner. The TAPS methodology and backstory are described in detail in Box 2.

TAPS focuses on two key productivity drivers: fertilization (adding nutrients to the soil) and pruning (trimming excess leaves and branches from trees). Synchronized pruning and fertilization are recommended in three phases during the year, as opposed to annually (the traditional approach). Additionally, TAPS incorporates integrated pest and disease management throughout the production cycle. On some farms, TechnoServe also installed drip irrigation in a pilot initiative to demonstrate the benefits of increased access to water and improved fertilizer delivery through irrigation systems.

Once TAPS was systematized, TechnoServe scaled up training, first in San Martín and then in Huánuco and Ucayali. TechnoServe built small-scale demonstration plots and developed four concise training modules focused on enhancing productivity. For greater sustainability, TechnoServe delivered TAPS training through a training-of-trainers model – by training regional government extension agents who then trained farmers through hands-on field schools at the TAPS demonstration plots.

Additionally, in the Ucayali and Huánuco regions, where cocoa is less established, TechnoServe supported the planting of more than 1,450 hectares of new cocoa farms, working in partnership with the Peruvian government agency DEVIDA.

TAPS RETURN ON INVESTMENT

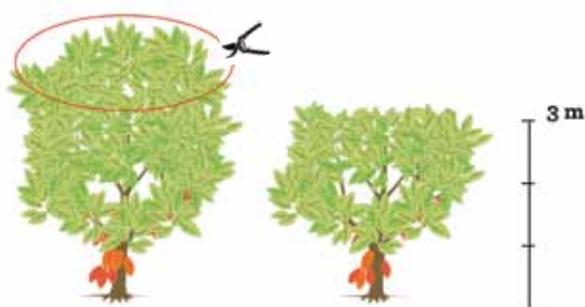
RETURN		INVESTMENT	
A. Farmers Adopting TAPS	10,404	F. Number of Farmers Trained	21,010
B. Average Farm Size (ha)	2	G. Cost per Farmer (TechnoServe)	\$250.00
C. Incremental Yield (kg/ha)	245	H. Cost per Farmer (Partners, In-Kind)	\$62.00
D. Average Sales Price (\$/kg)	\$2.60		
E. Number of Years Using TAPS	3		
Incremental Income (A x B x C x D x E)	\$39,780,318	Total Costs (F x [G + H])	\$6,555,120

Return on Investment (ROI) = 6.07

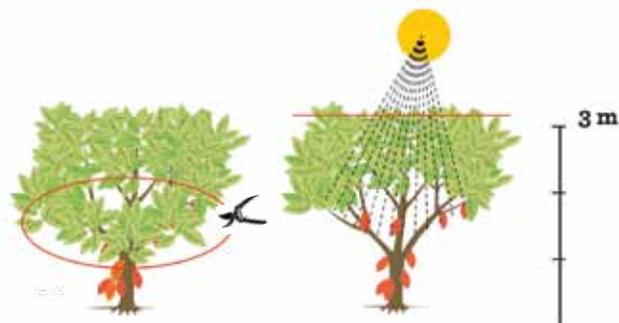
ORIGINS OF THE TAPS METHOD

The Synchronized Pruning and Fertilization Technique

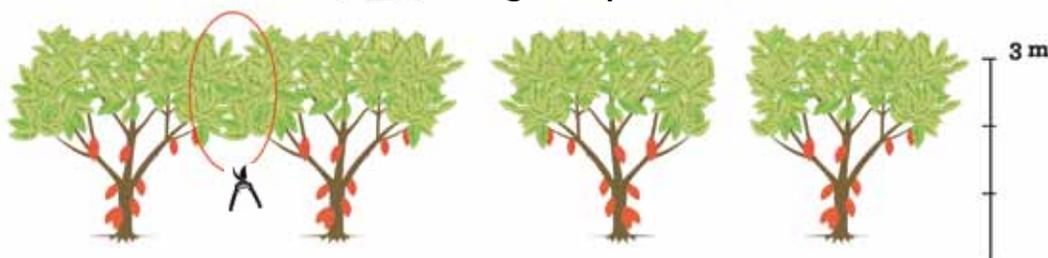
Phase 1: Pruning to Lower Height



Phase 2: Pruning to Open Crown



Phase 3: Pruning to Open Rows



Phase 1	Phase 2	Phase 3
<p>Prune: Slowly reduce the tree's height</p> <p>Timing: Sept. to Nov.</p> <p>Rec. Lunar Cycle: 4th quarter</p> <p>Inputs: Nitrogen, phosphorous, potassium, magnesium, sulfur, micronutrients, boron</p>	<p>Prune: Trim stray branches and twigs, open the crown</p> <p>Timing: Dec. to Feb.</p> <p>Rec. Lunar Cycle: Full moon</p> <p>Inputs: Nitrogen, phosphorous, potassium, boron</p>	<p>Prune: Trim to create an opening between trees</p> <p>Timing: March to April</p> <p>Rec. Lunar Cycle: Full moon</p> <p>Inputs: Nitrogen, phosphorous, potassium</p>

The Backstory: How Was TAPS Invented?

Carlos Sierra and his family started growing cocoa after coca was eradicated from their community in 2002. With a goal to maximize their farm's productivity, the Sierra family spent five years testing different agronomic methods to develop a packet of best practices for growing cocoa. Within a short time, the family had achieved - by far - the highest yields in their community and in the region. After hearing about the Sierra family's story, TechnoServe spent a year working closely with the Sierras to document and systematize the TAPS methodology so that it could be scaled up across San Martín, Huánuco, and Ucayali.



RESULTS: PRODUCTION

TechnoServe and its partners trained over 21,000 farmers in TAPS. To date, half of these farmers are applying TAPS on 10,858 hectares. In San Martín, where most training was completed by 2013, farmers' yields have grown on average by 53 percent (an increase of 342 kg/ha). In Huánuco and Ucayali, farmers have only recently received TAPS training. However, early results are promising – yields have increased by 15 percent (or 129 kg/ha) after less than one year utilizing the technique, and the use of TAPS is expected to further improve productivity in coming years.

TechnoServe estimates that the average farmer in San Martín saw his or her annual income increase by 85 percent (from US\$1,889 to US\$3,510) after implementing TAPS. Given the additional revenues generated thanks to increased productivity, the Economic Development Alliance had a return on investment (ROI) of US\$6.07 per US\$1.00 invested in TAPS training.

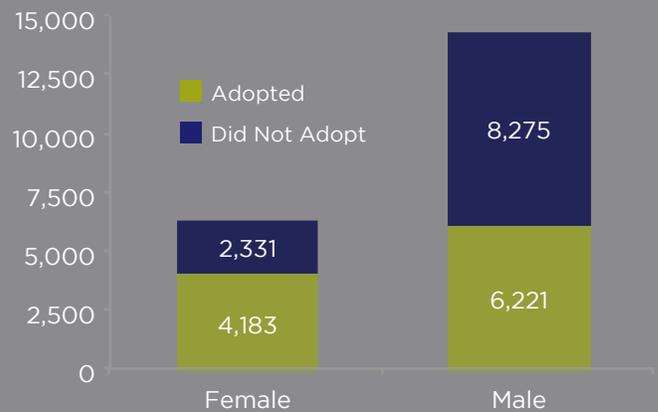
In San Martín, farmers' yields have grown on average by 53 percent. The average farmer saw his or her annual income increase by 85 percent.



PRODUCTION: THE NUMBERS

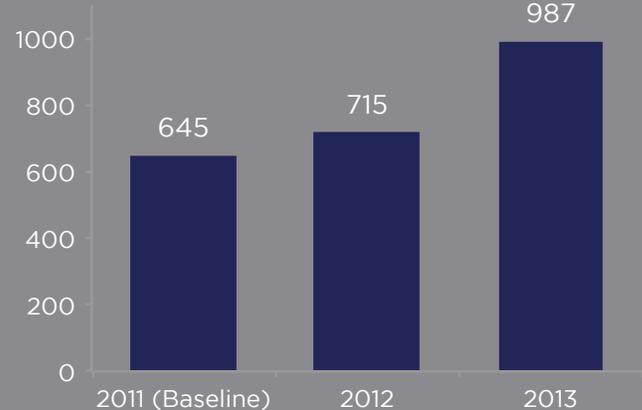
Numer of Farmers Trained in TAPS

(Disaggregated by Sex and Adoption)



Average Cocoa Yields After TAPS

(Kilograms per Hectare)



Average Farmer Income in San Martín

(Before and After TAPS)



Belinda Saldaña: Homecoming for the Cocoa Boom

A Production Success Story



Belinda Saldaña on her cocoa farm

Belinda Saldaña left her rural hometown of Piscoyacu in the San Martín region decades ago for Lima, where she worked long hours to earn a living while raising a family on her own. “I realized that I wouldn’t be able to get ahead with five children and little income,” said Belinda. But returning to Piscoyacu was not an option for a long time – until the 1990s, drug trafficking held a violent grip on San Martín.

Today, San Martín has transformed into the site of Peru’s emerging cocoa industry, thanks to decades of investment in helping farmers grow alternatives to coca. In 2008, Belinda decided to come home for the cocoa boom and planted seven hectares of cocoa trees on land inherited from her parents. “I didn’t know anything about cocoa,” said Belinda. She sought technical assistance but did not qualify for government programs directed at former coca growers. She hired help to prune her cacao trees once a year, but they bore little fruit.

Belinda joined TechnoServe’s Economic Development Alliance program in 2012 with the goal of

increasing her cocoa yields and income. She participated in TAPS training and was a quick adopter of the approach. Belinda also participated in a drip irrigation pilot, and installed a system on her farm to provide water and liquid fertilizer to her cacao trees. “By applying TAPS, my cocoa plants are free of diseases and even better, productivity is increasing,” said Belinda. From 2013 to 2014, her total cocoa production nearly doubled from 4,100 pounds to 7,900 pounds.

Through the program, Belinda participated in field trips to model farms to see the positive results of pruning and fertilizing regularly, and now neighbors visit her farm to learn about irrigation systems. “I’m very happy because even though I’m 60 years old I realize that I can continue learning, and by using the TAPS methodology and drip irrigation, I’m sure that I will have one of the best cocoa farms in the area,” said Belinda. “I will proudly leave behind an additional source of income for my children and grandchildren.”

V. AGGREGATION

INTERVENTIONS: AGGREGATION

Improving aggregation (the pooling of small cocoa volumes to market at economies of scale) is critical for increasing smallholder farmers' incomes. Many Peruvian cocoa farmers sell their cocoa to intermediary traders, who facilitate access to the market by aggregating small lots into large volumes required by buyers. However, intermediaries take a substantial cut for their services and often use unfair practices that reduce the sale price that farmers receive.

An alternative model is for farmers to form producer organizations – such as cooperatives and associations – to aggregate and market their cocoa directly to international exporters and domestic chocolate companies. When managed well, producer organizations help farmers to deliver the volume that buyers require without sharing their profits with intermediary traders.

Development organizations have supported the formation of producer organizations in San Martín, Huánuco, and Ucayali since cocoa was first planted in these regions. However, these efforts were often carried out in a top-down manner; farmers were required to join producer organizations in order to receive a subsidy. As a result, many cocoa cooperatives and associations lack buy-in from their members and are poorly managed.

Recognizing both the importance of producer organizations and the challenges they faced, TechnoServe partnered with these groups to provide much-needed business development services. TechnoServe provided management training, helped organizations develop business plans, and offered technical assistance for exporting cocoa. The project also connected producer organizations with groups like Root Capital and Shared Interest to facilitate export financing and with Peruvian Government programs like Agroideas and Procompite, which provide competitive co-financing grants for agricultural infrastructure investments.

These interventions increased producer organizations' sustainability by strengthening their relationships with farmers, who provide the cocoa that organizations need to compete. First, improved management increased farmers' trust and stake in the organizations to which they belonged. Second, most producer organizations working with TechnoServe increased their cocoa purchase price, offering more than intermediary traders. Higher prices incentivize farmers to be loyal and to sell as much cocoa as possible to producer organizations.

Many producer organizations are not large enough to compete in commodity markets and deliver the volume that cocoa buyers need. To further aggregate cocoa beans, TechnoServe facilitated Commercial Blocks – non-binding associations of small producer organizations that sell their cacao jointly while maintaining independent management and finances. This arrangement allowed small organizations to access the benefits of higher paying export markets without forming larger organizations. Commercial Blocks were led by the block member with the greatest financial capacity and ability to access credit through social lenders, traders, and traditional financial institutions.

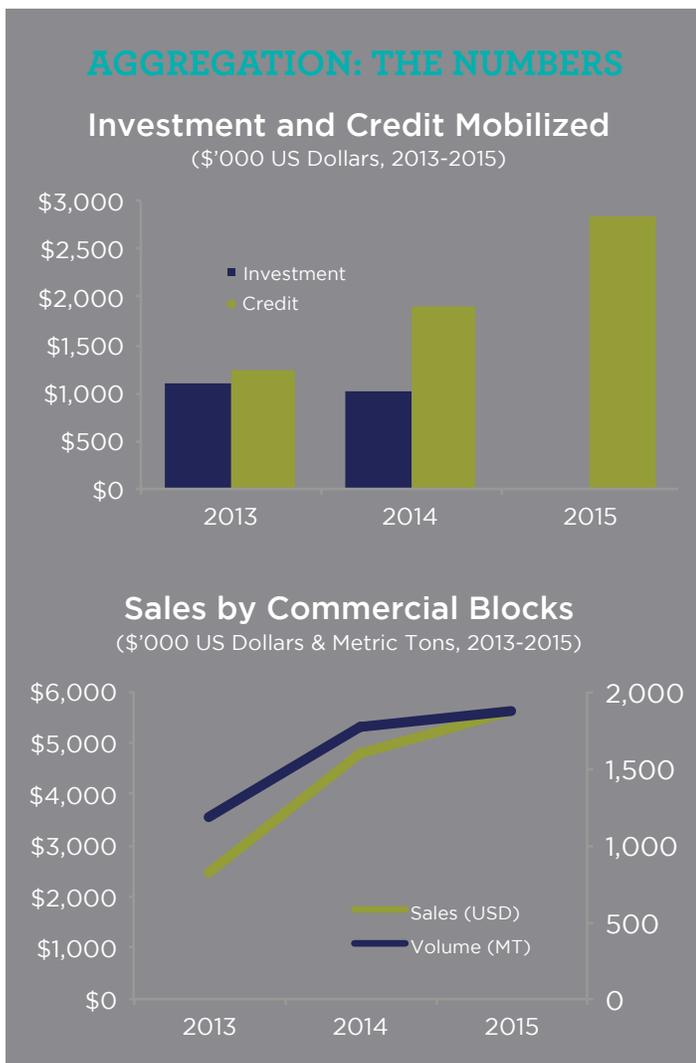


An intermediary trader's storefront, San Martín region

RESULTS: AGGREGATION

Over five years, TechnoServe provided business development services to 23 cocoa producer organizations and facilitated US\$2.12 million of infrastructure investment and US\$5.98 million in export financing. Moreover, between 2013 and 2015, producer organizations exported US\$10.5 million (4,829 MT) of cocoa through program-organized Commercial Blocks. For many organizations, this was the first time they exported cocoa directly.

Between 2013 and 2015, producer organizations exported US\$10.5 million (4,829 MT) of cocoa through program-organized Commercial Blocks.



Aggregating and fermenting cocoa beans, Asociación de Productores Cacao Alto Huallaga, Huánuco region

COOPERATIVA AGRARIA EL GRAN SAPOSOA

An Aggregation Success Story



(L) COOPALGSA office;
(R) Cocoa beans packed for shipment



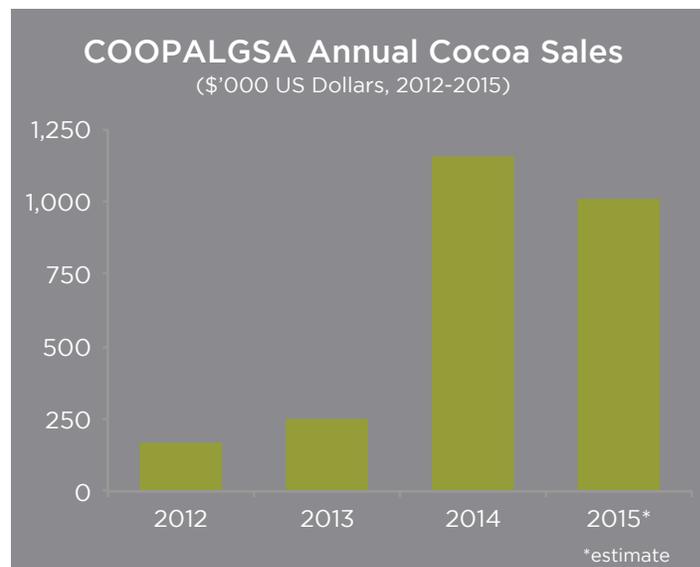
Cooperativa Agraria el Gran Saposoa (COOPALGSA) was formed in July 2008, when a group of farmers came together to obtain better prices for their cocoa and coffee. Although the group was highly motivated, the cooperative struggled with management – failing to offer its members higher sales prices and accumulating US\$5,000 in debt.

In 2012, COOPALGSA and TechnoServe began working together. With TechnoServe’s help, COOPALGSA added a modern accounting system and hired professional management staff. Thanks to these improvements, COOPALGSA paid off its debts and cooperative members regained confidence in management.

The biggest change is that COOPALGSA now exports cocoa directly to international buyers including Pronatec, Transmar, and ECOM. TechnoServe provided technical assistance to help the cooperative navigate the export process and introduced managers to a network of international cocoa buyers. To improve access to export financing, TechnoServe linked the cooperative with the social impact lenders Shared Interest and Root Capital. And in 2014, COOPALGSA began selling cocoa through a Commercial Block, in order to achieve larger export volumes. Reflecting on these changes, Miker Cuesta, COOPALGSA’s general manager explained, “Before the cooperative wasn’t doing so well, but TechnoServe provided the recipe to improve.”

With support from TechnoServe, COOPALGSA has continued to improve its business model. The cooperative sells 100 percent certified cocoa and recently implemented a traceability system. The cooperative also has a strong commitment to quality control – management processes small batches of cocoa to test for quality before exporting.

The cooperative’s commitment to good management and ongoing improvement has generated results. Since 2012, COOPALGSA has sold US\$2.6 million of cocoa, growing sales at an average annual rate of nearly 100 percent. Perhaps most importantly, COOPALGSA is buying more cocoa from its members at higher prices. Miker notes, “You can see the human livelihood impact just by observing.”



Geister Cachique and Lorenzo Cachique, cocoa farmers, San Martín region



VI. MARKET ACCESS

INTERVENTIONS: MARKET ACCESS

Perhaps the most critical link in the cocoa value chain is access to markets. Farmers must sell their cocoa – ideally for a good price – in order to reap the benefits of increased productivity and improved aggregation. Historically, most farmers and producer organizations had little or no experience selling cocoa directly to international buyers. In this context, the Economic Development Alliance developed markets by promoting Peruvian cocoa and facilitating links between buyers and sellers.

First, TechnoServe promoted Peruvian-origin cocoa through promotional fairs and trade shows that brought major cocoa buyers and international chocolate companies to Peru. Because of the global cocoa supply deficit, buyers are looking for new suppliers, so they were relatively easy to attract once they saw that producer organizations participating in the Economic Development Alliance could supply the volumes needed. These events helped raise the international profile of Peruvian cocoa and generated interest among buyers to purchase from program-supported farmers and producer organizations.

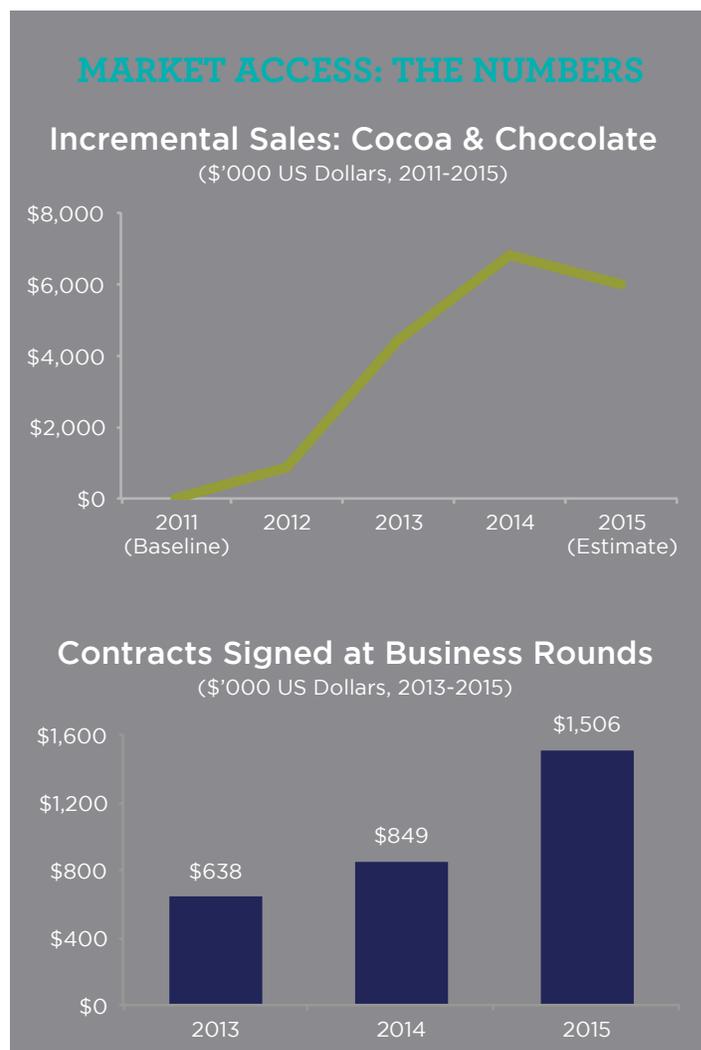
Among the key participants at these promotional events were 20 Peruvian artisan chocolate makers who had received technical assistance from TechnoServe in management, chocolate production, packaging, and marketing. By producing high-quality artisan chocolates using local ingredients, these chocolatiers showcased Peruvian chocolate to the world and helped develop international markets. Without these chocolatiers, international buyers would have little to taste when attending fairs and trade shows.

Having generated interest among cocoa exporters, TechnoServe linked these buyers to producer organizations through a series of business rounds. These meetings resulted in signed sales contracts and helped producer organizations to build networks

of potential buyers. When necessary, TechnoServe also worked directly with producer organizations and Commercial Blocks to facilitate cocoa exports by introducing them to buyers.

RESULTS: MARKET ACCESS

Over five years, the program generated incremental cocoa and chocolate sales (sales for which the Economic Development Alliance was directly responsible) of US\$16.44 million. TechnoServe helped facilitate these sales by organizing 19 cocoa promotion events and business rounds, where producer organizations signed nearly US\$3 million in cocoa sales contracts.



NATIVOS: A LOVE FOR CHOCOLATE BECOMES A BUSINESS

An Artisan Chocolatier's Success Story



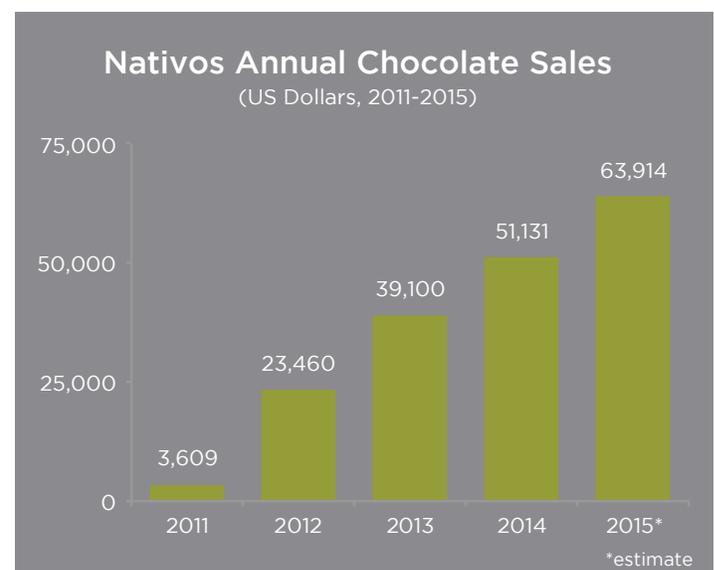
(L) Elizabeth making chocolate; (R) Nativos' full product line

As a college student, Elizabeth Gómez Flores worked for Chocolates Orquídea – a large chocolate company based in San Martín – where she first experienced the delicious taste of high-quality Peruvian chocolate. Elizabeth's love for fine chocolate blossomed into her own business when she founded Nativos in 2011, as a participant in Techno-Serve's Idea Tu Empresa (Plan Your Business) business plan competition.

Since 2012, the Economic Development Alliance has provided Nativos with business advisory services – including technical assistance on finance, administration, chocolate production, packaging, and marketing – in order to drive sales and support Nativos' growth. As Elizabeth put it, "You can produce chocolate, but if you don't sell, you won't advance."

Today, Nativos is a successful and growing business. Based in downtown Tarapoto, San Martín's commercial capital, Nativos produces three lines of chocolate bars and truffles. Nativos' products (made with local cocoa, fruits, and liquors) and its name ("native" in Spanish) reflect the company's home in the Peruvian Amazon.

With the program's support, Nativos has achieved impressive growth. Sales have increased 14-fold, from US\$3,800 in 2011 to US\$54,000 in 2014, and the company currently employs nine people. Although Nativos' key markets are tourists and hotels in Tarapoto, Elizabeth eventually plans to sell her products in Lima and abroad. Reflecting on her success, Elizabeth said, "I can create employment for other people and generate my own income while doing something that I love."



VII. INSIGHTS AND LESSONS LEARNED

1. TAPS is a Highly Effective Productivity-Enhancing Technique

TAPS has become a household name in San Martín and is now the dominant productivity-enhancing agronomic technique in the region. In Huánuco and Ucayali, where TAPS was more recently introduced, the approach is gaining momentum and adoption. The promoted techniques are relatively simple to learn and use; the data show that, when applied properly, TAPS generates significant productivity improvements. Lisi Ruíz Flores, Coordinator for Exports and Tourism for the Regional Government of San Martín noted, “TAPS took cocoa from an alternative crop to a real crop in San Martín.”

TechnoServe’s training delivery strategy was a key part of TAPS’ success. First, training took place in farmer field schools, where small groups of farmers were taught TAPS through hands-on training on local demonstration plots. As Humbelina Ciriaco Loarte, a cocoa farmer in Huánuco region, explained, “To learn, you’ve got to do, not just see and hear.” Second, TAPS training was designed to deliver only interventions that farmers found useful (as simple as it may sound). Training was divided

into four concise and focused modules that maximized farmers’ time while avoiding information overload. Thirdly, TechnoServe built sustainable local capacity through a training-of-trainers model – partnering with regional government extension agents who taught TAPS to farmers. Because of this training model, TAPS will continue to be taught after the Economic Development Alliance ends.

2. TAPS’ Efficacy Can be Improved in Several Ways

TechnoServe has consulted with relevant stakeholders to identify changes that could improve TAPS’ efficacy, overall utilization, and farmer adoption if the technique is scaled up in Peru or in other countries.

Additional On-Farm Follow-Up Technical Assistance: Some farmers expressed a desire for additional follow up technical assistance to ensure proper utilization of TAPS techniques learned at farmer field schools. Although on-farm technical assistance can be costly, it may have a high return-on-investment by ensuring productivity gains.



Manageable Extension Agent-to-Farmer Ratio:

To ensure that extension agents have sufficient capacity to provide TAPS training and technical assistance, agents should be assigned to a manageable number of farmers. Because TechnoServe provided training through regional government extension agents, it had only partial influence over the agent-to-farmer ratio. In the context of San Martín, Huánuco, and Ucayali, TechnoServe believes that extension agents providing TAPS training should work with approximately 100 to 150 farmers, with four to six demonstration plots of 25 farmers each.

Training Through Producer Organizations: Because of the close linkage between farmers and producer organizations, some stakeholders suggested that TAPS training should be provided through producer organizations instead of (or in addition to) government extension agents. In fact, some producer organizations already employ extension agents that support TAPS. It may be appropriate to formalize this system in future interventions.

Address Productivity Simultaneously when Planting Cocoa: In San Martín, cocoa was planted many years before TechnoServe introduced TAPS. When

possible, agronomic best practices to increase productivity (including TAPS) should be introduced before newly planted cocoa farms reach maturity and begin to produce.

Increase Participation of Female Farmers: Smallholder cocoa production is typically a family business that involves both men and women. However, male household members most commonly attended TAPS training – about 70 percent of participants were men. Organizations should consider additional outreach to ensure that women family members are invited to and receive information from TAPS training.

3. Peru Should Diversify Cocoa Production to Minimize Risk

When cocoa was first planted in Peru, the Peruvian Government and USAID promoted a single variety of cocoa, called CCN 51. CCN 51 was selected for its productivity, resistance to disease, and fertility – all excellent qualities for first-time cocoa farmers. However, the prevalence of CCN 51 has turned it into a near monocrop in some cocoa-producing regions, which presents significant risks for farm-



ers. For example, if a disease or pest affecting CCN 51 emerges, it could threaten entire cocoa farms. Moving forward, TechnoServe believes that Peruvian cocoa farmers should diversify the varieties they produce in order to hedge the risk presented by pests and disease.

Although future programs to establish new cocoa farms should consider promoting more diverse plant varieties from the outset, a key constraint to diversifying cocoa production is the lack of highly productive cocoa varieties. At present, there is no variety in Peru that is anywhere near as productive as CCN 51, so farmers have little incentive to plant anything else. Relevant public and private sector stakeholders must prioritize investment in research to develop or adapt alternative high-yielding varieties that can be used to diversify beyond CCN 51.

4. Fine Cocoa Presents Uncertain Economic Opportunities for Smallholder Farmers in Recently Eradicated Areas

Although more than 80 percent of fine “aromatic” cocoa is produced in Latin America, Peru is primarily a volume producer, sending most of its cocoa into the conventional market. While Peru has excellent aromatic varieties, it is difficult to produce fine cocoa competitively because there is no differentiated market for these varieties. Accordingly, fine cocoa is risky for smallholder farmers that have recently transitioned from producing coca to cocoa.

Fine cocoa yields are typically lower than conventional varieties, so farmers growing fine cocoa need a price premium in order to remain competitive. However, “fine cocoa” is a loosely defined term, as there are no commonly accepted criteria for cocoa quality as compared to coffee, for example. This limits price differentiation between fine and conventional cocoa, so farmers may not receive a price commensurate with the quality of their cocoa.

5. Farmers Should Obtain Cocoa Certification Even Though the Benefits are Unclear

The international cocoa certification system is highly fragmented; there are multiple schemes for certifying cocoa production, including UTZ, Rainforest Alliance, BioSuisse, Fair Trade, and Organic. Each of these organizations has different requirements and separate processes for obtaining certification. Further complicating the system, producers must belong to a cooperative – even if they have their own certification – in order to sell certified cocoa for a premium. Moreover, the price premium for these certifications is relatively small, and it is still up for debate whether the benefits actually accrue to cocoa farmers.

Nonetheless, cocoa certification is growing in importance. International chocolate companies are aggressively pursuing their goal to purchase 100 percent certified cocoa by 2020, and most companies purchase cocoa from multiple certification schemes. Therefore, the fragmented international certification system is a reality that cocoa farmers and producer organizations must live with. The most competitive producer organizations will have multiple certifications so that they can deliver cocoa according to buyers’ requirements.

In addition to certification itself, international chocolate companies are increasingly interested in traceability, to verify the origin of certified cocoa. In coming years, competitive farmers and producer organizations will have to complement certification with traceability systems.

The fragmented international certification system is a reality that cocoa farmers and producer organizations must live with.

6. Organizations Must Promote Farming as a Business to Unlock Productivity Gains

In order to successfully apply TAPS, farmers have to make significant investments in their farms, even though their resources are often limited. For this reason, TAPS training would not have been successful if it had promoted agronomic best practices alone. By integrating “farming as a business” as one of four core modules taught at farmer field schools, TechnoServe helped shift how producers perceive their farms. Farming as a business is a development approach that aims to change producers’ mindsets to view their farms as sustainable businesses, where smart investments can yield substantial profits that improve livelihoods. Strong support from Peru’s regional governments helped

crystallize farming as a business in producers’ mindsets.

In the context of the program, the adoption of TAPS is relatively high (nearly 50 percent), but there are still barriers to adoption because changing mindsets is challenging. Gladys Gonzales Estela, a farmer in San Martín who has adopted TAPS on her plot, explained why her brother – whose cocoa farm is adjacent to hers – is not willing to invest in TAPS: “He thinks it’s too expensive and doesn’t see why it would make sense to invest in his farm.” While early adopters like Gladys quickly grasped farming as a business, it can be challenging to persuade other farmers, like her brother, that productivity-enhancing investments such as TAPS can pay for themselves many times over.



7. Many Cocoa Producer Organizations are Nascent and Need Additional Support

Although the Economic Development Alliance worked to build the business capacity of several cocoa producer organizations, many other organizations in San Martín, Huánuco, and Ucayali are fragile and need additional support. The root of this problem is that many producer organizations were formed in a top-down manner; past development projects required farmers to join a producer organization in order to receive a benefit or subsidy. The resulting organizations are often poorly managed because they were not created through farmer-

driven initiatives, and members lack a vested interest. As Miker Cuesta from COOPALGSA explained, “You need to create an identity between the producer and organization.”

Without member buy-in, many producer organizations struggle to be competitive businesses. For example, in San Jose de Sisa in the San Martín region, several local producer organizations (not affiliated with the Economic Development Alliance) buy farmers’ cocoa at lower prices than local traders. In this regard, these organizations are failing to achieve their main objective – to offer farmer members a better price for their cocoa. Future cocoa interventions should continue to build the capacity of producer organizations and should take a long-term view of this process.

One important area for ongoing support is to provide technical assistance for exports. If producer organizations do not export, they are forced to sell to domestic traders that pay lower prices for

Many other producer organizations in San Martín, Huánuco, and Ucayali are fragile and need additional support. Future interventions should continue to build the capacity of these organizations.

Marcelino Zumba
Cenepo, cocoa farmer
San Martín region



bulk cocoa – and these low prices are passed on to farmers. TechnoServe made significant efforts in building the capacity of 23 producer organizations to make export sales by providing support in negotiating and honoring contracts, understanding hedging and futures, and navigating Peruvian and international regulations that govern exports. For many producer organizations, this sort of help is critical to export for the first time. Eduardo Cabezas, the general manager at Cooperativa Agraria Industrial Progreso (CAIP) noted, “When exporting, there are so many details and obstacles that have to be sorted out.”

8. Export Credit is a Major Constraint that Reduces Producer Organizations’ Access to Markets

Access to credit is probably the greatest ongoing constraint for most cocoa producer organizations. Although many would like to buy 100 percent of their members’ cocoa, most organizations are unable to do so because they lack the necessary credit. (Organizations require financing to cover the cost of holding inventory for the period after buying cocoa from members but before exporting it.) Although more advanced producer organizations can borrow from traditional banks, the available loan products are expensive and reduce the price premium that organizations can pay their members.

Insufficient export credit present a serious challenge for farmers, because they miss out on the better prices offered by producer organizations and the certification premiums that these organizations are able to provide to their members. As Eduardo explained, “If we don’t have financing, we tell our producers that we can’t buy their cocoa. But this is a problem because many producers live on a day-to-day basis.” Moreover, lack of financing can affect producer organizations’ relationships with exporters; without credit, organizations cannot purchase enough cocoa to fulfill the volume that buyers need.

Access to export finance is one key area where the Economic Development Alliance could have bolstered its intervention. Although TechnoServe facilitated credit through social impact lenders such as Root Capital and Shared Interest, this financing was insufficient to meet 100 percent of producer organizations’ requirements. Future cocoa value chain interventions should prioritize access to credit to ensure that producer organizations are able to obtain as much export financing as they need.

9. Commercial Blocks Can Provide Needed Economies of Scale

In San Martín, Huánuco, and Ucayali, many producer organizations are not large enough to meet cocoa buyers’ volume requirements. The Commercial Blocks organized by TechnoServe provided a simple, low-cost, and replicable solution that helped producer organizations capture economies of scale and gain access to export markets. Miker Cuesta from COOPALGSA noted, “Now the relationship is there, and we can call [other producer organizations] when we don’t have enough volume to make a sale.” Future value chain interventions should consider Commercial Blocks as a simple and effective solution for producer organizations that lack the volume required to compete in export markets.

Access to credit is probably the greatest ongoing constraint for most cocoa producer organizations. Although many would like to buy 100 percent of their members’ cocoa, most are unable to do so because they lack credit.

VIII. NEXT STEPS: THE WAY FORWARD

Investing in the cocoa value chain is a long-term process that requires vision, patience, commitment, and rational business models. Success in San Martín did not happen overnight; rather the Economic Development Alliance and other public investments supported cocoa value chain development over a decade. In Huánuco, Ucayali, and other parts of Peru, the work does not stop when the Economic Development Alliance ends. TechnoServe recommends the following next steps to build on the Economic Development Alliance's work.

Scale Up TAPS: TechnoServe believes that TAPS should be scaled up throughout Peru and that the approach has strong potential to be adapted and introduced in other cocoa-producing countries in Latin America. TAPS is tested, proven, and highly

effective, and only minor changes are needed to further strengthen the technique. If TAPS is scaled up in Peru, it should be promoted, ideally, along with more diverse cocoa varieties and slightly larger farm sizes, so that producers can earn a full income from their cocoa farms.

Continue to Support Cocoa Producer Organizations: Additionally, Peru's cocoa producer organizations need ongoing support to ensure their long-term sustainability and their capacity to connect farmers to markets at higher prices. When working with cocoa producer organizations, development actors should prioritize governance, access to finance, management capacity building, links to buyers, and technical assistance for exports.



Initiate Handover to the Peruvian Government:

Ultimately, engaged governments, and not just international donors, are necessary for a strong cocoa sector that benefits both businesses and smallholder farmers. To improve the cocoa sector's long-term sustainability, efforts to support the value chain should be increasingly led by the Peruvian government - at both the national and regional level, particularly in areas where alternative development has reached maturity.

In recent years the Peruvian government has increased its funding and mandate to support the sector, while international donor funding has decreased. However, there is still a need to support DEVIDA and regional governments so that they can sustain the fieldwork and activities initiated by

USAID and TechnoServe. The next generation of cocoa programs should facilitate this empowerment, so that the Peruvian government can institutionalize the delivery of technical assistance, organizational strengthening, and market access.

Investing in the cocoa value chain is a long-term process that requires vision, patience, commitment, and rational business models. Success in San Martín did not happen overnight.



X. ACKNOWLEDGEMENTS

TechnoServe would like to thank the following people who kindly gave their time to support the research for this case study.

Ayli Quinteros Cenepo, Treasurer, Mishky Cacao

Carlos E. González Huertas, Promotion and Monitoring Specialist, National Commission for Development and Life Without Drugs (DEVIDA), Government of Peru

Carlos José Sierra Rivera, Cocoa Farmer, General Manager at Cooperative Agroindustrial CPCACAO Tocache, and Inventor of TAPS

Eduardo Cabezas, General Manager, Cooperative Agraria Industrial Progreso

Elizabeth Gómez Flores, President, Chocolates Nativos

Fredy Emerson Barrera González, General Manager, Cooperativa Agraria Aucayacu Aucacoop

Gladys Gonzáles Estela, Cocoa Farmer, San Martín

Humbelina Ciriaco Loarte, Cocoa Farmer, Huánuco

Hilda García Mariche, President, Chocolates Swan Martín Elizza

Jorge Simon Collana, General Manager, Asociación de Productores Cacao Alto Huallaga

Jose Chuquipul Ruíz, Director of Promotion and Monitoring, National Commission for Development and Life without Drugs (DEVIDA), Government of Peru

Lisi Marisel Ruíz Flores, Export Program Coordinator, Regional Directorate for Exports and Tourism, Regional Government of San Martín

Luz Maria Saurín, President, Mishky Cacao

Marcelino Zumba Cenepo, Cocoa Farmer, San Martín

Marisel Peresilla, President, Gran Cacao Company, Culinary Historian, and Author

Miker Laines Cuesta Moreira, General Manager, Cooperativa Agraria El Gran Saposoa

Ricardo Claudio Nuñez Figueroa, Cocoa Farmer, Huánuco

Roberto Granja, Project and Sustainability Manager for Latin America, Transmar Group

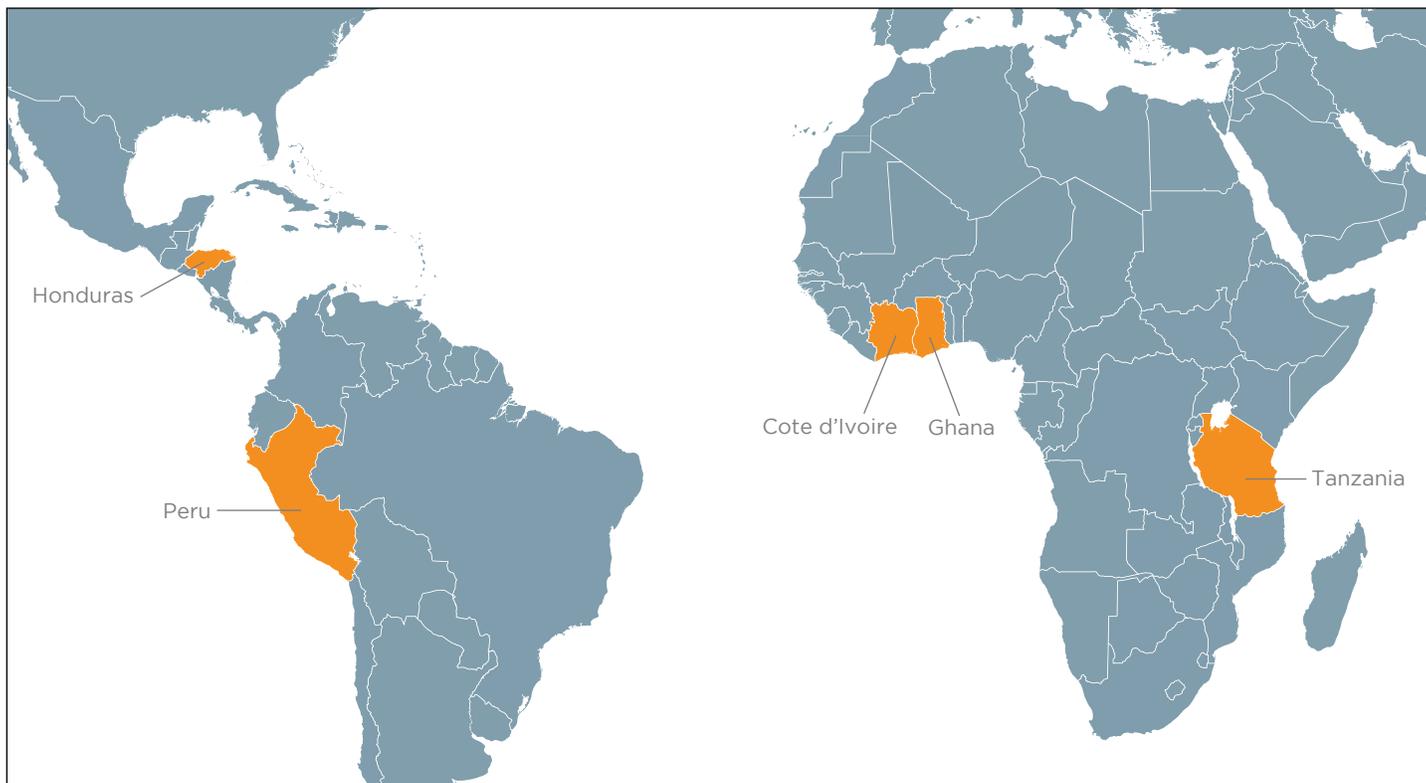
Segundo Arturo Urrelo García, General Manager, Chocolates Finos Makao Peru

Segundo Erriberto Vasquez Guerra, Cocoa Farmer, San Martín

Wiler Araujo Tuanama, Cocoa Farmer, San Martín

TECHNOSERVE'S GLOBAL COCOA WORK

Past Cocoa Projects: Interventions and Results



HONDURAS

Project Dates: 2006 - 2011
Farmers Trained: 869 (18 percent women)
Yield Increase: N/A (new cocoa farmers)
Finance Mobilized: \$147,615
Incremental Sales: \$1,804,044
Donor: U.S. Department of Agriculture

Project Summary: TechnoServe supported planting of 2,500 acres of fine cocoa, provided training in agronomic best practices and post-harvest handling, and linked producer organizations to markets.

GHANA

Project Dates: 2009 - 2014
Farmers Trained: 10,505 (20 percent women)
Yield Increase: 311 percent
Finance Mobilized: \$2,720,000
Incremental Sales: \$3,884,706
Donor: World Cocoa Foundation

Project Summary: TechnoServe improved farmer's access to cocoa inputs on credit. Input suppliers, exporters, and lenders shared risk. Farmers were trained in input application and credit management.

COTE D'IVOIRE

Project Dates: 2009 - 2014
Farmers Trained: 9,469 (7 percent women)
Yield Increase: 203 percent
Finance Mobilized: \$1,450,000
Incremental Sales: \$3,259,219
Donor: World Cocoa Foundation

Project Summary: TechnoServe improved farmers' access to cocoa inputs on credit. Input suppliers, exporters, and lenders shared risk. Farmers were trained in input application and credit management.

TANZANIA

Project Dates: 2009 - Present
Farmers Trained: 13,401 (35 percent women)
Yield Increase: 50 percent
Finance Mobilized: \$223,425
Incremental Sales: \$6,407,822
Donor: Irish Aid

Project Summary: TechnoServe provided training in good agricultural practices, facilitated local cocoa research, built capacity of support service businesses, and facilitated access to finance and markets.

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 nearly five decades of proven results, we believe in the power of private enterprise to transform lives.

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