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A Market Study of Organic and Fair Trade Coffee in Bolivia

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

A MARKET STUDY OF ORGANIC AND FAIR TRADE COFFEE IN BOLIVIA

A thesis submitted in partial fulfillment of

the requirements for the degree of

MASTER OF SCIENCE

in

ENVIRONMENTAL STUDIES

by

Christopher Lucas Estevez

2015

To Dean Michael Heithaus
College of Arts and Sciences

This thesis, written by Christopher Lucas Estevez, and entitled A Market Study of Organic and Fair Trade Coffee In Bolivia, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this thesis and recommended that it be approved.

David Bray

Gail Hollander

Mahadev Bhat, Major Professor

Date of Defense: June 9, 2015

The thesis of Christopher Lucas Estevez is approved

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Chapter I - Introduction

Coffee has an enormous impact on millions of producers around the world by providing livelihoods, at the same time traditional shade coffee provides hundreds of thousands of hectares of habitat (Toledo and Moguel, 2012). Coffee bears significant economic and environmental influence because it is the world's second most traded commodity, employing 25 million people (O'Brien and Kinnaird, 2003). The demands of the coffee market are driven by consumers' preferences and advertising campaigns, which ultimately impact the decisions of coffee growers around the world.

Bolivia's coffee producers entered this market in the 1950s and in doing so, they entered into one of the world's most competitive and complex markets, one in which price, quality, and the changing demand of coffee consumers dictate the incomes of small producers (Petchers and Harris, 2008). Globally, small coffee producers have sought refuge from the conventional coffee market by participating in the growing specialty market. The specialty market is comprised of both high quality and certified coffees, which set themselves apart from the conventional coffee market. The most popular certifications are organic and Fair Trade. These certifications allow conscientious consumers to connect their purchases with the moral or ethical values they hold. Organic and Fair Trade certifications are part of a larger movement of alternative markets, in which multiple products, promote the well-being of the producer and the environment instead of high productivity and profits (Raynolds, 2000). Fair Trade certification tries to secure the well being of producers by providing premium prices, price floors, financing, and technical support. In much the same way, organic certification rewards producers

with a premium price for sustainable agricultural practices meant to preserve and protect the environment. These standards are enforced by third-party certifiers, which evaluate the producer's compliance with the certifications norms.

While participation in these markets has its benefits, the quantities certified are small. Fair Trade coffee makes up only 1.4 percent of the total coffee market (Pierrot et al., 2011). Certification also coffee does not resolve all the challenges faced by the small coffee producer. Case studies from around the world have revealed that Organic and Fair Trade certification do have some potential for reducing poverty and providing greater economic stability for coffee producers, however, these gains are often marginal (Bacon et al., 2008; Barham et al, 2011;Blackman et al., 2005; Jaffee, 2007; Martinez- Torres, 2008).

Coffee literature is replete with studies that analyze the problem of marginal benefits of alternative trade, including economic, anthropologic and social studies. A popular research approach to analyze alternative coffee markets is global commodity chain (GCC) analysis. These studies look at the organizations and relationships involved in the production, processing, trade, sale and marketing of coffee. Studies show that the success of Organic and Fair Trade markets depend on a number of factors including global prices and local conditions, as well as local and national institutions which affect the commercialization of coffee (Raynolds, 2002; Taylor, 2005; Barham et al., 2011). The degree of success of coffee markets is unique to economic and political condition of each country in question. In order to understand how producers are exposed to economic challenges, an analysis of the individual country commodity chains is necessary. As such,

this research will investigate the economic and political issues underlying the coffee marketing process in Bolivia, with a special focus on the multiple commodity chains involved in coffee commercialization. The main purpose of this research is to identify market weaknesses and local challenges concerning organic and Fair Trade coffee producers.

A Bolivian coffee producer faces many of the same challenges participating in alternative trade as producers in other Latin American countries. Existing research suggests that inadequate premium prices, financing, and the efficacy of domestic coffee organizations are culprits in diluting the benefits of coffee certification (Raynolds, 2002; Taylor et al., 2005; Ponte, 2002; Mutersbaugh, 2002). Premium prices are designed to provide producers participating in Organic and Fair Trade market with sufficient income to meet their daily needs and to cover the additional costs of production. However, there is a debate as to whether these premiums cover all of the internal and external costs of production (Mutersbaugh, 2002; Raynolds, 2000). Financing is also critical to participating in certified coffee markets. Financing is meant to help producers smooth income over the course of the year. However, the financing provided is limited and places the cost of financing on the producer. At the same time the kind of financing offered by Fair trade does not support long-term investment, which is critical to the industry (Barham et al., 2011). Also at issue are the internal tensions that exist between market participants affecting the ability of the certifications to deliver on their economic promise to producers (Mendez et al., 2010). Issues include a lack of transparency and trust between marketing institutions, which undermine the principles of Organic and Fair Trade markets (Jaffee, 2007; Mutersbaugh, 2002; Raynolds, 2004). Adding to the

tensions of market participation is the issue of coffee quality. While not a requirement of Fair Trade or organic certification per se, coffee buyers have discretion to impose specification on the quality of the coffee they accept. These quality criteria represent an additional cost to producers and cooperatives, which in turn reduce the benefit of certification (Ronald 1997; Mutersbaugh 2002).

One of the key factors that influence the success of organic and Fair Trade certification is government support. Many Latin American countries had used coffee exports as a means of economic development since the 19th century (Williams, 1994). The economic success that emerged from the coffee production was attributed to the government support that the industry was afforded. Countries centralize their coffee industries with the creation of coffee banks, national coffee boards, land redistribution, and formation of cooperatives as a means of promoting coffee exports and providing rural peasant households the ability to develop their land and reduce rural poverty (Barham et al., 2011).

The governments of coffee growing nations were willing to make these investments because of the globally stable coffee prices. In the 20th Century, stable prices were the result of the International Coffee Agreement (ICA) that controlled prices through production quotas. However, much of this support disappeared following the deregulation of the global coffee market in 1989 after the collapse of the ICA (Petchers and Harris, 2005; Daviron and Ponte, 2005; Jaffee, 2007). The result of this deregulation was a collapse in coffee prices. Some producers adopted organic and Fair Trade certifications as a survival strategy because of the higher prices these markets offered. Despite their

growth, these markets remain a small portion of global coffee sold (Pierrot, 2011). The growth of the specialty markets has motivated some national governments in the region to restore some of their coffee support for producers. In the early 2000s the governments of Colombia, Mexico and Central America renewed their support of the coffee industry. Although, to a less extent than before the collapse of the ICA. Instead of centralization, governments emphasized providing assistance to farmers including financing, technical assistance, and processing (Fridell, 2007; Varangis, 2003). Governmental supports are key to the long-term success of the coffee industry, because they help to address many of the hardships which trade deregulation had caused. For a certified coffee producer, these government programs complement the benefits of participation in organic and Fair Trade markets (Jaffee, 2007) (Mendez et al., 2010). Producers participating in alternative trade systems are already organized therefore they have greater access to government support (Varangis et al., 2003).

The expansion of government support to coffee producers has not been the case in Bolivia. Beyond the lack of government support, Bolivian coffee producers face a number of economic challenges that impact the cost of production. The research will attempt to identify some of the issues faced by Bolivian coffee growers as a result of policies implemented by the national government.

Unique to each coffee market are the institutions that collect, wash, process and select coffee beans before being sold. A key component of Fair Trade is the shortening of the chain of institutions that market coffee as a way of preserving higher profits for producers. Likewise organic certification pays producers premium prices to compensate

for higher production costs. The present study will assess the success of organic and Fair Trade cooperatives in removing intermediaries and compensating producers toward the incremental costs of production in Bolivia.

The governments of coffee producing countries face a set of unique economic challenges. For example, the Mexican coffee industry struggles with rising labor costs due to immigration to the United States (Bacon et al. 2008). In the case of other large coffee producers like Colombia and Costa Rica, national governments responded to the collapse in coffee prices with government assistance (Fridell, 2007). To combat falling prices Colombia's government focused its support on improving coffee quality and marketing the Colombian coffee as superior, to ensure higher prices for its producers. Costa Rica alternatively, focused on the welfare of its producers by providing price support as well as technical support. Unlike these countries, coffee in Bolivia was primarily developed by international development agencies, such as United States Agency for International Development (USAID) and the United Nations Office on Drug and Crime (UNODC), as an alternative crop to coca, as part of the "War on Drugs". Bolivia's national government has never played a significant role in supporting the industry. With the absence of USAID, removed from Bolivia by the current administration and changes government policy on coca, making coca production legal for traditional uses, coca is once again a dominant force in Bolivia's coffee growing regions that impacts coffee production through both economic and political forces.

Beyond its economic impact, coca also affects the health of the environment in the region. Unlike coffee, which can be grown in an agroforestry system, coca requires the

clearing of tropical forests. Consequently, coca does not provide any of the benefits of agroforestry and contributes to the deforestation in the Sud Yungas region a tropical valley east of the Andes where the majority of the country coffee is grown. It is also the traditional home of coca production, however a growing number of coca growers are abandoning traditional methods of production, shifting to new forms of coca production that are more detrimental to the environment. These new methods often do not include the construction of terraces and incorporate the application of synthetic inputs including herbicides, and pesticides (Dourojeanni, 1992). Without traditional terracing there is greater erosion and soil loss. Moreover, the synthetic inputs some coca growers have added to the production process contaminate the soil and nearby water sources (Dourojeanni, 1992). Coca production in Sud Yungas continues to expand under the current administration policy, which allows up to 1,300 square meters of production per family. As more farmers expand coca production, the result is greater deforestation. A growing number of producers in Nor Yungas are also moving to non-traditional methods of cultivation. This threatens the ecosystems and environmental services of the forests of Nor Yungas.

The present research is conducted in cooperation with the Inter-American Institute for Cooperation in Agriculture (IICA-Bolivia). The IICA-Bolivia is a leader in promoting more inclusive and sustainable agricultural policies through its research and partnerships. The present study will provide recommendations to address weaknesses within the Bolivian coffee market, so that IICA and industry stakeholders can address institutional issues, and petition the government for greater participation and support, as well as bring attention to the environmental cost of declining coffee production.

Section 1.1 Objectives of the Study

1. Analyze the structure of the coffee market in Bolivia with particular reference to organic and Fair Trade coffee.
2. Assess the institutional and market factors that impact the Organic and Fair Trade coffee production in Bolivia.
3. Make policy recommendations for improving the sustainability of organic and Fair Trade coffee production in Bolivia.

Section 1.2 Outline of Thesis

The thesis will be organized as follows: Chapter II will provide an overview of coffee as a crop, and the nature of the conventional coffee market, and the rise of alternative trade systems, specifically organic and Fair Trade markets. Also outlined in chapter II are the challenges facing global coffee producers, how alternative markets seek to meet the needs of producers and some of the common failures of these markets. Chapter III outlines the methods used to conduct the analysis, the framework of the analysis, and the method used to select the participants and collect data. Chapter III will also provide an overview of the study area, including the unique local factors that have impacted the coffee industry. Specifically the chapter will outline how coca played an important role in Bolivia's agricultural development and the influence of the international community in promoting coffee as an alternative crop to coca. The chapter will also outline the environmental importance of coffee and ecological characteristics of the region. Chapter IV will describe the results of the analysis and the factors, which make the Bolivian coffee market unique, compared to other Latin American coffee producers. This chapter

also includes a summary of the commercialization of coffee in Bolivia, the conduct and performance of the participants and the national factors which influence coffee production. Chapter V will summarize and address these challenges with policy recommendation as well as areas where future research is needed.

Chapter II – Introduction to Coffee

Coffee is the world's second most widely traded commodity, only surpassed by petroleum. An estimated two billion people consume coffee on a daily basis (Toledo and Moguel, 2012). According to the International Coffee Organization (ICO), in 2012 the coffee industry was estimated to be worth 173.4 billion dollars. Coffee is grown on approximately 5 million farms around the world, with an estimated 20 million workers benefiting from its revenue (Toledo and Moguel, 2012). Over 70 percent of the world's coffee is produced on small family farms, amounting to approximately 11 million hectares globally. Coffee represents an immense industry, which impacts the globe (ICO, 2012). Despite the consumer's familiarity with coffee, most people are unfamiliar with the coffee plant itself and the means by which it is produced. They are also largely unaware that the coffee they choose to consume has an immense impact on the coffee plants producers grow and the production method producers adopt.

Section 2.1 Overview of Coffee

Coffee is a member of the *Coffea* genus, and while there are one hundred species in that genus, only two species produce the coffee that is consumed; these are: *Coffea arabica* and *Coffea robusta*, henceforth referred to as *C. arabica* and *C. robusta*. Both species grow to be bushes or small trees. These species are native to equatorial Ethiopia yet thrive in very different environments. *Coffea robusta* is typically grown in flat areas ranging from sea level to 1000 meters above sea level. On the other hand, *C. arabica* grows best in areas that are 600-1600 meters above sea level, mountainous, and with temperatures between 15-24 degrees Celsius. The majority of the world's *C. arabica* is

grown in Mexico, Central America, South America and South Asia whilst the majority of *C. robusta* production is centered in Africa, Southeast Asia and Brazil (Toledo and Moguel, 2012).

These two species also differ in the final use of their beans. *Coffea robusta* is commonly used in the production of instant coffee, dark espressos, and as filler in coffee blends (i.e. Maxwell House and Folgers). *Coffea robusta* is considered to be more bitter than *C. arabica* and it also lacks many of the flavor compounds that give quality coffees their distinctive flavor. Although *C. robusta* has varying degrees of quality, it is still less expensive than *C. arabica*. *Coffea robusta* was widely popular throughout the 1950-1980s, yet in today's market the world's finest and most sought-after coffees are *C. arabica* (Baldwin, 2009); it is seen largely as the superior variety of coffee because of its aroma and acidic content. Throughout time, as consumers' preferences have changed, there has been an overall decline in coffee consumption. Despite this global decline, there is a growing demand for specialty coffees, which as mentioned previously, are nearly all roasted from *C. arabica* beans.

In order to enter the specialty coffee market there are often specific quality standards producers must meet for buyers. This is especially true of the Fair Trade market. The *C. arabica* beans are required to undergo a specific processing procedure to ensure quality. The process is laborious, much of which is carried out by producers and cooperatives. The process includes the harvesting of only ripe berries. Once harvest, the coffee berries are sorted to ensure they will not crack when being depulped (removing the beans from the berry). Next, the beans are fermented over night. The fermentation process must last

the correct length of time between 24-48 hours which depending largely on the ambient conduction. The beans are then thoroughly washed and dried. Coffee buyers, especially those concerned with quality, prefer a sun drying process. In the drying process, the beans must be moved constantly and evenly distributed on cement patios to ensure uniformity. Finally the beans are selected (often by hand) to ensure that all the beans from various producers are approximately the same size and of the same quality with no crack or flaws.

The research will focus on the producers and institutions which impact coffee production in Bolivia, as they are primarily dedicated to producing coffee for the specialty market. To understand the specialty market, a review of the economics, geopolitical forces and resulting social movements are presented and discussed.

Section 2.2 Origins of the Global Coffee Market

Global coffee prices experienced their first collapse in 1930 in response to the Great Depression and World War II (Petchers and Harris, 2007). During this time the United States (U.S.) saw the struggle in the region and created an accord with Latin American countries to stabilize coffee prices to preventing Nazi influence in these countries. The accord became known as the Inter-American Coffee Agreement of 1940. The pact governed the coffee system until a new global agreement was established in 1962, known as the International Coffee Agreement (ICA). The ICA set up a system of production quotas for each producing country with an overall global target price called “c-price”. If prices fell below the “c-price,” countries agreed to reduce production. Conversely, if prices increased, producing countries agreed to meet demand. From 1962-

1989 coffee was governed by a series of amendments to the original ICA. Throughout this period, there was a general increase in demand for coffee as the economies in the U.S. and Europe boomed (Petchers and Harris, 2005). The ICA demonstrated its success in stabilizing coffee prices, and it accomplished this by holding members to the terms of the agreements. That being said, production continued to expand in ICA countries and excess coffee was destroyed, stored or sold below the global coffee price to non-ICA members, specifically the Soviet Union and its allies (Fridell, 2007).

Changes in the demand for the variety of coffee beans in the U.S. as well as changes in U.S. foreign policy in the 1980's were leading to disagreements among the ICA members. Brazil, the largest producer of coffee, was heavily invested in the full-sun, *robusta* variety and industrialized production method. . However, changing taste preferences in the U.S. and Europe for milder coffee shifted demand to shade-grown *arabica* beans (Ponte, 2002). In addition to the shift in taste, the U.S. was adopting a foreign policy stance that sought to use the ICA to favor coffee producing allies in Central America (Levi and Linton, 2003). Between Brazil's assured dominance in the coffee industry and the shift in U.S. foreign policy negotiations quickly reached an impasse, with Brazil refusing to reduce production in favor of Central American countries. With no new agreement between members, the quotas and price targets were abandoned and ICA collapsed in 1989 (Fridell, 2007).

Section 2.3 The Global Coffee Market in an Era of Globalization

The collapse of the ICA and the coffee market it created ushered in a new era for coffee growers. In many respects, the liberalization of the coffee market reflected the

growing push for development focused around the Washington Consensus, a model of democratization and market liberalization implemented by development institutions located in Washington, D.C. i.e., the International Monetary Fund (IMF), the World Bank, the Inter-American Development Bank (IDB) and U.S. Agency of International Development (USAID). However, like any regulated market, deregulation would result in market correction. Coffee's previous price stability had incentivized its adoption as a viable economic development measure for growers in many Latin American countries, and this was now in jeopardy. Instead of steady prices, coffee producers have faced volatile prices in the subsequent 26 years following the collapse of the ICA (see figure 1). Producers faced falling prices in the period from 1989-1994, because of the initial effects of the collapse (Jaffee, 2007). Coffee prices began to recover for a brief period between 1994-1998 and then collapsed again because of a global increase in production until 2004 (Bacon, 2007).

Jaffee, amongst others, attributes the continuing fall in coffee prices from 1994-2004 to increased global production beyond global demand, (see figure 1). Overproduction had been a long-term trend in the industry even under the ICA. Going back as far as 1964, demand for coffee grew by one percent annually, while the global coffee supply of grew by three percent annually (Jaffee, 2007). In the post-ICA era, the increase in coffee production was driven by dominant coffee producing countries and the entrance of new countries. The collapse of the ICA meant that countries no longer were restricted by quotas and those new countries considering coffee exports were free to enter the coffee market. This period coincided with a period of international developmental theory based on the neoliberalism call the "Washington Consensus". The "Washington

Consensus” was coherently outline and coined by John Williamson a World Bank economist. He outlined what developing nations should do to succeed in the global economy. He prescribed the countries should a) promote macroeconomic stability through inflation control and deficit cutting, b) open their economies to the rest of the world both in terms of trade and capital c) liberalize domestic factors of production through the privatization and deregulated markets (Gore, 2000). Following the Washington Consensus development mantra, the World Bank and the Asian Development Bank fostered the expansion of coffee producing countries outside of Latin America. In Asia, coffee production increased by 1,000 percent, mainly in Vietnam and Indonesia (Jaffee, 2007). Increased productivity also came from Brazil with a focus on the industrialization of coffee, including the use of automation and synthetic inputs. This boosted Brazil’s total coffee crop to a third of the global output making it the largest coffee producer in the world (Petchers and Harris, 2007).

At the same time that coffee was flooding the international market, there was a significant shift in the institutions that were responsible for managing coffee production. Until the 1980s, national governments managed coffee production through organizations commonly referred to *Instituto do/del Café* such as the Instituto Brasileiro do Café, (IBC) in Brazil, Federación Nacional de Cafeteros de Colombia (*FEDCAFE*) and Instituto Mexicano del Café (*INMECAFE*). These *institutos* played a key role in the organization and commercialization of coffee. These organizations had controlled exports for stabilizing domestic prices and influencing international prices (Ponte, 2005). However with the push for deregulation, many national governments reduced the influence of these institutions over the national coffee market. The vacuum in governance allowed large

transnational roasters and international traders more direct access to coffee producers (Bacon, 2007). With greater access, transnational roasters increased their involvement in the production process. Presently, for commodity coffee, transnational roasters rely on international traders to supply them with coffee. These international traders have close relationships with international roasters and actively work in producing countries to invest in means of production and deal directly with producers, removing intermediaries wherever possible. The consolidation of the coffee market within each producing countries ensures a consistent supply of coffee for roasters and to reduce costs from intermediaries (Bacon, 2007). These conditions in the coffee market have the effect of undermining local entrepreneurship in the coffee industry (Ponte, 2001). Similarly, a consolidation of the coffee market occurred at the international level, among international roasters and traders. In 1998, forty-nine percent of the coffee roasting and instant coffee market were controlled by two firms, Phillip-Morris and Nestle (Daviron and Ponte 2005). In much the same way, only eight international import-export companies controlled fifty-six percent of global coffee trade (Daviron and Pointe 2005).

The market conditions of abundant supply and the consolidation of the coffee supply chain, at both the national and international levels, shifted the distribution of profits along the value chain. In 1984 green, or raw, unroasted coffee constituted roughly sixty-four percent of the U.S. retail price. In 2004, the price of green coffee accounted for only seventeen percent (Petchers and Harris, 2007). At the macro level, studies have shown that in the 1990s producing countries earned between 10-12 billion USD of a total 30 billion USD coffee market. In 2001 however, coffee producing countries received a total of 5.5 billion USD of a total 70 billion USD coffee market representing a drop in the

coffee market share from 30 percent to less than ten percent (Petchers and Harris, 2007). Even as demand for coffee has continued to grow, especially in the specialty coffee market only two percent or less of the price of a cup of coffee makes its way to the coffee grower (Petchers and Harris, 2007). The trend towards the concentration of profits in the hands of large international roasters and international exporters with little accruing to producers in a time of declining prices has led to hardship for coffee producers. The unfair distribution of profits prompted questions about the equity in the coffee trade (Raynolds, 2000). These concerns gave rise to alternative trade models including the focus of this study, Fair Trade.

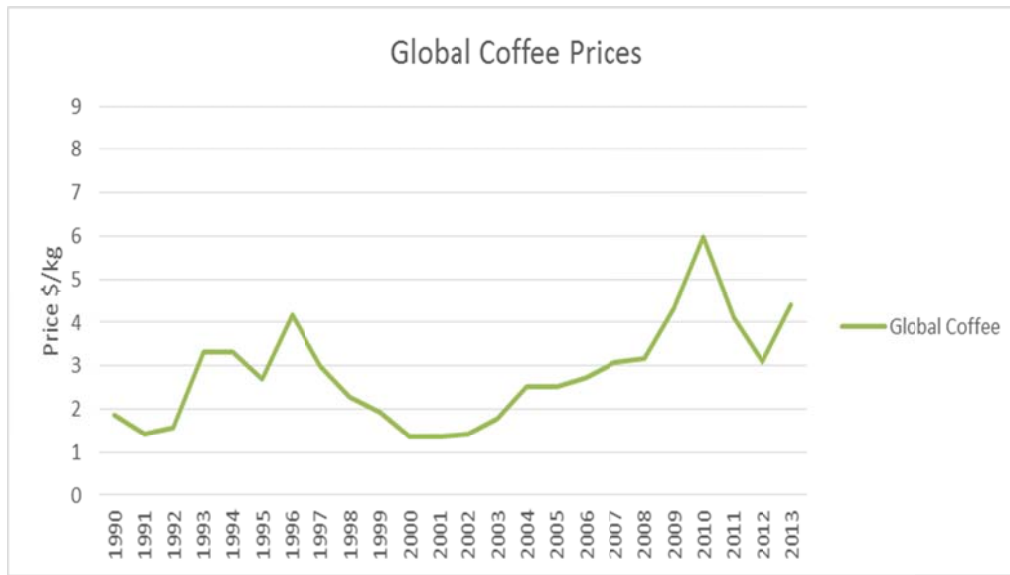


Figure 1 ICO Other Arabica Composite Coffee Price Source: ICO, 2013

Section 2.4 Origins of Fair Trade

The idea of Fair Trade for international commodities has its origins in the 1950s, before the collapse of ICA. Questions about the equity of the global commodities market and trade arose from the disproportionate benefits former colonial masters were having over their recently emancipated colonies (Raynolds, 2002). Some commodities were able to stabilize prices as a result of international agreements like the ICA. As a consequence of disagreements, these agreements unraveled within the decade and the movement for greater trade liberalization continued. Furthermore, this push for "freer trade" was seen by some as a form of neo-colonialism because of the inequity producers faced at the hands of large international corporations (Fridell, 2007). In this environment, dominant players in the world's coffee markets were able to dictate prices to producers. To

counteract the inequity of profits, many small mostly European organizations began to purchase products directly from producers and pay them prices that would ensure their living standards. By removing intermediaries and shortening commodities chains more of the profit from coffee sales could be accrued to producers. Many of these organizations formed in the 1970s and 1980s, and supported communities throughout Asia, Africa, and Latin America through the purchases of various crops and products (Petcher and Harris, 2007). Amongst these fledgling organizations was the first major purchaser of coffee the Dutch organization Max Havelaar in 1989. This organization differed in that it not only intended to sell coffee to a close group of fair trade supporters, but it also sold to the general public. When the collapse in coffee prices, occurred this crisis provided a powerful narrative for Fair Trade coffee and connected it with morally conscious buyers. Coffee's great popularity made it the commodity that brought Fair Trade into wider use in Europe. Fair Trade eventually makes its way to the U.S. and other developed nations under the moniker Transfair (Fridell, 2007).

Section 2.5 What is Fair Trade?

The rapid growth of the Fair Trade market led to a need to clearly define the term Fair Trade. In 1997, various national Fair Trade initiatives (which encompassed countries in Europe, North America and Asia) coordinated their efforts under the Fair Trade Labeling Organization (FLO) (Fridell, 2007). The FLO established requirements for buyers and producers in order to label their product with the Fair Trade logo. The most important requirement was the guarantee of a minimum price for products, or “price floor.” The price floor allows the producer to recoup their production cost and cover their

daily needs. The second most important requirement is a payment of a five percent social premium, which is used among producers for social and community development projects (Barham et al., 2011). Buyers should intend to establish and promote long-term contracts and trading relationship with producers as well as provide technical and financial support. Producers are also expected to organize themselves according to this set of standards. For example, in order to enter the Fair Trade market, producers must form democratically organized cooperatives or associations. Both buyers and producers are required to be financially transparent and must adhere to FLO requirements, which stipulate a prohibition on child labor, freedom of association, collective bargaining for workers, and the health and safety of workers under the International Labor Standard, as well as non-discriminatory policies. Third party Fair Trade certifiers are responsible for ensuring producers and buyers meet these standards. The Fair Trade market today is more fragmented. Fair Trade buyers have divided into two markets. The FLO in charge of Fair Trade markets in Europe and Asia, while the US markets is controlled by Fair Trade USA. Fair Trade USA split from FLO citing the desire to expand Fair Trade to the workers of larger producers as well as providing access to small independent farmers, which previously could not participate in Fair Trade under FLO rules (Fair Trade USA, 2011). The changes to the rules governing Fair Trade under Fair Trade USA has draw criticism from FLO organization and other alternative market organization. They claim that Fair Trade USA standards violates the founding principles of Fair Trade, which are meant to promote the development of democratic, and community based production organization as a means of enfranchising workers and promoting social benefits.

Despite their differences both FLO and Fair Trade USA have desire to expand Fair Trade as a greater share of coffee sales. Both have been successful FLO and Fair Trade USA certified coffee continues to grow in popularity among both buyers and producers. According to FLO's 2013 estimates, collective sales of Fair Trade goods represented a total of 5.5 billion Euros (Fair Trade International, 2015). Fair Trade USA claims two percent of the U.S. total coffee and five percent of the specialty coffee market (FLO-USA, 2013). FLO also estimated that they have 1.4 million farmers participating in the production of Fair Trade products (Fair Trade International, 2015). Studies have demonstrated that those participating in Fair Trade are able to raise their incomes compared to conventional producers (Jaffee, 2007; Bacon, 2005). These studies also exhibit that there are some social benefits from Fair Trade participation; these benefits include improved health, increased educational achievement, and enhanced access to daily needs and comforts (Jaffee, 2007). In addition, the stable prices provided by Fair Trade helped support producers participating in organic production by offsetting the high cost of organic production methods and certification; this situation will be discussed in a later section. In 2015 minimum price for Fair Trade is 1.40 for washed *C. arabica* with a price premium set 20 cents above the global coffee price per lbs., five cents of which is set aside to social programs in the producer's community. Despite all the benefits that Fair Trade claims to provide producers. These same producers are often only marginally better than those participating in the conventional coffee market (Jaffee, 2007; Chamorro, 2005; Bacon et al. 2008). Research indicates that FLO's and Fair Trade USA desire for greater mainstream market penetration through the use of large retailers may be the cause of the marginal gains to producers (Fridell, 2007). These large retailers include

companies like Folgers, Sam's Club, Target, Costco and Starbucks, which negotiate for lower Fair Trade coffee prices (Fridell, 2007). The FLO's ambition to continue the growth of the Fair Trade movement is increasingly reliant on large corporate buyers. This reliance led to questions of the effectiveness of Fair Trade to meet its goals of ensuring the well-being of commodity producers in the global south, especially in their largest and most important commodity, coffee (Jaffee, 2007).

Section 2.6 Issues that Exist in Fair Trade

The enforcement of Fair Trade standards outlined above is administered through a third party certifier, FLO-CERT. This certifier meets with producers to evaluate their use of the price premium for the betterment of the community. FLO-CERT evaluates the governance structure of producer organizations to ensure transparency and audit buyers to ensure that payments and financing are being offered to producers in accordance with Fair Trade standards. However, global commodity chain analysis shows that this relationship between producers and buyers remains one-sided with buyer largely holding economic power over producers. The one-sided nature of these relationships is one cause of strained certification process. These tensions undermined the support intended for producers. Adding to these issues are the structural and administrative problems of implementing Fair Trade certification (Barham et al, 2011). Some of these tensions and institutional issues are outlined below.

1. Administration and the Timing of Payments: Fair Trade premiums are typically paid to producers in two installments a year. The first payment is the *anticipo* or pre-financing, which is meant to finance production, harvesting and daily needs of

the producer. This first payment can be up to 60% of the final price of the coffee delivered, though in some cases it is less. The next payment comes after the coffee has been delivered to buyers. Depending on the organization, a third payment can occur if additional coffee is sold to the Fair Trade buyer (Jaffee, 2007). Even though these payments are meant to occur in a timely manner, the cooperatives' ability to distribute these payments can take an extensive amount of time contributing to the hardships of the producers.

2. Quality and Quantity of Coffee: Fair Trade buyers are not expected nor obligated to purchase all of the coffee produced by their Fair Trade partner. In fact the majority of the coffee produced by a Fair Trade organization in the majority of cases is sold to the conventional market. For instance, many Fair Trade buyers can increase or reduce the amount of coffee they buy from producers, based on the anticipated demand of their consumers. Fair Trade buyers also have the prerogative to decide the quality of coffee they will accept from their producers. The need to meet strict quality standards increases the price of production, as producing organizations need to process, sort, grade and test their coffee for quality (Raynolds, 2002). The fact that the quantity and quality of coffee purchased relies solely on the buyers' discretion can leave many Fair Trade producers with excess coffee on hand and a need to find buyers. Cooperatives can sometimes find buyers internationally if they have high quality coffee. However, if the coffee does not meet strict quality standards it results in selling it for lower prices to domestic buyers (Jaffee, 2007). The sale of coffee to local buyers creates challenges for producers because it exposes them to volatile coffee prices.

3. International and Government Support: By virtue of their level of organization many Fair Trade organizations also benefit from having access to international and national programs that support producers. Often international nongovernmental organizations (NGOs) and national government programs will work with producers' organization. This is owed largely to the ease of working with organizations to implement government programs rather than with individual farmers. These programs can provide a range of benefits to producers including technical assistance, mechanization, and access to credit, and in some cases they even provide social benefits payments. This further complicates an evaluation of Fair Trades' benefits given these government transfers (Mendez et al., 2010).
4. Dedication: Both Buyers and Producer are not bound completely to the Fair Trade market, buyers are free to source coffee from around the world or choose to buy from outside of the market. In much the same pay producers can sell their coffee to whoever they choose. Coffee prices even in the Fair Trade market are influenced by the global coffee market and when coffee prices are high, producers will often opt to sell in the conventional market instead of their partner. .

In addition to impacting the social-economic welfare of coffee producers, the collapse of the ICA also had an environmental effect. While Fair Trade responded to the socio-economic repercussions of the collapse of ICA, organic certification was created to address the environmental effects. The environmental impact was caused by an increasing number of coffee producers who were abandoning traditional production methods for modern techniques and particularly "full sun" coffee produced with high inputs of agrochemicals and water (Rice, 1999). Producers undertook this

transformation of their coffee plantations for two reasons one to combat diseases and increase productivity as a means of competing in a volatile coffee market (Fridell, 2007). The shift in production methods had devastating environmental impacts, which will be discussed later in the thesis. It also had the effect of pushing traditional small farmers to the margins of coffee production (Westphal, 2008). In order to ensure the continued environmental benefits of traditional coffee production a consumer movement developed to provide coffee producers a premium for using traditional methods of production. The movement coincided with a growing awareness of the environmental harm of modern agriculture, which will be discussed below.

Section 2.7 Introduction to the Organic Agriculture

The concept or idea for “organic” or “sustainable” agriculture arose as a reaction to the modernization and industrialization of agriculture often referred to as the *Green Revolution*. The need for this revolution was driven by the growing demand for more food as global populations began rapidly expanding after World War II (Borlaug, 2000). The application of these new technologies proved to be a massive success increasing food production worldwide. *Conventional Agriculture* or *Modernized Agriculture* also promoted the homogenization and simplification of crops systems (Borlaug, 2000).

While these agricultural systems were highly productive, they were vulnerable to disease and pests. At the same time these systems, which require homogeneity and control had the negative affect of degraded natural resources i.e. soil, water and genetic resources. The degradation of these natural resources made these agricultural systems highly dependent on synthetic inputs such as fertilizers and pesticides in order to continue

(Gliessman, 2007). Even though *conventional agriculture* has secured high levels of food production using technology, it did so at a great external environmental cost over time.

The organic movement originated as a means of address the environmental threats that the *Green Revolution* (Kuepper, 2015). The movement also incorporated an economic component. Promoting the personal responsibility of consumers to support organic farmers to protect the environment. As the movement evolved support of sustainable agriculture became the premium payment (prices above those of conventional crops) that organic farmers receive today. Farmers received these payments because of the opportunity loss from higher productivity they forego by using traditional agricultural practices as well as the higher costs of production.

As organic agriculture became more popular, more farmers joined the organic movement because of the premium prices. Buyers were willing to pay these premium prices because of environmental and perceived health benefits. Similar to the Fair Trade process, as the popularity of organic products continued to grow, and the supply chains lengthened, there was a need to institutionalize and standardize the definition of organic farming (Kuepper, 2015). International coordination culminated in the formation of the International Federation of Organic Agriculture Movement (IFOAM). Their goal was to develop a universal standard of organic practices for farmers. These practices would be enforced by “Third party” certifiers and national governments acting as wardens of these standards codifying them into law. Europe was an earlier adopter of organic standards followed by Japan and the United States. The United States Department of Agriculture

(USDA) enforces the Organic Foods Production Act (OFPA) also commonly referred to as the “National Organic Program (NOP).” In Europe, these standards are embodied in the Council Regulation (EC) No. 834 and in Japan, they are under the Japanese Agricultural Standard (JAS). All these statutory bodies were developed in conjunction with the IFOAM, and included the following minimum requirements: 1) The conversion of conventional to organic production, 2) Certification and monitoring, 3) Documentation, 4) Planting material, 5) Fertilizers, 6) Plant and disease control, 7) Livestock, 8) Transportation and handling, 9) Processing, and 10) Labeling. The focus of these standards is the exclusion of synthetic inputs as well as the documentation of activities and the strict separation of organic products from conventional products and inputs (Raynolds, 2004). The organic market continued to expand beyond developed countries to include tropical crops from developing countries like coffee.

Section 2.8 The Organic Coffee Market

The organic market continued to grow in the U.S. and Europe in 1980-1990s. There was also an increasing demand for additional kinds of organic products. However coffee, tea and cacao continue to dominate the organic market. In the 1990s, coffee producers began to apply for organic certification in order to gain access to the organic market that offered higher prices for coffee than the conventional coffee prices. The 1990s and the early 2000s were a time of low coffee prices given the breakdown of the ICA. To get certification, producers were required to meet the same standards found in the importing country (i.e., NOP, EC834 and JAP). To meet these standards, producers were required to pay third party certifiers to verify their production methods. The

payment of the organic premium is variable depending upon the global coffee prices. Organic coffee producers typically receive an additional ten percent premium above the global coffee price. However, the premium price also depends on a variety of factors including the quality of the coffee as well as accompanying certifications, such as Fair Trade, amongst others (Pierrot, et al., 2011).

Since 2001, the organic coffee movement's share of the global coffee market has grown, accounting for 1.4 percent of the total market and totaling 1.6 million bags of coffee (60kg/bag) in 2009 (Pierrot et al., 2011). This growth represents a 335 percent increase from 2001 to 2009. Latin America is by far the largest producer of organic coffee, accounting for 77% of total organic production, with 46% coming from South America and 31% coming from Central America (Pierrot et al., 2011). The current price premium of organic certified coffee is .30 above the global coffee price for washed arabica. The leading consumers of certified organic coffee are the U.S. and Europe accounting for 86% of total consumption (Pierrot et al., 2011). The organic coffee market continues to grow at a faster rate than the conventional coffee market. However, in 2010, new trends show a slowing in organic production, attributable to slower rates of growth in the issuance of organic certifications (Pierrot et al., 2011). Research has tied the decrease in the number of certifications issued to the increasingly competitiveness of the environmental certification market. New forms of certifications, which also emphasize environmental protection and sustainability (i.e., Rainforest Certified, UTZ Certified, Bird Friendly Certified, C4 Certified and Demeter Certified), have been developed in recent years. These new certification schemes have been criticized for having less rigorous standards than those established by IFOAM. The standards established for

organic coffee have clearly demonstrated as being more sustainable to agroforestry systems (Bray et al., 2002). In addition to greater competition in the certification market, organic certification's declining popularity among producers may be due to that fact that premium prices paid to producers is insufficient to meet the additional costs of production, as indicated in a growing portion of the literature (Pierrot et al., 2011; Jaffee, 2007). The issues surrounding the economics of organic certification will be discussed in more detail in section 2.11

Section 2.9 Introduction to Coffee Production, Costs and Environmental Benefits

Coffee differs from many commodity crops. Coffee is a perennial crop that survives many years before needing to be replanted. A coffee plant will typically take between four to six years before it will enter production and will remain in production for 20-30 years. These characteristics necessitate careful planning and significant investment in the type of coffee production system a producer chooses to create. The long timescale in which coffee production occurs affects the producer and requires significant investment on their part, how certification affects long term viability will be elaborated on in Section 4.3. There are various production methods available to the producers and their decisions have lasting impacts beyond the coffee plantation. Each of these methods has varying degrees of both environmental benefit and economic output. The broadest categorization of coffee production methods is whether the coffee is sun-grown or shade-grown coffee. *C. robusta* grows well in full sun and is well adapted to the tropical flat lands. This variety is commonly grown in full sun-condition production method and is managed under a “conventional” or “modern” production method. This method is

characterized by the use of homogenous crops, the use of large amounts of chemical inputs including fertilizers, pesticides, herbicides and fungicides. This method also uses little shade or eliminates shade all together. Coffee plants in this system are new high yielding varieties, which require these chemical inputs to produce. These plants are arranged in close proximity to ensure high yield per hectare. This method produces high levels of coffee but provides virtually no habitat for biodiversity, unlike traditional shade tree coffee.

The modernization of coffee production was adopted in the 1970s largely due to an outbreak of new diseases and pests like *Hemileia vastatrix*, commonly known as “coffee rust,” and the “coffee borer” (*Hypothenemus hampei*). This method of production involved the removal of shade trees and the application of fertilizers, pesticides and herbicides to coffee plantations. This approach quickly spread among Northern Latin American including Mexico, Central America and Colombia (Rice, 1999). By the 1990s, approximately half of the land under coffee production in these areas had made the transition to “modernization” (Perfecto et al., 1996). *Coffea robusta* lent itself particularly well to modernization as it was able to tolerate high levels of sun and it preferred lower altitude tropical flat lands.

Shade Grown or Traditional coffee production was often abandoned in this period. Today, however, these methods of production are again gaining popularity and once abandoned traditional coffee plantations are being brought back into production. (Rice, 1996). Producers of shade-grown coffee practice various methods of production including Rustic, Traditional, and Polyculture, and Monoculture methods of coffee

production. Many of these methods utilize various crops, and forest species grown together. Traditional production methods have proven to be beneficial to the preservation of biodiversity and providing environmental services (Toledo and Moguel, 2012). The producers interviewed in this study, and site visits indicated that most Bolivian coffee producer use traditional methods of production, which varied from traditional rustic systems to Polyculture methods, which will be described in greater detail below.

The first method of coffee production observed in Bolivia is the “traditional rustic system.” It is thought to be the first way of cultivating coffee, dating back to a time when the crop was first harvested from the forests of Ethiopia. The main characteristic of this system is the preservation of the original forest with coffee planted in the understory, (see figure 2). Within this category there are two types of management practices, “forest coffee” and “semi-forest coffee.” Forest coffee is not managed by producers whereas semi-forest coffee producers actively manage the understory by pruning understory plants and managing the canopy. The management of the understory allows for more light and reduces competition for coffee plants (Toledo and Moguel, 2012). The traditional rustic method of production was found to be the least efficient in a study of Nicaraguan farms (Perfecto et al. 1996). However, this method has been found to have significant environmental benefits.

The second method of coffee production observed in Bolivia involves shade, is the “Traditional Polyculture System.” This method of production is characterized by introducing coffee plants to a semi-preserved native forest (see figure 2). In addition to coffee, other useful plant species are introduced to provide subsistence or market income

to producers. These systems are also managed to control shade, reduce erosion and maintain or increase soil fertility through plant selection. Because of the diversity of plant life and the management aspect of this system, it is sometimes referred to as a “coffee garden” (Toledo and Moguel 2012). Both of these traditional methods of production are also characterized by low coffee plant density and lower yields, but high environmental benefits.

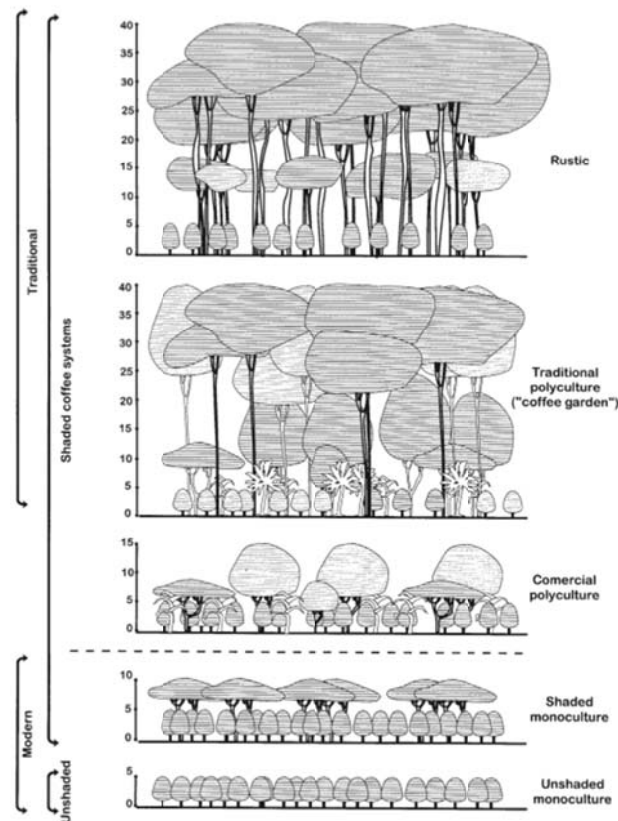


Figure 2 Coffee Production Methods Source: Toledo and Moguel, 2012

Section 2.10 The Environmental Importance of Coffee

The tropics are home to some of the most diverse and largest forest eco-systems on the planet, and they provide a wide range of environmental services (Toledo and

Moguel, 2012). Coffee also grows in the tropics of the world. These forests are under threat from a range of economic pressures, including logging and conversion to agricultural lands for conventional and subsistence agriculture (Hosonuma et al., 2012). However, agriculture and the preservation of forest like habitats are not necessarily contradictory. Coffee, because of its cultivation requirements, can provide both environmental and economic benefits to society. The Blackman et al. (2005) study showed that in the state of Oaxaca, Mexico, there were reduced rates of deforestation in regions where coffee cultivation was present. The study also demonstrated a link between the collapse of coffee prices and an increase in deforestation. The authors theorized that higher coffee prices, like those found in organic and other certified coffees, could play an important role in preserving forests. Traditional coffee growing methods, which often align with organic standards, are systems of agriculture known as agroforestry. Agroforestry systems, which allow various crops and forest plants to grow in the same areas, have been shown to provide many substantial benefits, both environmental and economic at a local, regional and global level.

At the local level, agroforestry can provide a number of benefits both to the environment and to the producer. These include pest control, improving pollination, soil enrichment, and soil stabilization (Jose, 2009). These are important to farmers of coffee because of the steep terrain and poor soils in which coffee is grown. These local environmental benefits of traditionally grown coffee also provide economic benefits to the farmer. One benefit to farms is that it allows them to continue to produce using traditional methods without the investment in modernization. As discussed before, modern coffee production uses synthetic inputs to increase productivity, but at the same

time causes environmental harm, most obviously to farmers through the degradation of soils (Toledo and Moguel, 2012). Case studies of coffee producers in Chiapas, Mexico, showed that modern production methods require large amounts of investment from small producers, which may actually reduce their real net income (Martinez-Torres, 2008). However, in the same case study the use of traditional methods provides a number of benefits, such as preventing environmental degradation as well as adding and improving the quality of the soil within the production area (Martinez-Torres, 2008). Additionally, the benefits result in insect biodiversity, which promotes increased predation of pests as well as higher levels of pollination, leading to an increase in yields (Toledo and Moguel, 2012).

At a regional level, coffee production has been shown to preserve both the biodiversity of a region and water quality within a watershed, especially in the face of increasing deforestation. Shade coffee production has been shown to be a vital habitat for many species that would otherwise be displaced by deforestation. Traditional coffee plantations are becoming a more integral part of species conservation. Many of the species found in coffee plantations include plants, pollinators, amphibians, migratory birds, and bats (Perfecto et al., 1996). Traditional and rustic production methods foster a diversity of life providing to displaced species a habitat in which to live and seek out food (Perfecto et al., 1996). While most forms of shade coffee production showed some ability to preserve biodiversity, the highest levels of biodiversity were found in those traditional coffee plantations where organic and sustainable methods were observed. Similarly, traditional coffee plantations have been shown to help preserve water quality. These benefits are prevalent in areas of steep terrain and deforestation. These factors can

increase runoff rates, which can in turn contaminate rivers and impact eco-systems and communities downstream (Toledo and Moguel, 2012).

At the global level, deforestation poses a threat to global climate stability. According to estimates from the Intergovernmental Panel on Climate Change (IPCC), deforestation contributes 17.4 percent of global greenhouse gas (GHG) emissions (IPCC, 2007). A study conducted by Soto-Pinto et al. (2009) showed that in comparison to pastoral subsistence agriculture, agroforestry systems generated higher levels of biomass, a measure of GHG storage. In addition, the study found that among various agroforestry systems, organic and traditional coffee cultivation had the highest level of biomass creation (Soto-Pinto et al., 2009). This demonstrates the importance that organic and traditional coffee production has on carbon sequestration, especially given the global increases of deforestation. Vast areas of the tropics (approximately 11 million hectares worldwide) are dedicated to coffee production (Toledo and Moguel, 2012). The sheer magnitude of coffee production has an important role to play in controlling the outcome of the global climate.

Section 2.11 Issues with Organic Coffee

Part of the attraction to organic coffee production is the reduced need for external inputs. For example, modern agrochemical inputs represent a higher cost of production especially for small producers who cannot scale their operations. Studies have shown that what organic producers give up in lower yields they may make up for in the low costs of production. These lower production costs provide additional savings in that producers avoid borrowing money (Toledo and Moguel, 2012). However, these studies fail to take

into account the administrative cost of certification and the changing production cost associated with organic production. These costs are largely fixed. International certifiers conduct these certifications and they are often paid at rates similar to their home countries (Jaffee, 2007). In addition to the cost of certification, these standards are constructed in the northern countries as described above which do not take into account the different environmental and cultural conditions that coffee producers face in the global south (Jaffee, 2007) (Raynolds, 2004). These studies also do not take into account the shifting costs of production. Labor is a significant cost in growing and processing coffee (Jaffee, 2007; Martinez-Torrez, 2008, Bray et al., 2002). Organic coffee production uses extensive labor to manage the agroforests in which coffee is grown. The increase in the cost of labor reduces the benefit of the organic premium (Bacon et al., 2008; Jaffee, 2007). Furthermore, many farmers have seen an increase in “organic inputs,” which are methods of control and fertilization that are approved for use in organic farms. The drive for many farmers to increase their use of these inputs is largely the result of increasing rates of pest and disease, specifically “coffee rust,” a type of fungal disease devastating shade grown coffees (Bacon, 2008). In summary, the challenges faced by farmers who utilize organic production include higher labor costs, high cost of certification, and dealing with the high costs of mitigating diseases and pests, all of which reduce the premium price meant to cover the cost of organic production; this ultimately makes participation in organic certification less economically beneficial for producers.

Having discussed the forces that shape the global coffee market including price, quality and method of production, the costs associated with certifications and the challenges of financing, as well as the role that organic and Fair Trade certifications play

on the outcomes of producers, we now concentrate on the area of study for this research. Bolivia is a unique country in Latin America given its large indigenous population, its status as the second poorest country in the Americas. Most importantly, Bolivia has been shaped by the immense cultural, economic, and political importance of coca.

Chapter III - Methodology

This Chapter will outline the area of study, its unique history, and the economic and political forces that shaped the region. It will also outline the current economic and ecological characteristics of the region. This chapter will then go on to outline the analytical basis for the methods adapted to this research. Lastly, this chapter will outline the methods used to collect data from stakeholders, how stakeholders were selected for this study and the method of data analysis.



Figure 3 Map of the study area

Section 3.1 Delineation of Study Area

Bolivia is a landlocked country in South America (see figure 3). With its diverse terrain, the country has a wealth of ecological tropical and temperate zones capable of growing various crops. Bolivia's diversity is also reflected in its people who are from various indigenous groups, but principally Quechuas and the Aymaras. It is the only majority indigenous country in Latin America. Despite its diversity, Bolivia is the second poorest country in South America. Forty-five percent of Bolivians live on less than \$2 dollars a day (World Bank, 2015). The majority of the Bolivian Gross Domestic Product (GDP) is derived from the export of minerals and energy, which is approximately 38.5%. Agriculture makes up only nine percent of their GDP. Nevertheless, the agricultural sector is the country's largest employer and employs approximately 32% of Bolivians (World Bank, 2015). In terms of volume, Bolivia's major agricultural crops include soybeans, cotton, sugar and quinoa. Conversely, in terms of revenue quinoa, coffee, and coca are the most valuable crops produced in Bolivia (MDRyT, 2011).

The area of study for this research is in the Department of La Paz, focused specifically on the Sud Yungas region. Within Sud Yungas is the Province of Caranavi (see figure 3). This province is home to the majority of the country's coffee production that represents approximately 85% of the total production, with an area of 25,834 ha., with an annual coffee production of 9,345,417 kg of coffee per year (MDRyT, 2011). According to FAO estimates, this represents 1.3 percent of Bolivian agricultural production in terms of dollar value. (FAOSTAT, 2013) Nor Yungas and Sud Yungas regions have always been areas of coca production. Because of the prevalence of coca in

the regions history, the Yungas region has been shaped largely by the economic and politics of coca. This occurred in the days of the early Bolivian republic through to the alternative development programs funded by UNDCP and USAID, which established the coffee industry.

Section 3.2 The Ecology of the Bolivian Yungas

Yungas lies at the eastern base of the Andes. It is part of a larger ecoregion stretching from Peru along the Andes to Argentina. The Yungas ecosystem is characterized as a tropical and subtropical humid forest, which includes mountainous cloud forests and various kinds of evergreen forests (Brooks, 2009). The moisture for this region comes from the northern trade winds, which carry humid air from the Atlantic that condenses when it meets the Andes. The altitudes of the ecosystems are between 400 and 3500 meters above sea level. The region is known for its mountainous terrain and its deep valleys and rivers. The ecosystem is a buffer between the low-lying Amazonian ecosystem to the East and the high altitude Puma habitat to the West (Brooks, 2009).

Within the Yungas region there are 35 endemic and restricted range species, meaning that these species are either found nowhere else on earth or that their breeding habitats are only found in this eco-region. Examples of endemic species include the diademed tapaculo (*Scytalopus schulenbergi*) and the near threatened green-capped tanager (*Tangara meyerdeschauensei*). Another endemic species, the southern helmeted curassow (*Pauxi unicornis*) is found to have viable populations in the Bolivian Yungas, which is an important finding given the bird's status as critically endangered. While the majority of endemic species in the Yungas regions are birds and plants, there are

mammals like the Brocket Deer, (*Mazama chunyi*), which also call this region home. In addition to mountain species, other wide-ranging, lowland species also dwell in Yungas include Neotropical mammals like the tapir (*Tapirus terrestris*) and jaguar (*Panthera onca*). While the Yungas is known for its humid forest, species from arid regions buffering the Yungas have made their habitat in this ecoregion. Migrant species include spectacled bear (*Tremarctos ornatus*) a vulnerable species, Geoffroy's cat (*Felis geoffroyi*) and pacarana (*Dinomys branickii*) (Brooks, 2009). There are a number of relatively large protected areas, including Madidi National Park, Carrasco National Park, Isiboror Sécure National Park, the Amboro National Park, and Bellavista Protection Forest Reserve, all together encompassing just over 60,000 square kilometers. Despite the large area protected by parks and reserves, this ecoregion is threatened by deforestation because of human migration to the region continues to increase (Brooks, 2009). Farmers tend to burn the forest as a way of managing it for cash crops. In some cases, crops and logging have increased because of road-building in the region designed to provide immigrants access to once isolated lands. Extensive deforestation in the foothills of the Bolivian Andean region for crop cultivation now endangers over 70 species of birds (Brooks, 2009).

Section 3.3 History of Coca and Bolivia

Compared to other Latin American nations, coffee's entrance into Bolivia was relatively recent. While most countries in the region began producing coffee in the late 19th century, Bolivia began its coffee industry in the mid 20th century. While Bolivia's market was just budding, the global industry began to face many of its greatest

challenges. Coffee production in Yungas cannot be fully understood outside of the broad historical, social, political and economic forces that are at play in the region. Before the introduction of coffee, agriculture in Yungas had been dominated by the production of coca. Coca (*Erythroxylum coca*) is a plant whose leaves are prized for its psychoactive alkaloids most widely known because of cocaine (Leons and Sanabria, 1997). Coca is considered a sacred plant by the Aymara and Quechua people. The custom of chewing coca leaves with lye, known as *mascar or akullicu*, is still practiced in Bolivia today. For workers, *Mascando* is seen as a time to socializing, a practice similar to an American coffee break (Leons and Sanabria, 1997).

Coca became Bolivia's leading agricultural crop in the post-colonial era. Like many industries at that time, the management and production of coca was heavily controlled by Bolivia's elites. Yungas became the major center of production for coca. The production of coca was organized on large estates (*haciendas*) owned by the elite landowners. The *hacienda* owners organized themselves into the Society of Landowners of Yungas and Inquisivi (SPY) in the 1830s to market coca and invest in regional infrastructure (Sanabria, 1993).

As the abuse of cocaine and other narcotics plagued Europe and the U.S. in the early 20th century, there was an increasing global demand to criminalize these substances. In 1919, during the meeting of the Second Opium Convention, coca and cocaine were targeted for criminalization by the international community. The SPY sensed a potential threat to their economic dominance and therefore, began to use its economic and political influence to oppose the regulation of coca. They influenced the Bolivian government and

the Ministry of Foreign Affairs to prevent the country from becoming a signatory to international agreements on narcotics. The influence of SPY is clearly illustrated between 1920 and 1950 (Lima, 1997). During that time, the Bolivian government allowed for the continued use and production coca despite international pressure to cease production (Lima, 1997).

In 1952, SPY's influence within the Bolivian government disappeared when the national government was overthrown by the Movimiento Nacionalista Revolucionario (MNR), a center-left political movement. The MNR was Bolivia's first national coalition government and it was widely popular among indigenous people. The MNR's goal was to upend Bolivia's political elite, and to promote political and economic reforms. The new government was established to reclaim economic and political enfranchisements of indigenous peoples. Among the MNR's primary goals was to institute a comprehensive agrarian reform (Sanabria, 1993). These reforms were legislated in 1953 when the national government passed agrarian reform through *Decreto Ley 3464* or *La Reforma Agraria en Bolivia*. The MNR's reforms dismantled the *hacienda* system of coca production, and it redistributed land to the peasant farmers. After the reform, small landholders who produce coca (*cocaleros*) gained control over coca production, which is how it remains organized (Sanabria, 1993).

While the destruction of SPY meant more economic opportunities for small landholders, it also meant that there was no organized political group to ensure coca production remained legal (Leons and Sanabria, 1997). In 1961, the Bolivian government signed onto the Single Convention on Narcotics. For the first time the Bolivian government

agreed to the eradication of coca as a strategy to control cocaine production. At the same time, coca production was spreading beyond its traditional home in Yungas to Chapare, another region of Bolivia. In order to combat the growing production of coca, the Bolivian government signed bilateral agreements with the U.S. in the early 1970s under authoritarian President Hugo Banzer. These agreements provided funding for eradication of coca as well as alternative development projects that were meant to encourage farmers to transition to crops other than coca (Leons and Sanabria, 1997).

Throughout the 1970-1980s, a line of successive military *juntas* and weak civilian governments ruled over Bolivia. The mismanagement of the national economy by these governments and *juntas* left the economy in shambles with little means of raising revenue. At the same time, demand for cocaine and coca had exploded. Following the removal of Hugo Banzer in 1978, the government became desperate for revenue and began capitalizing on the sales of coca and coca paste, which partially funded the Bolivian government. The practice of coca capitalization culminated under General Luis García Meza who openly associated with drug lords. He also established new agencies (*Acopio de Coca*) to organize the harvesting of coca throughout the country. Under his rule, coca farmers were forced to sell all their coca to the government at set prices, which were extremely low (Leons, 1997). During this period the U.S. limited or suspended aid to the Bolivia. Suspended aid included aid programs to promote the alternative development of coffee as an alternative to coca. The lack of aid impacted the nascent coffee industry.

The exploitative policies of General García Meza brought about his deposition in 1982. However, the open production of coca and coca paste by *cocaleros* did not end. In 1985, the Asociación Departamental de Productores de Coca (ADEPCOCA) was formed in Sud Yungas. The main goals of ADEPCOCA were to organize these *cocaleros* and counter the recent decline in coca prices by promoting the development of alternative uses for coca in products like toothpaste and coca liquors (Leons, 1997). In 1988, the Bolivian government also signed onto the Convention Against Illegal Trade in Narcotics through *Ley 1008*. The new law provided traditional coca growing areas like Yungas and Inquisivi permission to grow coca. The new agreement did not permit coca's eradication through spraying, but it did authorize the government to undertake military operations to destroy coca paste production. The new law also included requirements that the U.S. and Europe provide significant funding for alternative development programs.

Yungas was no longer the main region of coca production. The Chapare had long surpassed Yungas as the major coca producing area in Bolivia. This area was the focus of the eradication efforts. The eradication of coca plants and destruction of coca paste had had the effect of raising coca prices in the 1990s (Leons, 1997). The use of increasingly harsh tactics by police and military forces in Chapare resulted in protest and resistance to the government's control efforts. Protests throughout Chapare and La Paz called for reforms to the *ley 1008*. In 2004, the government changed the law to specify that each family would be allowed to grow one *cato* or 1,600 square meters in which to produce coca in Yungas. The movement for greater liberalization of coca production culminated in the 2006, when coca grower President Evo Morales came to power in Bolivia. Under his administration eradication programs were reduced and authorize the one *cato* per

family rule in Chapare. His government also continues to provide funding and investment in the development of alternative uses for coca (Farthing and Kohl 2010). While his government is not working to eradicate coca, it has continued to regulate and prevent the trafficking of coca for narcotic purposes. The push back from the U.S.'s traditional goals of eradication and control has cause a rift in U.S.-Bolivian relations. This culmination being in 2013 when USAID was asked to leave the country after fifty-two years (USAID, 2013). USAID has been one of the coffee industries biggest supporters and had provided significant financial and marketing assistance to the country's growers.

Section 3.4 History of Coffee and International Development in Yungas

Coffee had always been part of the agricultural crops of Yungas. Along with coca and citrus, coffee was one of Yungas major crops since the early 20th century. Coffee, however, had not been the main focus of the region. It was not until the mid-1950s that coffee production began to reach industrial levels. This growth in the coffee industry coincided with the agricultural reforms and improved transportation between Yungas and La Paz. Despite this initial coffee boom, Bolivia failed to reach its quotas under ICA. It was largely under the promotion of alternative development programs that coffee production expanded significantly in Yungas and shaped the coffee market that exists today.

Beginning in the early 1960s, like many Latin American countries, Bolivia was a recipient of large amounts of international aid (USAID Bolivia, 2013). However, much of the financial and developmental assistance Bolivia received was tied to a single issue within the country, the eradication of coca. A large portion of the aid Bolivia received

from the 1970s -1980s was solely focused on the control and elimination of coca, with forced eradication being the primary means of control (Sanabria, 1993). However, beginning in 1981 there was a growing demand within Bolivia to provide economic relief to those losing their coca fields. Later on in the decade, Bolivia reasserted the validity of traditional uses of coca. Concurrent with the national assertion, the international community began to recognize the importance of traditional coca and began to move away from the idea of complete eradication; new emphasis would be placed on the control of what was deemed “excess coca” instead, the coca that went beyond meeting the local demand for traditional uses. International institutions and development professionals agreed that “excess coca” should be curtailed through a combination of economic incentives and alternative crops, rather than forced eradication. The strategy became known as “Alternative Development” and would be the centerpiece of development in coca growing areas from 1981-2010.

In Bolivia, two organizations lead the alternative development strategy: USAID and the United Nations International Drug Control Program (UNIDCP). Both organizations established programs to provide large amounts of funding for infrastructure projects, community development, financing, marketing, and technical assistance to alternative crops. The focus of these organizations was to control the growth of “excess coca” in Chapare, a region valley in the Department of Cochabamba. The area had seen an explosion of coca production in the 1970-80s, almost all of which was destined for cocaine production. Notwithstanding, there was a growing amount of “excess coca” also being produced in its traditional area of cultivation, Yungas. While the bulk of USAID and UNIDCP funding was focused on Chapare, both organizations made provisions for

smaller programs to control excess coca in Yungas as well. The UNIDCP first established the Agroyungas program and later USAID established the Yungas Development Initiative (YDI).

The UNIDCP Agroyungas program began in 1981 with the goal of promoting coffee as substitute or alternative crop to coca. Coffee had been chosen for this project, because of UNIDCP's prior success with alternative development in Thailand, substituting coffee for poppies (Catholic Institute for International Relations, 1993). In the ten-year life of the program, 1981-1991, approximately 2,000 ha of coffee were planted in the Yungas valley. Despite the growth of the coffee industry, very little coffee actually substituted coca in previously farmed land; coffee-coca replacements amounted to an estimated total of 104 ha (Catholic Institute for International Relations, 1993). An explanation to the limited replacement of coca cultivation may be that the majority of the coca grown in the Yungas region is used for traditional purposes (e.g. tea, chewing, etc.) and the reversion of coca growing in Yungas to legal status under Bolivian law 1008 in 1988.

According to U.N. assessments, the project had a number of problems including a lack of understanding by those offering technical assistance to adapt methods to local terrain, climate and participants. The coffee Agroyungas had attempted to introduce new high yielding varieties from Colombia and Brazil. They were meant to replace the older varieties, however, these new varieties were bred to be managed under modern coffee cultivation methods with limited sun and a high degree of chemical inputs. Many farmers were unwilling to invest in the modern techniques, because of the high costs of production or their concerns regarding erosion (Leons, 1997). Adding to the tensions

between farmers and technical advisors was the advisors' demand that farmers plant in the dry season, leading to high plant mortality in many of these newly planted *cafetales*. All these factors resulted in a lack of productivity in the initial coffee crops.

Compounding on this failure was the global decline of coffee prices following the collapse of the ICA. This collapse coupled with the failures in productivity meant many farmers were worse off than before they shifted to coffee. Making the situation worse was that farmers had used their lands as collateral for loans to make this transition-loans sponsored by UNIDCP (Leons, 1997). In order to collect on the debts, the Bolivian government was forced to take these farmers' land. Given the major flaw in the program, the UNIDCP forgave the loans in order to save the farmers from foreclosure on their land (Catholic Institute for International Relations, 1993).

The period following the end of Agroyungas was a tumultuous period for coffee producers in Yungas. The 1990s was a period of low coffee prices. Like many coffee markets, producers in Bolivia look to alternative markets as a means of gaining high prices to cover their cost of production. In the 1990s cooperatives were formed, which allowed producers to access the organic and Fair Trade markets. While these new markets provided higher prices, many of the structural and reputational problems of Bolivian coffee continued to exist. It was not until the following decade, with renewed efforts from USAID and other European development agencies, that these were addressed.

Following the closure of the Agroyungas program in the 1990s, USAID as well as other European organizations made development resources available through the Bolivian

government and non-governmental organizations. Again, mostly focused on the Chapare region with some funding for Yungas (ACDI/VOCA, 2008). These resources included financing for farmers who wanted to substitute coca for other crops. However, the majority of the funds went to a number of local projects including building the capacity of local government, electrification, road and infrastructure projects, as well as funding law enforcement to monitor illegal coca trafficking. It was not until 2001 that the majority of focus on alternative development switched from Chapare to Yungas. It was then USAID made greater contributions specifically to coffee as an alternative to coca in the region through the development of the USAID Market Access and Poverty Alleviation (MAPA) (ACDI/VOCA, 2008). This objective of the program was to improve the quality of coffee produced in the region, which had suffered under a bad reputation. Farmers were given technical assistance, and funding was provided to coffee cooperatives to pre-process (*prebeneficio*) coffee berries before being transported to La Paz for final processing (Monsen, 2003). In addition to investment in infrastructure, USAID also helped to market Bolivian coffee for its quality with the Cup of Excellence competition. The Cup of Excellence is an international competition sponsored by USAID, which funds coffee experts to come to USAID's partner countries to assess the quality of their coffee. The competition showcased Bolivian coffee as being of high quality and allowed it to cast off its former reputation. The Cup of Excellence was among the last alternative development programs supported by USAID before President Evo Morales expelled the organization from Bolivia in 2013. The coffee industry continues to produce in Yungas. However, the lack of government and international support brings

new challenges to the coffee producers of this region. Outlining the challenges as well as addressing possible means of undertaking reforms is the focus of this research.

Section 3.5 The People of Yungas

Because of its difficult terrain the Yungas region of Bolivia has long been isolated from the rest of the country. The roads leading to Yungas were little more than loosely packed stone and dirt paths suited for mules, some of which harkened back to the Inca Empire (Sanabria, 1993). The SPY, through its taxes on coca, was able to finance the construction of an automotive road in 1935, the labor of which was prison labor from the Chaco War (Sanabria, 1993). However, the valley of the Yungas continued to remain sparsely populated until after the Agricultural Reform Law of 1953, which provided indigenous Bolivians the right to land ownership (Sanabria, 1993). It was not until then that the low lands of Yungas and Chapare began to be filled with the Aymara and Quechua farmers of the Altiplano. These new farmers soon realized that their traditional crops (i.e., potatoes) and cultivation methods were ill-suited to the new tropical forests in which they now found themselves. Several of these farmers began to produce coca, citrus, and coffee like the already established farmers in the area. Many were just learning about these new crops when the government and international interest, began investing in alternative crops to coca.

Section 3.6 Analytical Framework

World systems analysis researchers state that nations are not good units of analysis because it is a whole system of trade which is developing not simply national societies. (Talbot, 2004) However, it is difficult to understand the global trade system because it is composed of so many players industries and institutions. A way of understanding the whole trade system is breaking it down into manageable units not by country but instead by product. Each product of the global economy has a set group of production, processes, and economic transactions these are referred to as a commodity chain (Talbot 2004). Each commodity chain has various stages in which production and processes add value to a given product, identifying the countries where these stages occur is an important aspect of analyzing global commodity chains (GCC).

Traditional GCC analysis divides a commodity chain to three types of stages. The periphery is where the simplest and least profitable processes are done. The intermediary stage is where combinations of simple and more complex processes are carried out, and finally, the core stage where the most complex and valuable processes occur (Gereffi, 1999). The fact that these different stages occur within specific nation states allows the state to regulate and influence these processes to a limited extent (Talbot, 2004). The limits of the states power to influence a specific commodity chain are the result of it being linked to a global system of trade, which ultimately is governed by those who control the commodity chain. In much of the literature regarding CCG analysis the control of commodity chains rest with transnational corporations (TNC) (Gereffi, 1999).

Gereffi (1999) divides most commodity chains into two types of governance structures. The producer-driven commodity chain which usually involves products, where capital and technology are intensive inputs. The second is buyer-driven that are labor-intensive industries most commonly consumer goods. Coffee falls into this second category of commodity chain. The coffee commodity chain like many producer driven chains is characterized by TNC, which does not produce products directly but uses global sourcing and marketing to control their commodity chain. Gibbon added to CCG analysis by identifying a subcategory of buyer-driven chains; the “trader-driven commodity chain.” His analysis identified the unique role of international trader TNCs in commodity markets.

Each commodity chain is then divided into three dimensions 1) the input output structure, 2) a geographic and organization distribution of production 3) and a governance structure. CCG analysis looks at the structure of these chains and how transaction takes place along them. Talbot asks the fundamental question “who benefits where is value being added to a product and who is appropriating the profit.” In the coffee commodity chain, we know that international traders are a critical intermediary in the conventional coffee market. International roasters however, play an even bigger role in their ability to shape the commodity chain because of their unique position to derive rents from product identity, producer differentiation and product innovation (Gary, 1999).

In the conventional market, producers and consumers are disassociated because intermediaries have such a greater role in the delivery of commodities. Narrowing this separation is the growing awareness of consumers regarding the environmental impact of

their purchases as well as the unfair profits that producers receive. Hence, organic and Fair Trade certifications strive to eliminate intermediaries in order to reconnect consumers to producers, allowing them to reflect their moral values through their purchases. One way of evaluating the effectiveness of such connection is to analyze the commodity chain by which they are connected. A commodity or value chain is “a set of organizational network clustered around one commodity or product linking households, enterprises and state to the one another within the global economy (Taylor et al., 2005, p130)”. Raynolds, (2002) outlines a structure for the analysis of organic and Fair Trade utilizing a commodity that follows a network approach. The network approach combines various methods of study including traditional commodity chain analysis and political economy. The method of analysis is focused on “how individuals and collective social actors ideologically and materially construct, maintain and transforming commodity network” (Raynolds, 2002, p. 404). The analysis of this framework compares: “(1) The traditional commercialization and industrial convention rooted in price competition, bureaucratic efficiency, producer standardization, and formal certification, and (2) alternative domestic and civic conventions rooted in trust and equality, global, social, and environmental responsibility, collective effort, and societal wide benefits (Raynolds, 2002 p .408).”

Traditional Commodity Analysis investigates the interconnected process of raw material production, processing/packaging shipping, marketing and consumption embodied in a given commodity. Within this method of analysis there are varying approaches each emphasizing different facets of production. For example commodity systems analysis focuses on labor organizations and relations, while commodity chain analysis focuses on

world-wide temporal and spatial relations (Friedland, 1984). Beyond these methods Filiere analysis focuses on national political regulation and instructions (Lauret, 1983). A Raynolds' method builds upon many of these methods taking into account both the economic and the social goals of alternative trade. Many of the benefits that alternative trade are meant to promote and are based on their ability to shorten commodity chains (i.e., remove intermediaries), to instill the ideas of equality and trust, and their ability to challenge traditional business models (Raynolds, 2002).

While Raynolds' method of analysis attempts to provide a comprehensive analysis, critics claim her method of analysis is overly static. Raynolds counters that her approach can incorporate various methods of study including cultural, action-networks and conventional approaches. The advantage of her approach seems to lie in being able to consider two key characteristics of these alternative trade markets. The first being that these markets are "buyer driven" meaning that distributors are able to control both the supply system and productions specification. The second characteristic as Raynolds' identifies is that unlike conventional commodities where price and quantity are the main drivers, in alternative markets quality is a factor, which affects the tension between institutions. Specifically this method addresses how quality can be exercised as a new kind of power and source of tension between institutions in a commodity chain.

In order to implement Raynolds' commodity network approach data must be collected from all institutions along the commodity chain. To understand how institutions interact, how tensions form and exist between organizations and how tensions and asymmetrical relationship affect the benefits meant to producers, data about how stakeholders perceive

one another must be collected. The number of stakeholders is largely dependent on the size of the market and the success of alternative trade in removing intermediaries. Because Bolivia has a high participation rate among producers in alternative trade, there is a limited number of stakeholders in the commodity chain. For this reason, I selected a small number of key stakeholders that represented this shortened commodity chain for the purpose of focused interviews. Additionally, the limited time and resources available for this research allowed only a small number of producers to be interviewed for this study, justifying the purposive sampling used. However, the small number of producers should not impact the results of this study since, the main goal was to gain a broader narrative of production and market mechanisms rather than the specific estimates of producer economic benefits. Further, the study is focused on the inter-relationships between organizations in the commodity chain and how the inter-relationships impact the benefits of alternative trade from the perspective of the producer.

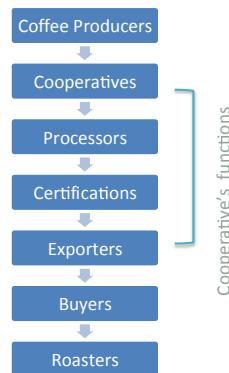


Figure 4 Diagram of the Bolivian Coffee Chain

3.7 Sampling, Stakeholders, and Survey Methods

Sampling Methods - a purposive sampling method was used to make a comprehensive collection of key stakeholders along the supply chain of coffee in Bolivia (Bernard, 2011). This included the following organizations:

Key Stakeholders

Government: In-depth interviews were conducted with the two ministries that administer coffee in Bolivia, the Vice Ministry of Coca and Rural Development (VCDI) and the National Fund for Alternative Development (FONODAL).

National Coffee Organizations: Interviews with the leaders of the two national coffee organizations Federación de Caficultores Exportadores de Bolivia FECAFEB and ANPROCA Asociación Nacional de Productores de Café were interviewed.

Cooperatives: Five of the country's biggest cooperative leaders were interviewed for this study as well as one cooperative leader from a much smaller cooperative.

Producer: Fifteen coffee producers from six cooperatives, which participate in organic and Fair Trade production, were interviewed for this research. Due to the distance between farming communities and the often difficult or impassible terrain, a respondent driven sampling was used to locate coffee producers. These surveys were conducted in person. The majority of the interviews were held in Caranavi, the center of the coffee producing community. Surveys were also administered on site visits to the cooperative meeting houses during workshops or cooperative working days. These producers own relatively small plots of lands, usually smaller than five ha.

Certifiers: Two organic certifiers and one Fair Trade certifier were interviewed. Both organic certifiers were from BioLatina and IMO Control International based on their focus on coffee. Interviews were also conducted with representatives of FLO International that was in Bolivia at the time of the research.

Quality Testers: Two interviews were conducted with the only coffee quality certifiers (*catadores*) of Bolivia. This organization, Café Calidad, is one of the oldest institutions dedicated to coffee in the country.

Buyers: One Fair Trade buyer's staff was interviewed. The organization has had a continual presence in Bolivia.

Excluded Population: Not included in the study were private buyers commonly referred to as *rescatistas*. These members refused to participate in the survey. Individual coffee producers were also unable to participate in the survey due to their isolation.

A number of semi-structured survey questions were developed in order to assess the Bolivian coffee market. Each survey was designed to collect unique qualitative and quantitative information of the various participants along the supply chain. These surveys were developed to collect descriptive information from key informants and producers. The questions used in the semi-structured surveys were developed using the literature review. The literature helped to identify common issues and problems within the commodity chain and capture whether these problems or similar ones were also occurring in the Bolivian coffee market. Each survey included informational questions assessing the role, size, and scope of the participant within the commodity chain. Many of the questions were similar across surveys to tease out themes across participants. A brief

description of each survey is included below. Each group was asked about the same questions in order to triangulate varying opinions as a means of understanding issues and conflicts between stakeholders.

Section 3.8 Data Collection Method

Government Officials and National Coffee Leaders: Semi-structured interviews with these individual consisted of a set of general questions attempting to outline the general coffee market as well as issues between institutions. These stakeholders were also asked to provide examples of their support for coffee growers, their opinion of the industry, the national goals, and how they related to coffee production.

Producers: This semi structured survey included questions about perceptions of institutions in the supply chain, including certifiers, cooperatives, and national organization as well as local support programs. These questions used a Likert scale to evaluate the overall sentiment about cooperatives and certifiers (Bernard, 2011).

Producer surveys also include limited qualitative data regarding the perceived welfare of the household, and quantitative data regarding the percent of income generated from coffee production and coffee not sold to cooperatives. Producers were asked how cooperatives, certifiers, and private aggregators could improve their programs.

Cooperative leaders and staff: The survey included questions about perceptions of certifiers, and national government programs, and included both open and closed questions. It included a Likert scale regarding their approval of certifiers and national government programs (Bernard, 2011). Cooperative leaders were also asked about the participation of their members, their commitment to the cooperative, and their ability to

work with international buyers. They were also asked about ways they would improve relationships between certifiers and buyers.

Certifiers: This semi structured survey was conducted to collect information about the size and scope of the organic and Fair Trade coffee market in Bolivia; certifiers were asked about their practices of reviewing cooperatives for certification, the survey also collected data about violations and how these violations were resolved.

Fair Trade Buyers: This semi-structured survey was administered to collect information about these institutions' ability to support cooperative and their members. These buyers were asked about the ability of cooperatives to meet their obligations. Questions also covered topics about compliance with the certification process, how they felt about the requirements and the ways they felt they thought the process could be bettered.

In addition to data collected using surveys. Secondary Data was also collected through a review of locally available literature on Bolivian coffee production. Sources included government reports, NGO studies, and university research. Also included in the analysis are the observations of the researcher while in the study area.

Section 3.9 Method of Analysis

Data collected from questions in interviews and surveys were then analyzed. Discourse analysis was used in the evaluation of the responses (Bernard, 2011). The discourse analysis method was chosen because it requires the researcher to carefully identify common themes within the population surveyed. Because the study seeks to understand how various groups interact along a supply chain, it was important to identify common

themes (i.e., issues among the participants as well as their perceptions of one another)

Themes were identified using text analysis software, which provided a basis for the researcher. These informed deeper analysis within themes as well as proposed solutions.

Chapter IV - Results and Discussion

Section 4.1 Stakeholder Analysis

Producers - There are approximately 17,491 coffee producers in Bolivia (with a total area of 36,105 ha), of those 15,925 are found in the Province of La Paz (34,816 ha) (MDRyT, 2011). In La Paz, 81.9 percent of the producers are organized in cooperatives or associations (MDRyT, 2011). These producers own relatively small plots of lands, usually smaller than five ha. Regarding their role, 15 producers were surveyed for the study. Producers described their production method as being traditional production similar to the traditional polyculture described in Toledo and Moguel (2011). In addition, site visits confirmed that the majority of coffee growers grew coffee under a mix of existing shade cover of forests and citrus trees. The use of Traditional Polyculture was further confirmed by the Bolivian Coffee Census (MyDRT, 2011), which described shade as permanent, and the spacing of coffee trees as being generally two meters apart. Though all sample producers mentioned that diseases were a growing problem, they remained certified organic. In a government survey of producers less than three percent used chemicals (MDRyT, 2011). Producers are responsible for removing the coffee seeds from the berry, wash the beans and bring them to cooperative houses for drying. In some cases, they will dry the beans before they go to the cooperative.

The sample of producers had an average of land area of 9.5 ha per household. However, producers seldom used all their land for coffee production. Among the producers surveyed approximately half of their land (5.2 ha) was used for coffee production. The remaining land was most often undeveloped, or dedicated to some combination of

subsistence and coca production. The variety of crops grown by producers is representative of the diversified income streams producers have available to them. While most of the producers depended on coffee for a significant portion of their income on average 79 percent of their income from coffee, no producers was dependent solely on coffee. Coca was by far the second most important crop generating 12 percent of the producer's income.

Table 1. Descriptive statistics of coffee producers in the study area (N =15)

Characteristics	Unit	Amount
Sample mean land holding	ha/household	9.5
Mean land area dedicated to coffee	ha/household	5.2
Average coffee yield	lb./ha	434.2
Household characteristics		
Coffee	%	79
Coca	%	12
Other		9
Household Characteristics		
Age	Year	41.7
Household size		5.5
Education more than primary	%	40
Producers with		
TV	%	87
Cell	%	100
Car	%	60
Computer	%	40
Own house	%	87
Opinion of		
Cooperative	Average	7.5
FLO/Org	satisfaction level on a Likert Scale of 1-10	7.8

Cooperatives: There are 35 coffee cooperatives in Bolivia under the umbrella organization of FECAFEB. Twenty-five of these organizations are in the department of La Paz, representing nearly all of the coffee exports, except those undertaken by ANPROCA. The cooperatives are in charge of aggregating their members' coffee beans, and drying and transporting the same to the city of El Alto for processing. Most of the cooperatives have their own coffee plant (*beneficio*) where they will hull coffee beans (*pergamino*) as well as select the coffee on the basis of characteristics set up by the buyer. The selection process is done by hand in Bolivia and represents the most significant cost of processing. The cooperative then transports the beans to Arica, Bolivia's free port in Chile. Cooperatives handle most of the administrative functions of coffee exports, including dealing with the buyers, working with the certifiers, and coordinating transportation, processing, and distribution of payments to members.

Table 2. Characteristic of samples cooperatives

Organization	Members	Coffee Land Ha.(FLO/Org)	Annual Volume (FLO/Org) Approx. Kg
Antofagasta	308	280	108,000
ASOCAFE	76	167	126,000
Trebole	50	70	27,000
Illiampu	75	250	108,000
Union ProAgro	192	700	450,000
Villa Oriente	129	540	288,000
Total	830	2007	11,07,000
Percent of Total	9.22	0.08	11.85

Source Authors Data and MDRyT, 2011

National Coffee Organization: Two national organizations claim to represent coffee producers at the national level. The first of these was (ANPROCA), which was established in 1980s. The ANPROCA claims to represent all coffee producers in Bolivia, focusing on individual producers that are not part of a cooperative. The ANPROCA was among the first organizations to offer *beneficio* processing to coffee cooperatives and holds export licenses to sell coffee abroad. The FECAFEB was started in 1991, and it represents all organized coffee workers. The FECAFEB was originally started for the purpose of acting as an exporting agent for coffee, and for a time held fair trade certification for a number of cooperatives. Currently, its work has expanded from focusing on acting as an exporting agent for those who do not have a license to organizing coffee producers and providing technical and financial assistance, which are now done by European organizations.

The Bolivian coffee market is unique for a number of reasons: its competition with coca, its relative infancy, and its lack of coordination at the national level either from the industry or within the government. The Bolivian coffee industry is represented by two national organizations Asociación Nacional de Productores de Café ANPROCA and Federación de Caficultores Exportadores de Bolivia FECAFEB. Both of these organizations claim to speak on behalf of all producers. ANPROCA has a larger number of members because it is composed of all independent coffee producers across the country, including those “passive producers” who collect coffee from rustic coffee plantations. FECAFEB only represents coffee producers who are members of a cooperative. These members are generally more active in the production process. As a result, these producers grow the majority of the country’s coffee. Because these groups

represent different kinds of coffee producers with different interests, conflict exists about which of these organizations truly speaks for the industry. While the origin of the conflict depends on the perspective of the person, the effects of the conflict are clear. The government uses these disagreements as justification for inaction towards supporting coffee, although these organizations have come together to propose plans and submit petitions to the government. The government contends that the conflict is grounds for inaction.

Certifiers: There are three certifiers that work with coffee producers in Bolivia: BioLatina and IMO Control for organic certification, and FLO-CERT for Fair Trade. IMO Control is the largest of these organizations and has offices around the world with its headquarters in Germany. IMO Control certifies approximately 35 percent of cooperatives. BioLatina certifies the remaining 65 percent with its headquarters in El Salvador. The FLO-CERT has its own office in Bolivia, and certifies all Fair Trade cooperatives in Bolivia. Approximately 16 cooperatives are FLO certified, this number shifts, because sometimes cooperatives merge or dissolve. One representative from each certifier was interviewed for this study. These organizations felt that producers were actively participating in the certification process and that many had become well informed as to the norms. They stated that the majority of producers followed the norms without violations and that incidents where penalties had to be put in place were a rare occurrence. Certifiers also commented that when corrective measures were called for producers were able to comply, during the following certification.

Government: The Bolivian government supports coffee programs through a number of agencies within the Ministerio de Desarrollo Rural y Tierras (MDRyT); sub-agencies include the Viceministerio de Coca y Desarrollo Alternativo (VCDA), the Viceministerio Desarrollo Rural y Agropecuario (VDRA), and Fondo Nacional de Desarrollo Alternativo (FONODAL). The VDRA appropriates funds to rural development throughout the country, including popular programs like Proyecto de Alianza Rurales (PAR), which provide assistance to small farmers throughout the country. Under the VCDA the government provides some financing to FINCAFE, which provides small loans to coffee producers. Lastly, FONODAL is a fund administered by the Bolivian government on behalf of European development agencies with the aim of reducing excess coca. One minister from the VCDA was interviewed, and one minister from FONODAL was interviewed. Both Government official were asked about their goals for the coffee industry in Yungas. The government position was that coffee was a fairly well developed industry and that the government had limited role to play. When asked about specific programs working on coffee production, government official cited general programs to help rural farmers in the study area. When asked about why there is no specific plan for coffee farmers. Government officials said that conflict between coffee groups was a major cause for the lack of action.

National and International Buyers: National buyers include two groups: domestic roasters for internal consumption, and Bolivian exporters. These organizations use intermediaries known as *rescatistas* in Bolivia to buy coffee directly from producers at prices below those offered in the certified coffee markets. Conversely, Fair Trade buyers assist producers' organizations by providing technical assistance and financial assistant as

part of their partnership. No *rescatistas* were willing to be interviewed for this research and only one international buyer was in the country at the time of this research.

Section 4.2 Commodity Chain in Bolivia

Unlike many other Latin American coffee producing countries with a long tradition of coffee production, together with coordinated and centralized markets under Institutos de Café, there is no single central authoritative agency within the Bolivian government. There is a lack of consistent tracking of data regarding the industry's production and quality of coffee, as well as a lack of monitoring of consumption patterns in importing countries. Moreover, the institutos of major coffee producers usually charge fees in order to re-invest in the coffee industry. These organizations typically use their funds to fund lobbying organizations to promote government investment; they also provide technical and financial assistance to coffee growers. These organizations will also manage national coffee markets by restricting exports or setting quality standards. Such an organizational model does not exist in Bolivia. Instead, in Bolivia, there are five major commodity chains also referred to as market channels by which coffee flows for exporting or for domestic consumption. These commodity chains are expounded on below. The marketing channels described below were developed from the semi-structured survey administered to organizations in the commodity chain. Specifically, this analysis comes from questions dealing with the intermediary role and scope in the market.

Chain One: Traditional Cooperative Chain

Coffee producers that are part of a cooperative will sell directly to buyers abroad. The cooperatives collect coffee from its members, followed by transporting, processing, and

exporting it on their behalf, and take responsibility for distributing the profits back to its members. Normally there will be a membership fee and costs discounted from the sale. The process can be lengthy as payment and distribution takes a longer time. Nevertheless, given that only cooperatives can hold organic and fair trade certification, members are guaranteed higher prices that are set above global coffee price for conventional coffee . Having access to these markets and controlling the processing of their coffee allows producers to reduce the number of intermediaries between them and the buyer allowing them to have more power over pricing and to preserve profits for coffee producers.

Chain Two: Boutique Chain

If a coffee producer is known for producing extremely high quality coffee, their beans can be referred to as boutique coffee. These producers can choose to sell to the buyers abroad that are willing to pay very high prices, between \$7 to \$11 USD per pound. These prices are above what even organic and fair trade buyers are willing to pay. Boutique producers, depending on the cooperative's rules, can do one of two things:

A) If they are members of a cooperative that allows them to export without aggregating with other members, the producer may elect to use the cooperative's facilities and transportation infrastructure to export their specialty coffee. The cooperative can either charge the producer on the basis of the size of their sale or not charge them, because as members they are entitled to transportation and processing as part of their membership dues.

B) If their cooperative prohibits members from exporting coffee that is not aggregated with the rest of the cooperative, producers seeking to sell to boutique buyers must find an

intermediary or other cooperative to export their coffee. Using these intermediaries will often cost the producer more than aggregating with their own cooperative, but the boutique coffee price is attractive enough that they are willing to pay these additional costs. While this commodity chain is not direct, the use of community-based cooperatives provides for a level of protection from the exploitative pricing of TNC and coffee traders who could take advantage of producers. These producers also tend to sell to small boutique roasters, which actively are willing to pay high prices for top quality beans sourced from small producers.

Chain Three: Small Individual Growers or Small Cooperatives

Small cooperatives or individual producers of coffee will use a FECAFEB or ANPROCA to export coffee. Because they lack resources to participate independently these organizations will use national associations to processing, transport, certify, and export their coffee. The national associations generate revenue by charging fees to process. However the fees do not cover the full cost of processing. These national organizations will also receive funding from European aid agencies in exchange for promoting coffee as an alternative crop to coca. The ANPROCA is the national organization of coffee producers, whether organized or not, and will export coffee on their behalf. The FECAFE is the national organization for organized coffee producers. More often they will export on behalf of cooperatives that are small and lack the capacity to process their coffee or the export licenses needed to do so. The route is similar to the traditional route only differing in that the national association facilitates exports. In addition to holding export licenses, these organizations can obtain certifications on behalf of small

cooperatives. Working with these national associations small and independent producers have access to the premium prices organic and Fair trade certification provide. The ANPROCA currently holds Fair Trade certification for small cooperatives individual producers. The FECAFE held this certification until recently; FLO-CERT decertified the organization, because of a lack of transparency. The national organization as part of the certification processes forces its members to undergo the same evaluation as cooperative members. The certifiers will visit small cooperative as they would larger cooperative or visit communities of small producers. These inspections are held annually. This is an example of how commodity chains can be shortened to the benefit of producers. While this chain is not as short as a traditional cooperative chain, it does not provide greater access to the producer to high prices and more stable buyers. This provides a degree of production from the volatility and exploitative prices in the conventional market.

Chain Four: “Rescatistas” or Private Aggregators

Often coffee producers will need funds immediately. In these cases, coffee producers will sell their coffee to an intermediary known locally as a *rescatista*, a *coffee rescuer*. While the term is friendly sounding in Bolivia, these are more commonly known as *coyotes* in the rest of Latin America (Raynolds, 2002). This type of coffee buyer will take advantage of the coffee producer’s need for liquid capital and will pay below the market price for coffee. These types of buyers are either located in towns near coffee producing regions or will venture into coffee regions in search of coffee. Even cooperative members will sell to these *rescatistas* in times of need or when prices are high. Some producers claim to sell only coffee they know is low quality to these agents. Coffee collected by the

rescatistas will often be consumed locally, however, it has been known to also make its way to the international market; depending on the coffee's quality. The syphoning of coffee from the alternative market demonstrates that TNC and coffee traders retain their influence in Bolivia despite the high levels of participation. Having these intermediaries in the coffee market reduces the benefit of alternative trade to all producers and allows for the exploitation of producers

A summary of these commodity chains are outlined in the figure 4 below. Although precise numbers are difficult to estimate the diagram shows the direction and size of each chain in the context of Bolivia. It shows that the majority of the coffee comes from producers associated with cooperatives members and is certified both as organic and Fair Trade via cooperatives. Also present in the market are independent coffee growers. Ideally these coffee growers should have their coffee purchased and certified by ANPROCA which would then export to internationally buyers at Fair Trade prices. However, as shown in figure 4, *rescatistas* are buying a major share of coffee from independent producers. *Rescatistas* will then sell to domestic coffee roaster and to international traders. An application of commodity chain analysis show that even with the reduce influence of traditional TNC in the Bolivian market given the high levels of participation in organic and Fair Trade markets. *Recatistas* still hold sway over individual producers. Their influence is due to the failures of the organic and Fair Trade market to provide sufficient support for producers. These short-comings will be asses in the subsequent section.

Flow Chart of Commodity Chains

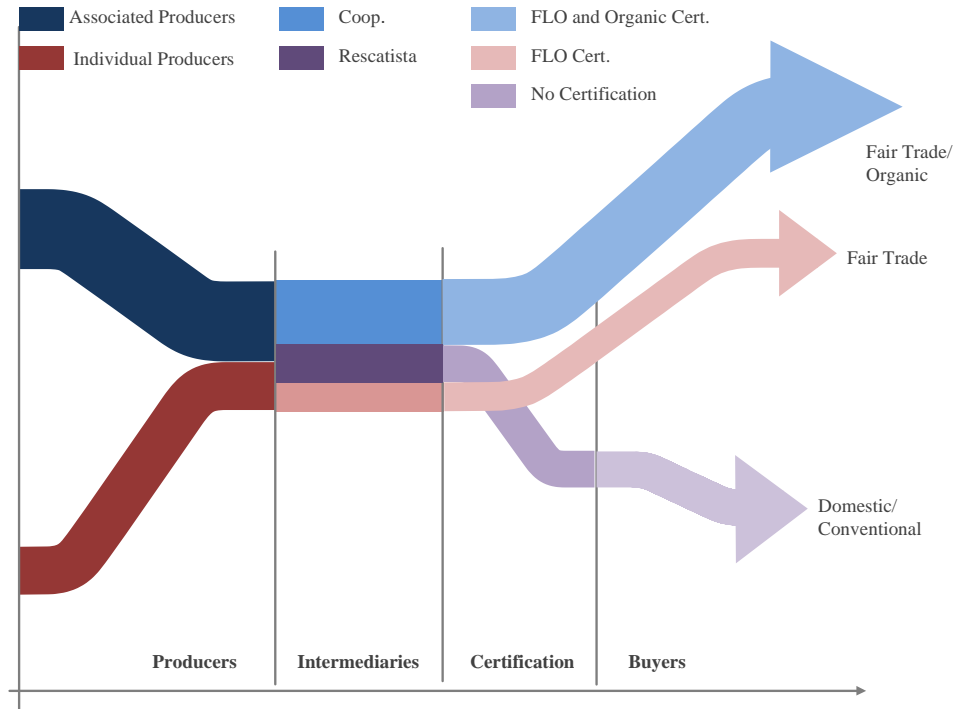


Figure 5 Commodity Chains of coffee in Bolivia

Section 4.3 Evaluation of Organic and Fair Trade Incentives

Bolivia's coffee market has had some success in improving the lives of its producers; this can be attributed largely to their ability to remove many of the intermediaries from their coffee value chain. Cooperative leaders credit greater profitability thanks to reducing intermediaries and working closely with dedicated international buyers. However, it is not clear that these benefits extend fully to producers affiliated with cooperatives or national organizations. The continued presence of *rescatistas* and their ability to buy coffee from cooperative members is symptomatic of administrative and structural issues

within the organic and Fair Trade marketing process. The presence of these intermediaries in an otherwise largely short commodity chains allows these actors to take advantage of producers and undermine the advances that organic and Fair Trade certification movements have brought to Bolivia. The reason this chain exists stems from the issues faced by participants within the organic and Fair Trade markets. Many of these issues are due to a failure in the incentives structure meant to address the exploitation of producers due to trade liberalization. Some examples include: the shortcoming of plus pricing, the limited nature of financing, and how participants choose to respond to economic pressures of certification. These issues will be discussed at length below.

Plus Pricing for Organic and Fair Trade

Plus pricing or premium pricing is meant to provide and add social benefit in the Fair Trade market. This same pricing scheme is meant to cover the producer's additional expenses from organic production. However, many of the producers and cooperative leaders surveyed for the present study stated that the premium they received was not sufficient. Principally, those surveyed complained about organic premium prices. The premium, currently set at \$ 0.30 for *C. arabica*, is meant to cover the additional costs of production associated with organic methods. The additional costs of production not only affect the producer, but are also carried at the cooperative level. Many producers surveyed stated that their incomes have been declining despite, recent increase in coffee prices. As an explanation, they pointed to increased rates of diseases, and rising costs of production. The majority of the producers surveyed cited the rising cost of labor as the main factor in increased expenditures. The cost is embodied in the harvest and weeding

of coffee, which can occur up to twice a year. Even producers with large families stated that hiring labor was necessary for production. All producers stated that the annual harvest was their largest expense. The second largest cost was the weeding and removal of shade, the primary means of managing coffee plantations. These additional costs can be attributed to Fair Trade requirements of fairly paid laborers and the rising cost of labor in the region. Many producers and leaders commented that many laborers also were harvesting other crops, which increases demand for labor. Producers may also be expected to house and feed workers during harvest and if the worker is migrating from La Paz, transportation may also be included. At the cooperative level, leaders stated that the costs of certification and accompanying administrative expenses were a major cost that reduced the benefits of the organic premium. The cost of certification depends on the size of the cooperative, but the average cost of certification was approximately U.S. \$3,000 dollars for organic certification per year (Yucra, 2012). Of the survey cooperatives, only one provided information regarding the Fair Trade certification, which was \$2,000 per year. The FLO-CERT states that their pricing depends on the size of the cooperative and the grade (adherence to FLO standards) of the organization and the processing which occurs (FLO-CERT, 2015).

Producers mentioned that the Fair Trade premium price and the price floor offered by Fair Trade were the biggest incentives for their involvement in cooperatives. However producers also mentioned that the minimum price barely covered the costs of production. The producers indicated once again the increasing costs of labor as the biggest contributor to the decline in the effectiveness of Fair Trade's price floor. At the cooperative level, labor was equally mentioned as a major cost, referring this time to the

labor required for the selection of coffee beans. Selection is the process by which inferior beans are removed from the final product. Processing is required as part of Fair Trade quality standards. In Bolivia, selection is done by hand and is extremely labor intensive.

Contributing to the instability felt by producers because of labor concerns is the variability in global coffee prices. Coffee prices have fluctuated since the introduction and implementation of organic and Fair Trade certification in Bolivia. Steep decline in prices between 2010 - 2013, accompanied by a rise in the labor costs made it difficult for many producers to generate a profit in Bolivia (see figure 5). Adding to their hardship is the fact that many Bolivian coffee producers compete for labor with coca producers, as seen in the graph below. Over the same period of time, coca has enjoyed relatively stable increases in prices? while coffee has periods of both steep and long decline (see figure 5).

Coffee and Coca Prices from 1990 to 2014



Figure 6 ICO Index Global Arabica prices, and coca prices per kg. (ICO, 2013; UNODC, 2013)

Short-Term Financing

Annual financing is key to agricultural production. Financing is meant to address the issues of lump-sum payments. Lump sum payments force farmers to go into debt to keep producing or to sacrifice their own wellbeing to keep production afloat. By providing access to financing, the producer can smooth their incomes over the course of the year and allow them to make decisions regarding their crops. For example, the farmer can consider holding on to crops until the end of the year when they can get organic and Fair Trade premiums. However, farmers are often left with limited access to financing given that small producers do not have large amounts of collateral or income. Often small producers, like those in the present study, are rejected from traditional lenders (i.e., banks) or are charged high interest rates, because of the producers perceived riskiness.

Producers cited financing as a very important and attractive element for encouraging their participation in Fair Trade.

The aforementioned economic struggles are the reasoning behind Fair Trade's requirements of mandatory financing. Fair Trade Buyers usually make small loans to producers. These loans typically come in the form of *anticipos*, which are made to producers depending on their expected harvest. In the present study, the majority of producers said they received sixty percent of their expected harvest as an *anticipos* at the beginning of the year. These small loans helped producers finance their cost of living and production until the harvest. Despite the benefits of annual financing, some producers spend the *anticipos* before their second payment is paid, because of unforeseen expenses or poor planning. In these cases, producers will often sell coffee to *rescatistas* who work for international coffee traders who sell coffee into the conventional coffee market where TNC dominate market decisions. These buyers are usually located in Caranavi and will buy coffee immediately, paying producers at or below global coffee prices. When asked about this occurrence, producers typically said that they would sell between 1-3 percent of their crop to *rescatistas*, citing that it was coffee the cooperative would not take, because of its poor quality.

Amongst the producers interviewed, all had received some kind of financing from their participation in Fair Trade. The majority of these producers received the *anticipo* that charges the producer an interest rate between 7 percent and 9 percent. Producers commented that this interest rate added costs to their participation in Fair Trade. Of the 15 producers surveyed, only two mentioned they had received what they called a *prepagó*

or pre-payment. This pre-payment was made to producers at the beginning of the year, based on 60 percent of their expected harvest, yet differed from an *anticipo* in that it did not charge an interest rate to the farmer. The two producers that mentioned this form of financing remarked how it had lowered their costs and had helped them to invest in production. Therefore, as explained, producers have financing available to them; however, both the *anticipo* and the *prepago* are meant only as short-term investments means to cover the cost of production and household production. Coffee demands long-term financing, owing to the length of time it takes to reach its production age and the high costs associated with developing a plantation. In Bolivia, because of the high costs of loans, small farmers are excluded from the financial system.

Long-Term Financing

Cooperative leaders, producers, certifiers, and buyers mentioned that declining production of coffee in Bolivia is a major problem facing the industry. Nearly all of them indicated that the aging of coffee plants in existing coffee plantations drove a decline in production, and that renovation was key to reversing the current trend. All the respondents also stated that renovation was a costly investment for producers and that there are very limited means of funding this process. The FINCAFE, a government supported credit agency, provides loans at an interest rate between 12 percent and 18 percent. When producers were asked about using FINCAFE's loans, they stated the loans were difficult to apply for, expensive, and a high financial risk. Another problem with FINCAFE's loans is that they are not always used to increase coffee production. Cooperative leaders as well as buyer claim that producers will often use FINCAFE's

loans to buy cars or trucks to become taxi or truck service providers between La Paz and Caranavi. These activities reduce coffee production as producers spend less time tending to their land.

Similarly, cooperatives struggle to find financing for reducing the cost of processing. Cooperative leaders indicated that their biggest cost aside from annual certification is the operation of the *beneficio* (coffee processing plant). Many cooperative leaders, especially of larger cooperatives, mentioned that the cost of selecting coffee was the largest expense in operating the *beneficio*. The three largest cooperative leaders surveyed expressed interest in investing in new technology that would mechanically select beans as a means to reduce the high cost of labor associated with this processing. These machines can cost up to \$1 million USD, representing a significant investment for these small organizations. Bearing in mind that the largest cooperative surveyed, Cooperative E, had a total revenue of \$1.2 million USD in 2013, this technology remains well out of reach to Bolivian cooperatives (see table 2). Finding financing for these large investments would need to come from the government or international development sources. Financing has been difficult to find even for the biggest cooperatives, because of the political climate in Bolivia and USAID's removal from the country in 2013.

Section 4.4 Issues of Conduct and Performance in the Bolivian Commodity Chain

Fair Trade depends on a partnership between producers and buyers, but it also affects all those involved in coffee production. Regardless of the social aspect of Fair Trade, there is still an element of competition as in any marketplace. Consequently, issues regarding the conduct of participants in their respective roles impact others along the supply chain.

The section below will present the conflicts erupting between sets of participants so as to better grasp the complexity of the supply chain.

Tensions between Producers and Cooperatives

Unlike, typical coffee markets where coffee producers are unable to sell their entire crop to the organic and Fair Trade, Bolivian producers, are able to sell all their crop to these markets. As members of cooperatives participating in Fair Trade, producers are supposed to submit all their coffee to the cooperative in order to fulfill their contracts with buyers. This ensures the largest volume of sales and therefore the greatest social premiums are paid to the community. However, according to cooperative leaders, producers aggregate only some of their coffee. When cooperative leaders were asked how much coffee was not being aggregated, they estimated that somewhere between 3-10 percent of a producer's harvest was captured by a *rescatista*. This threatens the cooperative's capital for the management of the *beneficio*, whose expenses are largely fixed and include the maintenance of the equipment and property. Declining harvest yields coupled with private coffee sales by producers translates into declining economies of scale for the cooperative because of which the cost of processing gets spread over a smaller quantity of coffee. Cooperative leaders and buyers indicated that the amount of coffee escaping the Fair Trade/Organic market was dependent on the global "c-price". If the "c-price" is low, coffee producers will deliver more of their coffee to the cooperative. Conversely, if coffee prices are high, producers were less likely to deliver their entire coffee crop capitalizing in the expedient profit provided by the *rescatistas*. All producers surveyed stated that the delay in the final payment of the Fair Trade/Organic market was a key

factor in their frustration with the cooperative and played a role in their sale of coffee to *rescatistas*. This delay of payment is a financial problem within the cooperative.

According to buyers and cooperative leaders, a coffee buyer will usually take between 3-4 weeks to pay for the coffee after it has left the country. The payment can then take 3-4 months before it is distributed by the cooperative. Some producers said this precedent of delay had in turn compelled them to sell their coffee outside the cooperative. The postponement of payment represents an administrative deficiency in the cooperative. This may be attributed to the limited education of the majority of producers and cooperative leaders, many of whom only have an elementary or middle school education. Despite, issues with the timing of payments producers on average had a high opinion of the cooperatives (7.8 on a Likert scale from 1 to 10) (see table 1).

Tensions between Cooperatives and Buyers

Addressing the declining coffee production and issues with producers delivering their entire coffee crop, cooperatives in Bolivia are having difficulty filling orders from organic and Fair Trade buyers, especially in years when “coffee” are high. The inability to fill orders causes tension between buyer and cooperatives it means producers must look elsewhere for coffee. Organic and Fair Trade producers have invested heavily in promoting economic development in these communities, increasingly they find themselves promoting long-term development of the coffee industry. .

Tensions between Organic Certifiers and Producers in the commodity chain

While organic and Fair Trade markets are built on the principle of providing an economic benefit to producer who practice both socially and environmentally responsible

production, these system still possesses asymmetries in power which favor buyers. Organic certification requires rigorous production methods and Fair Trade buyer will often tack on quality standards in addition to Fair Trade requirements. In the case of Bolivia there have been a number of issues between organic certifiers and specific participants surveyed. These tensions arise because they are onsite and do not provide for producers to challenge the certifiers finding and require cooperative to pay for certification. These issues differed from other case studies in Mexico, where whole cooperatives suffered from penalties and decertification (Jaffee, 2007). Certifiers in Bolivia use penalties against specific members instead of the whole cooperative. In Bolivia, for the most part, penalties and corrective measures were issued to individual producers. Normally a key issue between cooperatives and certifiers was the penalty of temporary decertification. Decertification meant a loss of premium until the producer undertook corrective measures. These penalties depending on the violation can include wait periods of up to three years. Being excluded from premium prices severely affects the producer's income and does not impact the buyer. Producers cited this as a major concern for them. The asymmetry of power present in the certification is systematic of problems with the alternative. Fortunately, producer noted that decertification was a rare occurrence. The majority of producers maintained a positive opinion of certifiers (7.8 on the Likert scale) (see table 1). Both surveyed certifiers felt that the majority of producers did understand and followed the organic standards. They commented that a major point of contention is the control of diseases and pests for which they hold various workshops and trainings to educate producers.

Bolivia's challenge of low coffee production is because of a variety of factors, including old coffee plants and the threat of diseases, especially *ojo de gallo* (*Mycena citricolor*) and coffee rust. Many producers had commented that climate change was a major factor in the increase of diseases because of higher than usual rainfall in the region. In order to boost production, some producers have used disease control methods that violate organic norms and standards. One main point of contention was the use of burning as a control method. Producers argue this is a traditional method that does not violate organic standards, however, certifiers contend that burning can consume soil and threaten biodiversity. Despite issues of contention, the majority of producers felt that certifiers provided sufficient training to understand the organic standards. They also felt that the organic standards as well as the procedure of documenting their activities were easy to comply with once they familiarized themselves with the practice. However, with high turn over among cooperative leaders, many cooperative still struggle to meet all the requirements.

Section 4.5 Industry and National Politics and their Impact on Coffee

The contentious issues between participants along the supply chain, and their perceptions of one another, provide insights about: 1) how the organizations involved can be improved, 2) where issues of misconduct can be addressed from both sides, and 3) where additional support is needed. Institutions that were notably missing from the discussion above were the Bolivian government and the national political organizations. An industry does not exist in a vacuum; national policies and priorities have an impact as can be illustrated in the context of Bolivia.

The Bolivian coffee market is unique for a number of reasons: its competition with coca, its relative infancy, and its lack of coordination at the national level either from the industry or within the government. The Bolivian coffee industry is represented by two national organizations ANPROCA and FECAFEB. Both of these organizations claim to speak on behalf of all producers. ANPROCA has a larger number of members because it is composed of all independent coffee producers across the country, including those “passive producers” who collect coffee from rustic coffee plantations. FECAFEB only represents coffee producers who are members of a cooperative. These members are generally more active in the production process. As a result, these producers grow the majority of the country’s coffee. Because these groups represent different kinds of coffee producers with different interests, conflict exists about which of these organizations truly speaks for the industry group. While the origin of the conflict depends on the perspective of the person, the effects of the conflict are clear. The government uses these disagreements as justification for inaction towards supporting coffee, although these organizations have come together to propose plans and submit petitions to the government. The government contends that the conflict is grounds for inaction.

Bolivia’s government’s inaction, however, may be tied to broader national and international goals of the current president. Since the election of President Evo Morales (“Evo”) and his party, *Movimiento al Socialismo*, in 2006, the country’s policies have taken a more active role in the economy. The empowerment of indigenous groups and socialist policies meant to redistribute the country’s wealth are at the forefront of President Morales’ work. Among the most important national policies of the Morales Administration is the Food Sovereignty of Bolivia. In 2009, Bolivia changed its

constitution to include specific language promoting food sovereignty as an issue of national importance. Subsequent laws have created programs to promote domestic food production and promote the development of agricultural industries throughout the country, with a focus on domestic consumption (Claeys, 2015). In the eyes of Evo Morales greater food sovereignty is linked to expansion of coca production. Before ascending to the presidency, Evo Morales had been a *cocalero* (Farthing and Kohl, 2014), and there has been an expansion of the coca industry under his administration. More land, up to 50,000 ha can now be legally cultivated for coca. The government has invested heavily in new processing and industrial plants for legal uses of coca, such as teas and liqueurs. The policing of excess coca have also changed under his leadership, seeing a shift from an active police role to an active role of local unions to limit “excess coca”. These measures have failed to control excess coca production as seizures of cocaine within Bolivia continues to increase during Evo’s presidency (Farthing and Kohl, 2014).

As part of the country’s food sovereignty goal, the government is also creating programs to increase Bolivia’s domestic coffee production capacity. In interviews with government ministers, new plans to increase coffee production were outlined. Unfortunately, these plans were not focused on Yungas or any of the export-oriented coffee growing regions of the country. According to these ministers at VCDR and FONODAL, new projects for coffee are being developed to meet domestic coffee demands. According to the government official and observed by the researcher the majority of Bolivians consume instant coffee made from *C. robusta* and not from the export quality *C. arabica* beans grown in Yungas. Given the lack of internal production of *C. robusta*, the majority of coffee Bolivians consumed is imported. The government consequently is planning to

foster *C. robusta* cultivation in Beni, a flat area that lies east of Yungas, at the edge of the Bolivian Amazon. These plantations will then provide coffee for a government proposed processing plant, which will make instant coffee meant to meet domestic needs.

The shift towards greater domestic food consumption and expansion of the coca industry is reflected in the opinions of all those surveyed and interviewed. All participants felt strongly that the national government was neglectful, and that the government should do more to support the industry. They advocated for investment in financing, the renovation of coffee plantations, and research stations that would increase productivity through organic pest and disease control. Many mentioned a need for an agency within the Bolivian agriculture ministry (MDRyT) to coordinate coffee production in the country, like those found in Colombia and Costa Rica (Fridell, 2007).

Furthermore, the government's move towards Anti-Americanism has cost the Bolivian coffee industry one of its greatest supporter, USAID. President Morales removed USAID from Bolivia in 2013. Evo's decision was largely due to his perception of U.S. policies as being imperialist (i.e. coca eradication), and his closer alliances with other socialist leaders in Latin America, including former Venezuelan President Hugo Chavez and Cuban President Raul Castro. The producers sampled in the present study praised USAID and its key role in the development of the industry, as well as the importance of the "Cup of Excellence" competition in bringing global attention to the quality of Bolivian coffee. The competition has created demand for Bolivian coffee, outside the organic and Fair Trade market, and opened the boutique coffee market. This market offers the ultra-

premiums for high quality coffee beans. However, its purchase remained limited to a small number of select buyers.

All participants stated that the return of USAID would be welcomed and that their programs had benefited the coffee industry. The lack of support from the government and the removal of USAID, according to many stakeholders, is a major factor in the declining production of coffee in Yungas. Participants also cited the growing importance and production of coca as a contributing factor to rising cost of labor. Cooperative leaders also commented that, because of rising coca prices, many coffee producers were less committed to coffee production, contributing to an overall decline.

Bolivia faces many of the same challenges as other Latin American countries participating in organic and Fair Trade production; among the challenges are those forming along supply chains. These challenges arise primarily from the limited types of support producers receive. Like many coffee producers throughout Latin America, Bolivian producers complain that the benefits of the price premium and price floors are not sufficient to meet the growing challenges they face (Bacon et al., 2008; Mendez et al., 2010, Valkila and Nygren, 2010).

These challenges lead to a breakdown in the institution that are meant to protect coffee producers from the abuses of the market. Fair Trade, through its financing requirements, is meant to allow producers to make decisions based on their long-term interest instead of short-term hardships. However, stagnate premiums, low price floors, and financing tied to interest rates, forces producers to resort to survivalist tactics, including the decision to sell coffee to *rescatistas*. While only a small portion of coffee is being syphoned from

the alternative market the low productivity and high processing costs makes the actions of the *rescatistas* all the more damaging. Bolivia faces a unique challenge, the long-term decline in production runs contrary to the experience of global producers. Generally, certified producers in other countries struggle to sell the entirety of their coffee crop to organic and Fair Trade buyers given their large quantities (Mendez et al., 2010). Conversely, in Bolivia, producers, cooperative leaders, coffee buyers and certifiers cited declining coffee production as a major concern. The escape of coffee to the conventional market has impacts along the production chain.

Coffee being syphoned off to the conventional market undermines the benefits of organic and Fair Trade participation in that it raises the costs of production. Premiums for coffee have not been raised since 2011 while at the same time the cost of production continues to rise (Fair Trade USA, 2011). Production costs continue to rise because of the rising cost of labor and the greater need to control pest and diseases. Adding to these production costs are the cost of certifications and the cost of meeting the quality standards set by buyers. In Bolivia's case these costs may be higher than in other countries (i.e., Colombia) because of the absence of technology needed to select coffee beans. Adding to the pressures of *rescatistas* is the influence organic and Fair Trade buyers who raises the costs of production. These costs are not exhibited through price negotiations but through quality demands. Like in Reynolds (2003) study, Bolivian producers are forced to meet quality standards set by buyers. Meeting these standards increases the cost of production and further diminishes the benefits of organic and Fair Trade participation for producers.

Section 4.6 - Unforeseen motivation

Given all the difficulties that these producers face and the declining state of the industry, it is reasonable to ask why producers continue to invest in coffee. Almost all the cooperative leaders and producers that participated in this study highlighted the dedicated buyers they worked with as part of Fair Trade as the reason for their production. These buyers have not only provided financial stability to these cooperatives by purchasing increasing amounts of coffee, but also provided tremendous technical support. One major Fair Trade buyer has dedicated staff in Bolivia, which provides technical support, materials, as well as assists cooperative leaders with administrative tasks. The staff is made up of local Bolivians that live in the community and know all the farmers. One buyer Lobodis has even taken their support a step further removing their branding as the primary means of marketing their coffee. Instead marketing under the name of the producing cooperatives. This is a sign of the dedication these buyer have to Bolivian producers and the level of power they are willing to give up to ensure the success of the cooperative and the local producers.

Another factor that encourages coffee growers to continue their production and overcome the issues they face along the supply chain is their method of production. Taking into account that the majority of coffee producers in Bolivia practice Traditional Polyculture as their method of production, which comprises subsistence crops as well as cash crops (i.e. citrus and coca), their income is drawn from a variety of sources. According to participants in the study, coca and citrus on average account for 10-20 percent of a coffee grower's income, with coca normally accounting for ten percent. Diversified income streams have shown to provide greater stability for coffee producers, even those involved

in Fair Trade production (Bacon et al., 2008) (Jaffee, 2007). Therefore, the diversification of agricultural products could assist Bolivian producers in weathering the difficulties of the coffee markets. This is best seen through coca and citrus crops, both of which have processing facilities in communities close to Caranavi, and receive government support.

The positive practices of organic coffee production have spillover effects on the production methods used in other crops. In Bolivia, organic practices are being applied to citrus, and other crops grown in proximity to coffee, more importantly these standards are also being applied to coca. Organic production counteracts the growing trend amongst coca producers, which have adopted synthetic inputs and have abandoned traditional terracing, thus contributing to soil erosion and pollution. This shift is best observed in how coffee growers in Yungas are working with the national government, Asociación de Organizaciones de Productores Ecológicos de Bolivia (AOPEB), and BioLatina to develop an organic certification standard for coca in addition to coffee. The certification will reward coffee growers who also produce coca for following traditional production methods that conform to the IFOAM model. In addition, the certification will allow coffee producers who also grow coca to inform consumers in Bolivia that the coca products they grow preserve the environment.

Beyond monetary motivation, Bolivian producers expressed a great deal of pride in being the producers of high quality coffee, which is increasingly known worldwide. All sample participants were proud of being part of the global coffee market that recognizes Bolivian coffee as a quality crop. Moreover, participants were very pleased to have overcome the international stigma towards Bolivian coffee once known for its poor quality. In

summary, despite all the challenges the industry faces the coffee industry in Bolivia continues to exist thanks to the diversified incomes of producers, the dedication of international buyers and their support, as well as the past investment by USAID and others, which helped Bolivia's coffee gain a global reputation for high quality.

Chapter V - Recommendations and Conclusion

Like many other coffee producers in Latin America, Bolivian coffee growers have sought to protect themselves from the volatility of the international coffee market by entering into the Fair Trade/Organic market. Nonetheless, these certifications are limited in their ability to perfectly shield producers from the fluxes of the market. Within the certification realm, there remain issues dealing with external cost of participation as well as institutional problems, which weaken the supply chain.

Section 5.1 Addressing issues in the supply chain

To address these weaknesses, countries throughout Latin American have developed safety nets and subsidies for coffee producers to ensure that the benefits of organic and Fair Trade markets accrue to producers. In this section, solutions from other countries will be applied to the weaknesses in the supply chain noted in the context of Bolivia. Moreover, original policy recommendations will be made based on the current and unique situations in Bolivia.

Price Floor and Premiums: It would appear simple to fix the issues of the supply chain by simply increasing premium prices and the price floor for organic and Fair Trade certification or creating a recurring evaluation tied to inflation. The proposed solution is nevertheless limited, because the amount of coffee purchased is still at the discretion of the buyer. Fair and Organic makers still hold much of the power and control of organic markets, as did TNC in the conventional market. This is further demonstrated by Blundell (1998), and Mendez et al. (2010) which identified new emerging certifications, may be preferable to buyers because of their less stringent standards (e.g. Bird Friendly, and

Rainforest Certified). These less stringent certification schemes may incentivize buyers to abandon the organic and Fair Trade market altogether. Therefore, Bolivian coffee stakeholders, given the little power they hold on the international organization which control price floors and premium prices, may choose to focus on address the issue concerning the domestic segment of the organic and Fair Trade market.

Short Term Financing: One simple way to lower the cost of production at the producer level is to expand a financing practice already becoming popular in Bolivia. As discussed in section 4.3 the use of *prepagos* or pre-payments/down payments that producers received based on their expected harvest. *Prepagos* are a simple way to lower the cost of production at the producer level. Expanding this financial practice would allow coffee producers to lower cost by saving on interest charged under traditional *anticipos*. This will be an effective way to lower the cost of participation, especially given the situation in Yungas where the majority of farmers have been working with the same dedicated buyers for decades

Payment Schedule: Another way of preventing coffee from escaping into the local market through *rescatistas* is to ensure that payments after the harvest are delivered to producers in a timely fashion. Producers complained that it takes up to three or four months after the coffee harvest before they are paid. Improving the cooperative's administrative capacity is a way of reducing that wait-time. To improve their performance, it is recommended that cooperatives be provided low-cost access to bookkeeping and administrative services. Organic and Fair trade buyers by giving up

influence over the payment schedule can allow producers smoother incomes adding to the benefit of certification.

Long-Term Financing: As previously discussed, low productivity is a major issue despite sufficient demand for all the coffee to enter the Fair Trade/Organic market. The chief reason for a low output is the declining productivity of old coffee plants. Investing in new coffee crops is considered risky and costly for producers. Thus, reducing this cost and risk to producers is necessary. This can be accomplished by reducing the requirements and interests already being offered in existing loan programs, like those available through FINCAFE. At the same time, closer control of the use of the loans is necessary to ensure that they are applied to production.

Certification: The costs of certification and its compliance are added costs for the cooperatives, especially the cost of organic certification. The benefits of organic certification, however, are broadly shared throughout the agricultural community as producers share techniques and protect local and regional environmental resources. As such, the government should subsidize the certification for cooperatives seeking organic certification.

Organization: The manipulation of passive coffee producers is an issue in Bolivia. When cooperatives buy coffee from producers who are not associated to them it is in direct violation of Fair Trade/Organic standards. The passive producers are necessary for the sustainability of the coffee industry given the declining productivity. It would be easy for these producers to be assimilated into existing cooperatives. If there is greater government support (i.e. the payment for certification), and greater support for financing

processing costs, these fees could be lowered or eliminated. Alternatively, the creation of a two tiered membership system for active and passive members could be developed. The second tier membership would be cheaper, and allows passive producers to deliver coffee for the Fair Trade pool, but not for the organic market.

Coordination: The rising cost of labor and cost of processing are issues facing all cooperatives in Bolivia. Stakeholders noted that the majority of the *beneficios* do not operate at capacity. Despite operating below capacity, many cooperatives choose to only process coffee from their cooperatives in their facilities. Consequently, those cooperatives without *beneficios* are actively looking for funding to build their own facilities. National organizations and the government should be encouraging cooperatives to share facilities as a cost saving measure. Cooperatives will increase the economies of scale and reduce costs overall by increasing the amount of coffee processed at each *beneficio*. A good opportunity to initiate this coordination is the financing of automated selection machines, which help to ensure consistent coffee quality and remove the need for labor intensive selection. The government could help finance these machines among a group of cooperatives if they agree to share a communal *beneficio*. The savings in processing costs can be shared among the cooperatives and passed onto members.

Section 5.2 Conclusions and Further Research

In conclusion, the Bolivian coffee market benefits to some extent from participating in organic and Fair Trade markets by having access to higher prices. Bolivian producers also benefit from a history of dedicated buyers and external investment in the industry. Furthermore, these producers retain income stability on account of diversified crop

production, including coca. That being said, Bolivian coffee producers continue to face many of the same challenges experienced in other coffee producing countries, including increasing cost of production, stagnate premium and price floors, as well as declining production. These issues and others contribute to the deterioration of the supply chain, which then leads to breakdowns in standards and trust amongst participants. One of the contributing factors of weaknesses in the supply chain is the Bolivian government itself. Unlike organic and Fair Trade producers in other countries, which benefit from government support programs, Bolivian producers do not benefit from government support. The government is focused on the development of coffee for domestic consumption, the planting of *C. robusta* coffee to building of processing facilities for instant coffee. Government malaise and inaction are among the biggest challenges the industry faces. In order to address these issues, institutional reforms within the supply chain, as well as greater support from the current administration, are necessary to ensure a better functioning Bolivian market. Funding for FONODAL should be dedicated to export oriented coffee production in the Yungas region, since this region is where coca is currently grown. Furthermore, there is a need for leadership in the coffee industry to coordinate efforts and incorporate unaffiliated coffee producers. A sub-ministry or reformed FONODAL could provide this leadership to coffee producers in Yungas.

This research concerned itself primarily with the descriptive analysis of issues in Bolivia's coffee production and providing key insights into the larger issues faced by producers in the country. Much of the detailed analysis regarding quantitative metrics of cost and well-being of producers are not included. This data was limited due to the narrow scope of the present study and the short time period in which it was conducted.

Future research in Bolivia should focus on specific levels of income gained from organic and/or Fair Trade participation versus non-participation. Additionally, studies may also look at the cost of processing and maintaining certification on a cooperative basis, and compare these costs across the industry to help justify a proposed shared *beneficio* as well as the investment in automated coffee selecting equipment. Researchers may consider doing a comparative study of the cost of production of coffee versus coca, in terms of net revenue, and whether government support is playing a role in the rise of coca prices.

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