BUSINESS ON THE FRONTLINES IV: GUATEMALA

Final Report
Spring 2012

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EXECUTIVE SUMMARY

The University of Notre Dame's Business on the Frontlines (BOTFL) program partners with Catholic Relief Services (CRS) in order to explore the role of business in rebuilding war-torn societies. As part of this program, CRS Guatemala asked BOTFL's Team Guatemala to determine whether or not banana production improvements could increase income and food security for members of the Cooperativa Todos Hermanos in Eastern Guatemala. In order to effectively consult both CRS and the Cooperative, Team Guatemala engaged in a thorough, research-intensive investigation occurring in two parts.

Part I: Team Guatemala determined whether there was an area in the banana value chain where the Cooperative could capture more value for its members and facilitate greater access to the banana market. To do so, Team Guatemala first investigated whether it would be worth it for the Cooperative to invest in the transportation of bananas to market. Because of the high level of investment required, the low level of expected returns, and the intensive coordination needed, Team Guatemala ultimately recommends against the investment of CRS or Cooperative resources in such transportation.

Team Guatemala also investigated whether there were value-added banana products in which the Cooperative or CRS might invest. For example, Team Guatemala explored the possibility of processing bananas into puree or chips, selling raw bananas to another organization to be processed, or selling bananas to large regional buyers. Because of the large investment in transportation required and the quality standard demanded by these markets, Team Guatemala ultimately recommends against any investment of CRS or Cooperative resources in the area of processing or bulk sales for processing or regional distribution.

Finally, Team Guatemala investigated whether there were improvements in cultivation the Cooperative members could make in order to improve the yield or quality of their banana crops. Based on insights gained from visits to various banana farms, Team Guatemala ultimately recommends that the Cooperative adopt and make relatively small investments in the area of banana cultivation. These recommendations include training from another banana farm, the Finca Santa Elena, and a set of improved cultivation techniques that the coop can share with its members.

Part II: Because any additional income from bananas would be relatively small, Team Guatemala began to investigate whether there are alternative ways in which the Cooperative could generate greater cash flow. Team Guatemala first investigated the Cooperative's cost structure. Because the Cooperative has expenses exceeding its revenue, Team Guatemala created a series of options for the Cooperative that involve decreasing the coffee price offered to farmers and increasing the production quantity. Team Guatemala recommends that the Cooperative assess these options and determine whether it can make such adjustments.

Team Guatemala then explored whether or not the Cooperative could capitalize on one of its greatest assets, its industrial dry mill, by selling its use to other area coffee producers. Team Guatemala generated a model by which the Cooperative could sell the use of the dry mill and concluded that the Cooperative can break even financially if it processes coffee for other area coffee producers in the area. Because of the various non-quantifiable risks that this alternative entails, Team Guatemala recommends that the Cooperative assess whether selling the use of this equipment is worth it.

Additionally, Team Guatemala evaluated alternative sources of pre-harvest financing in order to reduce the Cooperative's long-term debt. Team Guatemala found that the Cooperative provides pre-harvest financing at rates unsustainable for the Cooperative. Other successful coops have facilitated pre-harvest financing for their members through their trade partners and through non-profit social investment funds. Because the Cooperative already has been successful in selling its coffee to Green Mountain Coffee, because Green Mountain Coffee currently provides pre-harvest financing to other trading partners, and because CRS has a relationship with Green Mountain Coffee, Team Guatemala recommends that CRS assist the Cooperative in communicating its need for pre-harvest financing to Green Mountain Coffee. Alternatively, the Cooperative could seek such financing from a similar organization like Equal Exchange. Secondly, Team Guatemala recommends that the Cooperative explore partnering with a non-profit social investment fund like Root Capital or Shared Interest. Such a partnership would enable the Cooperative to secure more of the farmers' coffee harvest and ensure their long-term stability and impact in their community.

Finally, in order to allow the Cooperative to secure a premium for the farmers' coffee, Team Guatemala recommends that the Cooperative, with the assistance of CRS, seek Fair Trade International Certification.

This report describes the detailed findings that led to these recommendations and provides a comprehensive description of the resulting recommendations.

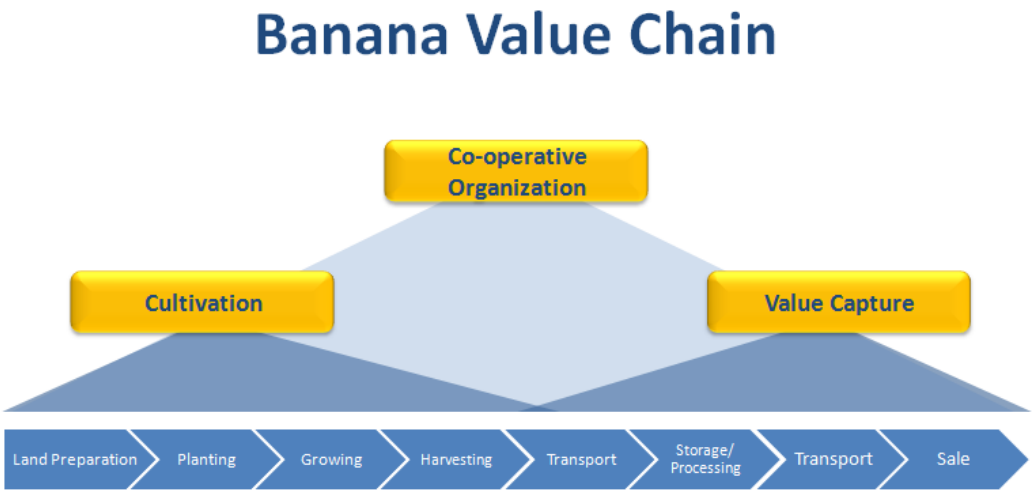
GENERAL BACKGROUND

Founded in 2008, the coffee cooperative was created to assist vulnerable farming communities along Guatemala's Dry Corridor that experience high levels of droughts and malnutrition. Since many of the members presently multi-crop coffee with bananas, the Cooperative was interested in exploring the potential of investing in improving the banana value chain in order to provide farmers with a secondary source of income and further improve their livelihoods. During our time in-country, our problem shifted away from bananas to focus more on cooperative organization and financing. The following findings and final recommendations therefore will be discussed in two parts.

I. PART ONE – BANANAS

A. Hypothesis

In preparation for our time in-country, we developed a hypothesis of the banana value chain, breaking it down to three main components. Our approach focused on the interdependence of banana cultivation practices, the potential for banana processing and the cooperative's role in facilitating greater access to market. *See graphic below for details.*



B. In-Country Experience

Over the course of our time in-country, we conducted a series of interviews with co-op members, which provided us with an opportunity to meet farmer families, assess their land capacity and gain a deeper understanding of their day-to-day experiences. The co-op management shared information about its organizational structure and the logistics involved in its coffee operations.

We also conducted an extensive banana market survey that included visits to small, rural vendors and central distribution centers in the capital. This provided us with a baseline on banana pricing, the logistics and transportation costs, and a clearer understanding of the full spectrum of actors along the banana value chain.

C. Findings

1. Value Chain

The value chain for bananas in Guatemala has several points of divergence, depending on the type of banana. The value chain for Cavendish bananas (sold in the United States), for example, is completely different from the value chain for *bananos criollos* (species currently grown by the farmers), so our time spent in local markets was crucial to building a full understanding of how bananas are bought and sold. We also spent significant time in the field with farmers learning about their cultivation practices. Our research on bananas culminated in the production of a comprehensive value chain for *bananos criollos*. Please see Appendix A.

The chain we outline follows the bananas from the farmers through two stages of transportation (intermediaries 1 and 2) where some value is captured. After that, the bananas flow through various markets at the local, department, and national level before being sold to the end consumer. Of particular interest to the team were the opportunities for the Cooperative to "shorten the chain" by eliminating some of the steps that separate the farmer from the final customer, allowing the farmer to capture more of the final selling price. We split this up into two major areas of investigation: transportation, and banana processing. Our strategy was to identify the opportunities for additional revenue from new projects, compared to the investment required.

2. Transportation

Within the transportation section of our analysis, we focused on the two intermediaries near the beginning of the value chain. The first is usually the owner of a pickup truck who drives up into the farming communities in the mountains and purchases bananas from the farmers directly. He then brings 15 – 25 quintals per trip to a local market where they are sold to the second intermediary. The second intermediary typically has a much larger truck, capable of carrying 200 quintals per trip, and drives the bananas to regional distribution centers or Guatemala City to be sold at one of the large central markets (CENMA, La Terminal, or Mercado Central). Each of these drivers sells the bananas for about Q20 more than the price at which they bought them. This price increases when bananas are in peak season.

As we completed our analysis to determine if the cooperative could invest in either of these stages of the value chain, we realized that an investment in this area was unlikely to yield a return. In the case of the first intermediary, we found that farmers produce plenty of volume to keep drivers occupied transporting bananas. However, if the bananas were sold at Q60 per quintal, each truckload would barely break even. The challenge that prevents profitable investment in this transportation step is the geography of the Cooperative: the great distance between the farmers makes investment in this step uneconomic. Also the initial investment required to pay for a truck, as well as an additional salary for the driver, would negate any additional value that the Cooperative might capture if it provided transportation at this stage of the value chain.

In the case of the second intermediary, we found the opposite to be true. It would be profitable to hire drivers and buy a large truck, but that truck would have to operate at full capacity. However, even in Olopa, the region with the highest banana production, the co-op farmers do not produce sufficient supply (approximately 25,000 pounds per week) to keep the transportation service profitable. Furthermore, if the cooperative were able to transport bananas to a central market like CENMA, they would encounter stiff competition from Honduran bananas, which are priced the same as Guatemalan *criollos* but are perceived by buyers as sturdier and of higher quality. It is unrealistic, given this competition and the current capacity of the farmers, to assume that the cooperative could get a return on possible investment.

Another issue with transportation is the amount of coordination required. Farmers would have to time their harvests so that the Cooperative truck could pick up the bananas in bulk. This may be more feasible with the pickups, but becomes very difficult with a large truck because of sheer amount of bananas that need to be transported. As a consequence, our research concluded that the Cooperative was unlikely to capture enough value from transportation even to recoup their investment, let alone to pass on any extra income to farmers.

3. Banana Processing

With transportation off the table, we turned our focus to other markets and potential value-added products that the cooperative might produce and sell. We focused our study around a few options: processing bananas into puree or chips, selling raw bananas to another organization to be processed, or selling bananas to regional buyers like Wal-Mart. What quickly became clear, however, was that several challenges common to all of these options made them untenable. First of all, to collect the bananas in order to enter any of these markets, the Cooperative would still have to make investments in transportation, namely trucks and labor. Second, this market demands a quality standard that is unlikely to be reached by the co-op farmers given their current abilities and resources. Processed bananas, whether sold domestically or abroad, would be subject to high food safety and quality standards. This would require future investment, not only in infrastructure at the cooperative level, but also for each individual farmer to ensure that his crop was of sufficient quality.

All of these challenges are up against the backdrop of the same competitive forces that made transportation difficult. In all markets where *bananos criollos* are preferred, the Honduran variety is perceived as a better value for the same price. It is also sturdier than the local variant. Considering that the *bananos criollos* have a thin skin, the Honduran variant is much less susceptible to transportation damage. For other products, including purees, where the variety of banana is less important, the much cheaper Cavendish is preferred. With all of these factors combined, entering the market with a processed product or into a contract with a regional buyer will be extremely difficult, if not impossible.

4. Cultivation

Members of the Cooperative see themselves, and rightfully so, as growers of coffee. Bananas are a secondary crop, and a distant second at that. Very little effort and resources go into cultivating more bananas or increasing the yields of current plants. As stated above, an aggressive plan to proliferate the cultivation and sale of bananas would not be economically feasible at this time and under these conditions, but the farmers should be able to improve on the methods they are currently using. Measurable gains in yields can be made if training is supplied. All of the farmers we spoke to indicated a willingness to learn more about banana cultivation, but they did not feel they had the resources to obtain such training.

We visited several successful banana-growing operations, including Del Monte, where we learned about a number of techniques used to increase yield. However, each of these banana growers, with the exception of Finca Santa Helena, presented a vastly different set of circumstances than the land where the cooperative's farmers worked. The plantations had irrigation systems, organized rows planted on flat ground, regular fertilization, bags for insects, ropes for plant support, and conveyor systems for harvesting. In short, the techniques we learned about were informative, but the land and resources available to the plantations differed significantly from the Cooperative's farmer's land; the farmers had unique issues to deal with.

We visited four different areas around Zacapa, where bananas were grown by cooperative members, and each presented a challenging set of circumstances. The soil, amount of rainfall, and elevation differed from one set of farms to the next. As such, a one-size-fits-all approach to cultivation would be inadequate. Any solution would have to take into account the unique characteristics of the farmer's land.

From our observations, the following are some of the challenges of co-op farmers cultivating bananas. None of the farmers used a consistent formulation of fertilizer designed to improve banana growth. Instead, each farmer simply used what he could to support the plants, normally what was left over once he had fertilized his coffee. There was no consensus on the proper spacing of the plants; thus the plants were placed anywhere from ten feet to thirty feet apart. Finally, the most troubling challenge the farmers faced was the presence of pests that threatened the health of the plants. Half of the areas we visited were dealing with insect infestations that were causing significant damage and ultimately death to their banana plants. The farmers had no idea what to do about the infestation; thus they did nothing. They were not removing the diseased plants because they felt that even the dying plants could provide some shade to the surrounding coffee. However, since the plants remained in the fields, it perpetuated the spread of the pests to nearby plants. These insects were threatening the destruction of entire fields of banana plants.

D. Recommendations

1. Cultivation

In order to address the unique natural environment the farmers encounter when trying to cultivate bananas, we recommend both creating a training program around banana yield improvement and also enlisting the assistance of an expert. Abel Palencia "Mayordomo de la Finca" from Finca Santa Helena has spent a number of years studying how to grow bananas in the geography, environment and conditions such as those the co-op farmers encounter. He is willing to share his knowledge with cooperative members, and can travel to their farms to get a firsthand understanding of the individual environments. We recommend retaining Abel to travel to the Cooperative's farmer communities so that he can give specific recommendations regarding cultivation techniques. Additionally, we propose sending a select group of cooperative members to Finca Santa Helena for several days so that Abel can instruct them on proper techniques. The Finca can provide food

and lodging for cooperative members, and such an experience will not only educate the farmers, but it will also provide them an opportunity to share experiences with one another.

As stated above, it would be difficult for the Cooperative members to adopt many of the techniques used on banana plantations; however, they can adopt some of the best practices employed at Finca Santa Helena. The following is a preliminary list of appropriate cultivation techniques:

- Plant bananas in grids, 6 meters x 6 meters
- Allow 3 to 5 generations of plants to grow
- Take off flower in winter; do not remove in summer due to water retention
- Use sword stems that can produce bananas w/in approximately 1 year
- Fertilize regularly during 1st year
- Use hydrated lime when planting
- Treat with 15 grams of pesticide (Perbufoz) per plant
- Use pulp mix to prepare soil
- Harvest bananas 70-90 days from flower development

2. Implications for Peace Building

While Guatemala has one of the highest levels of violence in Latin America, the violent crime and drug-related violence normally experienced in larger cities of Guatemala, does not reach the rural eastern villages.

However, there are other forms of community conflict, and the lack of state support is evident. For example, in La Union, one of the member farmer families was affected by inter-community conflict as a result of an attempted rape. There was another incident involving a murder in another farmer community. The case remains unresolved, with a wide range of possible motives. The security vacuum and the lack of protection, safety, and security mean that justice is left at the hands of individuals.

In our conversation with the farmers we learned that the relationship between the Cooperative and the farmers is built on hope that the Cooperative brings to the farmers. The Cooperative not only enables more equitable financing opportunities, but farmers also value the opportunity to have a greater access to the market. But there are also risks being undertaken by both the cooperative and the farmers. The high fluctuation in coffee pricing makes it difficult to project financial obligations, including farmer payments, salaries, and general operating expenses.

The structure of the Cooperative gives farmers ownership of the initiative, representing different villages within Zacapa and Chiquimula. As it continues to build capital and strengthen relationships, the cooperative can also begin to facilitate self-saving groups, especially among women, as adding purchasing power for basic necessities during the times of hunger.

As noted previously, the members currently lack technical experience in growing banana trees and maximizing coffee cultivation. Through CRS expertise, the Cooperative can offer capacity-building trainings and facilitate the exchange of information of the banana market. Beyond building crop expertise, trainings are fertile ground for farmers to meet and build relationships with other farmers. Over the long term, trainings could expand to include sessions on conflict resolution and negotiation which would in turn strengthen the social fabric among the farmers, creating a community in which these farming families can thrive.

II. PART 2 – COOPERATIVE ORGANIZATION AND FINANCING

A. Hypothesis

After carefully researching the banana value chain, we ultimately found that a significant investment in this industry was unlikely to provide a return. Faced with a harsh market and unfavorable margins, the Cooperative was unlikely to capture any value for itself or for the farmers. Upon presenting these findings to cooperative management, we were asked to propose some alternative ways of generating cash flow. We began this second phase by taking a closer look at the operating efficiency of the Cooperative's primary business function, which is to process and sell coffee on behalf of farmers in order to achieve economies of scale. As we examined the business model and cost structure in place for these services, we discovered substantial shortfalls looming in the near future and proceeded to generate solutions that might provide stability to the organization.

Our hypothesis at this juncture was that, despite the significant physical and social assets that the cooperative had acquired, the sustainability of Cooperativa Todos Hermanos was dependent on significant changes to its operating cost structure and business model in the very near term. Our focus was on three primary management and strategic planning areas: first, we analyzed the amount by which the cooperative would fall short given the planned cash inflows and outflows; second, we generated a model by which the cooperative could generate further revenue by using its dry mill to process the coffee of other producers; and finally, we evaluated alternative sources of pre-harvest financing with the hope of reducing the cooperative's long-term debt burden.

B. Findings

1. Limited Financing Options for Cooperative Farmers

A critical insight for our project came from understanding the limited financing options available to small-scale farmers. Established rural banks offer moderate interest rates (18–20%) but farmers are unwilling to risk their land – often their only asset – as collateral. As a result, bank loans are rare indeed. Without a legitimate source of credit, farmers turn to unprincipled loan sharks as their only financing option. Predatory lending practices of high interest rates (in excess of 50%), and the promise of future harvests trap

farmers in oppressive cycles of debt. Furthermore, the majority of these loan sharks are involved in illegal trafficking. They use these loans as money-laundering schemes.

Given the exploitative financing, we realized the important role that the Cooperative plays in providing an alternative to these predatory financing options. Such alternatives might enable them to eventually extricate themselves from these cycles of debt.

2. Cost Structure

In an effort to provide local farmers with as much compensation as possible for each quintal of coffee, the cooperative had charged a small amount for overhead costs. As a result, the Cooperative lost money in its first two years of operations, even though it had successfully sold both harvests to Green Mountain Coffee.

To understand what took place, we examined the 2011 revenue and cost numbers. *Please see Appendix B.* In 2011, the Cooperative received Q1,422,122 from Green Mountain for the sale of its gold coffee. In order to generate that revenue, the Cooperative paid member farmers a total of Q1,402,101 for its unprocessed beans, leaving only Q20,000 to cover co-op costs. However, wages, export fees, commissions, and transportation costs totaled Q163,091; Q140,212 for operation costs; and Q57,585 in interest expenses. As a consequence of high payments to the farmers, the Cooperative lost Q340,867 in 2011. The majority of this loss was covered by a Q307,497 "donation" from Green Mountain; thus the loss turned out to be a much more manageable Q33,211. Although the ultimate amount of the loss is not extremely high, the Cooperative cannot continue on such a course without finding an additional revenue stream, cutting costs, and/or compensating co-op farmers a lower amount to cover the Cooperative's services. Additionally, it is unclear whether Cooperativa Todos Hermanos can depend on further "donations" from Green Mountain, and even if it can, the future amounts of those "donations" are not guaranteed.

Stated simply, the cooperative has expenses exceeding its revenue; thus we looked at several options to solve this dilemma. First, the Cooperative could cut expenses; however, such a measure would not likely make a significant difference. After all, the amount the Cooperative received from Green Mountain for the processed coffee was only Q20,021 more than what they paid the farmers for the beans. A more realistic option, then, is to reduce the compensation to farmers for unprocessed coffee to pay for the Cooperative's services. This would reduce the amount of payment each farmer receives, which bears the risk that such a measure could result in fewer participant farmers. Other intermediaries are currently offering prices that are in excess of what Cooperativa Todos Hermanos could offer if it were to increase the amount it charges for its services. Although the Cooperative must ensure it can secure the volume of coffee it needs to continue operations, it will run out of business if it does not cover its modest costs.

3. Dry Mill

The Cooperative's dry mill, an impressive asset, is not being fully utilized. We visited the dry mill during our first week in Guatemala, and we understood the mill is only used to process the coffee of the Cooperative's members. As such, this state-of-the-art piece of equipment sits idle for perhaps fifty weeks out of the year. It is our understanding that management of the Cooperative has considered expanding use of the mill, but has been hesitant to undertake such an initiative without fully understanding its economic impact. Management expressed concerns regarding how it should price processing per quintal given its operating costs. We have prepared such an analysis, in the form of a model that can be used by the cooperative. Further details regarding the findings can be found in the Recommendations section below.

While using the mill to generate revenue seems the most logical solution to the Cooperative's problem there is one substantial issue with such a course of action. Coffee intermediaries throughout the country are known affiliates of drug traffickers, and the sale of coffee through these intermediaries allows drug dealers to launder money. There are legitimate coffee producers with whom the Cooperative could do business; however, it is sometimes difficult to determine the exact nature of a producer or intermediary's business connections. The Cooperative does not want to become involved in the proliferation of the drug trade, but it would be hard to pick and choose clients once it begins to process coffee. Cooperativa Todos Hermanos certainly needs the money the mill could generate, but it must carefully assess the ramifications of these actors prior to taking on such an initiative.

C. Recommendations

Our recommendations are aimed at bringing the Cooperative to financial breakeven. Currently the Cooperative is projected to lose Q206,000 in 2012, of which Q100,000 is from interest for its outstanding loan. The first number represents how much more the Cooperative must generate each year to cover its short-term costs. However, in the long run, the Cooperative will need to cover depreciation, repair and other costs for the dry mill. We estimated this amount to about Q240,000 – Q516,000 a year depending on utilization. Please see Appendix C.

To achieve this, the Cooperative has a few options: 1) decrease cash given to farmers for coffee; 2) increase coffee production volume; and 3) increase use of dry mill. In the short-term, the cooperative must also find financing to ensure it has the working capital to continue operations. Financing may also reduce the Q100,000 interest the cooperative is paying annually.

1. Decrease Price to Farmers

In the Cooperative's 2012 projection, it is taking a spread of Q135 from the farmers. That is, it takes Q135 from the sale price per quintal to Green Mountain and passes the remainder to the farmer. This is far too low for the quantity they are producing. If the Cooperative maintains its current production, it must increase the amount it takes from the sale to Q360. At a price of Q1234 / quintal to Green Mountain, the farmer would get

Q874. The long-term amount the Cooperative must take at two containers would be Q620.

As advised by management, lowering the price for farmers too much will damage the strength of the Cooperative at such an early stage and potentially decrease the amount of coffee the cooperative is able to retain. A reduction of Q620 from the sale price represents 50% of the sale price so some other measure must be taken in conjunction.

2. Increase Coffee Production Volume

An alternative is to increase the amount of coffee the Cooperative buys and processes from its members. At the current price, the Cooperative will need to process 5,500 quintals to reach short-term breakeven and 12,250 quintals for long-term breakeven. This is six times and thirteen times the current production respectively. The management informed us that of the 400 members, about 200 are actively selling coffee to the Cooperative. Of these 200 farmers, they are contributing only about 30% of their coffee on average to the Cooperative. This means that the Cooperative will have to grow to about 900 members contributing all of their coffee to reach long-term breakeven. This would also require the dry mill to operate 15 weeks out of the year. Managing a Cooperative of this size may impose higher costs as well such as added staff and Cooperative administrative costs. However, a reasonable solution will most likely involve both decreasing the payout to farmers and increasing the quantity. Please refer to Appendix D for a detailed analysis of this.

3. Dry Mill

Even at the breakeven long-term quantity of 12,250 quintals mentioned above, the dry mill is only operating at 32% capacity. There is room for the Cooperative to rent out the capacity of the dry mill to defray the costs for the Cooperative. Processing 3600 quintals for other organizations will allow the cooperative to cover its entire short term deficit.

We were interested in analyzing the dry mill because of the inherent demand for processing in the region. Several parties have approached the Cooperative and asked to process large batches of coffee. The Cooperative owns the only processing facility in the region. Anyone desiring to export through the Atlantic port would rather pay a high premium to process in Zacapa than to ship the coffee to the capital for processing.

While we see opportunities within the dry mill's use as a revenue-generating service, there are three associated concerns:

1. Effect of Prosperity: The Cooperative currently maintains a relatively low profile – the equipment is not used often and is reserved only for members. However, a plant capable of generating Q5,000 a day may become an attractive target for jealousy, greed, and violence. The Cooperative will likely need to hire more security to protect the equipment. We priced in the wage of another armed security guard at Q2,500 a month.

2. Infrastructure: In order to keep the dry mill running efficiently, the Cooperative may need additional storage and labor. It currently uses its entire storage space for its own member coffee. Although processing coffee will only need temporary storage, the Cooperative may not be able to handle large coffee batches.

3. Operations Expansion: The current manager must negotiate new jobs, collect payments, schedule shipments, and lead the logistics of loading/unloading coffee. Offering its services to other producers will require an additional manager to oversee the expanded operations, while also navigating the sensitivity of proper client selection. We priced an additional manager at Q3,000 a month.

According to Emilio Chacon, we can expect to charge Q100 – Q120 per quintal for processing, based on service costs at other processing sites. Here, we assume Q100 was the price for the customer without including transportation costs to and from the site, which would remain the client's responsibility. We also factored in historical costs from previous years and included depreciation and repair costs. In terms of variable costs, there are only two: the machine's electricity costs and the worker's labor. This works out to Q41 – 60 per quintal depending on electricity prices. This means that the mill has the potential of making Q5,000 per day (the mill processes around 100q per day). Please refer to Appendix E for a full cost breakout.

The Cooperative will need to process 3700 quintals more, or roughly three and a half times their current production to reach short-term breakeven and 9000 quintals to reach long-term breakeven. This amount seems more than feasible considering the requests the mill received last year.

4. Pre-harvest Financing

Obtaining working capital is essential for the Cooperative to sustain its business for two reasons 1) reducing loan costs and 2) pre-harvest financing. Currently, the Cooperative's outstanding loan is costing the cooperative Q100,000 a year in interest payments. If the Cooperative can raise the roughly Q1,000,000 in required working capital and pay back the loan, it can significantly improve its operations. See Appendix F for more details.

The small-scale farmers in Zacapa also require pre-harvest financing to plant and fertilize their crops during the growing season. Currently the cooperative provides this service to their members according to the following schedule:

April-June: payments of Q600/quintal to plant and fertilize
Nov-Feb: payments of Q400/ quintal to harvest

For a total of Q400,000 in advance payments to 200 member farmers for the 2011–12 season.

The Cooperative would have to charge the farmers a higher interest rate in order to cover the costs of providing this service. It is not advisable, nor sustainable that the Cooperative continue to provide this financing to its members. This service is not currently, nor should it be a core capability of the Cooperative. Successful cooperatives typically facilitate this pre-harvest financing for their members in the following ways:

1) Trade Partners (Buyers)

Cooperatives that are able to develop trusted relationships with their buyers by delivering a consistent quality product for several consecutive years (usually 3-4) are in the position to negotiate partial prepayment of the coffee under contract. This advance payment facilitates pre-harvest financing for the member farmers.

The Cooperative's current trading partner, Green Mountain Coffee, currently engages in this practice with other producers, and is therefore capable of providing this service to Todos Hermanos. CRS Guatemala also has a relationship with Green Mountain Coffee and has received funding to improve coffee farmer livelihoods in the communities in which they operate. It is clear that pre-harvest financing is a more immediate and basic need for these small farmers, and any assistance from Green Mountain in improving livelihoods in this region would ideally be in this form. It is our recommendation that CRS assist the Cooperative in communicating this need to Green Mountain. Green Mountain has demonstrated a strong desire to invest in these coffee communities and it is critical that they understand how they can best assist the farmers in Zacapa.

Equal Exchange, a buyer of fair trade coffee in the United States, currently provides pre-harvest financing to their cooperative partners in the following manner:

> "Equal Exchange shares risk with our farmer partners by paying up to 60% of the Fair Trade floor price as credit as soon as contracts are signed prior to harvest. This credit is available up to 10 months in advance and is provided directly to the farmer co-op, with Equal Exchange guaranteeing at least 25% of all advances." (http://www.equalexchange.coop)

Equal Exchange, a member of Catholic Relief Services Fair Trade Program, is currently one of the largest buyers of Fair Trade coffee in the United States and could be a viable trading partner for the Cooperative in the future. Equal Exchange is organized as a cooperative itself, trades directly with small farmer cooperatives and facilitates access to credit for producer organizations. Equal Exchange is familiar with the region and currently partners with a cooperative in southwestern Guatemala.

2) Non-profit Social Investment Funds (Root Capital, Shared Interest)

These funds fill the gap between microfinance and traditional banks and therefore are perfectly positioned to assist small-scale farmers in obtaining pre-harvest financing. They specialize in working with cooperatives, small rural farmers, and coffee producers.

Microfinance loans do not provide the scale needed for pre-harvest financing and traditional banks are not accessible to these small farmers.

> "Root Capital's lending is directed towards businesses that are too big for microfinance, but generally unable to secure credit from conventional commercial banks – "the missing middle" of developing-world finance." (http://www.rootcapital.org/)

Root Capital provides short-term trade credit and pre-harvest loans with terms of up to one year that are generally oriented around a harvest or production cycle. Borrowers use these loans to cover costs of purchasing raw product from their farmer suppliers. Root Capital also provides larger loans for capital expenditures, which could facilitate the Cooperative's future growth.

Root Capital also provides financial training services free of charge to prospective clients under the FAS program, and Todos Hermanos fits their ideal client profile with regards to its size, trading relationships, and the fact that it is relatively new. The Cooperative's new accountant would benefit greatly from this training and this course would ready the Cooperative for a lending assessment. Our team has reached out to their staff and would like to provide CRS and the Cooperative with the following contact information for Root Capital in Guatemala:

> **Tyler Jones (Project Director for FAS Training)**
> US T: 617.299.2414 CR T: 506.2258.7094 CR F: 506.2258.6813
> E: tclark@rootcapital.org W: www.rootcapital.org
> 225 Metros Norte BCR Paseo Colón, San José, Costa Rica
>
> **Margarita Chojolán Q.**
> Gerente de Proyectos FAS
> Guatemala
> Tel (502) 77 61 30 70
> E: mchojolan@rootcapital.org

Our recommendation is that the cooperative secure any future financing it needs from Root Capital or another institution like it, such as Shared Interest. Shared Interest is similar to Root Capital, but based in the United Kingdom (Root Capital is based in the United States). Partnering with an institution like Root Capital would enable the Cooperative to secure even more of the farmer's coffee harvest, positioning them to achieve greater economies of scale in processing and exporting. This will not only ensure the sustainability of the Cooperative going forward, but also grow the impact it is having in the region, building community and increasing small farmer income.

5. Importance of Fair Trade Certification

The Cooperative expressed its intention of applying for fair-trade certification, which would allow it to secure a premium for the farmer's coffee. It is critical that the Cooperative begin this certification process as soon as possible, as it can take up to three years. In our conversations with the Cooperative staff we found the main obstacle to be

the application fee. There is a non-refundable application fee of 530 Euros to begin the certification process with Fair Trade International (FLO). FLO-CERT is the organization that facilitates this process and they have representatives throughout Latin America that assist producers. Scholarships for the licensing fee are available through FLO-CERT and it is our recommendation that CRS assist the Cooperative in contacting and developing a relationship with the local representative to explore these options.

Fair Trade USA recently split with Fair Trade International. Fair Trade USA has decided to extend fair trade certification to larger producers (coffee plantations), while Fair Trade International wants to continue to focus its services on smaller producers. At this is time our recommendation would be to proceed with FLO-CERT since Fair Trade USA continues to recognize this certification.

CONCLUSION

The work of the Coopertiva Todos Hermanos is remarkable. It provides its members increased income and food security, more equitable financing, greater access to markets, ownership of the initiative, and hope. In this report, Team Guatemala makes several recommendations for CRS and the Cooperative in order to make these contributions of the Cooperative sustainable and even more effective in the long term.

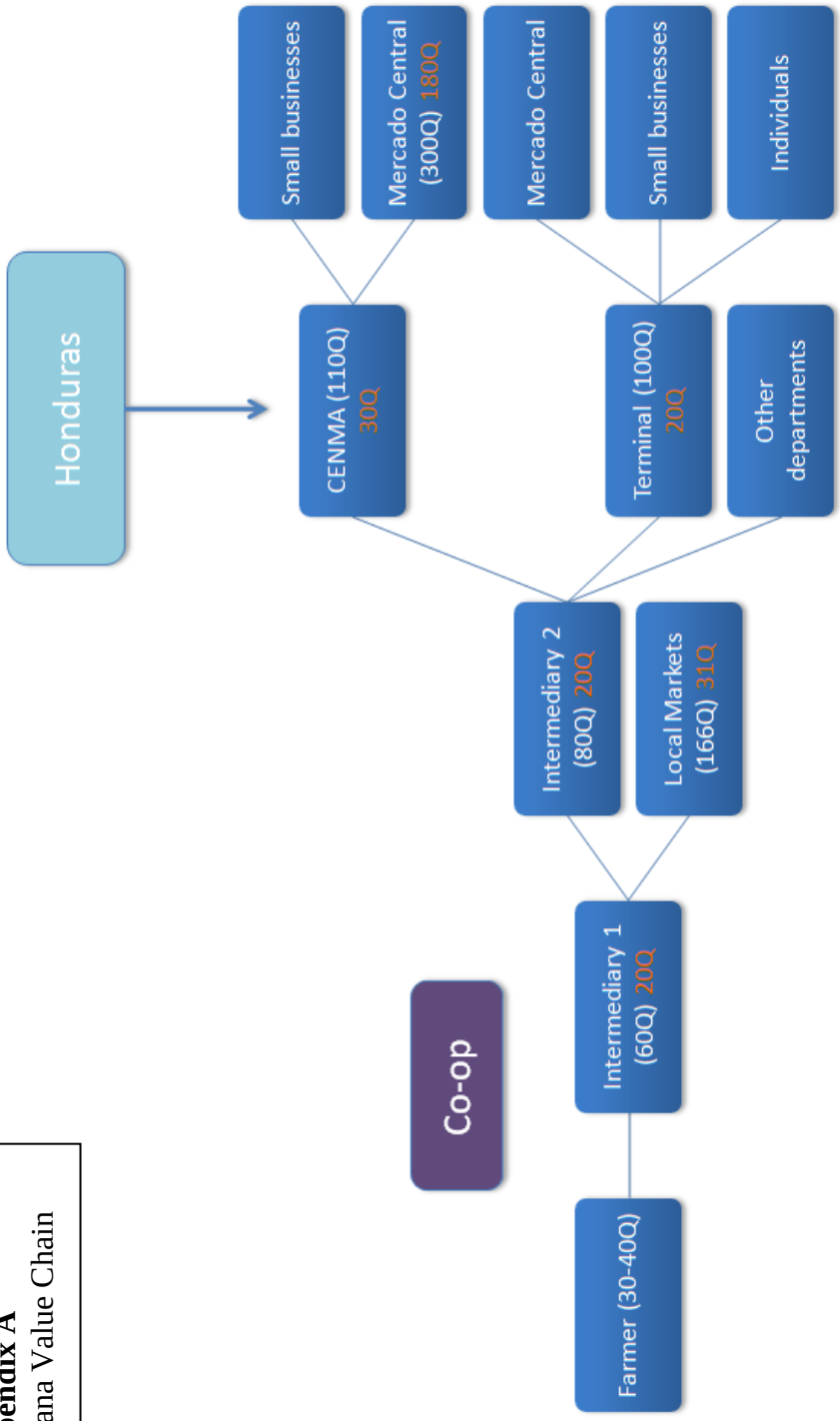
In regards to improving banana production, Team Guatemala recommends that (1) CRS and the Cooperative not invest in organized transportation of bananas at this time, (2) CRS and the Cooperative not invest in processing or bulk sales for processing or regional distribution at this time, and (3) the Cooperative invest modestly in banana cultivation by providing training from an expert at Finca Santa Elena and by sharing the improved cultivation techniques outlined above.

In regards to increasing cash flow, Team Guatemala recommends that the Cooperative (1) decrease the price offered to farmers, (2) increase the coffee production quantity, (3) determine whether the income that can be generated by selling use of its dry mill according to the model provided is in the long-term best interest of the Cooperative, (4) pursue alternative forms of pre-harvest financing through their trade partners or through other non-profit social venture funds, and (5) pursue Fair Trade International certification in order to benefit from the price premium such certification will provide.

In one of our first meetings on the ground in Zacapa, Monsignor Rosolino expressed his wish that our team would embrace the opportunity to “walk with the people of Guatemala.” We are grateful to have had an opportunity to do just that. Team Guatemala is inspired with the work being done by CRS, the Cooperative, and people of Zacapa, and hopes that by implementing some of the recommendations described above, the Cooperative will become a sustainable organization achieving the kind of impact of which it is capable.

APPENDIX

A. Banana Value Chain



Appendix A
Banana Value Chain

B. Summary of Operations, 2011

	2011
Revenue From Operations (Sale Price)	**Q 1,422,122**
Cost of Purchasing Coffee from Farmers	Q 1,402,101
Other Cost of Goods Sold	Q 163,091
Gross Profit (loss)	**Q (143,070)**
SG&A	Q 86,089
EBITDA	**Q (229,159)**
Net Interest Income (expense)	Q (57,425)
Other Income (Green Mountain Donation)	Q 307,497
Other Expenses *	Q (53,301)
EBT	**Q (32,388)**
Taxes	Q 823
Net Income	**Q (33,211)**

* Note, these are likely to be non-recurring, or significantly lower in following years

C. Depreciation, Repair & Other Cost Allocation for Dry Mill

Depreciation: We estimated that the plant and machinery would have a depreciable life of 25 years. That is, the equipment will have an effective useful life of about 25 years. After which, significant changes will need to be made to keep the operations. We estimated the plant and equipment to be worth $700,000 and depreciated it with a straight line method.

Repairs: When talking with Emilio recently, he mentioned the machine had broken down and needed repairs. We estimate this will be a recurring event and will be dependent on the amount of usage of the machine per year. We estimate that at 100% utilization, the maintenance cost would be about the depreciation cost of Q240,000. We scaled this from Q0 to Q240,000 depending on percentage of utilization.

Personnel Costs: We estimated that with larger amounts of production, the cooperative will need to hire an additional security staff member. We factored in Q30,000 per year for this, or roughly Q2,600 per month. We also spoke with Emilio about his role in the mill operations. He informed us he has to commit all of his time during the dry mill operating time to overseeing the mill. However, going forward, this is not scalable as Emilio has many more responsibilities. We factored in Q36,000 a year or Q3,000 a month for a manager to oversee the mill when it is in operation. The following presents the costs at maximum utilization of the mill and current utilization.

	Maximum	Current
Total Asset (approximate)	$800,000	$800,000
Property & Plant	$700,000	$700,000
Land	$100,000	$100,000
Annual Depreciation Charge	$28,000	$28,000
Annual Depreciation Charge (Q)	Q 210,000	Q 210,000
Maintenance Cost	Q 240,000	Q 5,853
Security Cost	Q 30,000	Q 30,000
Manager Cost	Q 36,000	Q 3,000
Total Additional Costs	Q 516,000	Q 248,853

D. Possible Breakeven Payout and Quantity Combinations

Either extreme of only lowering price or only raising quantity will not be as efficient as a combination of both. We have included a table that outlines a few of the options available to the cooperative. We've included the short-term, long-term breakeven points and the breakeven points if financing were covered. For each breakeven point, we included the combinations: 1) only payout reduction 2) increasing production by one container and reduce payout 3) increase production by two containers and reduce payout 4) do not reduce payout and increase production as much as necessary 5) only rent out dry mill.

	Price Withheld From Farmer		Quantity From Farmers	Capacity Rented*
Short-Term Lower Price	Q	360	930 q	0 q
Short-Term Increase Volume: +1 Container	Q	239	1650 q	0 q
Short-Term Increase Volume: +2 Containers	Q	204	2200 q	0 q
Short-Term Increase Volume: No Farmer Price Change	Q	135	5500 q	0 q
Short-Term Process for Others	Q	135	930 q	3650 q
ST No Loan Lower Price	Q	249	930 q	0 q
ST No Loan Increase Volume: +1 Container	Q	178	1650 q	0 q
ST No Loan Increase Volume: +2 Containers	Q	155	2200 q	0 q
ST No Loan Increase Volume: No Farmer Price Change	Q	135	3190 q	0 q
ST No Loan Process for Others	Q	135	930 q	1850 q
Long-Term Lower Price	Q	620	930 q	0 q
Long-Term Increase Volume: +1 Container	Q	390	1650 q	0 q
Long-Term Increase Volume: +2 Containers	Q	316	2200 q	0 q
Long-Term Increase Volume: No Farmer Price Change	Q	135	12250 q	0 q
Long-Term Process for Others	Q	135	930 q	8950 q
LT No Loan Lower Price	Q	513	930 q	0 q
LT No Loan Increase Volume: +1 Container	Q	330	1650 q	0 q
LT No Loan Increase Volume: +2 Containers	Q	271	2200 q	0 q
LT No Loan Increase Volume: No Farmer Price Change	Q	135	9700 q	0 q
LT No Long Process for Others	Q	135	930 q	7000 q

* Note, this is assuming an average of 500q / batch

E. Dry Mill Cost Breakout

The following table presents the dry mill operating costs. There are a few things to note: 1) we have included the cost of an additional manager to oversee the dry mill. Currently, Emilio is working overtime during harvests to oversee the mill, but if the mill runs for more than two weeks a year, the cooperative will need an additional manager. We assumed the manager can be paid on a monthly basis at Q3,000. At 3500 q, the mill still operates for less than a month. We also assumed that going forward, a full time security personnel will need to be hired.

Given the assumed price for electricity, the variable cost is Q47 per quintal of coffee.

Dry Mill Cost Breakout

	930 q	3500 q
Fixed Costs	**Q 243,000**	**Q 243,000**
Depreciation	Q 210,000	Q 210,000
Security (Q2,600 / m)	Q 30,000	Q 30,000
Additional Manager Cost (Q3,000 / m)	Q 3,000	Q 3,000
Variable Costs	**Q 43,734**	**Q 164,590**
Repairs (Q0 - Q240,000 / year)	Q 5,853	Q 22,028
Wages for plant workers	Q 27,736	Q 104,380
Electricity Cost	Q 10,145	Q 38,182
Total Costs	**Q 286,734**	**Q 407,590**
Cost per Quintal	Q 308	Q 116
Variable Cost per Quintal	Q 47	Q 47

F. Impact of Financing Costs on Operations

The short-term breakeven point requires the cooperative to raise about Q206,000 more. Of this amount, Q100,000 is because of the financing cost. If the cooperative managed to finance this loan, they can reduce the cost burden on farmers by 31%, or decrease the required volume by 42%. At the long-term breakeven point, the benefit is less pronounced because of the much larger deficit of Q506,000 per year. However, finding debt financing will decrease the cost burden on farmers by 17%, or decrease the required volume by 21%.

	Price Withheld	Volume
Short-Term Lower Price	Q 360	
Short-Term Lower Price No Loan	Q 249	
No Loan Improvement	**31%**	
Short-Term Increase Volume		5500 q
Short-Term Increase Volume No Loan		3190 q
No Loan Improvement		**42%**
Long-Term Lower Price	Q 620	
Long-Term Lower Price No Loan	Q 513	
No Loan Improvement	**17%**	
Long-Term Increase Volume		12250 q
Long-Term Increase Volume No Loan		9700 q
No Loan Improvement		**21%**