THE COMPETITIVENESS OF SMALL ORGANIC COCOA PRODUCERS OF THE NATIONAL CONFEDERATION OF DOMINICAN COCOA PRODUCERS (CONACADO) DR-S1007

December 2012

The goal of this project was to improve the competitiveness of small organic cocoa producers in the Dominican Republic by increasing cultivation productivity. To achieve this, the project provided producers with access to medium-term financing and technical assistance for the renovation or rehabilitation of their cocoa plantations. In addition, the organizational and corporate governance capacities of CONACADO and its affiliates were strengthened.

Duke
CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

FOMIN
Multilateral Investment Fund
Member of the IDB Group

"The Competitiveness of Small Organic Cocoa Producers of the National Confederation of Dominican Cocoa Producers"

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 several reports and case studies, available at www.cggc.duke.edu.

Acknowledgements

The authors would like to thank our anonymous interviewees, who gave generously of their time and expertise. We would also like to thank Smeldy Ramírez MIF Dominican Republic and Franklin Gómez at CONACADO, for helping the authors to organize their field trip agendas and providing the contacts for interviews.

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 penny.bamber@duke.edu and karina.stark@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.

Introduction

The key to sustainable inclusion in any value chain is competitivenessñ 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 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 thus, thereby limiting their potential to participate in coordinated value chains. Interventions can play an important role in reducing information asymmetries and helping the banking sector to create appropriate, yet profitable, financial instruments to meet the needs of this group.

Project Overview

Project:	The Competitiveness of Small Organic Cocoa Producers of the National Confederation of Dominican Cocoa Producers (DR-S1007).
General Objectives:	Improve the competitiveness of small organic cocoa producers in the Dominican Republic by increasing on-farm productivity.
Specific Objectives:	Facilitate access to medium-term financing and technical assistance for the renovation and rehabilitation of plantations and to strengthen the institutional capacity of CONACADO and its affiliates, particularly with respect to organizational and corporate governance capabilities.
Executing Agency:	National Confederation of Dominican Cocoa Producers (CONACADO).
Total Budget:	US$1,924,000.
Implementation Period:	The time period for the implementation of the program was 36 months and the reimbursement period was 42 months.
Achieved Outcomes:	Project beneficiaries increased their organic cocoa production by 46%. CONACADO was restructured into 3 separate units: CONACADO NGO responsible for technical assistance, CONACADO COOPERATIVA in charge of savings and loans and CONACADO AGROINDUSTRIAL responsible for commercialization of the product.
Lessons Learned:	1. Strong results were achieved using conditional and supervised financing, despite producers' history of credit default. 2. Incorporating a value chain approach is essential to maximizing effectiveness. 3. Performing a general needs assessment before designing the project allows for key competitiveness bottlenecks to be identified *ex-ante*. 4. Competitiveness involves not only improving productivity of the producers, but also the quality of the product. 5. Opportunities for stakeholder dialogue to generate buy-in amongst actors are important for sustainability.

Overall Evaluation of Sustainable Inclusion

Sustainable Inclusion	The project made significant progress in increasing the productivity of the cultivation of organic cocoa; however, the sustainability of the project will depend on the consolidation of the organizational restructuring of CONACADO, the adoption of a systemic value chain approach, availability of finance for the renovation and rehabilitation of the plantations of non-beneficiaries, ensuring the quality of the organic cocoa meets the standards required by international buyers and securing certifications and infrastructure improvements.	 **Medium**

Project Description

CONACADO

The National Confederation of Dominican Cocoa Producers, Inc. (CONACDO) is an organization of small producers, founded in 1988. CONACADO is made up of 7 affiliates that bring together approximately 152 small cocoa producer associations, with around 10,000 members. CONACADO is the leading producer and exporter of fermented organic cocoa (Hispaniola variety) for the European and United States markets. CONACADO sells directly to international markets. It is certified by BCS Ökogarantie (Germany), by Biosuisse (Switzerland) and JAS (Japan). In addition, it has been a certified Fair Trade 'Fair Labeling Organization' since 1985.

General Objective:

The goal of the project was to improve the competitiveness of the cultivation of organic cocoa by small producers from CONACADO by increasing their productivity. The project consisted of two key components to achieve this goal:

1. **Reimbursable Financing Component.** Designed to provide investment capital for the renovation and rehabilitation of the organic cocoa plantations of approximately 1,200 small producers who were members of CONACADO. The loan from the Bank to CONACADO was provided at a 6% interest rate with repayment over 10 years, including a grace period of 3 years. CONACADO will provide financing to each of the affiliates according to the eligibility and selection criteria established in the Minimum Guidelines for Credit Regulations. The annual interest rate charged by CONACADO to each of the affiliates will be 8% over a maximum period of 5 years, including a grace period of no more than 1 year. Lastly, the resources will be transferred to the small producers at an annual interest rate of 10%, paid annually with their harvest. It is estimated that the average credit received by the final beneficiaries will be US$1,750 and that each producer will be able to finance the renovation and/or rehabilitation of an average of 1 hectare (ha) per producer.
2. **Technical Assistance Component.** Directed at the strengthening of the capacity of CONACADO and its affiliates to manage and control income and financial resources. In addition, resources will be invested in:
    a. Strengthening the organizational and corporate governance capacity of CONACADO and its affiliates;
    b. Developing a system for the sale or transfer of land between members of CONACADO;
    c. Designing a mechanism to capitalize the Contingency Fund which small producers can use in the case of natural disasters;

d. Determining the legal structure that CONACADO should adopt to offer financial services to its members;
e. Improving the capacity of CONACADO and its affiliates to manage systemic risk (i.e. price fluctuations);
f. Strengthening microenterprises of the families of CONACADO members working in activities related to cocoa products or derivatives (cocoa wine, cocoa butter, cocoa ecotourism, artisanal chocolate, etc.);
g. Dissemination of information regarding the project and the impact of CONACADO and its affiliates on the quality of life of its members and the communities of small cocoa producers.

Eligibility

Producers must meet the following requirements in order to participate in the program:

- Have been an active branch member for at least 2 years.
- Be a small producer with organic certification (up to 20 has).
- Have no outstanding obligations or debt with their branch.
- Require renovation or rehabilitation of their plantation, according to technical evaluation.
- Sell 100% of their production through the branch.

Budget

The project is financed via 2 methods. The first method is reimbursable medium-term financing for the rehabilitation and renovation of the plantations. The second is a technical cooperation fund to strengthen the organizational and corporate governance capacity of CONACADO and its affiliates. The total budget was US$1,924,000.

Table 1. Project Budget

	BID-MIF	CONACADO	TOTAL
Reimbursable Financing	US$ 1,000,000	US$ 430,000	US$ 1,430,000
Technical Cooperation	US$ 250,000	US$ 244,000	US$ 494,000
TOTAL	US$ 1,250,000	US$ 674,000	US$ 1,924,000

Source: MIF and CONACADO.

Implementation Period

The project was implemented over a period of 36 months and the reimbursement period was 42 months. The project began in June 2009 and it ended in August 2012.

Project Evaluation

Project Design

The implementation of the activities was based on a framework determined at the beginning of the project. The principal premise of this design was to increase the competitiveness of the small organic cocoa producers in the Dominican Republic. The selected methods for improving productivity were *rehabilitation* and *renovation*. Rehabilitation refers to making improvements to exisiting crops, including, but not limited to, pruning, weed control and the application of organic fertilizer. Renovation is the additional of new, higher quality plants, and can also include extension of productive activities to include previously unused land resources, increasing total cultivation. Two impact targets were established at the outset:

- At least 1,200 hectares of organic cocoa plantations of small producers rehabilitated or renovated.
- At least 1,200 small producers of organic cocoa to improve their productivity by 30% per hectare rehabilitated or renovated.

1. Reimbursable Financing Component

CONACADO and its affiliates operate a medium- and long-term financing system that facilitates the rehabilitation and renovation of the cocoa plantations.

Participants

The total number of project beneficiaries was 1,449, surpassing the anticipated number of 1,200 producers. These beneficiaries represented approximately 15% of the total membership of CONACADO. Initially, the project had contemplated staggering addition of new producers by year; however, CONACADO preferred to work with all of the beneficiaries from the first year to streamline the renovation and rehabilitation work, increasing productivity in a shorter time frame.

Table 2. Number of Project Beneficiaries by Branch

AFFILIATES	NO. PRODUCERS PLANNED	NO. PRODUCERS ACTUAL
YAMASA		499
HATO MAYOR		499
BONAO		102
GASPAR HERNANDEZ		47
COTUI		135
CASTILLO		43
NAGUA		124
TOTAL	**1,200**	**1,449**

Source: MIF and CONACADO.

Reimbursable Financing

Loans were given over a period of 2 years in order to accelerate the renovation and rehabilitation of the organic cocoa plantations. The average anticipated loan per producer was initially US$1,750; however, this amount was reduced to US$1,071 in order to include more producers in the project. CONACADO, and agriculture activity in general in the Dominican Republic, suffer from high levels of credit default. Approximately 39% of CONACADO members have outstanding loans with the organization. However, default rates for producers included in this project declined to 3.81%.

Table 3. Loan Portfolio for the Renovation/Rehabilitation of Organic Cocoa Plantations

	PLANNED	ACTUAL
Year 1	US$715,000	US$698,182
Year 2	US$1,430,000	**US$1,551,516**
Year 3	US$1,573,000	

Note: Loans were given over a period of two years totaling US$1,551,516.

Source: MIF and CONACADO.

Table 4. Average Loan per Producer and Risk Portfolio

	PLANNED	ACTUAL
Average loan	US$1,750	US$1,071
Risk portfolio	> 30 days < at 5%	> 30 days < at 3.81%

Source: MIF and CONACADO.

Increase in the Productivity of Organic Cocoa Production

The initial estimate for productivity improvements was approximately 30% per hectare; the actual productivity increase achieved by 2012 was 46% per hectare. This figure, however, only reflects the results of rehabilitation; the impact of renovating the plantations cannot yet be quantified as it takes 3 years for the new plants to become productive. Furthermore, while the project only provided financing for the rehabilitation and/or renovation of part of the farm, most producers carried out rehabilitation activities on their entire property. Because the high cost of new seedlings often prevented the complete renovation of a property, some farmers chose instead to rehabilitate plants on the rest of the property. Variation in improvement methods (rehabilitation or renovation) selected by different affiliates also explains why some affiliates increased their productivity more than others. For example, in the case of Yamasa, which increased its productivity only 26%, the majority of activities were focused on renovation; thus, their productivity increases will be most notable when these new plants become productive in 3 years. On the other hand, the Harto Mayor branch, which experienced a 77% increase in productivity, concentrated on rehabilitation activities and is already reaping the rewards (see Table 5). World competitiveness standards for productivity require yields of 800 to 1,000 kilograms per hectare in order for a cocoa opertation to be considered internationally competitive. Of the 7 affiliates of CONACADO, only 1 (Hato Mayor) had achieved this level of productivity at the time of the evaluation.

Table 5. Productivity of CONACADO and Project Beneficiaries

	GENERAL (CONACADO)			IDB-MIF PROJECT		
AFFILIATES	**Kg/Ha/Year 2009**	**Kg/Ha/Year 2012**	**VARIATION**	**Kg/Ha/Year 2009**	**Kg/Ha/Year 2012**	**VARIATION**
YAMASA	204	288	41%	325	410	**26%**
HATO MAYOR	485	624	29%	471	832	**77%**
BONAO	458	461	1%	435	605	**39%**
GASPAR HERNANDEZ	309	285	-8%	386	514	**33%**
COTUI	475	570	20%	430	624	**45%**
CASTILLO	457	365	-20%	431	693	**61%**
NAGUA	434	458	5%	357	466	**31%**
AVERAGE	**403**	**436**	**8%**	**405**	**592**	**46%**

Source: CONACADO

Success Factors and Limitations

The increase in the productivity of IDB-MIF project beneficiaries was notable compared to general CONACADO productivity, as is illustrated in Table 5. Some of the factors that contributed to the success of this aspect of the project were:

- **Conditional and supervised loans.** Given the high levels of credit default within CONACADO, loans were conditional and supervised. That is, money was given to the producer at different stages of the project as he or she completed specific goals and tasks. If the tasks were completed, the next installment was provided to carry out the next stage. This system ensured that the money was used for the rehabilitation and renovation of the plantation and not for other personal activities.
- **Hands-on technical training.** Prior to the project, producers had been trained in good agricultural practices; however, the methodology used for those trainings had been inadequate to ensure the internalization of the knowledge. The project thus incorporated a 'learning by doing' system. Producers were required to practice the activities together with the technical assistant to ensure that they were applying the new techniques correctly.
- **Supervision of the activities being carried out on the farms.** The technical assistants from CONACADO visited and inspected the beneficiaries' plantations on a regular basis to ensure that the activities were advancing appropriately and that the producers were employing good agricultural practices.
- **Commitment of the beneficiaries.** The beneficiaries were notably empowered by this project and they committed to improving their plantations. A clear example of this commitment was the tendancy of producers to make improvements to their entire farms, despite only receiving financing to improve their organic cocoa production.
- **Multiplier effect of good practices**. Some of the producers that were not direct beneficiaries of the project also began to renovate and rehabilitate their plantations when they saw the productivity increases of the beneficiaries.

- **Favorable weather conditions.** According to the producers, during the years the project was implemented, there were good weather conditions, which also contributed to an increase in productivity.

Limitations

- **Project benefits were limited to just 15% of CONACADO's members.** The significant increase in productivity was confined to the beneficiary group. The remaining 85% of the CONACADO members were unable to participate in the project.
- **Lack of quality inputs (cocoa seedlings).** During the implementation of the project it was very difficult to obtain the large number of seedlings required. In addition to quantity, the project required quality seedlings to ensure productivity improvements. In some cases, the affiliates had to develop their own nurseries to ensure the supply of good quality seedlings.

2. Technical Cooperation Component

2.1 The overall objective of this part of the project was the institutional and financial strengthening of CONACADO as an organization. The project established a series of goals related to this objective:

Goal 1	Result
CONACADO and its affiliates have implemented the plan to improve administrative and operational management and corporate governance.	

During the project, CONACADO underwent a dramatic restructuring (see Figure 1) that was long overdue. Previously, CONACADO was structured as an NGO, and each of the affiliates had administrative and decision-making autonomy. In 1995, Law 122-05 prohibited NGOs from distributing profits. As a result, CONACADO was unable to commercialize the organic cocoa and distribute returns among members. With the support of this project, and under the guidance of expert consultants, the institution analyzed alternatives for restructuring.

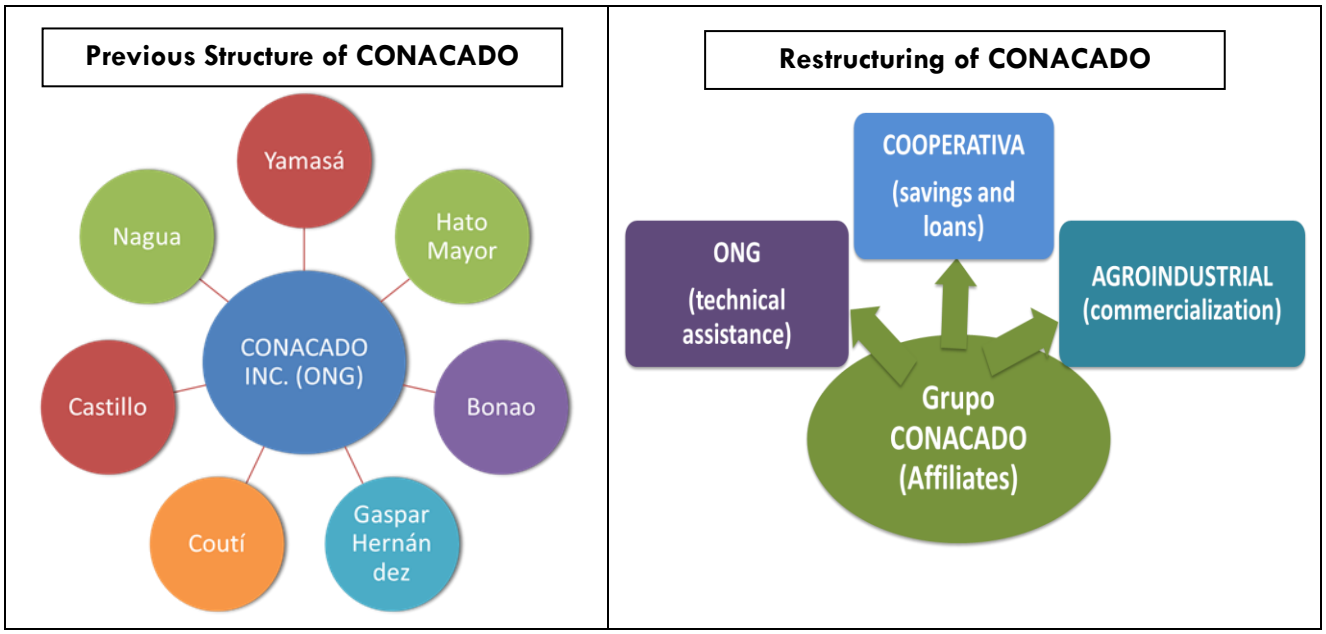
The new CONACADO group comprises 3 organizations, which are located in each of the 7 affiliates:

1. CONACADO ONG offers technical assistance.
2. CONACADO COOPERATIVA is in charge of savings and loans.
3. CONACADO AGROINDUSTRIAL is responsible for the commercialization of the cocoa.

These changes were supported by the adoption of an integrated management system with the creation of software customized to the needs of CONACADO. This system allows real time information to be obtained regarding the different activities in the 7 affiliates. In addition, manuals were created to define the roles and responsibilities of the workers in each of these 3 new entities. It is still too early to comprehensively evaluate the success of this restructuring; however, the institution appears to be more organized than it did previously. Several administrative areas still require improvements and this will depend on hiring proactive and better-trained human capital to face the administrative, logistical, production and commercialization challenges of the group.

"Before, none of the workers had assigned responsibilities as we do now. This makes our work more efficient."
Bernardo Jiménez
Manager Hato Mayor Branch

Figure 1. Internal Organization of CONACADO Before and After the Project



Source: Authors.

Goal 2	Result
CONACADO and its affiliates are in the process of establishing and operating the entity, which will facilitate the provision of loans to members and their families.	

This goal was achieved. The restructuring of CONACADO included the creation of the cooperative to manage savings and loans of the members. The cooperative has 7 affiliates and was in charge of the administration of the reimbursable component of the project that consisted in medium-term credit for the rehabilitation and renovation of the organic cocoa plantations of 15% of the members. The cooperative now has an integrated software system that allows all affiliates to be online simultaneously.

Goal 3	Result
The credit unit of CONACADO and its affiliates achieved default levels of >30 days < 5%.	

This goal was not achieved due to the high rates of default that the organization had sustained over several years. It is estimated that of the 10,000 producers, approximately 6,400 were in arrears for a total amount of US$4 million. This resulted in serious liquidity problems for the organization that complicated payments to members when they sold their organic cocoa to CONACADO. The restructuring of the organization and the creation of the cooperative in charge of savings and loans facilitated the reduction of late payments to 39%. Loans provided under the new structure have a 10.65% default rate, while those administered under this project had a default rate of only 3.81% and many of the beneficiaries had repaid the entire loans early.

Goal 4	Result
The credit unit of CONACADO and its affiliates had achieved 100% financial self-sufficiency.	

During the restructuring, CONACADO created the cooperative responsible for savings and loans. The cooperative is self-sufficient in terms of its operating costs; that is, it does not need funds from CONACADO AGROINDUSTRIAL in order to operate. However, the cooperative does not yet have sufficient funds to be able to meet the demands for credit from its members.

Goal 5	Result
CONACADO and its affiliates have a system for the administration of systemic risk (i.e. price fluctuation).	

CONACADO hired advisors and participated in workshops with risk experts focused on the different strategies to reduce the effects of the fluctuation of international cocoa prices. However, the organization still lacks the resources to allow them to open a futures account on the New York Exchange to help them to counteract the volatility of cocoa prices. The account requires a minimum investment of US$254,000.

Goal 6	Result
At least 5 groups of microenterprises related to cocoa products or derivatives have been strengthened in the following areas: processing, commercialization, organization and/or infrastructure as indicated by the needs assessment.	

This activity represents a stand-alone objective of the project, unrelated to the other aspects. However, CONACADO worked with women's groups who were processing and selling their products. Nonetheless, these groups are not yet fully functioning businesses and the organization still needs to work with microenterprises that can increase their incomes. These companies need organizational strengthening, administrative support and access to markets.

Success Factors and Limitations

The technical cooperation component facilitated a series of institutional and financial improvements in CONACADO. Some of the factors for success are highlighted below:

- Strong commitment by CONACADO to undertake not only the activities required by the project, but also a series of additional activities in order to achieve their goal of restructuring and strengthening the institution.
- CONACADO hired expert advisors who carried out an accurate needs assessment of the changes required and provided the organization with a set of recommendations to achieve both the transformation and institutional strengthening.
- CONACADO incorporated new technologies into their activities. The new integrated management software allowed them to streamline their information and share this between affiliates. Some of the affiliates did not have access to a telephone line or the Internet prior to the project and CONACADO successfully facilitated the expansion of connectivity to these areas. This not only helped to implement the software in all of the affiliates, but also gave the communities where these affiliates were located access to telecommunications services.

Limitations:

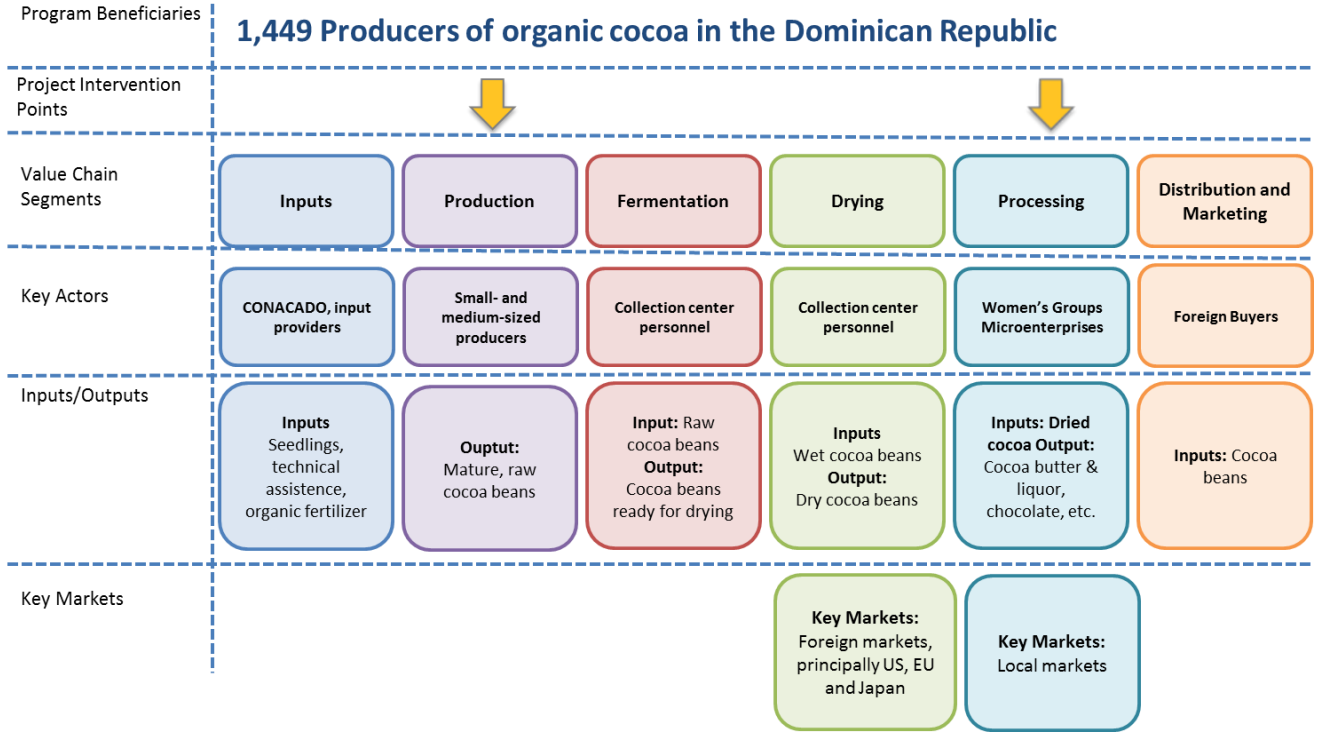
- Many producers were resistant to change and the new structure of CONACADO. The organization still needs to open communication channels with the members to generate buy-in, as members are unclear about how these changes will benefit them. These efforts should clearly explain the reasons for the restructuring and how this new structure will benefit the members of the organization.
- In order to consolidate and improve upon the restructuring of CONACADO, the organization needs to recruit qualified human capital to be responsible for key activities. Many of the strategic plans have been developed; however they have not yet been implemented due to the lack of proactive employees in the different key areas of the organization: administration, production, logistics and commercialization.

The Value Chain Approach and the Four Pillar Model

Description of the Value Chain

This project was primarily focused on the production segment of the cocoa value chain, specifically implementing tasks in the renovation and rehabilitation of the plantations to increase productivity. Tangentially, the project involved women's groups who were processing the cocoa for the production of products including cocoa liquor, chocolate and cocoa butter. However, the impact of this aspect of the project was more limited.

Figure 2. Organic Cocoa Value Chain – Project Summary



Source: Authors.

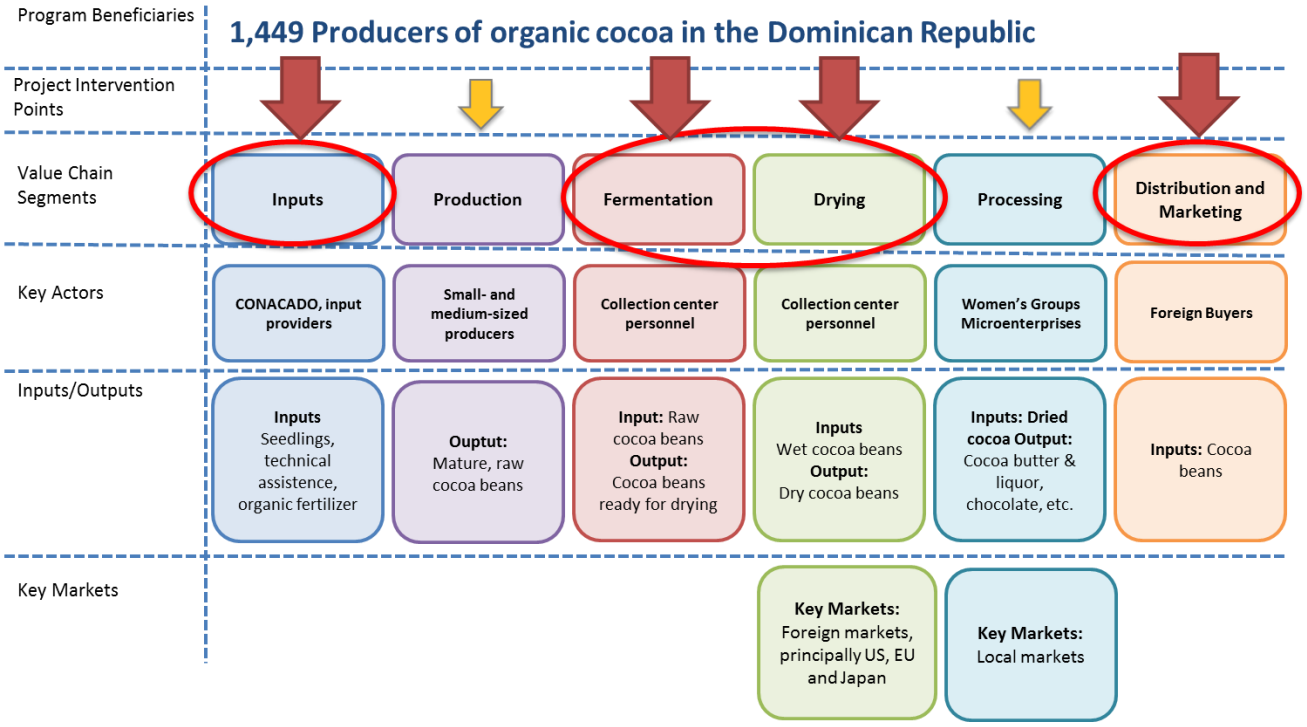
The project was not designed using the value chain approach, nor was one adopted during the course of the intervention. This proved to be an important shortcoming, as it did not allow the executing team to identify key bottlenecks to competitiveness prior to implementation. Figure 3 highlights the other segments of the value chain, which required changes in order to support the overall competitiveness improvement goal and ensure that initiatives taken in the production segment of the chain would be maximized.

- The project design did not take the inputs segment of the chain into consideration. Seedlings were a critical aspect for the project and accounted for 60–70% of the costs of the project. However, one of the main challenges faced during implementation was the availability of quality cocoa seedlings. These were in short supply, and quality was not guaranteed.

- The project design did not take into consideration that an increase in productivity would affect the other segments of the value chain. These improvements required a better logistics system, as quality cocoa requires the beans to be fermented within 6 hours of being harvested. As no preparations were made to ferment the increased quantity of cocoa beans, often it was not harvested at the correct time. This affected its quality and much of it was sold as second grade.
- In brief, increased production levels implied:
  - Increased infrastructure capacity for **fermentation**. Existing infrastructure at the collection centers of each of the affiliates was insufficient for the increased production of cocoa.
  - Increased infrastructure capacity for **drying** the cocoa. The collection centers at the organization's affiliates did not have the space to dry the additional production.
  - Increased **storage** capacity, as there was insufficient space to store the additional cocoa.

In summary, increased productivity did not improve the competitiveness of the producers. Infrastructure problems in other segments of the value chain led to 15–20% of the production being classified as second grade. This resource leakage raises the question why effort should be made to produce quality cocoa on the plantation if inadequate post-harvest handling creates an inferior product. Finally, it is important to note that the design did not include the **distribution and marketing** segment, consideration of which is necessary to ensure that there is demand for increased production, and particularly that producers can access international markets.

Figure 3. Cocoa Value Chain: Segments not included in the project design



Source: Authors.

Model for Value Chain Inclusion

Small- and medium-sized producers are often excluded from the value chain because they face resource, skills and market knowledge constraints. As noted above, 4 major constraints found to affect the success of agro-food inclusive business projects are access to finance, access to training, access to markets and coordination and collaboration among producers and other value chain actors. Below we discuss how each of these constraints was addressed in this project.

Evaluation of the Four Value Chain Inclusion Pillars in this Project

Access to Finance

- Conditional financing was included in the project for the renovation and rehabilitation of organic cocoa plantations for 15% of the organization's members.
- Additional credit will be required to support the renovation and rehabilitation of the remaining 85% of farms.
- The cooperative has liquidity problems which can delay payments to the producers at the moment of delivery.
- CONACADO needs to make investments in nurseries for quality seedlings and infrastructure for post-harvest stages in order to increase competitiveness.

Access to Training

- The technical training was very successful. The program included teaching beneficiares good agricultural practices for the production of cocoa, including pruning, weed control, transplanting seedlings, application of organic fertilizer and planting fruit trees.
- **Field visits by the technical assistants** ensured the correct application of these new techniques on the plantations in order to increase the productivity.
- Training did not prepare the producers for the restructuring of the organization.
- Training did not engage the producers as **business owners.**

Coordination and Collaboration Building (Horizontal and Vertical)

- This component was focused principally on the reorganization of CONACADO and not the coordiation of value chain actors.
- **Horizontal**→ Restructuring of the organization and improvment of management.
- Still requires buy-in from members who are not convinced of how the change will benefit them.
- **Vertical**→ This was not incorporated in the project, although during implementation some alliances were established with other value chain actors.

Access to Market

- This element was not included in the project. CONACADO has had an established world demand for many years. Its main markets are Europe, the United States, Japan and Mexico.
- The project failed to include the current and potential international buyers for fine cocoa in the project to ensure that the quality of increased production met their needs or that they would provide a market for the increased production.

Stakeholders Analysis

CONACADO successfully managed to coordinate a number of different actors in the implementation of the project. This included hiring experts to perform needs assessments and develop recommendations for improvements, forging alliances with input providers and the Ministry of Agriculture to obtain scarce quality cocoa seedlings and managing the expansion of telecommunications coverage in order to implement an online management system. Internally, the organization still faces coordination challenges, particularly in the areas of commercialization, logistics and production. At the same time, it is important to highlight that the members of CONACADO need to be incorporated as an integral part of the organizational restructuring and that workshops need to be developed to discuss these changes.

Project Stakeholders

Organization	Role	Description
CONACADO	Executing Agency and Co-Funder Beneficiaries	The National Confederation of Dominican Cocoa Producers (CONACADO) brings together approximately 10,000 organic cocoa producers. 1,449 beneficiaries were selected from the 7 affiliates to participate in the project.
MIF	Co-funder	This project began in June 2009 and ended in August 2012. The Dominican Republic MIF office (Smeldy Ramirez) supervised this project.
MINISTRY OF AGRICULTURE	Productivity support	The Dominican Republic Ministry of Agriculture provided infrastructure to produce 35% of the seedlings required for the project and provided high quality fruit tree seedlings.
LEPIDO BATISTA and GUSTAVO LEONOR	Inputs provider	Lepido Batista is a producer of high quality seedlings, located in the north of Dominican Republic. 40% of the seedlings required for the project were acquired through this provider. Gustavo Leonor is a producer of high quality seedlings located in the north of the Dominican Republic who produced 25% of the seedlings used in this project.
MICRO SERVICE CONSULT	Technical assistance	German consulting firm that provided services regarding the development and implementation of a plan to improve and standardize processes in the areas of administration, finance, governance, policies, commercialization, internal controls and quality.
RAMIRO CARRASCO	Technical assistance	Dominican consultant, specialist in microfinance, provided consulting services in the design and implementation of CONACADO COOPERATIVA, the group's savings and loans unit.
NTST (FERNANDO DEL CARMEN)	Support in the development of information technology	Dominican firm that developed and implemented the integrated software management systems (FISYS-SIGAE) and provided advice in the design of the technological infrastructure (REDES) to centralize and automate all of the operations processes at CONACADO.
BLADIMIR DIAZ	Support in the development of information technology	Dominican consultant, who provided advice on, designed and installed the technological infrastructure to connect all of the CONACADO affiliates.
INDOTEL	Project support	Organization that regulates telecommunications in the Dominican Republic. Supported the project by managing the installation of communication equipment in remote rural communities by telecommunications services providers.
CLARO DOMINICANA	Project support	Telecommunications firm that expanded voice, data and video services to remote communities where CONACADO has a presence. They designed a customized product for CONACADO and installed antennas.
BIOTECHNOLOGY AND INDUSTRY INDUSTRIAL INSTITUTE (IIBI)	Technology Transfer	The Biotechnology and Industry Industrial Institute (IIBI) encourages technological development and innovation in Dominican companies to increase their competitiveness. IIBI supported the project by working with microenterprises of processed products associated with CONACADO, teaching tools and competencies to increase the competitiveness and meet the demands of new consumers.

Project Results

The project had satisfactory results, while at the same time it generated several positive spillovers not only for the beneficiaries of the project but also for their families. In some cases, entire communities benefited from this project. The outcomes and impacts of the intervention are outlined below:

OUTCOMES	IMPACTS

• 1,449 producers of organic cocoa were trained in good agricultural practices in the production of cocoa.
• 1,449 producers of organic cocoa received medium to medium-term loans to renovate or rehabilitate their plantations.
• CONACADO underwent internal reorganization, creating 3 separate entities:
  ○ CONACADO ONG→ technical assistance
  ○ CONACADO COOPERATIVA→ savings and loans
  ○ CONACADO AGROINDUSTRIAL → commercialization
	• Production increased by 45% amongst beneficiaries.
	• Production of other members also increased due to the demonstration effect.
	• New employment opportunities were created due to increased production.
	• Increase in family incomes. Incomes of beneficiaries rose by approximately 19% (see Table 6).
	• Increased investments in education.
	• Improvements in diets and housing.
	• Previously isolated communities obtained access to telecommunications services (voice, data and video).

As can be seen in Table 6, the producers who participated in the project increased their incomes by an average of 19%. This was the result of the increased productivity of their plantations. In some affiliates, such as Hato Mayor, the productivity increased by almost 80%, and incomes rose by approximately 44%. It was previously mentioned that income should continue to increase since many of the producers still have not reaped the benefits of their participation as new cocoa plants can take up to 3 years to become productive.

Table 6. Variation of Incomes of Producers Participating in the Project

AFFILIATES	INCOME 2009 (1.29 US$/KG)	INCOME 2011 (1.05 US$/KGS)	VARIATION
YAMASA	419	431	3%
HATO MAYOR	608	874	44%
BONAO	562	635	13%
GASPAR HERNANDEZ	497	540	8%
COTUI	555	656	18%
CASTILLO	556	727	31%
NAGUA	460	489	6%
AVERAGE	**522**	**622**	**19%**

Sustainability of the Project

This intervention made significant progress in increasing the productivity of organic cocoa cultivation; however, the sustainability of the project will depend on the consolidation of the reorganization of CONACADO, the adoption of a systemic value chain approach, availability of financing for the renovation and rehabilitation of the 85% of producers who were not beneficiaries of the project, ensuring that the quality of the organic cocoa meets the certification and standard requirements of international buyers and improvements in infrastructure. Once these issues are addressed, it is likely that CONACADO will increase the value it captures from participating in this value chain, and can produce higher value products.

Below, several relevant elements for ensuring the sustainability of the project are discussed:

- Organic cocoa has strong international demand; however, it is very important to increase both the productivity and the quality of the cocoa produced in order to compete with a number of new entrants to the market. The project made important progress in increasing the productivity of the cocoa plantations of the beneficiaries. However, only 1 of the 7 affiliates of CONACADO is producing at the level generally required to compete internationally (800-1,00kg/ha).

- The project provided technical assistance to increase the productivity of the 15% of the members. The remaining 85% will not have access to these benefits unless further external financing is obtained. It is not clear how the members of CONACADO who were not selected for the project can increase their productivity in the future, as the organization's financial services are minimal and there are other items that require investments, such as infrastructure.

- The project will not be sustainable if it does not include viable solutions to obtain high quality cocoa seedlings. It will be necessary to invest in the creation of in-house nurseries in order to satisfy internal demand while ensuring a quality product.

- The results of this project will be very difficult to sustain if the organization's infrastructure and logistics are not improved to support the additional harvest. The increased productivity created problems for quality in post-harvest operations. The production will continue to increase as many of the new seedlings planted during the project become productive.

- To ensure the sustainability of the project, it is important to provide permanent access to credit and technical support; however, the current ratio of producer to technical assistant is 227 to 1.

- The transformation and improvement of management of the organization is a key element to ensure that CONACADO can continue to implement innovative solutions to resolve its internal problems.

Lessons Learned

- **Conditional and supervised credit.** The high default rate of members of the organization forced CONACADO to create a new system of conditional and supervised loans. This had excellent results. The beneficiaries of the project received the credit through several installments at each stage of the project, with new installments conditional on the completion of the tasks of the previous stage. These tasks were also closely supervised by the technical assistants to ensure that producers implemented good agricultural practices.

- **Value chain approach.** In order to achieve the primary goal of the project to increase the competitiveness of the organization, it is essential to adopt a value chain approach. Interventions in one segment of the value chain impact other stages and this must be taken into account in the design stage of the project.

- **Pre-design assessment of challenges and needs.** It is critical to carry out an *ex-ante* assessment of the institutional operations in order to identify bottlenecks before designing a project. Problems related to competitiveness can thus be anticipated and incorporated into the project design.

- **Competitiveness (productivity and quality).** It is vital to remember that competeveness depends on quality improvements as much as productivity increases. This project took important steps in improving productivity; however, the lack of necessary infrastructure affected the final quality of the product and reduced the potential value that could have been captured by the project beneficiaries.

- **Dialogue and buy-in from stakeholders.** It is fundamental to align all of the stakeholders, particularly the members of the organization. Opportunities should be created to explain initiatives that are taken during interventions, such as the restructuring of the organization, and to generate buy-in from stakeholders by helping them understand how they will benefit from changes.

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

Criteria		Key Points	Evaluation
Selected Value Chain	**Target Product**	Cocoa, especially organic cocoa, is an excellent product for small- and medium-sized producers, due to its labor intensity. Commercial viability: There is a growing global demand for organic and high quality cocoa, particularly for the production of products such as fine chocolate. In addition, CONACADO has a series of certifications that provide it with improved access to these markets.	●
	Beneficiaries	The beneficiaries are small producers who have cultivated high quality organic cocoa for several decades. In addition, they had previously begun to implement good agricultural practices. The beneficiaries are members of CONACADO, which provides them with technical assistance and credit. CONACADO also sells its product directly to international markets, avoiding intermediaries.	●
Inclusiveness	**Inclusion four pillars**	Certain aspects were absent from the project, particularly market access and collaboration and coordination between the organization and the producers, many of whom did not appreciate the reorganization of CONACADO as an institution.	◐
	Competitiveness	Productivity increased among project beneficiaries; however, due to infrastructure problems, the quality of the final product suffered. Approximately 15–20% of the harvest was downgraded as inferior quality product as a result. The project needed to address these weaknesses as well as to obtain additional financing to extend the benefits to producers who did not initially participate in the project. Only 1 of the 7 affiliates increased their productivity to world competitiveness standards.	◐
	Upgradeability/ Potential to add value	If CONACADO can improve both its quality and productivity, this will provide opportunities for the organization to upgrade into higher value segments of the chain by beginning to process the cocoa.	●
	Economic Sustainability	The lack of ongoing access to credit limits the activities and potential for the organization to continue advancing. In order to improve its competitiveness, CONACADO must improve its infrastructure, logistics system and the quality of its administrative human capital.	◐
	Social Sustainability	The project included support for women's groups; however, they still need much more additional support from CONACADO and they need to be incorporated as an integral part of the organization. The majority of the producers were elderly. In many cases, sons and grandsons were not interested in continuing this activity. It is important to work with new generations; however, the demonstration effect of the impact of the project provides an important incentive as it showed that organic cocoa production can be a profitable activity.	◐
	Environmental Sustainability	The cultivation of organic cocoa has important environmental benefits because it avoids the excessive use of land and agrochemicals. In addition, during this project, producers planted a diverse variety of fruit and other trees in their plantations to improve the ecosystem.	●
Impact	**Spillovers /impact**	This project had several positive spillovers including an increase in family incomes, job creation, improved education for children, empowerment of producers and access to telecommunications services in remote communities.	●
	Potential for Replication	The success of the conditional and supervised loan system is an excellent model for replication. Credit was provided in installments based on the completion of different stages of the project. In addition, the tasks were supervised constantly by the technical assistants who ensured that the producers were implementing good agricultural practices.	●