ASSESSMENT OF FIVE HIGH-VALUE AGRICULTURE INCLUSIVE BUSINESS PROJECTS SPONSORED BY THE INTER-AMERICAN DEVELOPMENT BANK IN LATIN AMERICA

Karina Fernandez-Stark & Penny Bamber

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This paper is a summary of five IDB-MIF projects that aimed to include small- and medium-sized producers in high-value agriculture value chains. The objective of this paper is to provide a set of lessons learned to design and implement efficient, effective and sustainable projects in the future. The paper is structured as follows: First, the paper provides an overview of the model for inclusion in high-value agricultural chains. Second, we provide a comparative overview of the five projects and a summary of lessons learned. The final section includes a summary analysis of each of these five cases.

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"Assessment of Five High-Value Agriculture Inclusive Business Projects Sponsored by the Inter-American Development Bank in Latin America"

This research was prepared on behalf of the Inter-American Development Bank-Multilateral Investment Fund (IDB-MIF). The goal of this project was to capture the lessons learned from the IDB-MIF's experience in inclusive business and value chain development interventions in high-value agricultural markets, to improve these projects based on good practices and to facilitate the systematic institutionalization of this knowledge. The project included four reports, available at www.cggc.duke.edu.

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None of the opinions or comments expressed in this study are endorsed by the companies mentioned or individuals interviewed. Errors of fact or interpretation remain exclusively with the authors. We welcome comments and suggestions.

The authors can be contacted at karina.stark@duke.edu and penny.bamber@duke.edu.

Other reports in these series:

- 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

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 chains 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.

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I. 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.

- **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 buyers or 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.
- **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.
- **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.
- **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.

In the following section, we provide a summary of the five MIF projects studied and the principal lessons learned from these experiences for future programming (Table 1). This is then followed by a brief case study analysis for each of the five projects. [1]

[1] This research is based on field trips to the areas where each project was implemented between January and March 2012.

II. Summary of Projects Studied

Table 1. Sustainable Value Chain Inclusion of Small Producers: Project Comparison

Project Name & Number	Supporting the Competitiveness of Central American Coffee (TC-0208023)	Strengthening the Competitiveness of the Stevia Value Chain (PR-M1013)	Conversion to Organic Cacao Cultivation (PE –M1023)	Strengthening the Competitiveness of Organic Producers in Huánuco (PE -M1040)	Development of Micro and Small Rural Apicultural Producers (RG-M1130)
Project Description	The project provided technical assistance and helped to establish market linkages for experienced small coffee producers in five Central American countries to enable their entry into a higher value specialty coffee value chain, and prevent their possible exclusion from the market following the coffee crisis at the turn of the century	This project focused principally on increasing the quality and quantity of stevia production by smallholders in Paraguay. Approximately 2,500 producers with 5-20 ha were incorporated into the value chain in outgrower programs of exporter and processing member firms of the Paraguayan Chamber of Stevia.	This project involved the conversion from conventional cocoa to certified organic production of 200 members of Cooperativa Naranjilla in, Peru. Beneficiaries were small producers, with between 2-22 ha of conventional cocoa under production, and several producers previously cultivated coca plants for the cocaine trade.	The project focused on improving the competitiveness of the ecological producers in Huánuco, Peru, through conversion to organic production. Certification by Participatory Guarantee System was used for local sale and a third party certification was used for sale in supermarkets in Lima.	The project focused on improving the competitiveness of small producers in the Honduran and Nicaraguan beekeeping sector by strengthening value chain actors and activities in each country, improving technical capabilities and improving the supply chain environment by linking actors and creating synergies.
Country	Nicaragua	Paraguay	Peru	Peru	Nicaragua & Honduras
N° of Beneficiaries	6,000	2, 500	200	415 (100 certified)	542
Targeted Product	Coffee	Stevia	Organic, Fair-Trade cocoa	Organic Fruits & Vegetables	Honey
Targeted Stage of the Value Chain	Production	Production (80%) R&D (20%)	Production (50%) Processing (27%)	Production (90%) Packing (5%)	Production
Executing Agency	Technoserve (Intl. NGO)	CAPASTE (Ind. Association)	Cooperative Naranjillo	IDMA (National NGO)	Swisscontact (Intl. NGO)
Project Duration & End date	54 months 2008	36 months Ongoing 2012	27 months 2008	33 months 2011	36 months Ongoing 2012
Funding IDB/Counterpart	$3,000,000 $1,615,450	$1,269,400 $1,364,470	$100,000 ($87,307) $67,000 ($127,000)	$397,990 $264,930	$982,026 $448,700 (+$200,000)
Target Product	●	●	●	●	●
Beneficiaries	●	◐	●	◐	◐
Competitiveness	●	◐	●	◐	◐
Assessment (M) Market, (T) Training, (CC) Coordination & Collaboration, (F) Finance	M, T, CC, F	M, T, CC, F	M, T, CC, F	M, T, CC, F	M, T, CC, F
Upgradeability	●	●	●	●	●
Economic Sustainability	●	◐	●	○	◐
Social Sustainability	◐	●	●	●	●
Environmental Sustainability	●	●	●	●	●
Spillovers/ Impact	●	●	●	●	●
Potential for Replication	◐	◐	●	◐	◐

Weak ○ Medium ◐ Strong ●

III. Lessons Learned

- A clear **market analysis** of the products that are intended for commercialization is essential to ensure adequate supply, a commercially viable product and sustainable access to market. This includes a thorough understanding of the product characteristics, required certifications, etc.
- Producers must be seen as **productive agents of the value chain**, and as such, a fundamental part of each program is the development of an appropriate, feasible business plan. Producers should be taught how to analyze and adapt different aspects of this business plan to the realities of the market, such as basic cost and price models. Regular business challenges such as cash flow and human capital management should be considered.
- **Not all "small- and medium-sized producers" are the same.** Producers with different levels of socioeconomic development and different levels of expertise commercializing their products require different tools for integration into the value chain. They also have different potential to participate in the chain. These differences must be taken into account in all stages for the project design, implementation and evaluation.
- **The length of each program is important**. For example, the transition to organic production takes three years for the European market. During this time, producers are unable to market directly to their new clients. Project length should correspond to the time taken for producers to become economically sustainable participants of the value chain.
- **Size matters.** Due to the lack of preparation of many small producers in developing countries and the considerable hands-on training and management required, certain projects are unable to recruit and/or manage the number of beneficiaries they initially propose. Potential projects should be evaluated for their potential to be replicated in the long term and on cost-benefit analysis per producer engaged rather than on their initial proposed size.
- Training must go beyond production techniques to include both entrepreneurial and interpersonal skills components. The combination of these **three training approaches** is important to produce a quality product, to foster producer independence in sales, and to promote effective collaboration amongst producer groups.
- **Access to market** is often limited by a lack of contacts and business prowess. Inclusive business projects would benefit from the engagement of influential actors, such as IDB, with important buyers in the sector. The Bank should thus play a **more active role in linking small and medium players with important buyers** nationally and internationally.
- Developing and empowering producer associations and connecting them with other actors in the value chain is an important step in achieving the necessary **economies of scale for small producers to join national and international value chains**. Many small producers operate on less than 25 hectares of land and often lack the resources to fully develop it. As such, no one producer can produce sufficient quantities to access the market. Producers must be either be self-organized in producer associations or organized by the buyer in outgrower schemes.[2]
- **Access to credit** is a necessary condition for value chain inclusion. Producers lack resources to invest in new technologies and required infrastructure to upgrade their operations to meet the standards of coordinated global value chains.
- **Infrastructure:** the presence or lack of smallholder's individual or cooperative basic equipment and infrastructure can significantly inhibit a project's success. MIF grants in 4 of the 5 cases did

[2] Outgrower schemes are producer groups that are created by a buyer to reduce transaction costs of working with individual producers. The buyer will sign individual contracts with producers, however, producers will be brought together for training and technical assistance activities and will likely share collection points.

not allow for the purchase of equipment. In the case of the honey, this undermined the producers' ability to expand their supply or upgrade their processing. In the case of the coffee, MIF funds were matched by cooperative funds in the construction of new infrastructure for processing. This was important in facilitating functional upgrading of the producers.

- The success of the project depends to a large degree on the **local experience with and knowledge** of the executing agency. It is often difficult to build trust amongst small producers who are disconnected from commercial chains, or whom have been taken advantage of by intermediaries in the past.
- Where possible, **alignment and synergies with other agencies** working in the sector can allow limited project resources to be leveraged considerably and, in turn, to increase the number of beneficiaries of different initiatives.
- Finally, value chain inclusion interventions require a **clear and standardized methodology**. Projects need a blue print to guide design and implementation and evaluate impact. The value chain approach allows one to identify the competitiveness bottlenecks faced by small producers, key value chain actors, national/international buyers certifications and standards required by the chain.

IV. Case Studies

SUPPORTING THE COMPETITIVENESS OF CENTRAL AMERICAN COFFEE

The project provided technical assistance and helped establish market linkages for experienced small coffee producers in five Central American countries. This enabled their entry into a higher value specialty coffee value chain, and potentially prevented exclusion from the market following the coffee crisis at the turn of the century.

Project Description: The project focused on improving the competitiveness of selected small and medium specialty[3] coffee producers in five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua) following the international coffee crisis in the early 2000s. There were two key components: (1) technical assistance for cultivation of high quality coffee and (2) establishing links with foreign buyers. Producers were trained in the requirements of high quality coffee for global markets, the potential price premiums paid out for quality coffee and in improved production practices to obtain this quality. In order to market and certify the quality of the coffee in Central America, the project brought the international cupping award "The Cup of Excellence" to the region.[4] The project also provided administrative and technical support to help producers obtain certifications required by foreign buyers. Different buyers selected the beneficiaries' organizations, committing to purchase their coffee once they reached certain quality thresholds. This project also included an investment component to improve equipment and infrastructure. Each cooperative was required to provide matching funds for these investments. Originally the project included almost 3000 beneficiaries organized in 10 cooperatives (2 cooperatives per country). These cooperatives varied in size, from just 10 members to the largest at 2400 members. Approximately, 3,000 additional beneficiaries were incorporated into the project in the last year. The majority of the beneficiaries selected were experienced coffee growers.

Lessons Learned

- Establishing links between producers in Central America and the international buyers was central to the program's success. The strategy consisted of presenting buyers with a profile list of producers from Central America from which the buyers selected a certain number of producers to support. Buyers received information regarding the training implemented to improve coffee quality. Later, buyers received samples and finally purchased the coffee. In addition, the project was successful in diffusing information on buyers' preferences and standards through manuals, training and activities.
- Selecting the best small producers ensured the probability of success. However, a large number of producers were not included. In Nicaragua there are approximately 40,000 small coffee producers and this project selected two cooperatives with 44 members in total. In the last year, the project included 700 additional producers.
- Failure to coordinate with other large donor initiatives limited potential impact of the project. Several initiatives related to coffee were underway in the region at the same time as this project (2003-2004), however, there was no centralized record of these projects.
- Educating producers *how* to implement good agricultural practices is important. Educating them about *why* one should implement good agricultural practices, however, is just as important. Explicitly highlighting the connection between these practices and access to international markets facilitated faster and more widespread adoption.

Overall Evaluation of Sustainable Inclusion

Sustainable Inclusiveness	The project selected a product with a raising global demand. Experienced coffee producers aligned their production with buyers needs with the support of the executing agency that provided them training and access to market linking future buyers with beneficiaries. The good agricultural practices of producing specialty coffee allowed to improve the quality of the coffee and also to include environmental friendly methods. Beneficiaries and families increased their income and quality of life. The implemented agency was a facilitator that guaranteed the sustainability of the inclusion; quality coffee producers established a business relationship with foreign buyers.	 **Strong**

[3] Specialty coffee refers to Arabica coffee grown at a specific altitude, above 1,200 m.s.l. The climate at this altitude is particularly good for producing highest quality coffee.

[4] "The Cup of Excellence" is a strict competition that selects the very best coffee produced in a country for a particular year. Winning coffees are chosen by a select group of national and international cuppers. The final winners are awarded the prestigious Cup of Excellence® and sold to the highest bidder during an internet auction.

Institutional Arrangement

Technoserve, the executing agency, partnered with local coffee organizations in each country to coordinate the project activities (listed below) These organizations identified potential cooperatives for participation. Prerequisites for participation included: production above 1,200 meters above sea level, exports of 10% of production, sound infrastructure for year-round operations, production capacity of 150 tons, financially stable with access to water and electricity. The project began in November 2003 and finished in April 2009.

Project Stakeholders

Organization	Role	Description
Technoserve	Executing agency and Co-finance	Technoserve is a non-profit organization focused on developing and promoting services to build local capacity and find business solutions to address rural poverty. The organization has worked with coffee producers for over 30 years.
MIF	Co-finance	MIF-Nicaragua office (Griselda Soto) supervised this project.
Coffee Cooperatives	Beneficiaries	Two cooperatives were selected per country totaling 2924 coffee growers. The project was expanded and 10 new cooperatives were added in which 3,000 producers were incorporated
Coffee organizations in each country	Supporting organizations in each country	Asociacion de Cafes Finos in Costa Rica, Asociacion de Cafes Especiales de Nicaragua, Instituto Hondureño del Café in Honduras, Asociacion Nacional del Café in Guatemala and Consejo Salvadoreño del Café in El Salvador. These organizations provided support to coordinate project activities and expertise in the preparation of a Good Agricultural Practices manual for quality coffee production
US buyers	Project partners	U.S. buyers agreed to participate in this project, selecting 10 producer groups from which they would purchase coffee once a minimum quality threshold had been reached.
Alliance for Coffee Excellence (ACE)	Project partner	The Cup of Excellence is a strict competition that selects the very best coffee produced in a country any particular year. Winning coffees are chosen by a select group of national and international cuppers. The final winners are awarded the prestigious Cup of Excellence® recognition.
Coffee Quality Institute (CQI)	Supporting Organization	The Coffee Quality Institute (CQI) is a non-profit organization working internationally to improve the quality of coffee and the lives of the people who produce it.
USAID	External development agency	USAID did not participate directly in the project, however, in a parallel project, they trained cuppers to grade coffee by quality, helping to certify 40 cuppers. Exporters were thus able to recognize the quality of their coffee for export benchmarked with international standards established by the Alliance for Coffee Excellence (ACE)

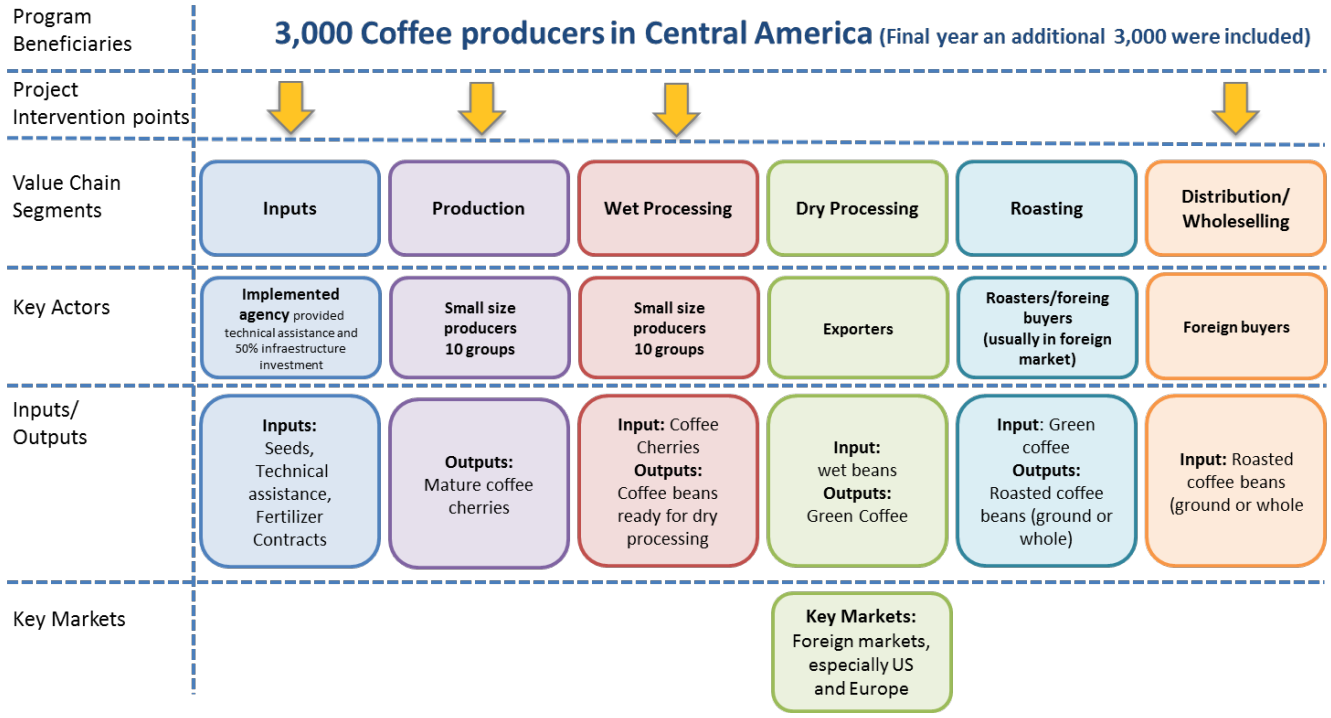
Number of Beneficiaries by Country

Country	Number of Beneficiaries	Number of beneficiaries added in final year	Total
Costa Rica	2552	1250	**3802**
El Salvador	125	745	**870**
Honduras	49	184	**233**
Guatemala	154	205	**359**
Nicaragua	44	787	**831**
Total	**2924**	**3171**	**6095**

Note: some cooperatives members grow different products. In this counting all cooperatives members are included, not only coffee producers.

Description of Value Chain

Figure 1. Coffee Value Chain - Summary Project Intervention



Source: Authors

The coffee value chain illustration above shows that the project intervenes on several chain segments. Prior to the project, beneficiaries sold their coffee as a commodity and lower levels of productivity made it difficult to compete.[5] In order to achieve competitiveness in international markets the intervention identified and addressed bottlenecks in the value chain. These included implementation of good agricultural practices in the harvesting and wet processing stages, which improved overall productivity and quality. Additionally the project provided investment support to improve the infrastructure and, more importantly, it established links between producers and foreign buyers of specialty coffee.

[5] During the project design stages, it is imperative to perform an evaluation of the beneficiary's competitiveness using a market study as benchmark. Criteria for competitiveness evaluation include: Productivity, product/service quality, standards and certifications, produce/service image, packing, logistics, economies of scale, necessity to add value to the product/service, assess if the product/service is suitable for SMEs commercialization. See introductory note for further information.

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. Four major constraints found to affect the success of agro-food inclusive business projects are: 1. **Access to finance**: Small- and medium-sized producers usually do not have access to formal finance channels and credit is fundamental for investments required to enter the chain; 2. **Access to training**: Specific requirements must be met to sell products at local, national and international levels. These require technical, entrepreneurial and interpersonal skills in which small producers often have limited experience and education; 3. **Coordination and collaboration building**: The development and empowerment of producer associations is essential for small producers to leverage their numbers to achieve economies of scale required for value chain inclusion, but also to exchange ideas, build social capital and coordinate with other chain stakeholders; and 4. **Access to market**: A market component is essential to promote producer independence and achieve sustainability. This is often the most difficult constraint to overcome due to lack of contacts, market research skills and business prowess.

Evaluation of the Four Value Chain Inclusion Pillars in this Project

Access to Finance

- **No finance component was included in this project.**
- The cooperatives selected were required to already have access to finance and have financial resources for investment in infrastructure improvements.
- This project provided matching funds to improve infrastructure and to buy equipment needed to implement good agricultural practices.
- Several cooperatives obtained credit from international institutions which alleviated cash flow problems and was used to invest in equipment and infrastructure.
- Many of these cooperatives worked with other international organizations and aid agencies to obtain extra resources.

Access to Training

- **Technical training was excellent.**
- It was based on information from the American Association of Specialty Coffee standards and ISO 9001-2000 guidelines.
- A Good Agricultural Practices manual was developed together with the five country coffee associations. Beneficiaries of this training initiative included a broad number of coffee producers, including producers that were not direct beneficiaries of the IDB-MIF project.
- Trainings were specifically focused on the harvesting and the wet method processing stages. These two stages were found to be critical for the production of quality coffee.
- In addition, producers were taught how to distinguish between quality levels, adjusting the information asymmetries between producers and intermediaries or buyers.
- The training format was combined classroom sessions with field days. Internships also played an important role in raising awareness of best practices.

Coordination & Collaboration Building (horizontal and vertical)

- **Since the project only worked with well-established cooperatives, no activities were focused on internal network building.**
- Producers had the opportunity to sell directly to foreign buyers. This created a direct link with the clients leapfrogging the national intermediaries (exporters.) This link with other actors of the value chain allowed to capture more value for producers.

Access to Market

- **This was a strong component of the project.**
- The project partnered with international buyers who selected and sponsored 10 cooperatives. These buyers received information on the activities coffee growers were carrying out to raise the quality of the product. Once the coffee reached the threshold quality required, buyers purchased the coffee
- The project helped several cooperatives to obtain certifications required by buyers. Specifically: C.A.F.E. Practices (Starbucks), Fair Trade, Organic, Rainforest Alliance and UTZ

"Before [the project], the producers did not know how to produce good quality coffee…; today, they do. This has allowed them to offer a better product, improving their incomes and helping them to improve their lives."

Francisca Ubeda, General Manager Cooperative El Gorrion, San Sebastian de Yali-Nicaragua

Project Results

Outcomes	Impacts
• 591 producers were trained in improved harvesting and wet processing stages. • 10 groups were selected by international buyers to sell their coffee. • Coffee growers were invited to participate in the "Excellence Cup" award. Several were selected and auctioned their coffees online. • Several producers received certifications for sale to international markets. These included: C.A.F.E. Practices (Starbucks), Fair Trade, Organic, Rainforest Alliance and UTZ • Producers improved the infrastructure of the wet processing stage.	• Improved productivity and quality • Increased export volumes (US$4.4 millions) • Increased percentage of specialty coffee (ex. In 2003 in Nicaragua, 30% of the exported coffee was specialty, by 2011, it accounted for 50% of exports) • Increased family income • Job creation • Extended education for children • Producer empowerment ○ Producers felt proud of their achievements • The project helped to shift Central American coffee from being a commodity to a differentiate product • Central American coffee became known for its excellent quality

Sustainable Value Chain Inclusion of Small Producers: An Evaluation

This project took important steps to ensure the participation of small producers in the global value chain. The producers were already well positioned to produce coffee, with access to credit and formalized producer associations. Prior to the project, they used to sell an undifferentiated product to local exporters at very low prices. In this project, beneficiaries received technical assistance to produce quality coffee and were provided direct access to foreign buyers. A comprehensive evaluation is provided in Table 2.

- Producers received very good **technical training** through which they were able to increase their product quality by international standards. Prior to technical training, awareness of the importance of implementing the good agricultural practices and the meaning of producing a quality coffee was raised through visits to model production farms and meetings with trainers.
- Producers were already well **coordinated with high levels of collaboration** prior to the project (selection criteria required pre-established cooperatives). The majority of these cooperatives had been operating for decades.
- The **access to market** strategy was exceptional. Linking foreign buyers from the outset of the project was a very wise tactic, as it generated buy-in amongst these actors for the project's long term goals. This strategy was also very useful to ascertain and transmit the standards of international buyers to the producers.
- **Access to finance** was not included in this project as the cooperatives selected were required to have pre-established access to credit, as well as their own resources for investing in infrastructure improvements. MIF resources were used to invest in infrastructure and equipment needed to implement good agricultural practices.

Positive elements that facilitated the project included:

- Considerable experience and development trajectory of the groups selected for participation.
- Strong global demand for specialty coffee.
- Highly motivated and technically strong human resources within the executing agency.
- Presence and collaboration of coffee institutions of each country.

Some challenges limited the success of the project:

- The complexity of coordinating of the five countries selected in the project.

This project accelerated the supply for good quality specialty coffee from Central America following the coffee crisis in the early 2000 in which commodity coffee prices dropped below production costs. Producing specialty coffee and products that met the quality and certifications demanded by the most sophisticated international markets assured the sustainability of this project. Ongoing strong demand for specialty coffee from the region in the international market highlights the success of coffee initiatives carried out during the 2000s. However, given the large number of initiatives that were carried out simultaneously, it is difficult to determine the extent of the specific impact of the MIF project.

Table 2. Sustainable Value Chain Inclusion of Small Producers in the Global Coffee Chain: An Evaluation

	Criteria	Description	Evaluation
Selected Value Chain	**Target Product**	Specialty coffee is an excellent product for small- and medium-sized producers due to labor intensity, especially organic and other type of certified coffee. Commercial viability: Local and global demand for specialty coffee grew significantly over the last decade. Central America n coffee was successfully positioned as excellent high quality specialty coffee. In general, exports of specialty coffees by country increased tremendously in comparison to commodity coffee. (Guatemala 90%, Costa Rica 80% and Nicaragua 50%.)	
	Beneficiaries	The level of development of the beneficiaries was low in terms of schooling, however, they were experienced coffee producers that had previously exported their product. Their main requirements to capturing more value from the chain were extra technical support to implement good agricultural practices and linkages with foreign buyers.	
Inclusiveness	**Inclusion Four Pillars**	All the value chain inclusion pillars were covered. Some of them were pre-requisites for participation, while the access to market and the technical training were covered by this project	
	Competitiveness	Awareness was raised regarding the relationship between product quality, implementing good agricultural practices and access to international markets. Both quality and productivity were increased. Additionally producers obtained specific certifications to access the global market. Risks: The selection of experienced producers with strong cooperative support and access to water minimized moral hazard and climatic risks involved.	
	Upgradeability/ Potential to Add Value	There is a lot of potential to continue to add value by producing premium coffees. Some of these coffees are auctioned online for very high prices. This means that product upgrading is a good opportunity for the beneficiaries to pursue.	
	Economic Sustainability	It is quite likely that the beneficiaries would have achieved the outcomes without the intervention, as the producers were organized, had access to credit, were experienced producers and already participating in the international market. However, the project accelerated the shift to the production of specialty coffee. Specialty coffee producers in these countries continued to expand their production after the project finished, including the beneficiaries of this project.	
	Social Sustainability	The project did not specifically include any gender or youth component. However, many of the beneficiaries experienced income rises that were used to educate their children.	
	Environmental Sustainability	The good agricultural practices specifically regulate the cherry coffee waste during the wet processing stage. Prior to the project, producers contaminated the rivers and water sources. Additionally, several of the certifications obtained by the producers regulate the environment protection.	
Impact	**Spillovers/Impact**	This project had several positive impacts: improved productivity and quality, increased export volumes, increased percentage of specialty coffee exported. This allowed increased family income, job creation, extended education for children and producer empowerment. One of the most important spillover was that this project helped to shift Central American coffee from being a commodity to a differentiate product. Now Central American coffee became known for its excellent quality	
	Potential for Replication	Certain areas of the project can be replicated: for example, designing training based on specific international buyers standards. The model for access to international markets, which included buyer involvement from the outset of the project should be replicated.	

Project Budget

IDB-MIF: US$3,000,000; Technoserve: US$1,615,450.

STRENGTHENING THE COMPETITIVENESS OF THE STEVIA VALUE CHAIN IN PARAGUAY

The project focused on improving the production and quality of stevia in Paraguay to raise incomes of small producers and expand the supply of stevia to support upgrading into the higher value extraction stage of the value chain. The project helped formalize and strengthen the producer-exporter relationship, an important milestone for an industry with significant levels of distrust.

Project Description: The project focused on improving the competitiveness of the stevia value chain in Paraguay. The project consisted of three key components 1) increasing the quality and quantity of stevia production by small producers, 2) strengthening producer groups or associations, and 3) fostering innovation and technology transfer to improve both plant variety quality and prospects for in-country value added processing. The largest component of the project was the inclusion of new producers into the value chain. Participating firms recruited and contracted new producers, provided them with specific inputs for production, training and technical assistance (TA) and guaranteed purchase of their harvest. The project also organized and consolidated producer groups. The groups received legal advice regarding how to formalize their organizations and skills development to improve teamwork and collaboration. The project also included competitive awards for innovative projects and technology development; winning projects included a service-based initiative to empower producers to buy pass intermediary brokers and connect directly with buyers in foreign markets,, and a project focused on developing new varieties of stevia, with higher content of Rebaudioside-A (Reb-A).[6] The project took place during a time of considerable shifts in the world market for Stevia. In 2008, the Food and Drug Administration in the United States approved just Reb-A for human consumption; this was followed by Reb-A approval in several countries in Europe and overall, European approval was granted by the European Union in 2011. Many producers had expected the approval of a broader range of stevia derivatives. Specifically, the substance "stevioside" was not approved, despite its long term use as a sweetener in Asian markets.

Lessons Learned

- The term "small producers" encompasses a broad range of producers, with different levels of production skills and social and economic development. These differences inherently require distinct approaches to facilitate inclusion in the value chain. The project's design did not distinguish between different levels of producer development (experience, infrastructure, socioeconomic level, etc.), which provided challenges both for project implementation and evaluation.
- Stevia is a niche product and requires significantly more work than many other crops, raising the opportunity costs for the small producers, whose key investment is time. Due to this, technical assistance (TA), which establishes an ongoing relationship between the producer and the buyer, is a critical factor in the inclusion of small producers in the value chain. It takes approximately 3 years for a producer to master the production of stevia and see significant returns on the investment of their time. TA must be constant during this period of time to ensure the producer does not abandon production.
- The project initially considered the inclusion of 4,000 new producers to grow 1ha of stevia each. Given the shifting market conditions during the proposal evaluation, historical tensions in small producer production of stevia and the lack of adequate irrigation and vulnerability to climate change, the potential for this scale should have been revisited. Context specific conditions must be taken into account.

Overall Evaluation of Sustainable Inclusion

Sustainable Inclusiveness	The competitiveness of small producers in stevia is likely to weaken as mechanization increases, however, the strong demand for stevia will continue to provide access to market. The project provided access to all four pillars through the outgrower model, although the economies of scale through formation of cooperatives was weak, as was access to finance. Social and environmental sustainability aspects were strong, although economic sustainability will depend on exporter firms developing a better variety.	 **Medium**

[6] Several natural substances can be derived from the stevia plant (scientifically known as steviol gylcosides, which includes glucose as part of its structure). One of the best-tasting and sweetest of all the steviol glycosides is high purity Rebaudioside-A (Reb-A), which can be up to 400 times sweeter than sugar. For more information regarding Stevia, please see www.globalsteviainstitute.com.

Institutional Arrangement

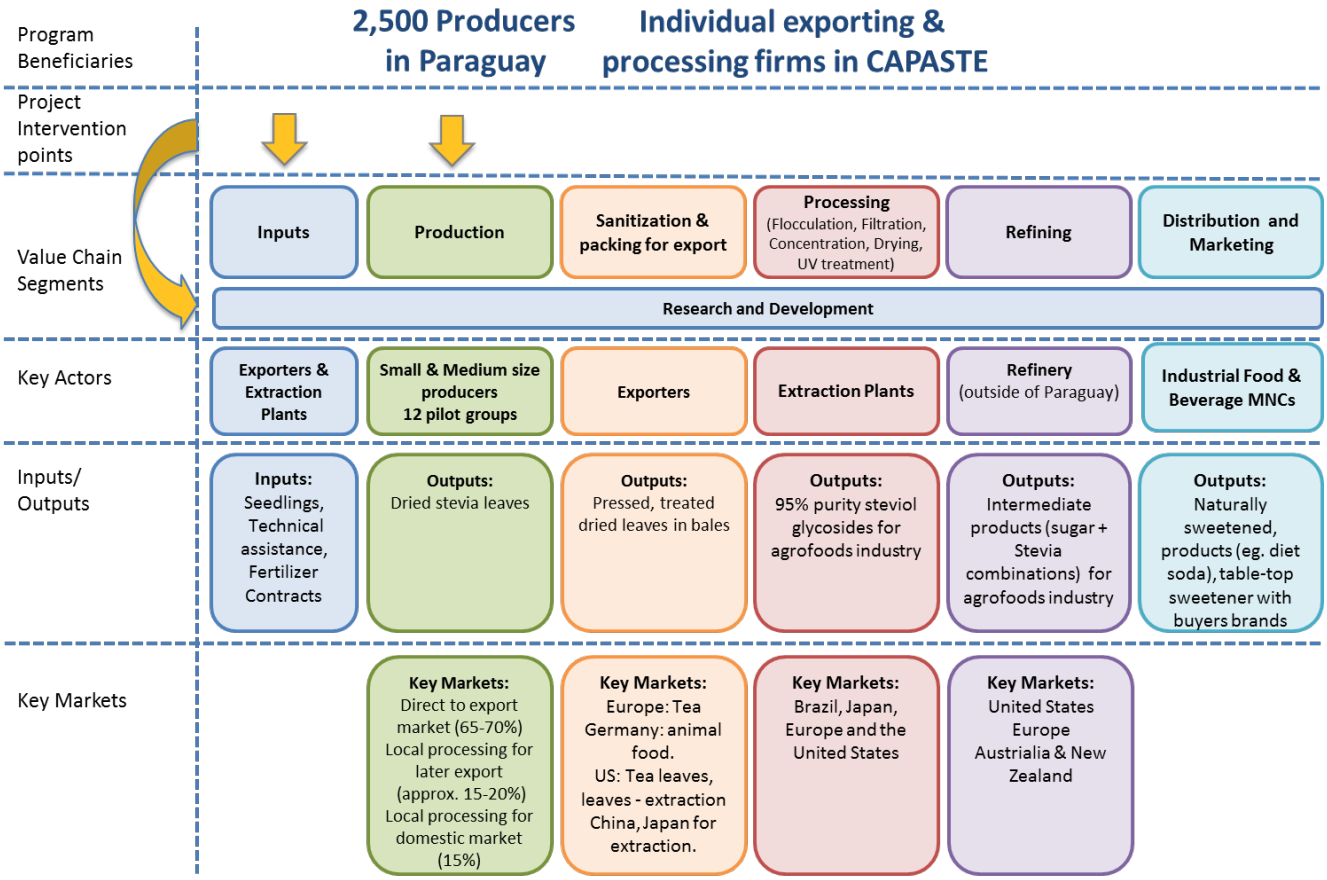
CAPASTE, the stevia private industry association in Paraguay, was the executing agency for this project. Each of the CAPASTE member firms that participated in the project was required to contract small producers to cultivate the product, provide them with key inputs and technical assistance and a guarantee of purchase. The Federation for Productive Cooperatives in Paraguay (FECORPOD) was contracted to help strengthen producer groups. Firms were permitted to work with FECOPROD to strengthen any of their producer groups, and not only those that had joined the sector under the scope of the IDB-MIF project. Member firms could also apply for financing for innovative projects and those focused on technology transfer.

Project Stakeholders

Organization	Role	Description
CAPASTE (Paraguayan Chamber of Stevia)	Executing agency and co-funder.	CAPASTE is a private industry association, which accounts for over 80% of stevia exported from Paraguay. The association was formed in 2006 to help facilitate the expansion of the industry in the country. 7 member firms participated in different components of this project. CAPASTE was primarily responsible for the project design, coordination of financial aspects of the project and monitoring.
Small producers	Beneficiaries	Estimated at approximately 2,500 producers by project end. These producers presented varying levels of development, and were located in different areas of the country. Producers participating in the project had to be new to the production of stevia. Most producers have 5-10ha of land, and cultivate a variety of crops in addition to stevia including soya, cotton, yucca and sesame. Producers began with either ¼ or ½ ha of stevia production; the maximum extension of production estimated for small producers is 1 -1 ½ ha of stevia, based on labor limitations of the family unit.
SteviaPar S.A.	Participating firms	SteviaPar has 21 years of experience in the stevia industry. Key export markets were the United States, Europe and Japan. Product was exported in bales of dried pressed leaves, or as crushed leaves depending on the market.
NL Stevia S.A.		NL Stevia was founded in 2006; it inaugurated its extraction plant in 2009. The extraction plant (with a production capacity of 100T) was designed to produce steviol glycosides at 90% purity. Approval of stevia consumption in the United States (2008) and Europe (2011) required a minimum of 95% purity. The extraction plant stopped production in December 2011 pending the installation of new technology to increase purity. NL Stevia did not export leaves during the course of the project, as it was stockpiling raw materials for its extraction plant.
Granular S.A.		Granular is a Swedish owned firm with local partners established in 2006; the firm is committed to organic production of stevia for the herbal tea market. In 2011, Nicolas Leoz, of NL Stevia, purchased a significant share of Granular and the firm, now Granular NL, is planning on establishing an extraction plant in Caaguazú in 2013.
Pure Circle S.A.		Pure Circle is the largest producer of steviol glycosides in the world; their extraction plant is based in China and their headquarters in Kuala Lumpur, Malaysia. The firm established operations in Paraguay in 2008, and by 2012 exported dried, pressed leaves to its plant in China. The firm announced plans to construct and extraction plant with a capacity of 500T in Paraguay in 2013.
Granja Virginia		This operation was awarded funds under the technology transfer component of the project and was focused on improving varieties, propagation and management of stevia during cultivation.
Stevia Guarani S.A.		
Asisteco S.A.		This firm received funding through the technology transfer component of the project. The firm offers a comprehensive service including seedlings, technical assistance and introductions to buyers directly to producer groups.
Federacion de Cooperativas de Prodccion de Paraguay (FECOPROD)	Sub-contracted agency (organization of producers)	This organization was responsible for working with producer groups to strengthen collaboration and coordination among smallholders. They did not work with all producers included in the program. In some cases, the organization also helped to recruit new stevia producers for the project.
MIF – IDB	Co-funder	The project began in 2009. It was supervised by Carlos Ortiz, MIF Specialist in Asuncion, Paraguay. MIF financed the technical assistance and technology transfer components of the project.
REDIEX/Stevia Board Exports and Investment Network	Promotional organization	This board was established by the government to promote exports of and investment in the production and industrialization of stevia in Paraguay. The organization facilitates contacts between general buyers requests and firms in the sector.

Description of the Value Chain

Figure 2. Stevia Value Chain - Summary Project Intervention



Source: Authors

Competitiveness of stevia production: Stevia cultivation has traditionally been by smallholders due to labor intensity. However, smallholder yields remain both unpredictable and insufficient to meet growing global demand because of high input costs, lack of irrigation, poor disease control and limited expertise in the cultivation of specific improved varieties. The project specifically addressed three of these factors – reducing input costs (providing seedlings at minimal cost),developing expertise through extensive provision of technical assistance and training in disease management. The lack of irrigation remains a concern for increasing productivity. Cultivation in Paraguay has also been successfully expanded to cultivated areas as large as 22 ha as mechanization has been introduced. These producers have seen yields up to 30% higher than those of small producers. As mechanization techniques improve, exporters may be more inclined to work with larger producers in order to lower transaction costs and improve competitiveness compared to other producing countries with cheaper labor costs and better-suited climates. Countries along the equator with more consistent daylight hours have seen yields of up to 3 times higher than that in Paraguay.

While anticipated demand in the medium to long term is considerable, short term demand growth is still comparatively slow. This is due to lobbying by artificial sweetener producers, and to some degree is due to the fact that in 2011, the lion's share (over 95%) of stevia was produced in China. Safety concerns for food products 'made in China', has thus led industry participants to seek alternative potential locations to

grow and process stevia, opening an important opportunity for new countries to enter the market. Paraguay's competitiveness is derived largely from its being the "birthplace" of stevia, which gives it important advantages over other competing countries: it has the second largest extension of stevia cultivation in the world, this means it will likely be the first country to achieve scale of production necessary for industrialization of stevia outside of China. This provides it with an important first mover advantage to become a regional processing center for Latin America. In addition, this also gives Paraguay a unique advantage to brand stevia as a Paraguayan product.

Paraguay's competitive advantage in the production of stevia lies in its heritage as the "birthplace" of the plant. In light of continued poor publicity for food products made in China, this creates an important branding opportunity of the country.

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. Four major constraints found to affect the success of agro-food inclusive business projects are: 1. **Access to finance**: Small- and medium-sized producers usually do not have access to formal finance channels and credit is fundamental for investments required to enter the chain; 2. **Access to training**: Specific requirements must be met to sell products at local, national and international levels. These require technical, entrepreneurial and interpersonal skills in which small producers often have limited experience and education; 3. **Coordination and collaboration building**: The development and empowerment of producer associations is essential for small producers to leverage their numbers to achieve economies of scale required for value chain inclusion, but also to exchange ideas, build social capital and coordinate with other chain stakeholders; and 4. **Access to market**: A market component is essential to promote producer independence and achieve sustainability. This is often the most difficult constraint to overcome due to lack of contacts, market research skills and business prowess.

Evaluation of the Four Pillars in this Project

Access to Finance

- **Access to finance was a strong component**
- Inputs provided by purchasing firms: seedlings at minimal cost and on credit; TA and training were provided at no cost; producers also taught to produce non-chemical, fertilize with on-farm inputs.
- Contracts (4-5 years) included guaranteed minimum purchase price, with cash on delivery. Costs of inputs deducted from payment, with 1-2 year grace period.
- Outside the context of the project, there is no access to credit for the production of stevia. Credito Agricola (a government credit facility) finances other crops.
- No credit was available for the installation of irrigation systems, as the income level generated by stevia would not be sufficient to repay these loans over 5 years.
- Stevia can be harvested 3-4 times a year, at time when producers have no other income, providing important income-smoothing effect & alleviating credit constraints.

Access to Training

- **Training was an important component although it varied by firm.**
- Most training took the form of one-on-one TA, although several firms offered initial induction training for their producers at the firm's nursery where both theoretical and practical classes were held.
- Where producer group formation was stronger, one firm provided training to all members of the committee, including those who did not produce stevia as part of their recruitment strategy.
- Most training focused on technical cultivation and harvest aspects of the production. Little focus on entrepreneurial skills such as cost management and planning.
- Wives and children were encouraged to attend both the training sessions and the technical assistance visits.

Collaboration and Coordination Building (horizontal and vertical)

- **The strength of this component varied by firm and geographic location**
- Some producers were organized, either by the producers themselves, or organized into groups by FECOPROD, in other cases, they were not organized and participated individually particularly where there was reluctance amongst producers to work together in stevia.
- In certain areas, FECOPROD provided training in group formation and strengthening, including legal support.
- Best practices included: Recruitment of new producers by organized groups and not individually.
- Contracts signed with each producer, but the producer group received a bonus for each kg delivered if target amount was reached, incentivizing collective action.
- In other cases, firms worked with individual producers, many of whom were a fair distance from each other. Isolation made collective action difficult and significantly increased transaction costs for the firm.
- CAPASTE encouraged firm collaboration, however, a lack of trust and high levels of competitiveness undermined potential to share information and leaning across firms.

Access to Market

- **This was a strongly developed aspect of the project.**
- Firms committed to guaranteed purchase of 100% of "cleaned" stevia with a minimum starting price and premiums for quality. Essential to success due to a history of false starts in small producer stevia cultivation.
- Producers who reneged on their contracts selling to other buyers were excluded from the outgrower programs in future seasons. Lack of ongoing market access led some of these producers to exit the cultivation of stevia.
- The establishment of 3 processing plants in the country & growing demand, makes it likely that lead exporter firms will also buy from producers who are not part of their outgrower programs.
- Leading exporter firms have well developed and growing client bases and have seen strong interest for increased sales to these and other clients. These firms export over 95% of production.
- There is still limited production capacity in the country, leading firms to expand production in other countries in the region to supply their future extraction plants.
- One firm supported producers to obtain organic certification, however, organic certification is not yet widespread in the industry.

Project Results

Outcomes	Impacts
• 2,500 new producers began to cultivate stevia commercially.[7] • Number of hectares under production increased from 800 ha to 1,300 ha.[8] • 1 manual on good agricultural practices was created • 9 producer groups established[9]	• Consolidation and formalization of the relationship between producers and export firms • Multiplier effect seen as firms begin to offer the same services for all outgrowers, not only those in the project. • Increased family income • Extended education for children

Sustainable Value Chain Inclusion of Small Producers: An Evaluation

The project has successfully included small producers into the stevia value chain, however, outcomes were more limited than initially proposed. First, the scope of the project was to increase production to 4,000 ha. The project will likely reach just 2,300 ha by mid-2012. Below, we discuss several factors that facilitated the expansion of production, and those that limited it from reaching its target goals. A comprehensive evaluation is provided in Table 3.

- All four key pillars of inclusion were included in the program design.
- Access to finance, training and market were provided through comprehensive, structured outgrower programs. However, the lack of adequate finance for irrigation systems led to vulnerability to unpredictable climate and a loss of between 10-15% of plants due to drought in 2011/12. Consistent irrigation accounts for up to 30% higher yields.
- Network development, however, was the weakest component. Although the project incorporated the organization and consolidation of producer groups, these were not directly aligned with the producer groups included under the first component of the program. Some new producers who were brought on were occasionally geographically isolated from other producers, limiting possibilities for support and collaboration between producer groups and increasing transaction costs for firms involved.
- Manual for good agricultural practices in Stevia developed for the project set the bar too high for small producers to access (US$2,000/producer) and thus no small producers were able to implement this. Different firms continued to operate with their own standards for quality.

Positive elements that facilitated the project included:

- High global and domestic demand for stevia.
- Good climate for the production of stevia
- Income smoothing effect of multiple end-of-year harvests encouraged participating producers to expand production.
- Long shelf life of dried stevia leaves helped overcome challenges with transportation infrastructure.

[7] It is difficult to ascertain an exact number of producers that have been included in stevia production as direct beneficiaries in the program, due to the very fluid nature of the production, with new producers joining and other producers leaving production for a variety of reasons. Together, 4 of the 7 firms interviewed engaged 3,800 small and medium sized producers in January 2012. Considering the base line provided in IDB-MIF Reporte de Estado del Proyecto (No. PR-M1013) July – December 2011, there were 1,700 producers at the beginning of the program. A reasonable estimate would thus suggest that a minimum of 2,100 new producers have been engaged altogether.

[8] This figure does not include the loss of production as a result of the drought. The technical assistance teams highlighted that this problem has led producers to question whether or not they will continue in the project.

[9] Based on IDB-MIF Reporte de Estado del Proyecto (No. PR-M1013) July – December 2011.

Some *challenges* limited the success of the project:

- Unsuccessful engagement of the small producers in stevia production in the past, led to skepticism and a reluctance of small producers to join the outgrower projects.
- The approval of Reb-A, at 95% by the FDA and the EU meant that the variety being cultivated by the majority of producers in the project was not efficient due to its low concentrations of the component. "Improved varieties" were thus required.
    - Increased uncertainty regarding project. Improved varieties required different production techniques and an increased amount of labor. Certain firms did not follow market demand and continued to grow *criolla*, the variety of stevia endemic to Paraguay.
    - Although research and development on new varieties was not complete, some firms provided these to their outgrowers. In certain cases, these varieties did not respond well to the conditions and realities of the small producer and died in the field. This required a significant investment in seedling replacement.
- Weak collaboration amongst firms prevented information sharing on lessons learnt.

Project Budget

The initial budget for the project was US$ 2,633,870. US$1,269,500 pledged by MIF as a grant principally destined for technical assistance and US$1,364,470 pledged by CAPASTE participating firms.

Table 3. Sustainable Value Chain Inclusion of Small Producers in the Stevia Chain: An Evaluation

	Criteria	Description	Evaluation
Selected Value Chain	**Target Product**	Stevia is a premium product, with higher returns than most other crops cultivated by the small producer. However, it has high input costs associated due to the required propagation methods and the need to produce new varieties and small producers must rely on resource-provision outgrower contracts. Emerging mechanization of stevia production and harvesting, however, will to lead to larger producers entering the segment. Increased coordination of smallholders could help them remain competitive producers vis-à-vis large scale production. Commercial Viability: There is a very strong and growing demand for stevia at a global level. However, it is a relatively new product, and there are important marketing costs still involved. Stevia lasts up to 5 years in Paraguay, compared to countries, including China, with harsh winters which must replant annually. Countries along the equator, however, have higher yields than Paraguay due to ideal light hour conditions.	
	Beneficiaries	Beneficiaries varied considerably across the project. Many producers began with ¼ to ½ ha of stevia under production with the goal to increase to 1ha. Producers generally have large families with +5 children, basic education and 5-10 ha of land.	
Inclusiveness	**Inclusion Four Pillars**	The project design was based on providing all four pillars, however with various degrees of success: Access to finance was facilitated by the exporter through the provision of the most expensive inputs – seedlings – on credit with a 1-2 year repayment grace period; Access to market was guaranteed by contracts; Access to training was also provided by the exporter, with some producers receiving technical assistance up to two times a week; linkages were created between producer and the exporter for both inputs and sale, while the work of FECOPROD was designed to foster and strengthen producer organizations.	
	Competitiveness	Producers still need to improve their competitiveness, especially increasing productivity and product quality. Lack of access to irrigation and mechanization makes small producers less competitive than producers with more resources. Productivity is up to 30% higher for mechanized and large-scale producers. Risks: **Weather, disease and pests**: While not susceptible to a large number of diseases or pests, the varieties being produced do not withstand drought or dry conditions well and lack of irrigation can lead to the death of the plants. **Moral Hazard:** Scarcity of supply and growing global demands results in moderate risk of contracted producers selling their harvests to other buyers. **Infant industry:** The industry is still young, and marketing and consumer awareness must be carried out globally. This leads to uncertainty in the market.	
	Upgradeability/ Potential to Add Value	**Product upgrading:** Considerable advances can still be made in the plant variety grown. Results from the innovation component to improve varieties yielded positive early results. **Process upgrading:** Producers mainly prepared their land and harvested by hand, or using oxen. Several exporters indicated they would soon offer mechanized services to the producers for these alternatives. In addition, low cost innovations were being made to minimize producer dependency on the climate for harvesting. **Functional upgrading:** In Paraguay, there is one extraction plant already operating and two other plants under development. To achieve the scale of production required to support these plants, larger producers will need to be incorporated into the production segment. These were not considered in the project's design.	
	Economic Sustainability	Access to finance for irrigation systems is important to reduce risk and increase productivity for small producers; larger producers must be incorporated into outgrower projects to increase total yields to sustain extraction plants; the development of appropriate varieties is important due to large investment costs in seedlings.	
	Social Sustainability	Several exporters work with producers, their wives and their children, encouraging children to view the cultivation of stevia as an important opportunity, helping to alleviate migration out of rural areas to urban zones. The nurseries and collection centers have become important hubs for employment in different parts of the country. Increased income levels have seen improvements in homes, transport, etc.	
	Environmental Sustainability	The growth of stevia by small producers involves minimal use of agrichemicals, while dedicated attention from the technical assistants has improved producer knowledge of agricultural techniques such as rotation, fertilizer, etc.	
Impact	**Spillovers/Impact**	Relationship between producers and export firms was formalized. All producers supplying the chain are now incorporated in contract farming schemes reducing uncertainty and vulnerability.	
	Potential for Replication	The "outgrower" model used in this project, in which the buyers provide financing and training for new producers while at the same time guaranteeing them access to market and helping them to organize into producer groups has strong potential for replication. However, the financial capital required to do so was significant and continued success would require the buyer to have access to sufficient long-term financing.	

CONVERSION TO ORGANIC CACAO CULTIVATION IN PERU

Small producers, members of a large, established coffee and cocoa cooperative in Tingo Maria, Peru, converted to certified organic production of cocoa. Through the cooperative, these producers began exporting organic cocoa to Europe, Japan and the United States. In addition, the cooperative piloted 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.

Project Description: This project involved the conversion from conventional cocoa production to certified organic production of 200 members of Cooperativa Industrial Naranjillo (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 coco 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,[10] 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.

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.
- Conversion 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 Evaluation of Sustainable Inclusion

Sustainable Inclusiveness	The project selected a product in which producers could be competitive in global market and with a clear focus on upgrading. Including producers in the cooperative helped them to achieve economies of scale and secured access to market and technical assistance improved quality and quantity. Access to finance was limited, yet available. Organic production was environmentally sustainable, while by providing an alternative to coca production, this helped improve the social conditions of the community. The cost of certification was spread over all cooperative members, allowing them to recruit new producers.	 **Strong**

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

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

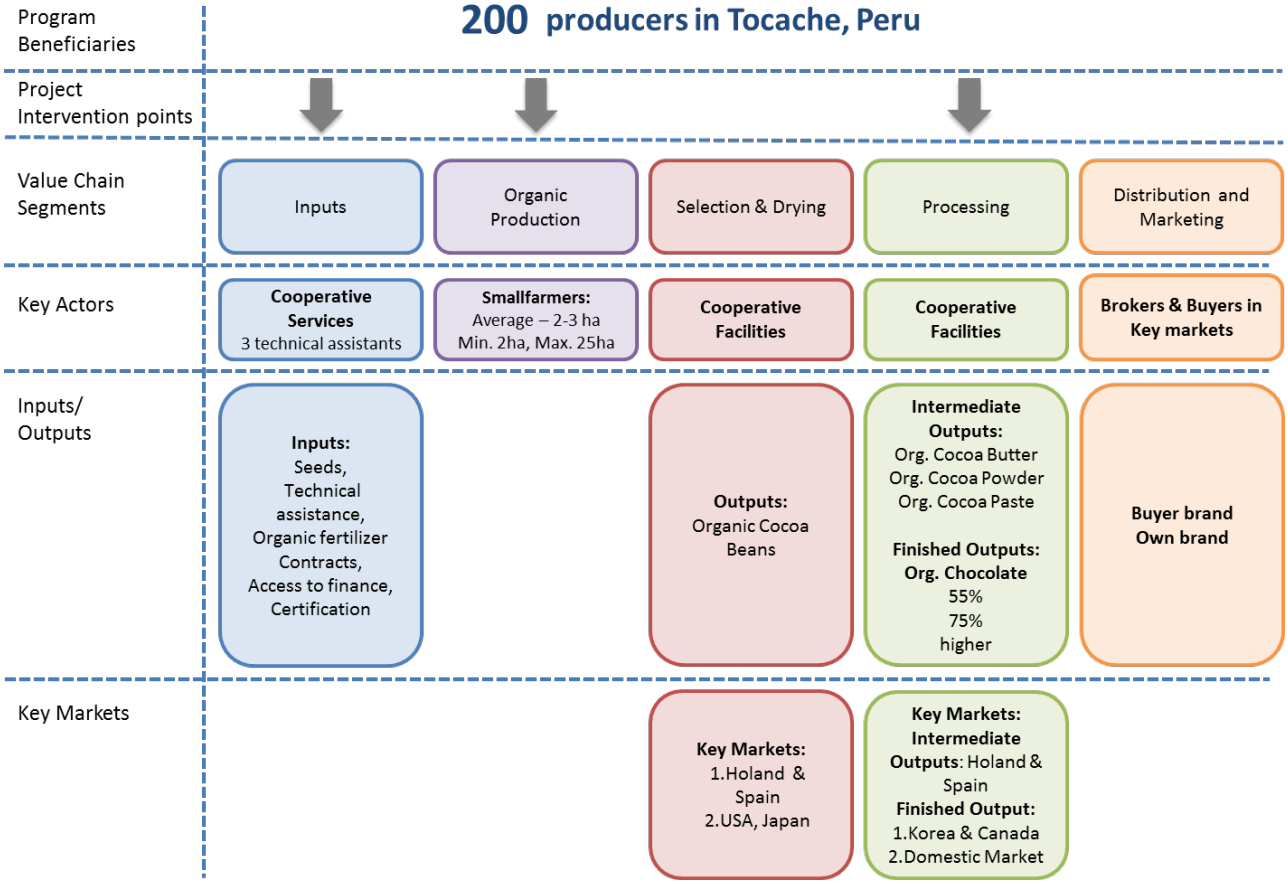
Organization	Role	Description
200 Small Producers	Beneficiaries	The beneficiaries were conventional cocoa producing members of the regional cooperative (COOPAIN), with experience both producing cocoa and working in a cooperative. Many of these producers previously had also cultivated coco for illicit trade.
Cooperative 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 Carmen Mosquera, Sectoral Specialist, Lima – Peru. This project was a Micro-FOMIN, and as such, was approved and managed directly from the IDB country office.
Victor Waldispuehl	Expert in chocolate production	Provided technical assistance in the development of the pilot project in organic chocolate production.
SOSFAIM	Belgain NGO – Complementary Project	SOSFAIM supported the development of CREDINARANJILLO, 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 coco plant cultivation was more profitable. This required a complete shift in attitude of the producers."

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

Description of the Value Chain

Figure 3. Organic Cacao 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. 3 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. Four major constraints found to affect the success of agro-food inclusive business projects are: 1. **Access to finance**: Small- and medium-sized producers usually do not have access to formal finance channels and credit is fundamental for investments required to enter the chain; 2. **Access to training**: Specific requirements must be met to sell products at local, national and international levels. These require technical, entrepreneurial and interpersonal skills in which small producers often have limited education and experience; 3. **Coordination and collaboration building**: The development and empowerment of producer associations is essential for small producers to leverage their numbers to achieve economies of scale required for value chain inclusion, but also to exchange ideas, build social capital and coordinate with other chain stakeholders; and 4. **Access to market**: A market component is essential to promote producer independence and achieve sustainability. This is often the most difficult constraint to overcome due to lack of contacts, market research skills and business prowess.

Evaluation 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.

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.

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/lega 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 leve helping to develop social capital.

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
• 200 producers were **certified as organic.**[11] • 334 other producers were convinced to begin the transition to organic production by 2008. • 1 **new collection center established** (Tocache) & 1 revamped (Bambamarca). • **Production increased and improved substantially** (458 tons in the first year of transition to 1,200 tons the second year). Produce rejected decreased from 20% to 15% of the harvest. • The **price premium** paid for organic, fair trade cocoa increased the price from 0.3 S/kg to 1.10 S/kg.[12] 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. • **1 new chocolate product line** exported to Europe.	• 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. • Positive community development as producers stopped cultivating coco plants. • Increased investment in education. • Shift in business model from conventional to 100% organic production. By January 2012, 1,800 certified organic producers. • Increased initiatives to export chocolate. (currently export to Canada and Korea, as well as expanding into the local market.)

Sustainable Value Chain Inclusion of Small Producers: An Evaluation

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.

[11] Approximately 10% of these producers dropped out of the project.

[12] 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.

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.
- The executing agency 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 to certain producers to redirect their productive energies to those products, which resulted in them loosing 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 evaluation is provided in Table 4.

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 dispersed over a 27-month period beginning in December 2006.

By the end of the project, IDB had provided US$87,307 in financing.[13] 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.

[13] The original approved amount was $100,000. However, during the course of the project $12,693 in financing was cancelled.

Table 4. Sustainable Value Chain Inclusion of Small Producers in the Global Cacao Chain: An Evaluation

Criteria		Key Points	Evaluation
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	Conversion 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.	
Impact	**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.	
	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.	

STRENGTHENING THE COMPETITIVENESS OF ORGANIC PRODUCERS IN ANDEAN MICROWATERSHEDS

Fruit and vegetables producers in Huánuco, Peru formed a consortium to sell their organic produce in supermarkets in Lima. The project, implemented by Instituto de Desarrollo y Medio Ambiente (IDMA), attained a high level of collaboration among producers. These producers still depend on the executing agency. Further support is still required to achieve economic sustainability of these small producers.

Project Description: The project focused on improving the competitiveness of organic[14] fruit and vegetable producers in the Huánuco region of Peru. The project consisted of four components: (1) improve commercialization and supply of organic produce, (2) validate the Participatory Guarantee System (PGS), a regional, multi-stakeholder organic certification process and develop manuals for distribution in other regions, (3) improve both productive and business management skills of producers and (4) strengthen networks and collaboration and cooperation. The projects benefitted 415 organic fruit and vegetables producers certified by the PGS; 100 of these producers also received organic certification granted by a third party organization since PGS was nor valid in national supermarkets. These producers with third party organic certification were able to enter into the national value chain, selling a small amount of their produce in supermarkets in Lima. The remaining 315 producers participated in the local value chain selling their organic products in a local farmers' market and were able to access higher price premiums thanks to the PGS certification. The amount sold through this channel is estimated to increase in 2012. The 415 producers created a consortium to market both fresh and processed organic products. As they still do not have the relevant management skills to independently operate the consortium, the producers still need the support of IDMA. Funding for this project was provided from four sources (1) Inter-American Development Bank (IDB), (2) Instituto de Desarollo y Medio Ambiente (IDMA), (3) Regional Government of Huánuco and (4) Fondo de las Americas.

Lessons Learned

- The project failed to consider some key constraints that impeded small producers' successful entry into the value chain. Specifically, limited access to finance inhibited producer expansion and improvements to productivity and diversification of crops, while poorly developed access to market potentially extended the necessary length of the project, as producers did not see economic returns of their participation until late in the project.
- This project should have addressed sustainability in the early stages of the project design. A clear exit strategy should be determined ex-ante. In particular, installing strong entrepreneurial skills within the producer groups was not incorporated into the project. Producers were not provided sufficient tools to become independent economic actors capable of managing their own businesses.
- Although not its original intention, the implementation of the PGS proved to be a strong driver of fostering public-private coordination and collaboration and strengthened each of the producer groups. By the end of the project, there was a high level of social capital and empowerment amongst producers. Producers had established clear objectives to improve their production, create economies of scale by recruiting new producers and target new markets outside the region. However, coordination and collaboration with buyers in the value chain was missing.
- Training group and association leaders and offering internships were particularly successful tools to motivate producers. This approach facilitated the strong development of technical and social skills.

Overall Evaluation of Sustainable Inclusion

Sustainable Inclusiveness	The intervention identified a product group in which the participants could compete (organic) and helped them to improve their productivity and horizontal coordination to achieve economies of scale. The producer associations established were strong and were in a position to upgrade in the future. The product was environmentally friendly, and the project focused on including both women and children in the initiative. The key challenges to sustained inclusiveness lay in economic sustainability: the lack of access to finance and direct access to buyers meant that producers continued to rely on the executing agency at the end of the project and were not yet ready to be independent.	**Medium**

[14] For the purposes of this case study, the word organic is used to describe all produce that is cultivated and handled without the use of agrochemicals. Where these production processes have been monitored and certified by independent parties, these products will be differentiated as certified organic products.

Institutional Arrangement

IDMA was the executing agency of this project, playing a key role in facilitating producer organization into product specific associations, as well as an umbrella company to collectively commercialize their products. The PGS model (see box) was intended to certify organic products. However, buyers in Lima did not accept this type of certification, as it is not yet recognized by the national government. For that reason third party certification was necessary. PGS, however played a crucial role in organizing not only producers, but also other key stakeholders in this project.

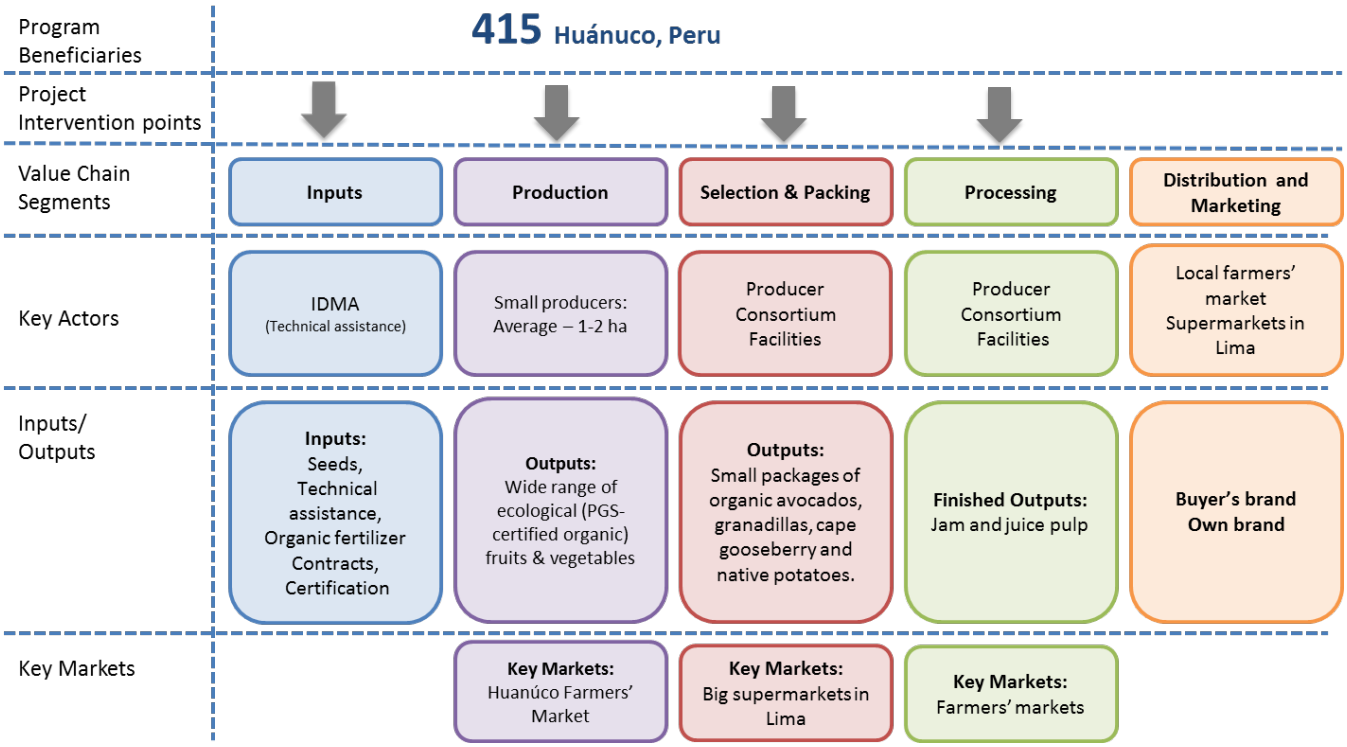
Participatory Guarantee Systems (PGS) are locally focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange.

Project Stakeholders

Organization	Role	Description
IDMA	Executing agency and Co-Funder	IDMA is a private non-for profit organization founded in 1984 to promote sustainable development. IDMA has worked with local producers for over 20 years and has substantial knowledge regarding the principal needs of producers.
Producers	Beneficiary	415 producers. These producers presented varying levels of development; one group was already selling their production in the local farmers' market and/or to intermediaries. Another group was producing for subsistence. Many of these producers live in remote locations.
Consortium	Company created by beneficiaries	The Consortium was created in 2011. It owns a collection center in which produce is received, graded, packaged and processed. This center was built with resources from FONDAM. (Neither MIF nor local government resources could be used to build this essential infrastructure.)
ADPE	Beneficiary	ADPE is the Organic Producers Association. It has 170 members with PGS certification and sell their products in an organic farmer's market in Huánuco.
Organic Granadilla Producers Association	Beneficiary. Producers in these associations received third party organic certification to sell products to supermarkets in Lima (By 2012, just 5% of their total production was sold in this manner).	Pre-existing organization that sought out IDMA because they wanted to commercialize their products.
Organic Avocado Producers Association		20 members.
Organic Gooseberry Producers Association		
Native Potatoes Producers Association		57 members. They sell their primary grade products to supermarkets in Lima and the rest of the production to intermediaries in Huánuco.
Processed Products Association	Beneficiary	12 members. They produce jams, conserves and sell them in eco-markets, shops, and to different institutions.
MIF	Co-Funder	This project began in May 2008. MIF-Peru office (Elizabeth Minaya) supervised this project.
PGS Regional Committee	Validate organic production	PGS was established in the region to certify organic production of low-income producers adding value to their products for sale in the organic farmers' market in Huánuco. Committee participants: IDMA, producers, regional government and local consumers association.
Regional Government-Huánuco	Additional Funding	The regional government provided resources for training purposes (Salaries to trainers and office supplies). Government representatives also participated in the Regional PGS committee certifying organic production on farms. In 2008, PGS was recognized as an organic certification at the regional level (Act No. 29,227) allowing producers to sell their products as organic within the region.
FONDAM	Additional Funding	Provided resources to build the collection center.
Organic Consumers Association-Huánuco	Pressure group	Civil society group dedicated to raising the awareness of organic production and consumption. They are represented on the Regional PGS committee.
Servicio Nacional de Sanidad Agraria (SENASA), Ministry of Agriculture, Peru	Public Regulatory Institution	SENASA does not allow the sale of PGS certified products under the organic label.

Description of the Value Chain

Figure 4. Fruit and Vegetables Value Chain - Summary Project Intervention



Source: Authors

The fruit and vegetable value chain illustration above shows that this project attempted to intervene in several different segments of the chain. In this project both farmers' producing for the local Huánuco market and those with third party organic certification needed to improve their competitiveness[15] level to effectively and directly enter the local and national market channels and to by pass the lower prices obtained from intermediaries. Several value chain bottlenecks were addressed such as: product image, product certification, quality, productivity, value-added processing of second and third grade products and developing packaging and branding tools. There is still much work to be done with respect to productivity and product quality improvements. The consortium collection center operates under capacity and the low level of sales impedes investing in productivity and quality. Other pending tasks include expanding the buyer portfolio for produce and finding a market for the processed products.

[15] During the project design stages, it is imperative to perform an evaluation of the beneficiary's competitiveness using a market study as benchmark. Criteria for competitiveness evaluation include: Productivity, product/service quality, standards and certifications, produce/service image, packing, logistics, economies of scale, necessity to add value to the product/service, assess if the product/service is suitable for SMEs commercialization. See introductory note for further information.

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. Four major constraints found to affect the success of agro-food inclusive business projects are: 1. **Access to finance**: Small- and medium-sized producers usually do not have access to formal finance channels and credit is fundamental for investments required to enter the chain; 2. **Access to training**: Specific requirements must be met to sell products at local, national and international levels. These require technical, entrepreneurial and interpersonal skills in which small producers often have limited experience and education; 3. **Coordination and collaboration building**: The development and empowerment of producer associations is essential for small producers to leverage their numbers to achieve economies of scale required for value chain inclusion, but also to exchange ideas, build social capital and coordinate with other chain stakeholders; and 4. **Access to market**: A market component is essential to promote producer independence and achieve sustainability. This is often the most difficult constraint to overcome due to lack of contacts, market research skills and business prowess.

Evaluation of the Four Pillars in this Project

Access to Finance

- **No finance component was included in this project.**
- Producers do not have access to formal financial systems.
- Cash flow is complicated due to payment delay from buyers (supermarkets pay 45 days after products were received).
- Capital is required to buy inputs and also to increase productivity (Ex. better infrastructure).

Access to Training

- **Training was a major component of this project and was very successful with producers mastering skills taught.**
- Technical training focused on organic production and productivity improvements. All producers obtained PGS certification and 100 received third party organic certification.
- Entrepreneurship training on commercialization and costs.
- Interpersonal skills training focused on the importance of collaboration and working together effectively.
- Training sessions were practical, with area experts for each subject. The most effective training method was through "pasantias" in which producers traveled abroad to see different examples of successful entry of small producers into the value chain.

Coordination & Collaboration Building (horizontal and vertical)

- **This is a strong pillar in the project.**
- For PGS certification, producers were organized in community groups with a lead producer. PGS institutionalization had several positive spillovers including producer empowerment, development of social capital and strong public and private partnership.
- Previously, some producers were organized in associations, but this project allowed the creation of a consortium open to more producers.
- In order to reach effective collective action and ensure sustainability, both social capital and capable commercial agents were necessary. This had not yet been fully achieved by the end of the project.

Access to Market

- **Market access was not well planned. Needed the help of an influential organization.**
- A key assumption of the project was the validation of PGS certification to sell organic products within Peru. However PGS was only validated at the regional level. PGS was not validated by buyers in Lima and they had to pursue a third party organic certification.
- 100 producers obtained the organic certification to sell their products in Lima; however, they are selling just 5% of their production.
- The growth of the local market in which producers sell their ecological products at the farmers' markets was an important source of demand.

Project Results

Outcomes	Impacts

• 415 producers were certified under PGS
• Out of these 415 producers, 100 were certified as organic producers by a third party organization
• Sales in the farmers' market in the local city grew
• Producers established their own collection center
• Producers formed a consortium to commercialize their products
• The 100 organic certified producers will sell all their production to a supermarket in Lima in 2012
	• Increased family income
	• Extended education for children
	• Producer empowerment
	  ○ Producers feel proud of their achievements selling their products in Lima
	  ○ Women also participate in the project; usually they are in charge of selling the products in the farmer's market.
	• Increased sense of responsibility and commitment by the producer
	• New producers are being invited to participate in the consortium

…"We´ve learnt that we have to produce what the market demands. We have been learning, learning, and learning about quality." (Victoriano Fernandez, President of the Native Potato's Association).

Sustainable Value Chain Inclusion of Small Producers: An Evaluation

This project has advanced in terms of incorporating small producers from the Huánuco region in the value chain; however, the producers still do not have the skills to run the consortium without external support. According to the inclusion model, only two pillars were fully included in this project:

- Producers had a comprehensive training that included technical, entrepreneurial and social skills. The format of the training was didactic and the scholarships to learn from best practices in other countries were extremely motivational for producers.
- During the project, substantial producer networks were developed, leveraging social capital to improve collaborative initiatives. Collaboration and coordination with other actors of the chain still needs to be incorporated into the business model.
- The access to market component was not well conceived in the design stage, and thus it was not successful in the implementation phase. Buyer committed to purchase the production was only achieved at the end of the project. Innovative approaches to commit the buyers need to be included from the beginning of the project.
- Access to finance was not included in the project design and was a drawback, as producers did not have the capital to improve or expand their production.

Positive elements that facilitated the project included:

- High demand for organic products
- Producers were already producing without the use of agrochemicals
- The executing agency had been working with the beneficiaries for a long time. High level of trust
- Female empowerment. The farmers' market in Huánuco is mainly run by women. Additionally they run the processing activities in the collection center.

Some challenges limited the success of the project:

- Low level of development of the beneficiaries. Some of them were producing at a subsistence level with no sales experience and many of them previously did not belong to any group or association. They required more time to convert the producers into economically sustainable, independent participants of the value chain
- Poor infrastructure. Some beneficiaries needed to walk for hours to deliver their produce
- The assumption that the PGS would be an accepted standard for organic products was misguided. Thorough research of the standards within sophisticated fruit and vegetable value chains would have revealed the importance of well-recognized certifications for the chain.

This project is remarkable as poor producers were able to commercialize clean, packaged, organic produce to leading supermarkets in Lima, Peru. Beneficiaries however, continue to need external support to run the consortium independently. A comprehensive evaluation is provided in Table 5.

"My life has improved. In my family, there hadn´t been a single professional before working with IDMA. Now, three of my children are professionals. Thanks to IDMA my children have been to school." Lucio Calderon, President of Ecologic

Table 5. Sustainable Value Chain Inclusion of Small Producers in Peruvian Produce Chains: An Evaluation

	Criteria	Description	Evaluation
Selected Value Chain	**Target Product**	Organic produce is well suited to small and medium production due to high labor intensity and higher margins resulting from lower input costs (on farm organic fertilizer) and a price premium. Commercial viability: Local and growing demand for organic product in national supermarkets. Organic certification is essential.	
	Beneficiaries	The level of development of the beneficiaries was very low. This was the first time that they attempted to sell their produce outside their territory and, for some of them; it was the first time they had sold their crops. Many of them were not associated prior to the program.	
Inclusiveness	**Inclusion Four Pillars**	There were some missing components in the project design such as access to finance and access to market that limited the inclusiveness.	
	Competitiveness	Prior to the program, producers needed to improve their productivity, product quality, economies of scale and gain access to the market. Through the project, they were able to improve market linkages – although they sill needed support in this aspect; they developed minimum economies of scale to supply the Lima markets; and they improved productivity and product quality by incorporating new techniques taught by experts – however, they still needed to improve the high grade percentage of their crop. Risks: Low level of producer education and low economic development in Huánuco. They lacked administrative skills to run the consortium. Infrastructure was not well developed and many producers had to walk for hours in order to deliver their products.	
	Upgradeability/ Potential to Add Value	Organic product range can be expanded to include other fruits and vegetables in the future, while second and third grade products can be used for processing, creating value-added products such as jam and juice concentrates. A processing facility was built at the consortium's packhouse for this purpose.	
	Economic Sustainability	At the end of the project, a financial component and strengthened access to market still needed to be incorporated into the value chain intervention to achieve sustainability. There was a strong need to generate profits in order to hire managerial personnel and sustain the initiative. Producers were not capable of managing the consortium.	
	Social Sustainability	The project has included two key aspects: **Gender Component:** Empowerment of women; women were beginning to be recognized as important actors in commercialization and also as part of the decision-making process. **Youth & future professionals:** Families were investing in their children´s education because they want to professionalize their farm activities in the future with their help.	
	Environmental Sustainability	Organic cultivation has important environmental benefits, as it avoids excessive use of the land and agro-chemicals. Additionally, beneficiaries have a diversity of crops in their farms that help the soils richness.	
Impact	**Spillovers/ Impact**	This project has several positive impacts: Many beneficiaries had never commercialized their products; this project has brought producer empowerment. Producers feel proud of their achievements selling their products in Lima. Additionally, families increased their income, and extended education for children. Women also participate in the project; usually they are in charge of selling the products in the farmer's market. New producers are invited to participate in the consortium	
	Potential for Replication	Aspects of coordination and collaboration both amongst producers and between producer groups and other value chain actors was strong. This model could be replicated for other projects.	

Project Budget

The initial budget for the project was US$ 662,920, with US$397,990 provided by MIF and US$ 264,930 provided by IDMA. Additional funds were provided by the Regional Government of Huánuco (Training and office suppliers) and FONDAM (collection center).

DEVELOPMENT OF MICRO AND SMALL RURAL APICULTURAL PRODUCERS IN HONDURAS & NICARAGUA

This project focused on incorporating micro- and small honey producers into the domestic (Honduras) and global (Nicaragua) value chains. The project incorporated a strong technical learning aspect, offering a university diploma program and peer training to improve knowledge of productivity and quality. Value chain coordination was also very well incorporated.

Project Description: The project focused on improving the competitiveness of micro and small producers in the Honduran and Nicaraguan beekeeping sector: strengthening value chain actors and activities in each country, improving technical capabilities and improving the supply chain environment by linking actors and creating synergies. The project that ends on August 2012 will benefit around 540 apicultural producers in both countries. In Nicaragua 412 producers across 4 areas received training, while in Honduras the 130 producers were in 2 areas. Beneficiaries included micro (1-20 hives) and small (21-100 hives) beekeeping producers. This is a secondary/complementary occupation for the majority of producers. The project included a cascading training model by which knowledge was transferred from international experts to university graduates, who trained producer leaders who then trained micro and small producers. The teaching format was modified according to the audience. The executing agency, Swisscontact, was very successful in partnering with several organizations working on the same productive sector to create synergies and leverage limited resources. High demand for honey, particularly in Europe, eased sales and led beneficiaries to plan business expansions, however actual growth is complicated by the lack of finance in this sector. In Nicaragua, most honey is exported through intermediaries (exporters and cooperatives) that buy the honey directly from the micro and small producers, while in Honduras, a strong domestic market provided sales opportunities for beneficiaries to local supermarkets.

Lessons Learned

- The cascading design of transferring knowledge from foreign experts to producers in remote areas worked extremely well, ensuring that sophisticated, cutting-edge knowledge was transferred to producers in an accessible manner. The combination of theory-practice was appropriately designed to match the learning needs of each group.
- The lack of access to finance limited producers' ability to apply the knowledge and skills developed in the training segment. The presence of all four 'inclusive pillars' is important to effectively address the producers' need to achieve minimum levels of efficiency.
- Coordination with other value chain stakeholders and round-tables significantly facilitated information flow, drawing timely attention to constraints faced by each actor and providing the opportunity to develop appropriate solutions.
- Alignment and synergies with other agencies working in the sector allowed for efficient leverage of limited project resources and, in turn, increased the number of beneficiaries. Public and private alliances were key to improve the sector competitiveness by identifying and offering solutions for critical issues.

Overall Evaluation of Sustainable Inclusion

Sustainable Inclusiveness	The project selected a product with a strong international demand. Organic honey – especially non transgenic- is highly appreciated in European markets. Producers are selling all their production; however they cannot expand due to lack of finance. The project provided technical assistance, access to market and helped to coordinate the chain actors. The project did not include a finance component neither a organizational building component among producers groups. The project is creating key positive outcomes such as increase income that has been translated to better social conditions for the beneficiaries and their family. It is uncertain how the beneficiaries will sustain the inclusion, especially the most vulnerable, that do not have permanent access to technical support and access to credit.	 **Medium**

Institutional Arrangement

Coordination and collaboration among stakeholders was excellent. Value chain actors such as producers, inputs providers, industry experts, exporters, and other supporting organizations created opportunities for dialogue to promote industry growth. However, networking and collaboration amongst producers was limited. Most producers were members of cooperatives, however, in general, these were institutionally weak and served principally to achieve economies of scale.

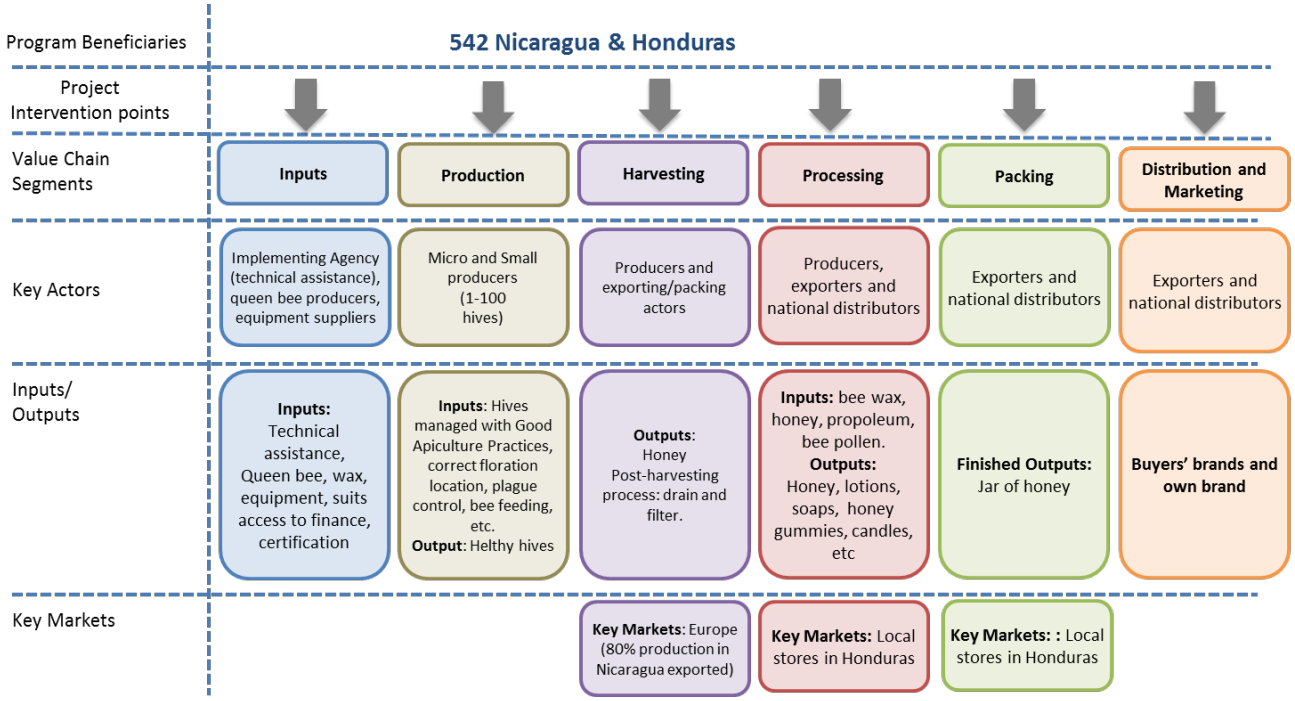
In order to maximize impact and obtain funds to hire international apicultural specialists, buy equipment and improve installations, Swisscontact partnered with 17 organizations for this project: Chemonic – CRM, CARANA (USAID), NITLAPAN, UNICAFE, Caritas (Matagalpa - Jinotega) y FIDER), INPRHU Somoto, UNAN León, ASODEPA-JFPS, CEI, ICCO, ASPRODIC, C.I.S.P. (Cooperación Italiana), Bolsa Samaritana, MAMUCA – ECOLOGIC, Iglesia católica Santa Bárbara, Instituto Nacional de Formación Profesional (INFOP) y ACCESO-FINTRAC.

Project Stakeholders

Organization	Role	Description
Swisscontact	Executing agency and Co-funder	Swisscontact is a global NGO headquartered in Switzerland focused on market development, workforce development and financial services for individuals in developing countries.
MIF	Co-funder	This project began in 2008 and it will end in August 2012. MIF-Nicaragua office (Griselda Soto) supervised this project.
Producers	Beneficiaries	The beneficiaries were selected in 4 departments in Nicaragua (412 beneficiaries) and 2 in Honduras (130 beneficiaries).
UNAM-Leon	Technical assistance	UNAM-Leon University offered the project's diploma on apiculture. They also carry out research in the field.
Instituto Nacional de Formación Profesional (INFOP)- Honduras	Technical assistance	INFOP provided training for both producers and peer trainers for ongoing knowledge transfer.
NICARAUCOOP	Project support-commercialization	This umbrella cooperative, composed of several smaller cooperatives provides the link for producers with the international market.
Ministerio Agropecuario y Forestal (MAGFOR)	Plague regulations	The Nicaraguan ministry developed a plan to prevent plagues in apiculture.
Comision Nacional Apicola	Project support and beneficiary	This commission was formed by the industry stakeholders in Nicaragua and they participated in producer roundtables. They served as an important voice for sector coordination in Nicaragua.
Centro de Exportaciones e Inversiones (CEI)- Nicaragua	Project support	CEI provided market information, preparing an extensive report on the apiculture sector in Nicaragua and Honduras. They also developed a market strategy for the sector.
Samaritan Bag and C.I.S.P. (Italian Cooperation)	Additional funding source, project support	These institutions provided resources for equipment, apiculture diploma scholarships and financial support for international awareness and training events.
Chemonic-CRM	Additional funding source	This organization was implementing a Millennium Challenge project in the same industry and provided beneficiaries with equipment.
CARANA	Additional funding source	CARANA provided funding to support the diploma on apiculture and expand the number of beneficiaries.
ICCO	Additional funding source and project support	This NGO provided resources to run producer roundtables and develop a training plan. Provided financial support for producers to attend international workshops

Description of the Value Chain

Figure 5. Apiculture Value Chain - Summary Project Intervention



Source: Authors

The honey value chain illustration above shows that the project intervenes in all segments of the value chain. Prior to the project, low productivity made it difficult for beekeeping producers to compete.[16] The value chain bottlenecks identified and addressed in this intervention were: Increase productivity and quality through the implementation of good apicultural practices: plague control, product organic certification, queen bee replacement, artificial feeding, transhumance (moving the hives to a new geographic area in the search of flowering), harvesting good practices, connecting exporters with producers, creating new processed products, and developing honey packing suitable for the Honduran market. One value chain bottleneck pending is to include/develop input providers to satisfy the equipment need of the producers.

This project also includes some functional upgrading activities:

a. processing (new products such as lotions, soaps and honey gummies)
b. packing (Honey packing suitable for Honduran market)
c. branding (honey for the Honduran market)

[16] During the project design stages, it is imperative to perform an evaluation of the beneficiary's competitiveness using a market study as benchmark. Criteria for competitiveness evaluation include: Productivity, product/service quality, standards and certifications, produce/service image, packing, logistics, economies of scale, necessity to add value to the product/service, assess if the product/service is suitable for SMEs commercialization. See introductory note for further information.

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. Four major constraints found to affect the success of agro-food inclusive business projects are: 1. **Access to finance**: Small- and medium-sized producers usually do not have access to formal finance channels and credit is fundamental for investments required to enter the chain; 2. **Access to training**: Specific requirements must be met to sell products at local, national and international levels. These require technical, entrepreneurial and interpersonal skills in which small producers often have limited experience and education; 3. **Coordination and collaboration building**: The development and empowerment of producer associations is essential for small producers to leverage their numbers to achieve economies of scale required for value chain inclusion, but also to exchange ideas, build social capital and coordinate with other chain stakeholders; and 4. **Access to market**: A market component is essential to promote producer independence and achieve sustainability. This is often the most difficult constraint to overcome due to lack of contacts, market research skills and business prowess.

Evaluation of the Four Pillars in this Project

Access to Finance

- **No finance component included in this project.**
- Producers do not have access to formal finance channels.
- Need of capital to buy inputs and also to buy equipment to increase productivity and meet industry standards
- Due to limited access to credit, cooperatives often faced cash flow challenges and were unable to pay producers on delivery. This resulted in side-selling to intermediaries which paid a lower price but in cash, up front.

Access to Training

- **Technical training aspects of the project were strong.**
- University program trained peer trainers who in turn trained the producers. Program covered technical production, sanitary management, nutrition, quality and commercialization.
- Entrepreneurship training on how to value their product, accounting systems, productivity quantification, cost calculation, etc was weak.
- International field visits of producers to successful sites eg. Argentina, Costa Rica and Guatemala.6 technicians provided hands-on practical guidance for producers in the field following the project.

Coordination & Collaboration Building (horizontal and vertical)

- **This component focused principally on coordination of value chain actors and not on producer coordination and network building.**
- Existing cooperatives served mainly as collection centers to reach economies of scales rather than supportive development networks in which producers exchange production techniques or develop internal credit schemes.
- No activities to strengthen existing cooperatives or create new ones.
- Value chain coordination was strong. Industry stakeholders were aligned towards a common objective.
- Creation of roundtables per department facilitated coordination and problem solving dialogue between producers with other actors in the value chain. Overcoming problems quickly helped to drive a higher level of development.

Access to Market

- **Market demand for honey was very high, and few additional initiatives were required for producers to access high value markets.**
- Exporters had pre-established relationships with foreign buyers and the focus was on linking small producers with exporters. Producers were linked with an exporting umbrella cooperative which subsequently purchased their honey for export to Europe.
- In Nicaragua, demand is unsatisfied and exporters purchase 100% of the honey production. There is only a weak domestic market for honey in the country.
- In Honduras, the project focused on developing packing, branding, sanitary certifications specifically for the local market.
- 8 organizations were helped to obtain organic certification to access international markets through an exporting cooperative.

Cascading Training Model

This training system follows a cascading model in which every student signed a commitment to transfer knowledge to students in the strata below them. Since knowledge of apiculture was almost nonexistent in Honduras and Nicaragua prior to the project, foreign experts were engaged to teach the first diploma to industry participants, who in turn offered programs to peer trainers, and then to producers. The programs were so successful that a second version of the diploma was offered, although no longer free of charge (many students were then sponsored by institutions: banks, governments, NGOs, etc.)

This model includes several levels:

In the **first level**, UNAM-LEON university offered a seven months diploma on apiculture to 35 students in which foreign experts taught 6 modules 1. Technical capacity/production; 2. Sanitary management; 3. Nutrition; 4. Quality; 5. Processing; 6. Commercialization. Local university professors observed the course and were incorporated into the teaching staff with the foreign experts for the second program. In the long term, the entire course will be taught by local professors.

In the **second level**, peer trainers were trained in 3-4 day programs at the university. In this level 50% of the course content was theoretical and 50% practical.

Finally, in the **third level**, producers participated in training activities in their territories. 70% of the training was practical.

"With my first year's profit and a few savings, I was able to build a house for my family. In the past my house leaked during winters and it was unbearable for me and my kids. Now, I feel very proud of myself"

Socorro- Cooperative Mujeres Apicolas de Masapias-Nicaragua

Project Results

Outcomes	Impacts

• 35 professionals received a diploma in apiculture granted by UNAM-Leon.
• 24 peer trainers were trained.
• 542 producers were trained.
• 8 producer groups received organic certification.
• 6 roundtables were established among sector stakeholders that meet once a month
• Plague prevention plan implemented by the Nicaraguan government.
	• Improved productivity and quality
	• Increased export volumes
	• Increased family income
	• Job creation (242 new jobs)
	• Extended education for children
	• Producer empowerment
	  ○ Producers proud of their achievements
	  ○ Female participation in the project
	• The project put apiculture on the national agenda as a strategic sector in both countries
	• Strong coordination and collaboration of stakeholders continued to promote sector growth.

Sustainable Value Chain Inclusion of Small Producers: An Evaluation

This project made progress towards incorporating micro and small producers in the honey global value chain. Producers with more experience increased their production, while those who had received equipment, but no training from other projects began to produce honey. In general, micro and small producers were in a much better position than before this project; however, several key elements were missing in the project design which made inclusion more difficult for small producers:

- Producers had a great technical training in which they were able to increase their productivity. However, entrepreneurial training was not well incorporated in the training and some topics like administration, accounting, costs and saving were not included.
- Strong **value chain coordination** was achieved through the roundtables. However, the collaboration and coordination building among the producers themselves was missing. Cooperatives required institutional strengthening in order to reach higher levels of development.
- **Access to market** component differed by country. In Nicaragua, the project focused on the export market by linking exporters with project beneficiaries. Specifically, this project established a partnership with an umbrella cooperative that exports the honey of smaller, less prepared cooperatives. Other beneficiaries sell their production to private exporters. In Honduras, the focus was on inclusion in the domestic value chain with the provision of finished products to local supermarkets.
- **Access to finance** was not included in this project and this created major difficulties for the producers. They needed capital to buy inputs, equipment and expand their businesses as well as to incorporate good apicultural practices. The majority of the producers wanted to increase their number of hives due to the high demand for honey; however, it was almost impossible for them to do so without access to finance.

Positive elements that facilitated the project included:

- High global demand for the organic and non-transgenic honey produced in Nicaragua and Honduras.
- Highly motivated and technically strong human resources within the executing agency.
- Executing agency was seen as the leader in the apiculture sector, and was invited to play a key consulting role in all aspects of industry development.
- Presence and collaboration of other agencies and development projects.
- Buy in from reputable university in Nicaragua to facilitate knowledge transfer.

Some challenges limited the success of the project:

- Low level of development of the beneficiaries, some with no prior experience in honey production.
- MIF resources could not be used to provide important basic equipment to the beneficiaries

The growing demand for organic and non-transgenic honey suggests a promising future for the beneficiaries in this project. However, to expand production beneficiaries need access to credit. So far this financing has not been available. In addition, institutional strengthening among producers would provide them with greater negotiating power vis-à-vis buyers and exporters and help them to capture greater value from their participation in the sector. The training aspect of this project was particularly strong and successfully built local capacity for both the current and future development of the sector. A comprehensive evaluation is provided in Table 6.

Table 6. Sustainable Value Chain Inclusion of Small Producers in Honey Chains: An Evaluation

Criteria		Description	Evaluation
Selected Value Chain	**Target Product**	Honey is an excellent product for small- and medium-sized producers, especially organic honey due to labor intensity. However, it has high start up costs as equipment and materials are expensive. Commercial Viability: Local and growing demand for organic honey and its derivate is really high. There was unmet international demand especially for non-transgenic honey produced in Nicaragua and Honduras. In Nicaragua alone, honey exports almost tripled in value from 2009 to 2011. The majority of producers also have the Fair Trade certification.	
	Beneficiaries	The level of development of the beneficiaries was low, often with limited schooling. They realized that beekeeping is a business and not just a hobby. This awareness needs to be reflected in the management of their cooperatives. Some of them were experienced beekeepers; however, others were just starting in this activity.	
Inclusiveness	**Inclusion Four Pillars**	There were two missing components in the project: access to finance and internal coordination and collaboration building among the producers. These two elements are crucial to integrate micro and small producers in the national and international value chain.	
	Competitiveness	Failure to access credit limited application of good apicultural practices to increase productivity and raise the quality of the honey and other products. Producers were unaware of quality requirements and the strictness of the international sanitary regulations of export markets. They still need to advance on sanitary issues. Risks: Low level of education and economic development among producers. Weak support system to sustain industry growth (ex. Financial institutions, permanent technical assistance and sanitary control)	
	Upgradeability/ Potential to Add Value	Honey production is in high demand, there were great opportunities to continue expanding production, improving productivity and producing a better quality honey. A variety of apicultural products can be developed for internal and external markets.	
	Economic Sustainability	The lack of the financial component and producer organization limits producers' capability to respond to future demands in quality and safety standards. Despite the excellent training initiatives developed during the project, beneficiaries still need ongoing technical assistance to maintain and update the knowledge.	
	Social Sustainability	The project included supporting woman's cooperatives. This is a good sector for rural women since it doesn't require daily work and provides additional income. Other cooperatives made efforts to include young people in the sector as an alternative business opportunity.	
	Environmental Sustainability	Beekeeping has a positive impact on the natural environment as bees are essential for pollination of most wild and commercial plants and trees. It is a valuable conservation tool, allowing people to derive economic benefit from indigenous forests and other floral resources in a non-destructive way, ensuring local participation in conservation efforts. It also makes a very significant contribution to other forms of agriculture by effecting the pollination of many economically important plants, such as fruits and vegetables.	
Impact	**Spillovers/ Impact**	This project is having several positive impacts such are: improved productivity and quality, increased export volumes, increased family income, job creation, extended education for children, producer empowerment and female participation in the sector. Additionally, the project put apiculture on the national agenda as a strategic sector in both countries. The strong coordination and collaboration of stakeholders continued to promote sector growth.	
	Potential for Replication	Key aspects for potential replication include the cascading training model and the stakeholders' coordination. The project could be expanded within the countries and also to other countries in the region. As a high demand product, market linkages were easy to establish for the honey production. The access to market component would need to be correctly assessed for projects based on other products.	

Project Budget

IDB-MIF: US$982,026; Swisscontact: US$448,700. The project received an additional US$ 200,000 from other organizations for the purchase of inputs, equipment and inviting foreign experts to participate in the project.

V. IDB-MIF Project Analysis

In this section, we analyze the five IDB-MIF projects presented in the case studies in the preceding section. These projects are evaluated using the model presented in Section I and specific criteria established for this purpose.[17] The projects selected represent different crops and were implemented in different countries of the region by different actors including industry associations, cooperatives, national and international NGOs. These projects vary considerably in funding size, from US$200,000 to over US$3,5 million. The number of project beneficiaries range from 200 to 6,000, and interventions covered different stages of the value chains. This section is structured as follows: First, we present an overview of the general characteristics of the projects (Table 7), the business model, the executing agency and the project design. This is followed by a discussion of the inclusiveness and impact of the projects. The section this concludes with best practices identified in the five projects that can be replicated for future interventions.

Table 7. Summary of Project Characteristics

Project Name	Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
Project Description	The project provided technical assistance and helped to establish market linkages for experienced small coffee producers in five Central American countries to enable their entry into a higher value specialty coffee value chain, and prevent their possible exclusion from the market following the coffee crisis at the turn of the century.	This project focused principally on increasing the quality and quantity of stevia production by smallholders in Paraguay. Approximately 2,500 producers with 5-20 ha were incorporated into the value chain in outgrower programs of exporter and processing member firms of the Paraguayan Chamber of Stevia.	This project involved the conversion from conventional cocoa to certified organic production of 200 members of Cooperativa Naranjilla in Tocache, Peru. Beneficiaries were small producers, with between 2 and 22 ha of conventional cocoa under production, and several producers had previously cultivated coco plants for the illicit cocaine trade.	The project focused on improving the competitiveness of the ecological producers in Huánuco, Peru, through conversion to organic production. Certification by Participatory Guarantee System was used for local sale and a third party certification was used for sale in supermarkets in Lima.	The project focused on improving the competitiveness of small producers in the Honduran and Nicaraguan beekeeping sector by strengthening value chain actors and activities in each country, improving technical capabilities and improving the supply chain environment by linking actors and creating synergies.
Country	Costa Rica, El Salvador, Guatemala, Honduras & Nicaragua	Paraguay	Peru	Peru	Nicaragua & Honduras
Number of Beneficiaries	6,000	2, 500	200	415 (100 organically certified)	542
Targeted Product	Coffee	Stevia	Organic, Fair-Trade cocoa	Organic Fruits & Vegetables	Honey
Targeted Stage of the Value Chain	Production	Production (80%) R&D (20%)	Production (50%) Processing (27%)	Production (90%), Packing (5%), Sales (5%)	Production
Executing Agency	Technoserve (Intl. NGO)	CAPASTE (Ind. Association)	Cooperative Naranjillo	IDMA (National NGO)	Swisscontact (Intl. NGO)
Funding IDB/ Counterpart	$3,000,000	$1,269,400	$100,000 ($87,307)	$397,990	$982,026
	$1,615,450	$1,364,470	$67,000 ($127,000)	$264,930	$448,700 (+$200,000)
Project Duration & End date	54 months 2008	36 months Ongoing 2012	27 months 2008	33 months 2011	36 months Ongoing 2012

Business Models. The projects studied show both types of business models presented in the previous chapter: cooperatives and outgrower programs, although 4 of the 5 cases were based on the cooperative model. Some small cooperatives with low-level capabilities worked with intermediaries to bring their products to the final market, while other well-established cooperatives exported directly to foreign markets. The Paraguay case provided an example of outgrower schemes, in which exporters organized the smallholders, provided them with inputs and purchased their harvests.

[17] Following completion, each project was evaluated according to the specific objectives established on the project design. In this report, we rather evaluate and analyze the sustainable inclusion of smallholder in their respective value chains

Executing Agency. All projects were carried out by strong implementing agencies. Agencies in two of the projects –CAPASTE (an industry association) in Paraguay and Cooperativa Naranjillo in Peru- directly benefited from the project, while the three other projects were carried out by reputable NGOs with years of experience working on the crop selected.

Project Design. None of these projects were designed under a predetermined value chain methodology of inclusion; and each strategy for inclusion was different. In some cases, the concept of value chain inclusion or value chain development was not even mentioned. This lack of a blue print for projects of this category create high transaction costs and difficulties in understanding that the producers are to be included in a chain that has specific dynamics and with multiple actors in both the private and public sector that can affect their position. Certain issues in project design that affected potential impact include: lack of focus on the markets, lack of exit strategy to ensure sustainability and lack of time forecasting of projects based on the productive experience of the beneficiaries.

Table 8. Sustainable Value Chain Inclusion of Small Producers: An Overview

		Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
Selected Value Chain	Target Product	●	●	●	●	●
	Beneficiaries	●	◑	●	◑	◑
Inclusiveness	Competitiveness	●	◑	●	◑	◑
	Inclusion Four Pillars	●	◑	●	◑	◑
	4 Pillars Assessment (M) Market, (T) Training, (F) Finance, (CC) Coordination & Collaboration	M / T / CC / F	M / T / CC / F	M / T / CC / F	M / T / CC / F	M / T / CC / F
	Upgradeability/ Potential to Add Value	●	●	●	●	●
	Economic Sustainability	●	◑	●	○	◑
	Social Sustainability	◑	●	●	●	●
	Environmental Sustainability	●	●	●	●	●
Impact	Spillovers/ Impact	●	●	●	●	●
	Potential for Replication	◑	◑	●	◑	◑

Selected Value Chain

The careful analysis of value chain, as well as a thorough assessment of beneficiaries' expertise, are both critical to the success of the intervention.

A. Target Product

Target products vary in market demand and value, depending on inputs, labor and technology required for their production. Certain crops are significantly more labor intensive than capital intensive. This is often due to the nature of the product that prevents mechanized planting and harvesting or requires constant monitoring for disease prevention. While small producers may have higher capital costs, they generally have lower labor costs. This cost differential can account for as much as 40% of production costs (van der Meer, 2006). This along with other production models and certifications such as organic or free trade are often better suited to smallholder production.

Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
Specialty coffee is an excellent product for small- and medium-sized producers due to labor intensity, especially organic and other type of certified coffee. **Commercial viability**: Local and global demand for specialty coffee grew significantly between 2000 and 2010. Central American coffee was successfully positioned as excellent high quality specialty coffee.	Stevia is a premium product, with higher returns than most other crops cultivated by the small producer (1ha of stevia provides five times the profit margins of 1ha of soya). However, it has associated high input costs. **Commercial Viability**: There is a very strong and growing demand for stevia at a global level. However, it is a relatively new product, and there are important marketing needs that must still be met.	Organic cacao cultivation is a highly labor-intensive, crop, requiring constant weeding, pruning and disease management. **Commercial Viability:** 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.	Organic products are suitable for small and medium-sized production due to higher margins resulting from lower input costs (on farm organic fertilizer) and a price premium. **Commercial viability**: Growing demand for organic products on local and national supermarkets. They must be certified as organic.	Honey is an excellent product for small- and medium-sized producers, especially organic honey due to labor intensity. However, it has high start up costs as equipment and materials are expensive. **Commercial Viability:** Growing demand for organic honey and its derivatives is high. There was unmet international demand especially for non-transgenic honey produced in Nicaragua and Honduras.

The products selected in these projects were excellent for small holders production, as they are very labor intensive. Several of the products were also organic. Additionally, all the products selected are highly demanded by national and/or international markets facilitating the commercialization process.

B. Beneficiaries

Understanding the level of development of the beneficiaries will help to set the goals, activities to be developed and time required to implement the project. The beneficiaries level of education and their experience cultivating a particular crop, for example, will determine the content and design of training programs; while, whether the beneficiaries have previously participated in the value chain will provide indications regarding their knowledge of buyer's needs, etc. Beneficiaries with established crops may be better positioned to enter new or more complex chains as they already have access to key resources. Beneficiaries with lower levels of development will require more investment and time.

Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
The level of development of the beneficiaries was low in terms of schooling; however, they were experienced coffee producers that had previously exported their product. Their main requirements to capturing more value from the chain were extra technical support to implement good agricultural practices and linkages with foreign buyers.	Beneficiaries varied considerably across the project. Many producers began with ¼ to ½ ha of stevia under production with the goal to increase to 1ha. Some producers had grown some variety of stevia in the past. Schooling levels varied. Producers generally had large families with +5 children, basic education and 5-10 ha of land.	Beneficiaries were small producers, with between 2 and 22 ha of conventional cacao under production. These producers were existing members of the cooperative, which exported conventional cacao in addition to a small quantity of organic cocoa prior to the project. Several producers had previously cultivated coca plants for the illicit cocaine trade.	The level of development of the beneficiaries was very low. This was the first time that they had attempted to sell their produce outside their territory and, for some of them, it was the first time they had sold their crops at all. Many of them were not associated prior to the program. Level of schooling was low in most cases.	The level of development of the beneficiaries was low, often with limited schooling. They realized that beekeeping is a business and not just a hobby. This awareness needs to be reflected in the management of their cooperatives. Some of them were experienced beekeepers; however, others were just starting in this activity.

The level of development of the beneficiaries in these five projects varied. While in the Central America coffee project, the beneficiaries were organized in strong cooperatives with experience exporting their products, the other 4 projects supported producers with little experience commercializing their products in local markets to include them in national or even global value chains. This created specific challenges for successful project implementation and had important implications for the length of time producers required support. For example, the organic fruit and vegetable producers in Peru took 3 years to organize and producer organic crops at a quality level for sale in their proposed primary market, and were only just beginning to sell their producer there when the project came to an end. This necessitated a second intervention.

Inclusiveness

This variable discusses the degree to which previously excluded producers or producers vulnerable to being pushed out of the chain are integrated effectively into local, national or international value chains in a sustainable manner. This evaluation criterion takes into account the needs identified in the competitiveness assessment, the manner in which these needs were addressed through the provision of the 4 pillars, and the economic, social and environmental sustainability of the project.

A. Competitiveness

Even in cases where small producers have a comparative advantage in crop production, they may face certain constraints that limit their ability to compete in value chains. For example, they often lack access to financial resources to invest in the necessary infrastructure, equipment or irrigation systems to achieve sufficient productivity and quality levels, while a lack of specific technical knowledge can inhibit their ability to raise these factors without further financial investments. Furthermore, buyers often choose not to include small producers in their sourcing strategies, as the transaction costs of visiting and working with a large number of small producers is too high. Different socioeconomic levels often exclude small producers from sourcing networks, limiting their ability to establish linkages with buyers within the chain. A competitiveness needs assessment is mandatory in a value chain intervention to identify the key competitive bottlenecks to improve productivity and quality. The vast majority of these constraints can be overcome by improving access to four key instruments: credit, training, associations and market linkages.

Aspects of risk in both the production and commercialization of the product should also be considered. These risks affect both producers and buyers. On one hand, producers face the risk of climate and disease. This can affect their ability to fulfill their quotas with the buyer and negatively impact their household income. Small producers are unlikely to have insurance against these risks, and a vulnerable producer may not be able to recover from the loss of a crop from drought or disease. On the other hand, buyers face the risk of producers not being able to supply their contracted amounts either due to

partial or total loss of a crop to disease or weather conditions or producer side-selling to higher bidders. The combination of these risk factors can be detrimental to both parties and can ultimately inhibit small producer inclusion in the value chain.

Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
Competitiveness awareness was raised regarding the relationship between product quality, implementing good agricultural practices and access to international markets. Both quality and productivity were increased. Additionally producers obtained specific certifications to access the global market. **Risks:** The selection of experienced producers with strong cooperative support and access to water minimized moral hazard and climatic risks involved.	Producers still need to improve their competitiveness, especially increasing productivity and product quality. Lack of access to irrigation and mechanization makes small producers less competitive than producers with more resources. Productivity is up to 30% higher for mechanized and large-scale producers. **Risks:** While not susceptible to a large number of diseases or pests, the varieties being produced do not withstand drought or dry conditions well and lack of irrigation can lead to the death of the plants. The industry is still young, and marketing and consumer awareness must be carried out globally. This leads to uncertainty in the market.	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. **Risks:** Weather, pest and disease are difficult to manage before transition to full organic production. Some producers lacked management and business skills - sale to intermediaries for immediate higher prices often trumped long term stability of a guaranteed market.	Producers needed to improve their competitiveness, especially increasing productivity, improving logistics and product quality. **Risks**: Low level of producer education and low economic development in Huánuco. They lack administrative skills to run their business. Infrastructure is not well developed. Many producers walk for hours in order to deliver their products.	Failure to access credit limited application of good apicultural practices to increase productivity and raise the quality of the honey and other products. Producers were unaware of quality requirements and the strictness of the international sanitary regulations of export markets. They still need to advance on sanitary issues. **Risks:** Low level of education and economic development among producers. Weak support system to sustain industry growth (ex. Financial institutions, permanent technical assistance and sanitary control)

The majority of the beneficiaries in these projects were not competitive prior to the project because productivity and product quality were too low to enter national or international markets. In the Central America coffee project, producers needed to produce a high quality coffee in order to compete in foreign markets and meet required certifications. In the stevia project, producers needed to increase productivity and have a product with better properties. In the case of the cacao project, they needed to convert to organic production in order to continue to compete in the global cacao market. In the case of fruit and vegetables in Peru, given the success of commercial horticulture in the country, producers need to improve their scale and quality and seek out a niche market to sell in supermarkets of the country's capital. The case of honey presented similar issues, beneficiaries needed to increase the honey production per hive and also the quality to export it to Europe.

B. Inclusion Four Pillars

The bottlenecks for competitiveness mentioned above need to be addressed in order to insert the producers in the value chain in a sustainable way. The majority of these challenges can be overcome by providing access to four key elements: Finance, training, collaboration & cooperation building and market.

Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
All the value chain inclusion pillars were covered. Some of them were pre-requisites for participation, while the access to market and the technical training were covered by this project	The project design was based on providing all four pillars, however with various degrees of success: Access to training, finance and market were directly provided through the outgrower scheme. Collaboration & cooperation efforts to foster producer organizations were not directly aligned with the producers receiving the other 3 benefits and transaction costs remained high.	All four factors for necessary to achieve small producer inclusion were present, even though they were not all directly covered by the project.	There were some missing components in the project design such as access to finance and access to market that limited the inclusiveness.	There were two missing components in the project: access to finance and internal coordination and collaboration building among the producers. These two elements are crucial to integrate micro and small producers in the national and international value chain.

These projects did not intentionally consider these four elements in their design and their analysis was not a prerequisite of projects on sustainable inclusion of the value chain. On occasion, one or more of these elements was provided by the market or other development projects, which facilitated the intervention. In the coffee project, the producers were already working in well-established cooperatives which had access to formal finance channels, and thus the project provided for access to training and access to market, which were limiting producers' ability to supply the high value specialty coffee chain. However, other projects worked with beneficiaries that faced all four constraints and, yet, the intervention did not cover them. Access to finance was the Achilles' heel, none of the projects facilitated access to finance despite its importance for beneficiaries to enter and sustain their participation on the value chain. The most popular element that all projects included was access to technical training focused on good agricultural practices to raise productivity and quality. However, entrepreneurial training was not always incorporated in the project and many producers continue to lack the skills necessary to run their farms as a business.

C. Upgradability/Potential to Add Value

Projects are often focused on entry into the value chain; however, as other new producers enter the value chain, either locally, regionally or internationally, the beneficiaries of the project must be positioned to continue to add value to their product. We refer to this as "upgradeability": upgrading can be as simple as producing a product of slightly higher value (product upgrading), incorporating a new technology such as simple drip irrigation systems (process upgrading), or upgrading into higher value segments of the value chain, such as packing or processing of the fresh produce before sale (functional upgrading). Each of these stages increases the producers' returns of participation in the value chain.

Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
There is a lot of potential to continue to add value by producing premium coffees. Some of these coffees are auctioned online for very high prices. This means that product upgrading is a good opportunity for the beneficiaries to pursue.	Considerable advances can still be made in the plant variety grown (product upgrading). Several exporters indicated they would soon offer mechanized services to the producers for land preparation and harvesting. Functional upgrading: In Paraguay, there is one extraction plant already operating and two other plants under development.	Conversion 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.	Organic product range can be expanded to include other fruits and vegetables, while second and third grade products can be used for processing, creating value-added products such as jam and juice concentrates.	Honey production is in high demand, there were great opportunities to continue improving productivity and producing a better quality honey. A variety of apicultural products can be developed for internal and external markets.

All the project beneficiaries were in a position to continue adding value to their products, especially improving the quality and productivity by introducing more efficient processes. Several of them developed the capacity to capture more value by adding new functions in the near future. For example, the honey producers began creating non-bulk packaged and processed products, the organic fruit and vegetables producers began making processed food such as jams and juices with second grade products that did not meet the quality standards to be sold in their primary market. These examples present positive opportunities for upgrading.

D. Economic Sustainability

Once the project comes to an end, beneficiaries should be able continue to supply the value chain into which they have been inserted. Without the financial and technical resources of the project, producers must be able to continue to produce competitively priced products, establish a business model that can afford necessary costs such as certification, and replace inputs or technology such as renovation of irrigation systems. For producers to remain integrated in the value chain, and continue to expand their potential to capture the gains of their participation, they must develop technical, entrepreneurial and interpersonal skills. In addition, members of the community should be in a position to recruit and teach new producers in the skills developed by the project.

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It is quite likely that the beneficiaries would have achieved the outcomes without the project, as the producers were organized, had access to credit, were experienced producers and already participating in the international market. However, the project accelerated the shift to the production of specialty coffee. Specialty coffee producers in these countries continued to expand their production after the project finished, including the beneficiaries of this project.	Access to finance for irrigation systems remained an important factor for sustainability to reduce risk and increase productivity for small producers. Also to keep exporters in business, larger producers must be incorporated into outgrower projects to increase total yields to sustain extraction plants. Developing a good plant variety for local conditions is essential – exporter firms continued to finance replacement of plants at a significant cost.	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.	A financial component and strengthened access to market must be incorporated into the project to achieve sustainability. There was a strong need to generate profits in order to hire managerial personnel and sustain the initiative. Producers were not capable of managing their organization (the consortium).	The lack of the financial component and producer organization limits producers' capability to respond to future demands in quality and safety standards. Despite the excellent training initiatives developed during the project, beneficiaries still need ongoing technical assistance to maintain and update the knowledge.

The coffee and cacao projects were highly sustainable. In both cases, there was strong institutional capacity, direct access to credit, permanent technical assistance and growing sales. The cacao project designed a system for sustainable certification payment. The model involved including the price of certification as a cost for the entire cooperative – this allowed the organization to use its economies of scale to spread to the costs of the transition to organic and allowed them to expand the organization's organic production. They have subsequently added another 1,600 organically certified producers.

In the other projects, beneficiaries still face constraints, making sustainability questionable. The lack of finance and weak institutional capabilities of certain producers groups can create problems for those groups to continue in the value chain. For example, supermarkets usually pay organic fruit and vegetable producers for their products more than a month after the delivery. Without access to credit, this creates significant cash flow challenges for producers. Training also failed to leave producers in a position to manage their own businesses. For example, in the honey project, some producer groups did not have access to any follow-up technical support once the project was over (there are no market firms that

provide technical extension services). If they have production difficulties or general questions regarding honey production, they may lose their hives.

E. Social Sustainability

Projects should ensure that inclusion in the value chain has a positive social impact for men, women and youth. Supporting social development supports long term economic sustainability for project interventions. Interventions take place in rural areas, which often experience high urban migration; projects that provide potential economic opportunities can encourage youth to stay in the area, and secures producers for the future. In addition, projects should foster gender equality; "smallholder efficiency" is often derived from the use of unpaid family labor, and women in particular who often bear an unreasonable proportion of the work involved in agricultural production without receiving a fair wage, or having active participation in decision-making regarding family income.

Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
The project did not specifically include any gender or youth component. However, many of the beneficiaries experienced income increases that were used to educate their children.	Several exporters work with producers, their wives and their children, encouraging children to view the cultivation of stevia as an important business opportunity, helping to alleviate migration out of rural areas to urban zones. The nurseries and collection centers have become important hubs for employment in different parts of the country. Increased income levels have seen improvements in homes, transport, etc.	COOPAIN offered training courses for social development at the family and committee level, encouraging wife participation and gender equality. The cooperative provided specific training in areas such as leadership and business development to encourage the children to see cacao production as a profitable business. A profitable alternative to coca production, organic cocoa helped improve producer security and quality of life.	The project has included two key aspects: Gender Component: Empowerment of women; women are being recognized as an important player in commercialization and also as part of the decision-making process. Youth & future professionals: Families are investing in their children´s education because they want to professionalize their farm activities in the future with their help.	The project included supporting women's cooperatives. This is a good sector for rural women since it doesn't require daily work and provides additional income. Other cooperatives made efforts to include young people in the sector as an alternative business opportunity.

Almost all the projects, with the exception of the coffee intervention include an explicit social element in their implementation. Efforts were made to include both women and children in to the production operation for the farm. This highlighted opportunities for gender equity as well as long-term possibilities for economic opportunities in the rural areas for youth. Increased income is also being used for improving education of children.

F. Environmental Sustainability

The expansion of intensive agriculture globally must be done in a sustainable way, particularly to avoid exhaustion of the soil and the misuse of precious water sources. Small producers have very limited land and water resources, and thus it is important that they understand how to manage these scarce resources. These factors must be taken into consideration when selecting the target product and designing and implementing the technical training.

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The good agricultural practices implemented specifically regulate the cherry coffee waste during the wet processing stage. Prior to the project, producers contaminated the rivers and water sources. Additionally, several of the certifications obtained by the producers regulate protection of the environment.	The growth of stevia by small producers involves minimal use of agrichemicals, while dedicated attention from the technical assistants has improved producer knowledge of agricultural techniques such as rotation, fertilizer, etc.	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 cacao beans was fueled by burning the husks of complementary coffee production, minimizing the carbon footprint of the operation.	Organic cultivation has important environmental benefits, as it avoids excessive use of the land and agro-chemicals. Additionally, beneficiaries have a diversity of crops in their farms that help the soils richness.	Beekeeping has a positive impact on the natural environment as bees are essential for pollination of most wild and commercial plants and trees. It makes a very significant contribution to other forms of agriculture by effecting the pollination of many economically important plants, such as fruits and vegetables.

All projects have been designed with a strong environmental component. The cacao, honey and fruit & vegetables projects focused on organically produced products, and a strong focus on minimizing the impact on the environment. The coffee project focused on minimizing environmental impact by incorporating good agricultural practices. While the stevia project was not organically driven, several of the exporters were beginning to promote organic production, and the constant presence of technical assistants ensured that producers learnt the importance of concepts like good agricultural practices and crop rotation.

Impacts

A. Spillovers/Impacts

Value chain integration projects often impact individuals, communities and organizations that are not direct beneficiaries of the program. In addition, spillovers can include general improved technology adoption and better resource management as a result of technical assistance and training by qualified agronomists. When these spillovers are positive, they improve the cost/benefit outcome of a project.

Supporting the Competitiveness of Central American Coffee	Strengthening the Competitiveness of the Stevia Value Chain	Conversion to Organic Cocoa Cultivation	Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds	Development of Micro and Small Rural Apicultural Producers
This project had several positive impacts: improved productivity and quality, increased export volumes, increased percentage of specialty coffee exported. This allowed increased family income, job creation, extended education for children and producer empowerment. One of the most important spillovers was that this project helped to shift Central American coffee from a commodity to a differentiated product. Central American coffee became known for its excellent quality.	Relationship between producers and export firms was formalized. All producers supplying the chain are now incorporated in contract farming schemes reducing uncertainty and vulnerability. Stevia seasonality provided strong income-smoothing effect for producers, with increased income stability benefitting children's education and standard of living.	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 withdrew from the illicit coca trade in order to produce organic cocoa.	This project has several positive impacts: Many beneficiaries had never commercialized their products; this project thus brought about producer empowerment. Producers felt proud of their achievements selling their products in Lima. Additionally, families increased their income, and extended education for children. Women also participated in the project; usually they were in charge of selling the products in the farmer's market. New producers were invited to participate in the consortium.	This project had several positive impacts such as: improved productivity and quality, increased export volumes, increased family income, job creation, extended education for children, producer empowerment and female participation in the sector. Additionally, the project put apiculture on the national agenda as a strategic sector in both countries. The strong coordination and collaboration of stakeholders continued to promote sector growth.

All projects had direct impacts for beneficiaries, who improved their productivity and their income. This created positive spillovers for producers' families in the form of improved housing and increased education for their children. Additionally, these projects created new jobs and knowledge transfer in production as producers shared best technical practices with non-beneficiaries.

B. Potential for Replication

The mandate of MIF is to experiment with projects that have the potential for replication in order to maximize potential impact for development.

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Certain aspects of the project can be replicated; for example, designing training based on specific international buyers standards. The model for access to international markets, which included buyer involvement from the outset of the project, should be replicated.	The model has the potential for replication across the country, should exporter firms have sufficient capital to continue to invest in developing new producers. Resource-provision contracts, however, depend on the exporters' ability to capture additional value to subsidize inputs in the longer run.	In 2012, central aspects of the project were being replicated by the USAID/Peru Alternative Development Program to convert 700 coca producers to organic cacao production. These producers will join COOPAIN as members.	Aspects of coordination and collaboration both amongst producers and between producer groups and other value chain actors was strong. This model could be replicated for other projects.	Key aspects for potential replication include the cascading training model and the stakeholders' coordination. The project could be expanded within the countries and also to other countries in the region. As a high demand product, market linkages were easy to establish for the honey production. The access to market component would need to be correctly assessed for projects based on other products.

These projects show excellent elements for replication. For example, the coffee project presented a good strategy for linking producers with international buyers. The stevia value chain project shows how the exporter provides credit to smallholders, while the cacao project presents a sustainable model to absorb certification costs. The fruit and vegetables present a good example of coordination and collaboration building among the producers, while the honey project reached high levels of coordination among the value chain stakeholders; the cascading training model in which knowledge is transmitted from the universities to producers is a strong model to replicate.

Below we present a table in which we present best practices in each of element for sustainable inclusion of small- and medium-sized producers in the value chain.

Selected Best Practices

From these cases, we extracted three best practices for access to market, access to training and support in developing horizontal and vertical linkages (See Table 9). The access to credit component was largely missing or less well addressed across these projects. Usually this is a significant constraint for small producers that cannot access to credit through formal channels. Well-organized cooperatives obtained credit mainly with international lending agencies.

Table 9. Select IDB-MIF Projects: Best Practices

Intervention Focus	Best Practice
Access to Market	The access to market strategy implemented by the project **Supporting the Competitiveness of Central American Coffee** was a strong element for linking the small producers with the foreign buyers. The project selected 30 established coffee cooperatives from Latin America at the beginning of the project. These cooperatives met certain conditions established by the project and had experience exporting their products. These 30 cooperatives were presented to buyers during a coffee fair in the United States. Buyers were informed that the project, implemented by Technoserve (an experienced NGO in the region), would provide technical training to the selected cooperative members in order to raise the quality of the coffee according to the buyers' standards. Based on a three-page profile of each cooperative, buyers each selected 10 cooperatives for the pilot project. Cooperatives received the training and awareness was raised regarding the importance of producing a quality coffee in order to enter and receive a premium prices on international markets. Buyers received a progress report showing the improvements of the project beneficiaries. Finally, buyers initiated purchase contracts for the coffee from the producers enrolled in the project.
Access to Training (Technical Training)	The project **Development of Micro and Small Rural Apicultural** created a cascading training model to facilitate knowledge transfer. The training began with a university diploma and ended with field training of the producers. Every student signed a commitment to transfer knowledge to students in the strata below them. As knowledge of apiculture was almost inexistent in Honduras and Nicaragua prior to the project, foreign experts were engaged to teach the first diploma to industry participants, who in turn offered programs to peer trainers, and then to producers. The programs were so successful that a second version of the diploma was offered, although this was no longer free of charge (many of students were then sponsored by institutions: banks, governments, NGOs, etc.) This model includes three levels: In the first level, UNAM-LEON university offered a seven months diploma on apiculture to 35 students in which foreign experts taught 6 modules 1. Technical capacity/production; 2. Sanitary management; 3. Nutrition; 4. Quality; 5. Processing; 6. Commercialization. Local university professors observed the course and were incorporated into the teaching staff with the foreign experts for the second program. In the long term, the entire course will be taught by local professors. In the second level, peer trainers were trained in 3-4 days programs at the university. In this level, 50% of the course content was theoretical and 50% practical. Finally, in the third level, producers participated in training activities in their territories. 70% of the training was practical.
Coordination and Collaboration Between producers With actors along the value chain	The project **Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds** presented a successful case of effectively organizing dispersed producers. In order to obtain the Participatory Guarantee System (PGS) certification, producers were organized in community groups with a lead producer. PGS institutionalization had several positive spillovers including producer empowerment, development of social capital and strong public and private partnership. This organization allowed the creation of a consortium open to more producers. The project **Development of Micro and Small Rural Apicultural Producers** had a strong value chain coordination aspect. Industry stakeholders were aligned towards a common objective. They created roundtables per department to facilitate coordination and establish a dialogue between producers and other actors in the value chain (inputs providers, industry experts, exporters, and other supporting organizations) for problem solving and to create opportunities to promote industry growth. Coordination with other value chain stakeholders and round-tables significantly facilitated information flow, drawing timely attention to constraints faced by each actor and providing the opportunity for appropriate solutions to be developed.

VI. Appendix: Sustainable Value Chain Inclusion of Small Producers: Definitions of Evaluation Criteria

Target Product	Target products vary in market demand and value, depending on inputs, labor and technology required for their production. Certain products have higher labor intensity than capital intensity, making smallholder production more efficient and suitable for value chain participation. In addition, other production models and certifications such as organic or free trade are often better suited to smallholder production.
Beneficiaries	Understanding the level of development of the beneficiaries will help to set the goals, activities to be developed and time required to implement a project. The beneficiaries level of education and experience cultivating a particular crop, for example, will determine the content and design of training programs; while, whether the beneficiaries have previously participated in the value chain will provide indications regarding their knowledge of buyers needs, etc. Beneficiaries with established crops may be better positioned to enter new or more complex chains as they have already have access to key resources. Beneficiaries with lower levels of development will require more help and time.
Competitiveness Needs Assessment	Even in cases where small producers have a comparative advantage in crop production, they may face certain constraints that limit their ability to compete in value chains. For example, they often lack access to financial resources to invest in the necessary infrastructure, equipment or irrigation systems to achieve sufficient productivity and quality levels, while a lack of specific technical knowledge can inhibit their ability to raise these factors. Furthermore, in certain cases, due to their poor economies of scale and lack of transportation, buyers often eschew their inclusion in their sourcing strategies as the transaction costs of visiting and working with a large number of small producers is too high. Different socioeconomic levels often exclude small producers from sourcing networks, limiting their ability to establish linkages with buyers within the chain. A competitiveness needs assessment is thus mandatory in a value chain intervention to identify the key competitive bottlenecks to improve productivity and quality. The vast majority of these constraints can be overcome by improving access to four key instruments: credit, training, associations and market linkages. Aspects of risk in both the production and commercialization of the product should also be considered to ensure that vulnerable producers are not unnecessarily exposed to significant risks from which their recovery may be unpredictable. In agro-food value chains, two important factors increase the risk for producers: climate and disease. In addition to the producers not being able to fulfill their quotas due to climate and disease, buyers also face the risk of producers selling their produce to higher bidders. This can be problematic for sustained value chain inclusion.
Upgradeability	Projects are often focused on entry into the value chain, however, as other new producers enter the value chain, locally, regionally or internationally, the beneficiaries of the program must be positioned to continue to add value to their product. We refer to this as "upgradeability": upgrading can be as simple as producing a product of slightly higher value (product upgrading), incorporating a new technology to improve productivity such as drip irrigation systems (process upgrading), or upgrading into higher value segments, such as packing or processing of fresh produce before sale (functional upgrading). Each of these stages increases the producers' returns of participation in the value chain.
Economic Sustainability	Once the project comes to an end, beneficiaries should be able continue to supply the value chain into which they have been inserted. Without the financial and technical resources of the project, producers must be able to continue to produce competitively priced products, establish a business model that can afford necessary costs such as certification, replace inputs or technology such as renovation of irrigation systems. For producers to remain integrated in the value chain, and continue to expand their potential to capture the gains of their participation, they must develop technical, entrepreneurial and interpersonal skills. In addition, members of the community should be in a position to recruit and teach new producers in the skills developed by the project.
Social Sustainability	Project should ensure that inclusion in the value chain has a positive social impact for men, women and youth. Projects should foster gender equality; "smallholder efficiency" is often derived from the use of unpaid family labor, and women in particular as they often bear an unreasonable proportion of the work involved in agricultural production without receiving a fair wage, or having active participation in decision-making regarding family income. In addition, interventions take place in rural areas, which often experience high urban migration; projects that provide potential economic opportunities can encourage youth to stay in the area.
Environmental Sustainability	The expansion of intensive agriculture globally must be done in a sustainable way to avoid exhaustion of the soil, misuse of precious water sources, deforestation, etc. This factor must be taken into consideration when selecting the target product and designing and implementing the technical training.
Outcomes/ Impact: Anticipated (Design) and Actual (Evaluation)	The outcomes are the immediate results of actions taken in the project – ie. 200 producers were trained in good agricultural practices. Ideally, these outcomes should correspond directly to the project design, although in practice problems often arise for a variety of reasons during implementation that inhibits the direct translation of the design. The impacts of the project are the effects of the project on the beneficiaries – ie. increased income or improved income stability, empowerment, formalization of relationships between producers and buyers, etc.
Positive Spillovers	Value chain integration projects often impact individuals, communities and organizations that are not direct beneficiaries of the program. In addition, spillovers can include general improved technology adoption and better resource management as a result of technical assistance and training by qualified agronomists. When these spillovers are positive, they improve the cost/benefit outcome of a project.
Potential for Replication	The mandate of MIF is to experiment with projects that have the potential for replication in other places in order to maximize potential impact for development.
Sustainable Inclusiveness	This criterion evaluates the degree to which previously excluded producers or producers vulnerable to being pushed out of the chain are integrated effectively into the value chain in a sustainable way. This evaluation criterion takes into account the needs identified in the competitiveness assessment, the manner in which these needs were addressed through the provision of the four pillars, and the economic, social and environmental sustainability of the project.