



UPGRADING TO ORGANIC COCOA CULTIVATION IN PERU

Penny Bamber and Karina Fernandez-Stark

July 2012

Duke

CENTER on GLOBALIZATION,
GOVERNANCE & COMPETITIVENESS
at the Social Science Research Institute

IMIN

Multilateral Investment Fund
Member of the IDB Group



Small producers, members of a large, established coffee and cocoa cooperative in Tingo María, Perú, upgraded to certified organic production of cocoa. Through this organization producers began exporting organic cocoa to Europe, Japan and the United States. In addition, the cooperative pilots an upgrading initiative into the production of organic chocolate for export. Producers benefitted both from organic price premiums as well as increased annual dividends from the cooperative derived from organic chocolate sales.



This case study assesses the project “Upgrading to Organic Cocoa Cultivation in Peru”, one of more than 40 projects implemented in the Latin American and Caribbean Region, within MIF’s “Linking Small Producers to High Value Agriculture Markets” thematic work area. These projects provide technical assistance, technological solutions, and access to finance to organized farmer groups (cooperatives, social enterprises and others) whose products have proven market demand in a variety of sectors and industries such as fisheries, horticulture, dairy, coffee, cocoa, and stevia, to name a few.

The CGGC – Duke University researchers assessed five of these projects using a four-pillar framework designed to identify key areas that improve sustainable inclusion to value chains. Each case study in the series synthesizes common challenges and best practices implemented by MIF’s partner agencies, while providing valuable insights for ensuring successful outcomes and long-term impacts in inclusive value chain projects.

This case study is part of a more comprehensive study titled “Assessment of Five High-Value Agriculture Inclusive Business Projects” which encompasses other four case studies (available also in Spanish):

- ▶ Strengthening the competitiveness of the Stevia Value Chain in Paraguay.
- ▶ Strengthening the competitiveness of Organic Producers in Andean Micro Watersheds.
- ▶ Development of Micro and Small Rural Apicultural Producers in Nicaragua & Honduras.
- ▶ Supporting the Competitiveness of Central American Coffee.

Other reports that complement the assessments are (available only in English):

- ▶ Inclusion of Small – and Medium-Sized Producers in High-Value Agro-Food Value Chains.
- ▶ Basic Principles and Guidelines for Impactful and Sustainable Inclusive Business Interventions in High-Value Agro-Food Value Chains.
- ▶ Recommendations to Enhance IDB-MIF Interventions for the Inclusion of Small- and Medium-Sized Producers in the High-Value Agro-Food Chains.

"UPGRADING TO ORGANIC COCOA CULTIVATION IN PERU"

The present case study "Upgrading to Organic Cocoa Cultivation in Peru" was elaborated by Penny Bamber and Karina Fernandez-Stark from the Center on Globalization, Governance & Competitiveness (CGGC) of the Duke University in collaboration with Alejandro Escobar, Anabella Palacios, Yolanda Strachan, Dora Moscoso and Ana Castillo members of the thematic work area "Linking Small Producers to High Value Agriculture Markets" of the Multilateral Investment Fund (a member of the Inter-American Development Bank (IDB) Group). This report is part of a group of studies that analyzed some of the MIF projects to identify best practices that successfully integrated small producers to national and international value chains.

Acknowledgments

The authors would like to thank Carmen Mosquera and Elizabeth Minaya-Fernandez, MIF Specialists in Peru, who gave their expertise and support to conduct the research, and to all the anonymous interviewees who provided valuable information to produce this report.

The views and interpretations expressed in this report are those of the authors and do not necessarily represent the views of the companies mentioned, the individuals interviewed or the Multilateral Investment Fund (MIF). The authors welcome comments and feedback at penny.bamber@duke.edu & karina.stark@duke.edu.

More information: <http://www.cggc.duke.edu/>

Yves Lesenfants: Knowledge and Strategic Communications Unit

Design and edit coordination: Claudia Sáenz

Duke University, Center on Globalization, Governance and Competitiveness (Duke CGGC)

The Duke University Center on Globalization, Governance & Competitiveness (Duke CGGC) is affiliated with the Social Science Research Institute at Duke University. Duke CGGC is a center of excellence in the United States that uses a global value chain methodology to study the effects of globalization in terms of economic, social and environmental upgrading, international competitiveness, and innovation in the knowledge economy. Duke CGGC works with a network of researchers and scholars around the world in order to link the global with the local and to understand the effects of globalization on countries, companies and the full range of development stakeholders.

The Multilateral Investment Fund (MIF) - a member of the **Inter-American Development Bank (IDB) Group** - is the largest provider of technical assistance for private sector development in the Latin American and Caribbean region. Established in 1993, the MIF supports economic growth and poverty reduction by encouraging increased private investment and advancing private sector development. The MIF collaborates with institutions from the private, public and nonprofit sectors to develop and execute business models that support entrepreneurs and poor and low-income households by providing technical assistance grants, equity investments and lending through its different units, organized by strategic thematic agendas.

MULTILATERAL INVESTMENT FUND

Inter-American Development Bank

<http://www5.iadb.org/mif/>

INTRODUCTION

The key to sustainable inclusion in any value chain is competitiveness; that is, the ability to provide the desired quantity and quality of a specific product in a more economical and timely manner than other suppliers. In high value agricultural markets, improved cold chain management and transport have facilitated the expansion of global trade, and now producers must compete with suppliers from all over the world. This requires continuous improvements in productivity and quality to meet product specifications of end buyers, cost-efficient market ready packaging, timely logistics, and, of course, economies of scale.

↘ FOUR-PILLAR MODEL FOR VALUE CHAIN INCLUSION

Small- and medium-sized producers, in particular, face constraints that limit their competitiveness and prevent their participation in the value chain. We identified four major pillars that every intervention should include to raise the competitiveness of smallholders in order to include them in a sustainable way in the national or international value chain.

1. Access to market:

Many small producers do not have the required contacts to establish relationships with potential buyers due to broad geographic, cultural and educational factors, amongst others. Inclusive business interventions must fill an important role of establishing a connection between producers and buyers. This connection requires educating lead firms about the business potential of sourcing from small producers, as well as facilitating interactions until the small producers are in a position to sustainably manage

the relationship independently. Generally, this is the weakest link in any value chain intervention.

2. Access to training:

While many small producers may have worked in agriculture their entire lives, specific training is often required in order to improve productivity and product quality, introduce new technologies and plant varieties, and facilitate compliance with food safety and other certification requirements that govern entry into the national, regional and

international value chains. The training component should include technical education, entrepreneurship, financial literacy and any other social/soft skills necessary to help insert producers in the value chain. In addition, peer knowledge transfer components; such as field visits to successful farms and demonstration plots should be included. These can be powerful tools for teaching and motivating producers.

3. Coordination and collaboration building:

Because small producers need to achieve economies of scale in order to compete in the marketplace, it is important they collaborate and work together. Additionally, and perhaps equally as important, collaboration facilitates the exchange of ideas to manage common problems, reduces information asymmetries in production and builds social capital that empowers producers to sell their products in more sophisticated markets. However, producers often fail to self-organize formally. Producers thus often need the encouragement and support of external actors to appreciate the payoffs of collective action and establish themselves as formal, legal organizations. These horizontal linkages facilitate producers' connections with other upstream and downstream value chain actors, such as input and service providers.

4. Access to finance:

Entry into the value chain requires certain investments such as infrastructure, equipment and obtaining certifications. Small producers, however, often face liquidity and credit constraints as they have no access to formal finance channels. In addition, they often lack the necessary financial literacy to apply for

or manage potential loans. These limit their potential to make the required investments. These credit constraints have been found to prevent small producers from investing in necessary equipment, such as irrigation systems, greenhouses or cold storage, to achieve productivity improvements, to develop unused portions of their land or to upgrade into higher value products, thereby limiting their potential to participate in coordinated value chains. Interventions can play an important role in reducing information asymmetries and helping the banking sector to create appropriate, yet profitable, financial instruments to meet the needs of this group.



▼ PROJECT DESCRIPTION

This project involved the upgrade from conventional cocoa production to certified organic production of 200 members of Cooperativa Naranjillo Industrial (COOPAIN) in the province of Tocache, Peru through the provision of technical assistance and training, strengthening of producer groups and a guaranteed sales channel. The goal of the project was to increase the quantity, quality and value of the organic cocoa production in a sustainable way that was consistent with market demand and by using technology improvements at the production level. Beneficiaries were small producers, with between 2 and 22 ha of conventional cocoa under production, and several producers had previously cultivated coca plants for the illicit cocaine trade. The project was implemented to both increase product supply and to improve the incomes and livelihoods of the members of the cooperative. Beneficiaries continue to be among the most productive members of the cooperative,¹ and are considered important role models for recruiting new organic producers. In addition to converting producers to organic cultivation, the project also included a pilot initiative in organic chocolate production. Beneficiaries earned additional utilities from the export of this higher value added product. Following the success of the project, COOPAIN changed its business model to focus on 100% organic cocoa production, which is exported in a range of primary, intermediate and processed products (beans, paste, powder, liquor and chocolate) to destinations in Asia, Europe and the United States.



¹ These beneficiaries, just 15% of COOPAIN producers reportedly account for 35% of total organic production today.



↳ LESSONS LEARNED

- ▶ It is often difficult to build trust amongst small producers who are disconnected from commercial chains, or have been taken advantage of by intermediaries in the past. The success of the project execution depended to a large degree on COOPAIN's local experience, knowledge and structure, which allowed for direct representation of producers in the organization's decision-making committees.
- ▶ A business plan and market analysis were important factors in ensuring economic sustainability and scale of the project. Diverse product lines allowed them to respond to changes in demand in the export market, shifting between cocoa beans and derivatives.
- ▶ Certification costs were no longer a barrier to entry for new producers, allowing the cooperative to maximize on economies of scale. While the first 200 producers were certified under project financing, following the project, the cooperative incorporated certification as an operating cost allowing them to spread the cost across all members.
- ▶ Producers found it difficult to manage their income and cash flow, plan their production schedules, determine the optimal investment levels for production expansion and understand cost and price structures. Further attention should have been paid to business administration skills to ensure consistency of timely supply.
- ▶ Upgrading to organic production takes time. Significant returns on investment in organic production were only seen after three years and producers saw an initial decline in product quality and yields in the first year of transition. Adequate time for producers to reach sustainable production is essential.

↳ OVERALL ASSESSMENT OF SUSTAINABLE INCLUSION

<p>SUSTAINABLE INCLUSIVENESS</p>	<ul style="list-style-type: none"> ▶ Producers were able to compete in the global market with a clear focus on upgrading the product. ▶ COOPAIN was able to secure access to markets, improve product volume and quality, and reach economies of scale by expanding the membership base of the Cooperative. ▶ Access to finance was limited, yet available. ▶ Organic production of cocoa was not only environmentally sustainable, but also provided an alternative to coca production, which helped improve the social conditions of the communities. ▶ The cost of certification was shared by all cooperative members, thus, allowing them to recruit new members while maintaining the competitive edge. 	<p>STRONG</p> 
---	--	--

↘ INSTITUTIONAL ARRANGEMENT

COOPAIN served as the executing agency, providing co-funding for the project. The direct beneficiaries were cocoa-producing members of the cooperative. Victor Waldispuehl was a technical expert hired to support the pilot production of organic chocolate. SOSFAIM, a Belgian NGO, was not directly involved in this project, however, the organization supported a parallel project for the development of a credit cooperative to provide access to finance for COOPAIN members.

Project Stakeholders

ORGANIZATION	ROLE	DESCRIPTION
200 Small Producers	BENEFICIARIES	The beneficiaries were conventional cocoa producing members of the regional cooperative (COOPAIN), with experience both producing cocoa and working in a cooperative. Many of these producers previously had also cultivated coca for illicit trade.
Cooperativa Naranjillo (COOPAIN)	EXECUTING AGENCY & CO-FUNDER	Small producers were members of this cooperative, through which they sold their produce, receiving annual dividends in addition to payment per kilogram of cocoa delivered. This organization implemented the technical assistance component internally with 3 technical assistants.
Inter-American Development Bank (IDB)	PROJECT CO-FUNDER	The project was supervised by COF. This project was a Mini-MIF and as such, was approved and managed directly from the IDB country office.
Individual Consultant	EXPERT IN CHOCOLATE PRODUCTION	Provided technical assistance in the development of the pilot project in organic chocolate production.
SOSFAIM	BELGIAN NGO – COMPLEMENTARY PROJECT	SOSFAIM supported the development of CREDINA RANJILLO, a savings and credit cooperative that serves members and workers of the cooperative. This support included a US\$250,000 grant over five years. 2006 was the 3rd year of the project.

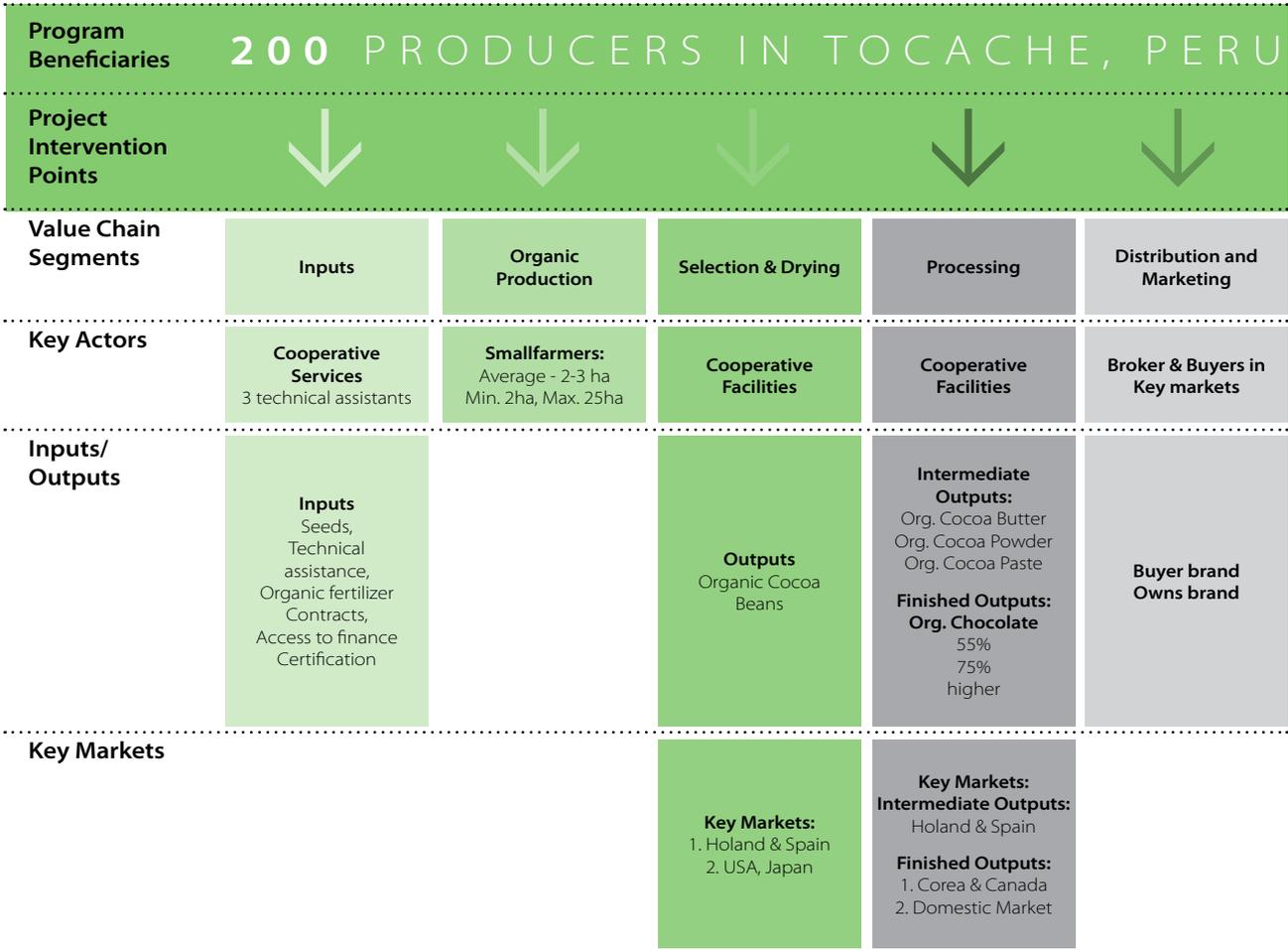
“Many of the producers did not understand the need to convert to organic production, as they believed coca plant cultivation was more profitable. This required a complete shift in attitude of the producers.”

Ronaldo Herrera, President, Management Advisory Committee, COOPAIN & Project



DESCRIPTION OF THE VALUE CHAIN

Organic Cocoa Value Chain - Summary Project Intervention



Source: Authors.

The organic cocoa value chain described above illustrates that the project attempted to intervene in three different segments of the value chain. Prior to the project, these producers were already competing in the global cocoa value chain, however, the high costs and technology required in the production of large-scale conventional cocoa are a major obstacle for small producer competitiveness. Organic cocoa production, on the other hand, is more labor intensive and is well suited to small-scale production. The project provided sufficient impetus and income for increased returns from the organic crop to finance the certification of additional producers. In addition, the project focused on upgrading the cooperative into the processing segment of the value chain with the addition of the pilot organic chocolate component. The economic sustainability of this upgrading has not yet been achieved due to several factors including limited access to market (lack of contacts and HAACP certification) and lack of in-country technical parts for the processing equipment. Three years following the end of the project, the processing machinery continues to operate under capacity.

↘ MODEL FOR VALUE CHAIN INCLUSION

Small- and medium-sized producers are often excluded from the value chain because they face resource, skills and market knowledge constraints. As noted before, four major constraints found to affect the success of agro-food inclusive business projects are access to finance, access to training, access to markets and coordination and collaboration amongst producers and other value chain actors. Below we discuss how each of these constraints was addressed in this project.

Assessment of the Four Value Chain Inclusion Pillars in this Project

Access to Finance

- ▶ **Access to finance was facilitated by several factors:**
- ▶ Sale contracts between producers and the cooperative served as collateral for loans for improvements to land with two international banks, Rabo Bank and Root Capital.
- ▶ CrediNaranjillo, a credit and savings cooperative serving COOPAIN members and workers, was established in 2007, following a pilot project. The organization offered competitive loans to producers to help them purchase necessary equipment, improve their production facilities, etc.
- ▶ Producers were provided with organic fertilizer at the beginning of the season, which only required payment at harvest. This not only facilitated “access to credit,” but it also decreased the transition time to organic cultivation.

Coordination & Collaboration Building (horizontal and vertical)

- ▶ **This was a strong aspect of the project, due to COOPAIN's existing operations model.**
- ▶ All beneficiaries were already members of the cooperative. Requirements to join and remain a member of the cooperative were minimal (500kg per year in deliveries, plants under production, a commitment to organic production, land title/legal usufruct of the land and a recommendation letter from an existing member.)
- ▶ Producers were organized in committees, according to their production areas. Each committee elected a leader.
- ▶ COOPAIN provided institutional strengthening courses for all committees, focused on transmitting and reinforcing the core principals of the organization and fostering a collaborative environment.
- ▶ Technical assistance and training was run at the committee level, helping to develop social capital.



Access to Training

- ▶ **Training was an important component of this project:**
- ▶ Training included: Raising awareness of the benefits of organic production and generating buy in, as well as technical aspects of organic production such as pruning, shade management, compost, harvest and post-harvest.
- ▶ Training was divided in a total of 32 modules and methodologies varied, including lectures, workshops, and field visits. Four farms were established as models for organic production and used for training purposes.
- ▶ Producers received bi-weekly or monthly visits from three technical assistants from the cooperative to provide hands-on support in the transition period.
- ▶ Importantly, training was run on the weekends, increasing access for training not just by the producers, but also their children; while, non-members were also invited to as part of the organization's recruitment policy.

Access to Market

- ▶ **This aspect differed by output product.**
- ▶ Access to market for primary and intermediary product was strong based on existing sales channels and organic and fair-trade certification. Access to market for organic chocolate was less well developed in the project design.
- ▶ The cooperative sold diverse product lines: cocoa beans, butter, paste and powder. This allowed them to respond to shifts in product demand in the export market, shifting between cocoa beans and derivatives.
- ▶ The sale of the new chocolate production was directed to just one buyer. This relationship ended abruptly in 2008, requiring the organization to hastily seek out new buyers, highlighting the vulnerability of their access to market.
- ▶ While the project supported participation in international fair to raise awareness of brand and to meet potential buyers, this did not translate to new contracts in the short term.



➤ PROJECT RESULTS

OUTCOMES	IMPACTS	DESCRIPTION
<ul style="list-style-type: none"> ▶ Production increased and improved substantially (From 458 tons in the first year of transition to 1,200 tons in the second year). Produce rejected decreased from 20% to 15% of the harvest. ▶ 200 producers were certified as organic.² ▶ 1 new collection center established (Tocache) & 1 revamped (Bambamarca). ▶ 1 new chocolate product line exported to Europe. ▶ 334 other producers were convinced to begin the transition to organic production by 2008. 	<ul style="list-style-type: none"> ▶ The price premium paid for organic, fair trade cocoa increased the price from 0.3 S/kg to 1.10 S/kg.³ Producers also received annual utilities of 1.5 S/kg delivered. ▶ Producer margins further increased as costs of inputs dropped considerably as agro-chemicals were no longer purchased. 	<ul style="list-style-type: none"> ▶ Producers served as important role models, encouraging other producers to shift to organic production. Beneficiaries are still considered to be the best in the cooperative today, producing the highest quality cocoa and accounting for 35% of total production. ▶ Shift in business model from conventional to 100% organic production. By January 2012, 1,800 certified organic producers. ▶ Positive community development as producers stopped cultivating coca plants. ▶ Increased initiatives to export chocolate. (Currently export to Canada and Korea, as well as expanding into the local market.) ▶ Increased investment in education.

² Approximately 10% of these producers dropped out of the project.

³ The organic certification results in a price premium of US\$300 per tonne, or US\$0.30 per kilogram. In Peru, this was an increase of approximately 0.80 N.S. per kilogram.

➤ SUSTAINABLE VALUE CHAIN INCLUSION OF SMALL PRODUCERS: AN ASSESSMENT

In general, this is a successful example of small producer inclusion in high value agricultural chains. First, the four key pillars of inclusion were considered within the project:

1. Producers had **access to credit**, through two direct avenues – CrediNaranjillo, a complementary project or by use of their sales contracts as collateral with international banks. In addition, credit for organic fertilizer, the key input, was provided by COOPAIN.
2. There was a comprehensive **training** component that incorporated not only technical aspects of the project, but also initiatives supported by ongoing cooperative services such as family development.
3. By design, the cooperative fostered **access to networks** for the producers. Producers were organized and trained by territory, strengthening community ties, and those to the cooperative. Loyalty was further instilled by the annual payment of utilities.
4. Prior to the project, COOPAIN had experience and contacts in the organic cocoa export **market**. The organization was able to leverage its initial contacts to increase sales. However, access to markets for the organic chocolate pilot should be considered relatively unsuccessful, as only one contract was signed, and this relationship was severed after the first year in operation.

The project design was fostered by several positive elements, specific to this project:

- ▶ The beneficiaries were already cocoa producers, familiar with their products and thus they were able to concentrate on shifting to organic production, rather than starting from scratch.
- ▶ COOPAIN was a well-established organization, directly connected with the project beneficiaries, and with deep roots in the local communities. This helped initial success, as well as ongoing sustainability and potential for replicability and scale.
- ▶ Organic production is labor intensive rather than intensive in technology or capital goods. This is well suited to this region where the high costs and technology required in the production of large-scale conventional cocoa are a major obstacle for competitiveness.

There were however, specific **challenges** that inhibited the project from achieving more far-reaching success.

- ▶ The considerable distances and poor infrastructure in this part of Peru made contract enforcement and supervision of organic production difficult. It also made it difficult for technical assistants to visit producers as regularly as would have been optimal.

- ▶ The high price for palm oil led certain producers to redirect their productive energies to those products, which resulted in them losing their organic certification. However, it is estimated that this accounted for attrition of less than 10%.

The ongoing expansion of COOPAIN's organic production and sale of both beans and intermediate products indicates strong sustainability of the project. In addition, although it has experienced some problems in expanding its sale of organic chocolate, COOPAIN continue to increase supply and open new markets including domestic ones.

Overall, the project was highly successful. A relatively small investment by MIF translated to significant positive economic, social and environmental impacts.

A comprehensive assessment is provided in the table below.

➤ PROJECT BUDGET

The budget for the project was US\$167,080, with US\$100,000 provided by IDB and US\$67,080 provided by COOPAIN. IDB funding was disbursed over a 27-month period beginning in December 2006.

By the end of the project, IDB had provided US\$87,307 in financing. COOPAIN contributed a total of US\$127,767 over the project period, doubling their pledged contribution. 1/3 of this additional contribution was spent on the technical assistance aspect of the project, and 2/3 on the pilot project for the production of organic chocolate.



➤ SUSTAINABLE VALUE CHAIN INCLUSION OF SMALL PRODUCERS IN THE GLOBAL COCOA CHAIN: AN ASSESSMENT

	CRITERIA	KEY POINTS	ASSESSMENT
SELECTED VALUE CHAIN	Target Product	Organic cocoa cultivation is a highly labor-intensive, rather than capital intensive, crop, requiring constant weeding, pruning and disease management. Organic cocoa production requires even higher labor demands for disease control. This is well suited to this region where the high costs and technology required in the production of large-scale conventional cocoa are a major obstacle for competitiveness. There was a strong and growing demand for organic cocoa beans, derivatives and chocolate in Europe in particular in 2006, with a price premium for organic, fair-trade cocoa beans of \$500 per ton over and above the market price for regular cocoa.	●
	Beneficiaries	Beneficiaries were small producers, with between 2 and 22 ha of conventional cocoa under production. These producers were existing members of the cooperative which exported conventional cocoa in addition to a small quantity of organic cocoa prior to the project. Several producers had previously cultivated coco plants for the illicit cocaine trade.	●
INCLUSIVENESS	Inclusion four pillars	All four factors for necessary to achieve small producer inclusion were present, even though they were not all directly covered by the project.	●
	Competitiveness	The key challenges for COOPAIN were knowledge and the financial assets required to become certified organic producers. Transportation infrastructure improvements, a keen government interest in high value agricultural products and an expansion of financial services to the agricultural sector provided a positive environment for potential growth. Weather, pest and disease: These factors are difficult to manage before transition to full organic production. Continued sales of conventional products provided alternative for use of agrochemicals to avoid loss of crops. This reduced producer vulnerability. Moral hazard: Some producers lacked management and business skills - sale to intermediaries for immediate higher prices often trumped long term stability of a guaranteed market.	●
	Upgradeability/ Potential to add value	Upgrading from conventional to organic cocoa production represents product upgrading into a higher value product line. Initiation of chocolate production under guidance of Swiss expert facilitated ongoing development of a high value added product.	●
	Economic Sustainability	The cost of organic certification for the organization is very high, at approximately US\$50,000 for all of COOPAIN's product lines in its key markets. The cooperative appeared to have successfully established a model of including certification as an internal operating cost covered before utilities are distributed at the end of the year. Sustainability of the chocolate production depended on the success of business development initiatives to open new markets, and provide a reliable supply.	●
	Social Sustainability	Gender & Family: COOPAIN offered training courses for social development at the family and committee level, encouraging wife participation and gender equality. Youth: COOPAIN encouraged producers to invest in children's education. They provided specific training in areas such as leadership and business development to encourage the children to see cocoa production as a profitable business. A profitable alternative to coca production , organic cocoa helped improve producer security and quality of life.	●
	Environmental Sustainability	Organic cultivation has important environmental benefits; it avoids excessive use of the land and agro-chemicals. In addition, each producer must also dedicate a portion of his or her land to conservation of native forest. Processing of cocoa beans was fueled by burning the husks of complementary coffee production, minimizing the carbon footprint of the operation.	●
	Spillovers / impact	The success of the organic production model was adopted for all producers in the cooperative. By 2012, the cooperative had 1,800 certified organic producers. There was increased investment in education and community strengthening as numerous producers leaving the illicit coca trade in order to produce organic cocoa.	●
IMPACT	Potential for Replication	In 2012, central aspects of the project were being replicated by the USAID/Peru Alternative Development Program to convert 700 coca producers to organic cocoa production. These producers will join COOPAIN as members.	●

Weak ○ Medium ◐ Strong ●

