

**SMALL-SCALE AGRICULTURE IN A GLOBAL MARKET:
A COMPARATIVE CASE STUDY OF BOLIVIAN FARMERS PARTICIPATING IN
AGRIFOOD SUPPLY CHAINS**

by

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ABSTRACT

As globalisation draws products from around the world into streamlined value-chains, consumers are simultaneously less connected to the provenance of their food and upstream actors in that chain. Actors such as agrifood producers have little authority to influence the chain or make a viable living from it. Yet the alternatives for many producers in the developing world are often more constricting. This paper compares the barriers faced by small-scale producers in lowland Bolivia before and after they have diversified their livelihoods with an export crop, coffee. The results of the case study show that while some of the problems faced by farmers endure regardless of crop, there are some that are effectively answered by participation in a larger and more robust global market. The paper also examines some of the ways that elements such as farmer associations and technical advice can be critical for successfully increasing income and livelihood sustainability.

Keywords: Agrifood Chains; Bolivia; Coffee; Commodity Chain Participation; Farm Diversification; Latin America; Value-chain development

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GLOSSARY

Alcaldía	Municipal government
Antracnosis	A disease affecting the branches of a coffee bush that is common in the Santa Cruz region
Broca	A coffee pest, Broca is a borer worm that attacks the cherry.
Cafetal	A coffee plantation, this paper refers to “El Cafetal,” the social enterprise of Agricabv, which includes a functioning processing plant, plantation and hostel offering tours, largely run by the community of Candelaria, near Buena Vista, Bolivia.
Guinda	The coffee cherry. This is state in which it is originally harvested
Pergamino	Parchment coffee. In this state, the bean has retained its thin, parchment-like husk.
Roya	One of the major coffee diseases, which manifests through spots on the leaves of the bush.
Utz Kapeh	Utz Kapeh is a Europe-based certification program that focuses on social and environmental responsibility in agrifood production. See http://www.utzcertified.org/ .

ABBREVIATIONS

- ANMIA Área Natural de Manejo Integrado – Amboró or the Amboró Integrated Management Nature Area.
- CEPAC Centro de Promoción Agropecuaria Campesina or the Centre for Promotion of Peasant Agriculture
- ICA International Coffee Agreement: a regulatory system for the coffee trade that lasted from the 1960s until 1989.
- UNDP United Nations Development Programme

1 INTRODUCTION

“One cannot come to learn about, and love, a nation unless one gets out to the countryside.”

Joseph Stiglitz, *Globalization and its Discontents*

“Farmers? They were the salt of the earth.”

James Herriot, *All Things Bright and Beautiful*

The irony of twenty-first century globalization is that as people and products become more geographically connected through international trade, the less connected to the provenance of these products are many consumers. While coffee is perhaps one of the most ubiquitous beverages in northern cultures, it is not grown in Europe, North America¹ or Japan – the major consuming areas (Burgoa 2009). The coffee value-chain spans the entire globe and covers a wide variety of coffee-related final products. Currently, a major trend is the growth of specialty coffee – coffee that is marketed based upon particular production principles, such as organic. Yet, its production is largely unknown by most western consumers. As economic and environmental pressures mount on global agrifood systems, there is growing interest in the opportunities and pitfalls inherent in the value-chains that bring food products from plant to cup.

This imperative for sustainable production is the foundation for this paper. There are two primary research questions of particular concern. First, what are the critical barriers faced by small-scale producers that prevent them from gaining sufficient income through agrifood market chains? Second, what sort of institutional and stakeholder

¹ Notwithstanding the Kona region of Hawaii.

response will enable their participation to be economically viable and sustainable from the environmental, social and market standpoints?

It will be established here that despite the fundamental role of producers in agrifood supply chains, the market channel often does not provide the small-scale farmers with a sufficient standard of living, let alone one consistent with the downstream income opportunities. Moreover, there is literature that notes that the market may signal that a particular product will be more lucrative than another but this does not guarantee that the producers will make use of the better alternative (Patel 2007, p.50). Even if cash crops provide clear benefits and may be visible to such producers, there are almost certainly additional factors that prevent farmers, of their own volition, from taking advantage of these sources of income (Jaffee 2007, p.141-142). The case study presented here examines why and how Bolivian farmers transitioned to an export crop with value-added potential in niche markets and the problems they faced before and after doing so. This transition provides a glimpse of some of the conditions necessary in similar situations for successful export crop diversification to take place.

Answers to the questions of *why* producers change from one product to another and *what* impedes them both before and after the transition are critical to reduce rural poverty and to encourage sustainable market creation. Therefore, this paper examines the problems associated with marginal cash-crop livelihood through a comparative case study of small-scale producers of the department of Santa Cruz, in eastern Bolivia. The case study juxtaposes producers who are in transition with those who have added coffee to their production during the last decade. The results show that while diversification to

include an export crop, such as coffee, can provide improved living standard through increased income, it does not provide automatic success for all.

From the Bolivian example of small-scale producers, we will see that there are two paramount requirements for improved rural livelihoods. The most basic is the existence of a robust value-chain within which actors take on collaborative, rather than combative, relationships. The second imperative is that farmers have an entry point into the value chain that allows them to become integrated participants. The ability to participate in the downstream value-adding, or the ability to engage in any sort of processed production, is critical to raise living standards above subsistence.

The existence of these requirements is precipitated by the confluence of many political, social, cultural, ecological and economic factors. The requirements may be simplified into two categories: institutional infrastructure and value-added market access. For example, the existence of working infrastructure – political and physical – is critical to the success of agrifood production. It leads to the final conclusion that value-chain participation provides at once a solution to rural poverty and a new set of entangling problems with which producers must cope.

1.1 RESEARCH CONTEXT

The research presented here will focus on a case study of the project “Café Amigable con la Naturaleza” (Environmentally-friendly Coffee). The project spans 8 years under two separate funding mandates from the Japan International Cooperation Agency (JICA) and the European Union (EU). This project is carried out by a Bolivian

non-governmental organization (NGO), CEPAC.² The project works in the department of Santa Cruz,³ Bolivia with small-scale producers and other stakeholders, such as municipalities and processing/export businesses.

For the first 4 years of the project, from 2003 to 2008, with support from JICA, the project worked in the municipalities of Yapacaní, San Carlos and Buena Vista. These municipalities are located in the north east section of the Amboró Integrated Management Nature Area (ANMIA). The ANMIA is a buffer zone between the Amboró National Park and the surrounding municipalities. The second phase of the project began in 2009 and will continue with EU funding until 2013. This phase includes the previous municipalities for continuous technical assistance, but also rolls out the program to the municipalities of Porongo, El Torno, Semaipata and Mairana, which largely comprise the south western part of the ANMIA.

The project specifically targets working with small-scale farmers, which is a term that is somewhat difficult to define in this circumstance. The size of farms involved is discussed in Section III (Farming in Santa Cruz). For our purposes, it is helpful to define this as a non-industrial farmer, as technical definitions based upon landholding are difficult in this context. Many farmers reported land holdings of 20 hectares or so, but only reported cultivating a portion of that. According to CEPAC data for 2009, the average of coffee plots among project farmers in the two northern associations of

² Centro de Promoción Agropecuaria Campesina or the Centre for Peasant Agriculture Promotion

³ Bolivia's geopolitical structure is broken down into departments, provinces and municipalities or cities. The department would be equivalent to a Canadian province, whereas the Bolivian province sits within the department and generally spans a few municipalities. Santa Cruz de la Sierra is the major city within the department of Santa Cruz, although both are commonly referred to as Santa Cruz.

OCAFESY and CONDOR were approximately 0.48 ha and 0.16 ha respectively (CEPAC, 2009c). These farmers will have other area dedicated to other crops, but it gives an indication of what is dedicated to a non-subsistence crop.

1.2 RESEARCH DESIGN AND METHODOLOGY

The geography and chronology of the two project phases allows for a ‘before and after’ approach for this case study. The research presents a comparison of those producers who are in their initial transition to coffee production (within a year of participation) and those who, in some cases have produced coffee for the last decade.

The methodology of the study is a qualitative. The case study is based upon field interviews conducted over three months, June, July and August, of 2009 in the municipalities of El Torno and Yapacaní. Appendix A provides the questionnaire that forms the basis on which the interviews were conducted. As the process is qualitative and focused on individual opinion, it is not without its inconsistencies. The informal nature of the agriculture economy in a developing country such as Bolivia made it difficult to ascertain quantitative data, such as income. In addition, the level of formal education, as we will show in section three, is fairly low for most rural adults. This is not to say that they were not knowledgeable in their working activities, however, there were difficulties encountered in communicating what information was being sought and the respondents’ ability to provide it. For example, many producers could indicate the price they had gotten for a particular crop, at the given stage of year, but the price fluctuated from year to year and even within the season. Moreover, the yields of products such as citrus were not easily calculable. Some producers responded only in qualitative terms. Furthermore,

there were difficulties encountered with communication. All interviews were conducted in Spanish; however some of the respondents were indigenous language speakers who found Spanish difficult. At times a project interpreter had to be used.

Despite these difficulties, this case study provides an important example of a development in process that is often piecemeal at any rate. Understanding the characteristics of the process and its successes and failures contributes to a better understanding of rural development in poorer countries. This case study relating value chains to local production follows two issues. The first relates to the problems the producers have experienced with the production and marketing of their crops. The second looks at the factors that motivate producers to join CEPAC's coffee project and led them to integrate the new crop. The answers to these two questions vary widely and the case study cannot be divorced from the context of the individual participants and is necessarily based on the respondents understanding of the questions and their circumstances. While this makes it specific to the Bolivian Lowland situation it does not preclude it from providing valuable insights into the broader subject of rural economic development. By examining the responses and the factors which the Bolivian farmers indicate to be central, we may learn a more holistic view of the value-chains and how they relate to the producing poor.

2 UNDERSTANDING THE CHAIN: CURRENT LITERATURE

The following section gives an indication of the global coffee trade as a whole. The case study producers are limited to the Bolivian lowland region, but they enter a

chain that literally spans the globe. I do note, however, that there is limited literature on the Bolivian situation. Much of the literature consulted focuses on Mexico and Central America. There are similarities enough throughout the Latin American continent that this literature can still prove very useful. As Table 1 shows, five of the top ten producers for 2008 are Latin American countries. Mexico, Peru and Honduras figure in the list, with Brazil and Colombia in the top three. The lack of literature on Bolivian production is not particularly surprising as coffee production there is still relatively limited – exports in 2008 were approximately 135,000 bags (ICO).⁴ Finally, coffee is truly a global commodity and its value-adding steps take place in multiple localities. As an agrifood product, it is grown in the global south, but its greatest consumption is not in the producing countries. The highest consuming countries are in largely in the north. The US accounts for 17% of global consumption, the EU for 36% and Japan for 10%. Brazil is the only producer that figures largely in global consumption with 14% (SASI Group, Mark Newman, Morten Scholer 2006). Therefore, understanding both global production and consumption and the steps in between are useful for assessing the case study, regardless of its location.

⁴ ICO statistic regarding Bolivia is an estimate, see ICO footnote.

Annual Production by Country (000 bags)						
	2008	2007	2006	2005	2004	2003
Brazil	45,992	36,070	42,512	32,945	39,272	28,820
Vietnam	16,000	16,467	19,340	13,542	14,174	15,231
Colombia	10,500	12,515	12,153	12,329	12,033	11,197
Ethiopia	6,133	4,906	4,636	4,003	4,568	3,874
Indonesia	5,388	7,751	7,483	9,159	7,536	6,404
Mexico	4,650	4,150	4,200	4,225	3,867	4,201
India	4,610	4,184	5,079	4,396	4,592	4,508
Peru	4,102	2,935	4,249	2,419	3,355	2,616
Honduras	3,833	3,842	3,461	3,204	2,575	2,968
Uganda	3,500	3,250	2,700	2,159	2,593	2,599
Bolivia	135	139	157	135	165	125

Table 1: Top Ten Annual Producers, 2003-2008

Source: (ICO).

2.1 CULTIVATING CONSUMPTION

Prior to examining the opportunities and experiences of Bolivian farmers entering the global coffee commodity chain, it is important to have a basic foundation in the structure and nuances of what is one of the most massive value-chains in our world today. Coffee is second only to oil in terms of most widely traded and consumed of global commodities (at least of the legal ones as Gavin Fridell qualifies) (Fridell 2007, p.102; Fitter, Robert and Raphael Kaplinsky 2001, p.72). Last year, world production of coffee, according to the International Coffee Organization, was over 127million bags⁵ (ICO).

⁵ Coffee is generally exported in 60kg bags and all figures stated in this report will therefore reference this measurement. See Stefano Ponte, "The 'Latte Revolution'? Regulation, Markets and Consumption in the Global Coffee Chain," *World Development* 30, no. 7 (07, 2002), 1099, <http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=7001993&site=ehost-live.p.1103>

This translates into a ball-park range of 400 - 821 billion cups annually, depending on your source – or perhaps the size of your cup (Fitter, Robert and Raphael Kaplinsky 2001, p.72; Ponte 2002, p.1099).

Between the 127 million bags and the 400+ billion cups there is a product dichotomization. Coffee is retailed in two major forms:⁶ soluble and ground coffee (Fitter, Robert and Raphael Kaplinsky 2001, p.72). The soluble coffee market accounts for 20% of US and Japanese consumption, but 85% of British⁷ coffee consumed is in this form⁸ (Fitter, Robert and Raphael Kaplinsky 2001, p.72). Soluble coffee generally comes from poorer quality *robusta* beans and is a less homogenous blend, whereas, ground coffees are more often made from higher quality *Arabica* beans.

Both ground and soluble coffee arrives in the cups of most drinkers via a handful of companies that import and roast. Five transnational roasters make up 69% of all coffee retail sales – Kraft/General Foods, Nestlé, Sara lee, Procter & Gamble and Tchibo. Of these, Kraft and Nestlé account for 49%. To break it down further, Nestlé alone has a soluble coffee market share of 56% (Goodman 2008, p.7; Ponte 2002, p.1108). Each of these companies represents sales well over a billion dollars annually (Fridell 2007, p.117).

⁶ Fitter and Kaplinsky note a third form, canned coffee, which is fairly limited to the Japanese market. We will, like them, not address this form in this instance. See Fitter, Robert and Raphael Kaplinsky, "Who Gains from Product Rents as the Coffee Chain Becomes More Differentiated? A Value-Chain Analysis," *IDS Bulletin* 32, no. 3 (July 2001, 2001), 69-82, <http://www3.interscience.wiley.com/cgi-bin/fulltext/122396442/PDFSTART> (accessed 22/10/2009). p.72

⁷ Incidentally, these three countries represent the major consuming markets – USA, the EU and Japan represent 74% of global demand Ibid. p:74.

⁸ The rest of the European Union's consumption is more like that of Japan and the US.

One need only walk a block or two in any city in an importing country to know that this only represents a portion of the picture. City blocks – and supermarkets, malls and airports for that matter – are lined with cafés, which represent a rising sector within the coffee commodity chain: Fitter and Kaplinsky refer to it as “differentiated coffee” (Fitter, Robert and Raphael Kaplinsky 2001, 69-82) whereas others use “specialty” or “gourmet.” Stefano Ponte sheds light on this area of the market: “One of the characteristics of specialty coffee is that it means different things to different people. Today, the term covers basically all coffees that are not traditional industrial blends, either because of their high quality and/or limited availability on the producing side, or because of flavouring, packaging, and/or “consumption experience” on the consumption side” (Ponte 2002, p.1110-1111). This paper adheres to this definition for specialty or gourmet coffee, though it is worth stipulating that I exclude all soluble or instant coffees, as one of the most frequently-stated characteristics of specialty coffee is the differentiation based upon quality.

Ponte refers to the current consumption situation as the “Latte Revolution.” He explains: “consumers can choose from (and pay dearly for) hundreds of combinations of coffee variety, origin, brewing and grinding methods, flavouring, packaging, social “content,” and ambiance. At the same time international prices for the raw product (“green” coffee) are at the lowest in decades” (Ponte 2002, p.1099). The “café” phenomenon is documented by Ponte and others such as Fitter and Kaplinsky and Goodman. They show that this sub-section of the market consists of more than a few drops in the bucket: Fitter and Kaplinsky show that in 1999, of the 18 million bags of coffee consumed in the US, 17% (3 million) were distributed through the specialty coffee

houses (Fitter, Robert and Raphael Kaplinsky 2001, p.75). As Christopher Bacon notes, the specialty sector is “small, but growing” (Bacon 2008, p.155). In fact, he contrasts the specialty annual growth rates of 5-10% with the “slow demand growth for bulk commercial-grade coffees”(Bacon 2008, p.158). Fitter and Kaplinsky attribute this phenomenon to the “income elasticity of coffee... such that as incomes grow, so will the demand for differentiated and higher quality coffee” (Fitter, Robert and Raphael Kaplinsky 2001, p.75).

2.2 THE COFFEE CONTINUUM

The coffee value-chain involves multiple actors in both importing and producing countries. What is perhaps one of the most distinct features of it is the schism between the steps carried out on each side. Figure 1 shows the basic flow of a coffee bean from start to finish.

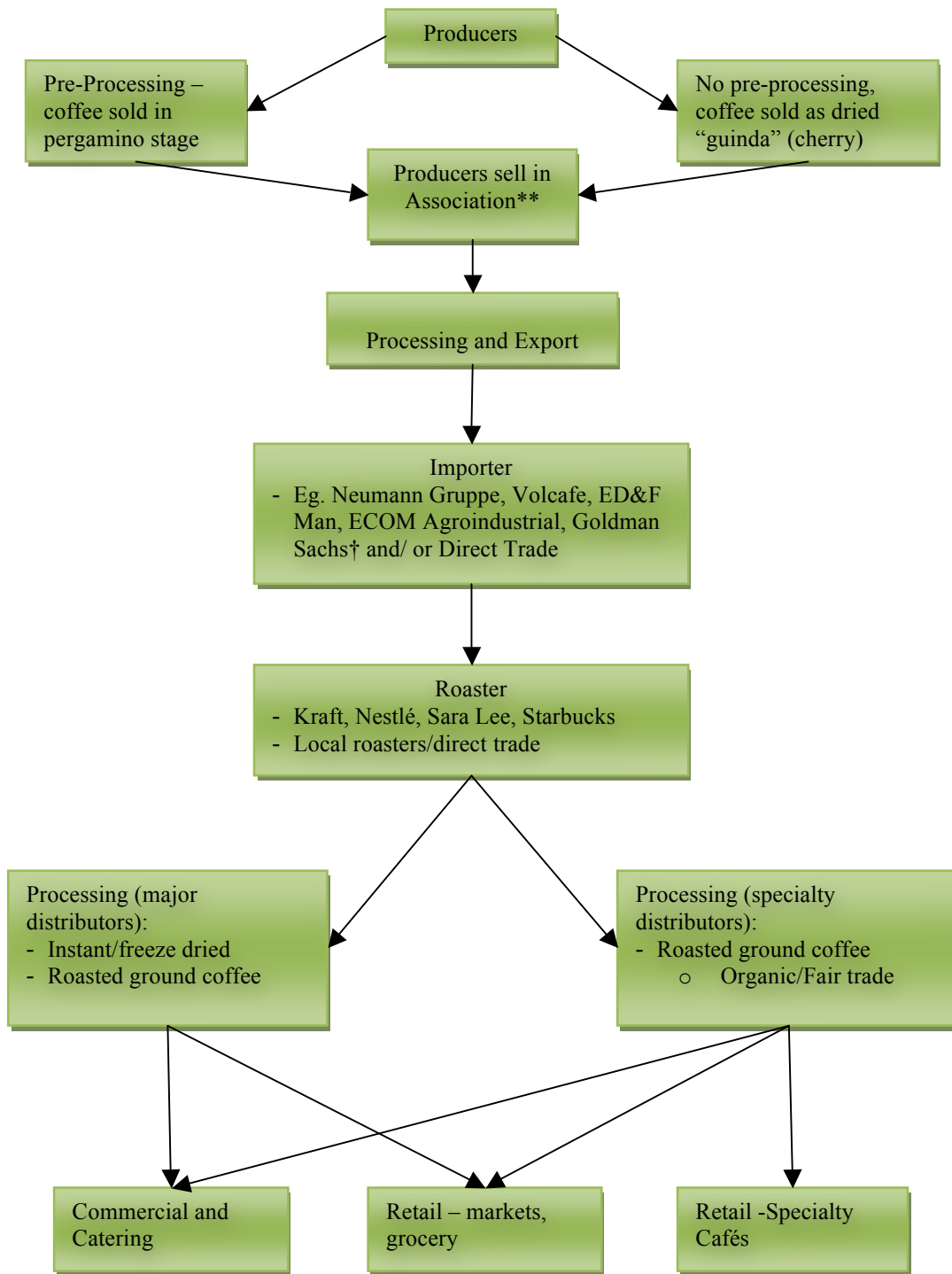


Figure 1: The Coffee Value Chain

Source: Adapted from (Fitter, Robert and Raphael Kaplinsky 2001, p.73)

* According to Fridell, these 5 account for 40% of consuming country imports (Fridell, Gavin 2007, p.116)

† Jaffee recounts the conventional chain often involves “coyotes” or local middle-men who sell to a warehouse or coffee processing company (Jaffee, Daniel 2007, see p.75-78). In the Bolivian producer case study, there is a direct relationship between the associations and the export/processing company.

Coffee beans go through an extensive process prior to consumption. They are picked as cherries. At this point, they may be dried and sold “*en guinda*.” On the other hand, the producer may also dry them out and then remove the pulp of cherry so that the bean is left in a thin layer of parchment, or *pergamino* form. Going through this extra step will earn a farmer a greater price. However, it will also require more effort on the part of the farmer. He or she will have to set up a drying table or patio.

The coffee is sold either *en guinda* or *pergamino* to an export company that will further process the beans – washing, fermenting, drying and removing the parchment shell. The green beans are then exported, dry and without any shells, making transportation more cost-effective (Fridell 2007, p.109). Roasters purchase them and further process them either into instant coffee or roasted ground coffee. They are branded and retailed through a number of channels such as supermarkets, small food retailers, cafés, and to catering entities. The major roasters, such as Nestlé and Kraft, are known to rely on advertising and brand recognition to move massive quantities of generally inferior-quality instant and freeze-dried coffees (Ponte 2002, p.117; Fridell 2007, p.1110). Fridell points out that the major roasters’ advertising bills amounted to \$65million in the UK alone for the year 1999 (Fridell 2007, p.117).

A vital dimension to the value-chain is that the green stage is as far as producers in the south can go under current technology and transportation methods. Coffee is exported in the green stage because it can be stored for long periods of time without any ill-effects on the final product. However, after it is roasted and ground it must be

consumed within a reasonably short period of time to preserve freshness and flavour. A pound (0.45kg) of specialty coffee in Canada can retail for anywhere from \$10 to \$16CAD in cafés such as Starbucks. On the lower end of the spectrum, neighbourhood grocery stores such as Safeway retail Nabob 326g can retails just under \$6CAD. Yet the going price for green coffee at the farm-gate in Mexico is about \$0.14/kg (Fridell 2007, p.103). This leads to pose to two important questions for the purpose of this discussion: is the extravagant mark-up warranted by the value-adding processes that come downstream and if so, is there any possible way for producers to access those links of the value-chain which are accruing the greater rents? Fitter and Kaplinsky frame these questions in their discussion on the allocation of rents. They discuss the differentiation that other products, such as wine, have undergone and how that has changed the markets for them:

“Are we going to see the same pattern emerging in the case of coffee? And if so, who will reap the rewards of price differentiation? ... And is it possible to identify policies which might help to ensure that some or all of these decommodifying gains are reaped directly by poor producers rather than large TNCs?” (Fitter, Robert and Raphael Kaplinsky 2001,p.71)

It is not surprising that companies in the north can make a decent profit off of differentiated coffee – they are, after all going to great lengths to process and package it in a marketable way. The question then is can small-scale producers be involved in these more profitable stages? In the following section we will discuss the research concerning this issue – what contributes to the mark-up and why farmers currently lack any serious or large-scale access to these steps in the value chain.

2.3 THE KINK IN THE CHAIN

Much of the literature on the coffee chain points out the asymmetrical distribution of income accruing from a global industry worth billions of dollars. The crux of the issue facing producers is fundamentally due to the nature of the chain itself: the industry has evolved to have important potential, but also profound barriers for those in the upstream links. The potential that the coffee chain offers for improved livelihoods stems primarily from the blossoming specialty sector (Ponte 2002, 1099; Fitter, Robert and Raphael Kaplinsky 2001, 69-82; Fridell 2007; Goodman 2008, 3-25). Several researchers note the structural imbalance of the chain. This imbalance constitutes a glass ceiling, as it were, for producers in gaining from those specialty rents (Ponte 2002, 1099; Fridell 2007; Goodman 2008, 3-25; Shepherd 2005). Finally, there is evidence that the coffee chain was not always oriented in favour of the northern consuming countries and their roasting companies. Talbot and Bacon both show that a shift has taken place since the breakdown of the International Coffee Agreement (ICA) and the ensuing crisis, which has diverted rents from producers to processors in consuming countries (Bacon 2008, 158; Talbot 1997, 86).

There are great gains to be earned off the changing consumption patterns, especially those of the conscious consumers (Goodman 2008, p.8). The specialty coffee sector is pulling consumers away from the traditional coffee consumption (Goodman 2008, p.9) – and traditional roasters are realizing this. One need only wander down the aisle of a neighbourhood grocery store to see that even the major roasters are cluing in to the increased rent to be earned. For example, Kraft's Nabob brand is marketing its roasts with the Rainforest Alliance certification. The irony is that the specialty sector arose

partly on the shoulders of social and ecological ideals often diametrically opposed to the transnational corporation style of business. Several authors note the ideological and functional problems with major roasters co-opting the specialty market differentiation for wider use. David Goodman and Stefano Ponte both discuss the simultaneous movement toward large-scale production of what is often sold based on artisanal qualities. As Ponte puts it, specialty retailers have a tendency to move toward the “mainstream corporate strategies” in the same way Starbucks has (Ponte 2002, p.1111; see also Goodman 2008, p.9, 11).

The specialization of coffee is a complicated for producers just as much as for roasters. There are inherent difficulties for farmers entering differentiated production, particularly for items for retail in developed country markets. Daniel Jaffee documents the ironies of the higher earning potential of organic certifications in Mexican producer communities. He juxtaposes the requirements of certification systems designed for “an individual farmer in the United States or Europe with a discrete labor force, full control over inputs, and, arguably, a middle-class lifestyle” and the resulting farce it becomes in a “context of interdependent and collectively organized peasant and indigenous producers in the global South” (Jaffee 2007, p.152). Jaffee’s case study shows that farmers must shoulder the economic burden of certification, even if their traditional practices are not far removed from the ideal.

The asymmetrical profit structure is significant for farmers for more than the disparate juxtaposition of first world and third world livelihoods. Fridell argues that the problems that arise from the asymmetries are inherent in the chain structure, instead of the results of purposeful or “unethical...exploitation” (Fridell 2007, p.101-102). The fair

trade and organic specialty sector bases the argument against these asymmetries on ethical imperatives. However, from an economic perspective, the producers do have a fair claim to the downstream value-adding in one particular respect. Specialty coffee is often marketed on the basis of a particular production method – organic, for example. But the new rents to be reaped from that differentiation do not accrue to the group that is responsible for the organic character of the coffee, the producers; it accrues to the group responsible for marketing it as such.

Changes over the last 20 years in the global coffee chain are responsible for the divergence in producer and processor livelihoods. Goodman, Ponte, Bacon and Talbot all note the importance of the ICA regime, which provided boundaries to the commodity chain between the 1960s and 1989, when it finally broke down. It is significant that each also connect the end of the regulatory regime to the shift to consumer country dominance in the chain (Ponte 2002, p.1105; Goodman 2008, p.6; Bacon 2008, 158; Talbot 1997, p.70). Bacon and Talbot show significant declines in prices for producers since the end of the ICA, but not in retail prices (Bacon 2008, p.155, 158; Talbot 1997). This is not to say that the ICA regime was without its problems. Talbot shows that the quota system would often prevent producer countries from reaping more when prices were on the upswing, but he does note that the system significantly buffered producers from the shocks of the market (Talbot 1997, p.68). Additionally, Talbot notes that the transnational roasting companies weren't suffering under the ICA either, as it "stabilized supplies and prices of green coffee, and because they were able to turn a handsome profit under the system" (Talbot 1997, p.86). A return to the ICA of pre-1989 would not make a difference now considering the disastrous outcome after its fall and the many changes in the industry

since that time. However, there are important lessons that can be taken from that period, the first of which being the need for some sort of coffee chain governance (Fitter, Robert and Raphael Kaplinsky 2001, p.78; Talbot 1997, p.86).

In the current situation without a strong governance system, small-scale farmers face trouble in their declining share of the coffee rent from two sides. First, they have lost strength vis-à-vis other actors in the chain and the ability to capture rents from multinationals that now dominate the chain. Second, they face challenges in the specialty sector of the chain, particularly as they move their product through cooperatives and producer associations. As I've already noted, there are difficulties in achieving certification. Beyond this, the greatest issue for farmers that appears in literature on the subject is that of price fluctuation. While the ICA no longer buffers the market fluctuations, the specialty market does provide a protection from price variance to producers (Bacon 2008, p.169). The problem is complex though. Bacon notes that cooperatives use the specialty price surplus collectively, which while useful on the village level, may not be what the producer wants (Bacon 2008, p.167). Furthermore, he shows that as prices rise for quality beans, the delay in payment also rises. His Nicaraguan case study farmers experienced this: those who sold direct to roaster through a cooperative earned a price of US\$1.09 but were paid more than a month later, whereas those who sold through the local middleman earned US\$0.37 but were paid in little over a week. The organic channel through the cooperative took the longest (73 days) but most of the payment terms had significant standard deviations, indicating inconsistency in all of the channels. This can be troubling for subsistence farmers who, by definition, do not have the cash flows to wait out long terms. Both Bacon and Goodman present the

common practice of selling in multiple channels – specialty and conventional – in order to get the cash flow the producer needs when they need it (Goodman 2008, p.13; Bacon 2008, 167). There appear to be two problems facing a farmer in this situation: first, the alternative market channels provide better prices, but at the loss of immediate payment, which can sometimes make or break a small-scale farmer; second, the alternative channel may not actually be able to support the entirety of the coffee produced for it. Goodman projects that “the export capacity of certified Fair Trade growers worldwide is seven times the current Fair Trade sales” (Goodman 2008, p.13). Bacon warns that action is needed to “promote consumer education and expand alternative markets” (Bacon 2008, p.173).

Ultimately, there are two levels of opportunities for increased producer income. On the macro level, the global trends towards specialty coffee, often dependent on a special way of production, could be strengthened to provide farmers with increased earning. On the micro level, entry into the value-chain may provide new mechanisms for alleviating poverty on a local scale. While the ethical and structural facets are valuable to assess, the producers are not entering the chain with the expectation that they can sell their coffee for the same price as Starbucks retails a pound in Vancouver. What is of interest is not so much a comparison of income across oceans and GDP rankings, which will not likely be drawing nearer any time soon, but whether the chain provides increased income in comparison to the options available to the producers. The majority of farmers participating in the case study project rely on products such as citrus and cattle for income currently, with occasional excess amounts of rice and various vegetables sold at

times. Figure 2 shows the income potential of the major market products used by farmers in the Santa Cruz region.

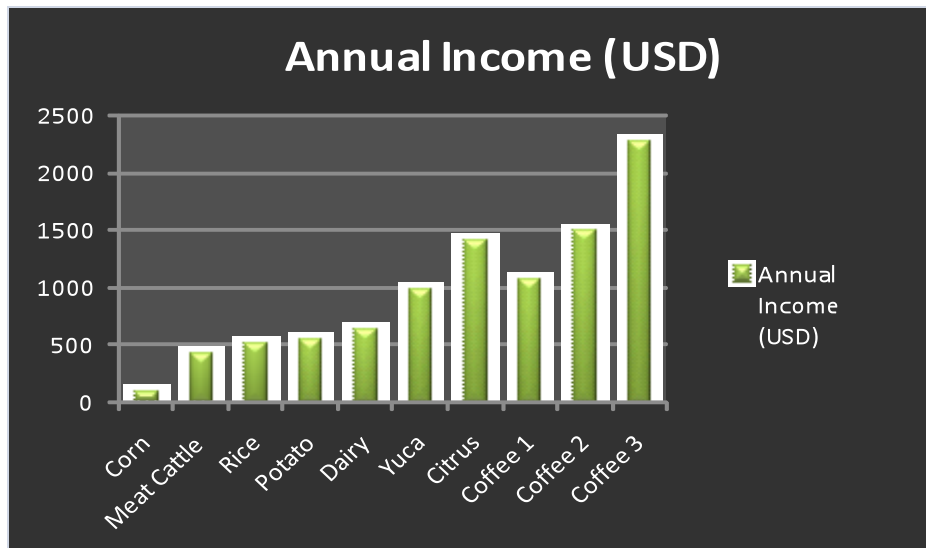


Figure 2: Livelihood by Product

Source: (CEPAC 2009b)

Coffee 1, 2 and 3 indicate the varying degrees to which one may adhere to the CEPAC “technical package.” CEPAC teaches farmers a wide range of production techniques and practices. Coffee 1 indicates very little of the technology and methods are applied, Coffee 2 indicates that some are used, but not all and Coffee 3 implies the nearly all practices and technologies are applied. This comparison is illuminating. Fitter and Kaplinsky ask, “Is this growing differentiation of coffee prices – in final product markets and as traded in global commodity markets – also reflected in a similar process of price differentiation to farmers, reflecting the quality of different types of coffee? ... The answer is ‘no’” (Fitter, Robert and Raphael Kaplinsky 2001, p.77).

As a global trend, the majority of profit increases related to the differentiated specialty coffee sector that have come into the industry are not reaching the poorest level of the chain. This is not to say that these profit increases cannot reach the poorest levels. The value-adding stages have been carved out and provide new opportunities to producers if the farmers and their associations can access them. As the CEPAC data shows, a producer can earn at least as well, if not significantly more within the Bolivian rural context. In real terms, if they follow even partially the agricultural management principles of the organization there are income gains between \$100 to almost \$1000 over the nearest comparable income source, citrus. As the CEPAC data shows, Coffee 2 earns an estimated \$1496USD and Coffee 3 earns \$2264USD whereas citrus brings in just under \$1400USD annually. There is also evidence in the literature to suggest that focusing the effort on specialty coffee production, while not earning the first world rents that will occur downstream, will indeed provide vital income protection and stability to farmers that is lacking in conventional production (Jaffee 2007, p.160) particularly regarding fair trade floor prices).

3 CASE STUDY CONTEXT

3.1 ECONOMIC CONDITIONS

The living standard of Bolivia is held to be the lowest of the South American countries (The World Bank Group 2008a). Statistics vary among data-gathering international institutions. According to the United Nations Development Programme

(UNDP), the average per capita consumption (adjusted for purchasing power parity) of the 7 municipalities is \$1038 USD (2001), which is slightly less than the national average of \$1417 USD (UNDP 2004a). Yet, the national GDP per capita for 2002 was pegged by Globalis at \$2460USD (PPP) (Globalis). The World Bank claims \$1260USD as the GNI/capita (The World Bank Group 2007). While each of these presents a distinct and nuanced measurement, they serve to corroborate the basic living standard visible in Bolivia and support the World Bank's classification of it as a lower-income country (The World Bank Group 2008a; The World Bank Group 2009).

Bolivia suffers from poverty not only in real terms, but in relative ones as well. Latin America is notorious for persistent and high levels of inequality. Therefore these indicators must be understood in the context the inequality that exists within Bolivia itself, especially between rural and urban areas. Santa Cruz is widely accepted to be one of the highest income departments (The World Bank Group 2008a). One may credit this to the city of Santa Cruz de la Sierra, Bolivia's largest city and second highest Human Development Index (HDI) rating among Bolivia's 314 municipalities. To be sure, one does not see the abysmal deprivation of the highland Potosí department in Santa Cruz's fertile lowlands. However, there is a notable disparity between Santa Cruz de la Sierra and the rural municipalities surrounding the city limits. The municipal district of Santa Cruz has an annual per capita consumption level of \$2418USD. Yet in the 7 project communities, Mairana's highest consumption level of \$1284USD per annum is still only half what it is in the city. Porongo sits at the end of the spectrum \$780USD annually (UNDP 2004a). Furthermore, the country has a national GINI rating of 60.4, which

indicates a large gap between the haves and the have-nots (2005) (The World Bank Group 2008a).

These measurements can be helpful for setting the scene for the case study. However, they must be taken with a grain of salt. The annual consumption measurement based on monetary purchases can be misleading or irrelevant. As has been mentioned, many of the interviewees were vague about crop prices and earnings. Furthermore many of their food needs are provided for by their own production. Of the 50 producers interviewed, sixteen stated that they grew horticultural products, such as carrots, lettuce and other garden vegetables for family consumption. However, I believe that number itself could be understated as, on more than one occasion, the respondent stated their main income crop or cash crop and indicated family consumption only after it was communicated that such production was of interest as well. Some did not consider including their livestock, such as chickens, in the count of their “products,” even though they would be in plain evidence on the farm during interviews. Several farmers commented that their rice, potatoes or corn would be for family consumption and sold only if there was extra, while products such as citrus or beef/dairy would be their source of monetary income. Thus, it is highly probable that many supply their household needs largely from their own farm and not from a market. Therefore, the annual consumption measures give only a partial understanding of living standards. As a result, I include here also the Unsatisfied Basic Needs Index, which “measures poverty based on the extent to which is deprived of one or more basic needs” (UNDP), such as “minimal levels of education, health, accommodation and basic sanitation” (UNDP 2004b, p.32). For the seven municipalities, there is an average BNI of 65.8, which is well above both the

national rating of 58.6 and that of the city of Santa Cruz de la Sierra's 19.1 rating (UNDP 2004a).

3.2 FARMING IN SANTA CRUZ: THE PHYSICAL ENVIRONMENT

Bolivia has a rurally based population, with 9.7 million inhabitants spread over 1.09million km² – a density of 8 people per square kilometre. The department of Santa Cruz itself has a density of 5 people per square kilometre (The World Bank Group 2008a; The World Bank Group 2008b). More than half (58%) of the population living in the project municipalities is rural (UNDP 2004a). Certain ones, such as Buena Vista and Porongo have larger rural populations, 71.3% and 100% respectively (UNDP 2004a). The department lies in the eastern lowlands of Bolivia, bordered by Paraguay and Brazil. The topography features smaller mountains than the Andean cordillera in the west, with altitudes around between 300 and 1800 metres above sea level in the two regions where the project works, which situates it in a coffee growing zone (Aramoya 2009; see also Burgoa, R, personal communication, 17/11/2009).

The producers involved in the study are faced with several difficulties in terms of terrain and cultivation. Mountain or hillside topography was cited by four of the producers from the twin communities of Lomerio and El Tigre as part of their farm area, an indication that they did not plant on it. Twenty-one of the project farmers reported having over 10 hectares of land, yet the vast majority of those farmers only reported cultivating a portion of that. Of those who were specified how much of their land was cultivated, five hectares was the largest amount. It is not uncommon for a producer to have 20 or so hectares but only cultivate three or four. This may be due to topography.

One of the technicians noted that certain areas only allow for small plot sizes. Prior to the start of the project the organization estimated that only 30% of the land in project communities is suitable to agricultural production, with much of the agro-forest area worn out by slash and burn practice (CEPAC 2008, p.9). It may also be the case that farmers do not have the resources to plant the entire area or that they are following the traditional burn and fallow planting patterns. One association president pointed out that practice requires leaving the land fallow for seven years after it has been burned, planted and harvested.

Agriculture figures as a mainstay of the Santa Cruz department's economy. The major agro-industrial products include soybean, cattle, sugar and forestry (Encyclopaedia Britannica 2009). However, among the small-scale farmers of the region where the project works, the overwhelming majority are citrus producers, with cattle and rice being the next two common crops. Table 2 shows the prevalence of the major subsistence products, excluding coffee.

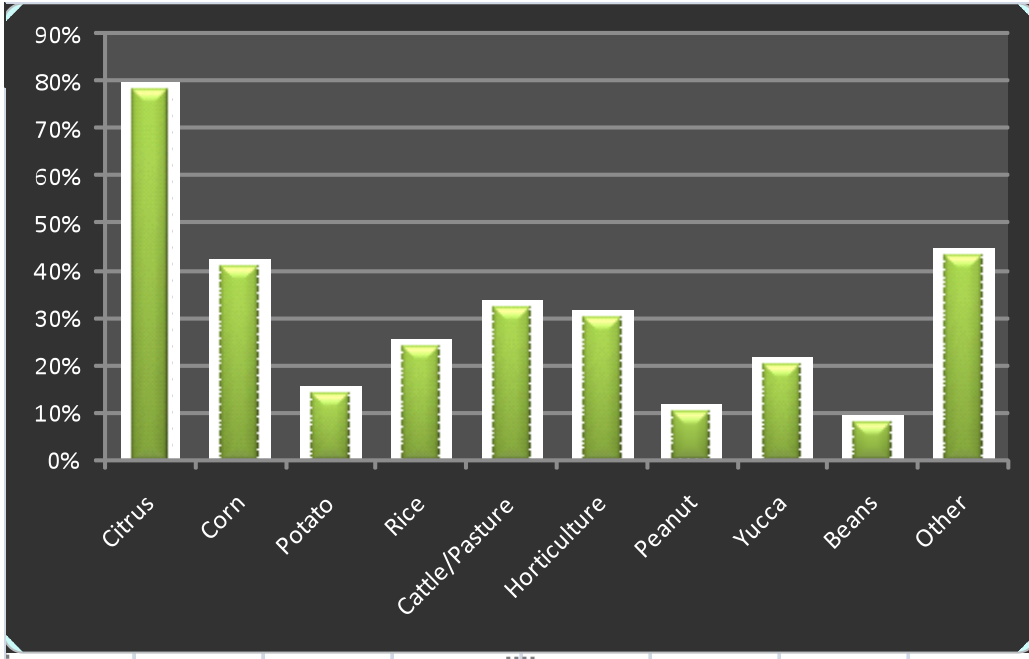


Figure 3: Product Prevalence for Santa Cruz Producers*

Source: Producer Interviews

* Shows the major products excluding coffee, as it is not a traditional crop in the region.

The project is based in the ecologically-sensitive ANMIA region. It forms a buffer zone between Amboró National Park and the rest of the department. Not all of the communities involved in the project fall within the current ANMIA boundaries. However, the park's ecosystem is not contained within neat lines, and for this reason the ecological sustainability of the greater region is critical to the park's own. The yellow shaded area in figure three represents the ANMIA, while the green area represents Amboró National Park.

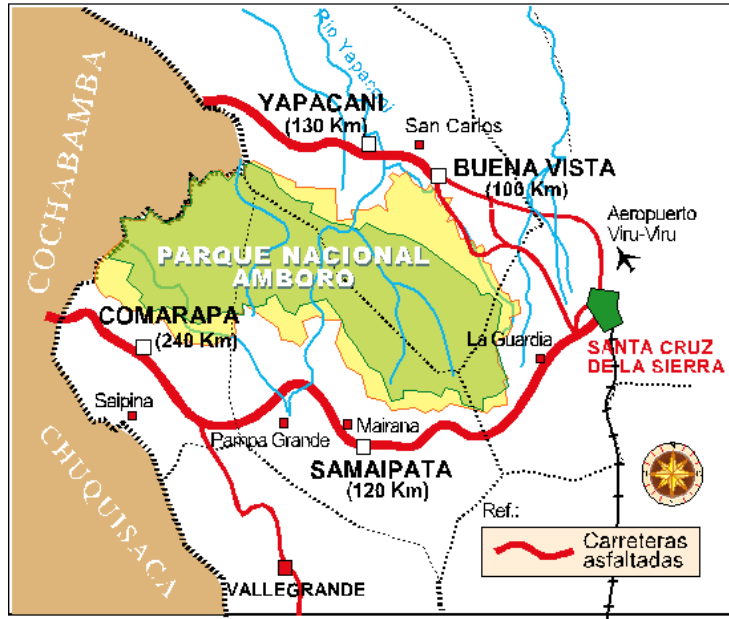


Figure 4: Amboró and the ANMIA

Source: Ismerdes 2009

Despite Environmental Law 1333 governing the Park and the ANMIA, which has been in effect since 1992 (Ismerdes 2009), degradation continues and many producers remain unaware of regulation or sustainable agricultural management. In a 2009 base-line survey completed by CEPAC, more than 34% of respondents did not know any municipal regulation governing the ANMIA or natural resource management. Only 37% had any idea regarding the ANMIA regulation (CEPAC 2009a). In perhaps more telling detail, the survey also asked about the participant's perception of an 'agro-ecological' system. Only 5 of the 133 respondents stated that they believed it would mean not using slash-and-burn techniques. Since slash-and-burn is one of the major detrimental practices in the region, coffee is a particularly suitable solution. As various project technicians and beneficiaries noted, it is a perennial plant that can last up to 20 or so years, effectively deterring farmers from burning to clear for the annual crops

The farms affiliated with the project are basic in terms of living conditions. One woman reported having to put on hold her participation in a dairy project for the time being because she did not have access to water on her homestead and had to travel to get it for household use. As we will discuss in section 4.1, road infrastructure was one of the most oft-cited problems that the farmers faced. According to the World Bank, as of 2004 only 7% of roads in the entire country were paved (The World Bank Group 2007; The World Bank Group 2008a; The World Bank Group 2009; The World Bank Group 2008b). The issue is complicated for inhabitants of the ANMIA by the prevalence of rivers and streams that make the roads prone to flooding.

3.3 CEPAC PROJECT DETAILS

The CEPAC coffee project started as a response to the agricultural crisis in citrus production which was fundamental to the region. The beginning signs of a Canker outbreak were observed in 2000 (CEPAC 2008, p.11; Braithwaite and others 2002, p.383). As a result, the project places particular emphasis on diversification and environmental standards as a way in which small-scale producers may be insulated from market and environmental crises. Daniel Jaffee observes in his study of small-scale Mexican farmers:

“As long as coffee remains an economic supplement – rather than the mainstay – of peasant families, it offers protection in the form of diversification. But for many families... coffee went from being a shock absorber to a pillar as they reduced or eliminated food crops to expand their coffee plantations, and the relationship changed to one of dependence and vulnerability” (Jaffee 2007, p. 41)

Facing a similar situation in citrus, the project's proliferation of coffee is done with an eye to diversify away from the risks and shocks to which small-scale producers are particularly susceptible.

The project works via local community leaders and trained agronomists to extend coffee management techniques. During the initial four years community-based producer-agronomists were trained to carry on the work of the project and to embed it within the local area. These are project participants who have their own coffee plots that have undergone training so that the expertise is based in the community and that members are not dependent on an external agronomist to offer management assistance and advice. While the project currently employs hired agronomists or "technicians" in order to roll out the project in the southern zone, locals are already in the training process to take on the role of technician. The project began its 2009 certification program (*Perito en Caficultura*) that included producers from both the southern and northern municipalities. As project members have pointed out, this is extremely valuable during the rainy season when communities are cut off from the major centres by inundated roads.

3.4 A PROFILE OF A PRODUCER

The demographics of the producers involved in this case provide some nuances to the context within which the program operates. In particular, the origin and education of the producers speaks to their aspirations and some of the limitations they have already faced.

One of the most striking features of the producers who participated in the study interviews is that very few of them are living in the community or even department where they were born. In fact, the largest group comes from the department of Chuquisaca, often from the Sucre area. Fourteen respondents were from this department. Thirteen were from the Santa Cruz department, but of those, only four indicated that they were from the same municipality where they were living currently. It is notable that a large number of them had been settled in their new community for a significant amount of time. While not all respondents answered the question, thirty-two did report that they had lived in their current community for more than 10 years. Of those, another twenty-four reported being in the area for 20 or more years and fourteen could count thirty or more years.

Table 2: Department of Origin

Origin of Respondents by Department								
Bení	Chuquisaca	Cochabamba	Oruro	Pando*	Potosí	Santa Cruz*	Tarija	No Data
1	14	8	1	1	6	13	2	2

* Unconfirmed.

Some of the respondents were asked why they chose to come to this particular area and most answers indicated that they were economic migrants. The majority indicated that their internal migration was connected to be the lack of fertile farm land, water or sufficient employment.

The origins of the producers speak to a relatively homogenous group now living in the area. Many have come from the highlands, but not necessarily from any one place. There is, however, an interesting dichotomization between the El Torno and Yapacaní groups. In Yapacaní, it was far more common to come across Quechua speakers who felt more comfortable conducting their interviews through an interpreter than in Spanish, their second language. The project operates with local technicians and the northern zone coordinator speaks Quechua, so communication did not appear to be a current problem for producers. However, considering that Bolivia has 37 “living languages” (Lewis 2009), it would be valuable to have further research on the training and availability of development services in the major indigenous languages.

Aside from the language and areas of origin, education is another element that contributes to the producer’s ability to earn a living. The amount of education was fairly limited for many of the farmers interviewed. Table three gives the approximate years of schooling that most of the producers have received. There was no response for 13 of the interviewees. Out of respect for the interviewees, this question was occasionally omitted, particularly when it was apparent that they had little to no literacy skills or were of an older age. One of the respondents included in this figure could not give the number of years he had attended, but responded with “*poco*” or “little.”

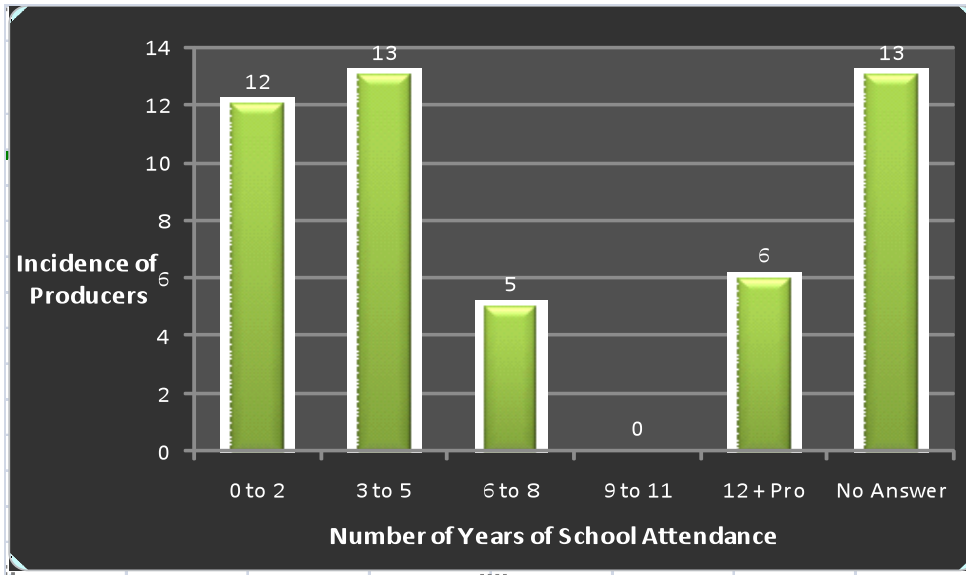


Figure 5: Incidence of producers who have attended school, by number of years completed

According to the United Nations Development Program (UNDP) Municipal Development Index, the 7 municipalities have an average of 5.5 years in school (UNDP 2004a). As is visible in Table 4, the more than half of producers (69%) have five years or less. Education is both an indicator and a tool for rural poverty reduction. Hanjira, Ferede and Gemechu Gutta infer in their study of rural Ethiopian households that “education increases the bargaining position of households in market transactions” (Hanjira, Ferede, and Gutta 2009, p.1602)

. This is fairly intuitive: literacy and education are critical tools in order to assess a business deal or join a cooperative. Moreover, education can be critical to future production sustainability. The CEPAC *Perito en Caficultura* training modules are aimed at precisely that. Producers must be both business-people and biologists, caring for their books and their plants. Basic literacy and numeracy go a long way in helping a producer

do this. Finally, Daniel Jaffee expresses the common sentiment that education is a critical piece to the development puzzle. The participants in his case study on Mexican coffee producers, “like those around the world – view education as a route to escape from poverty”(Jaffee 2007, p.113). Those who were part of a fair trade cooperative spent their higher income on educating their children, who also reached higher levels of education than those who were not affiliated with any cooperative (Jaffee 2007, p.114).

4 THE CASE STUDY: A TALE OF TWO MUNICIPALITIES

The details of case study are based on interviews with 29 project beneficiaries from the southern El Torno Municipality and 20 from the northern area, principally the municipality of Yapacaní.⁹ These interviews were supplemented with interviews with 3 project technicians and 2 local stakeholders – a municipal government representative and a senior staff member of one of the coffee processing and export companies. In the following section I will examine the major barriers articulated by 49 producers along with an assessment of their experiences transitioning to coffee and with other development assistance programs. The project participants from the north have had several years of project assistance as well as multiple harvests, whereas the El Torno participants are just beginning their engagement in coffee production. In each section the

⁹ This number includes two interviews with producers who are from the Buena Vista and San Carlos municipalities respectively.

comparison between the two groups provides a litmus test on the effect of participation in the coffee chain on the livelihoods of the small-scale producers considered here.

4.1 BARRIERS TO THE NORTH AND TO THE SOUTH

The principal concern of this case study, in light of the stated objectives, is to examine the most prevalent and problematic barriers that producers face at the upstream links of the coffee chain. Comparing how these problems affected those within the coffee chain (the northern producers) and those, for all intents and purposes, still outside of it (the southern producers) shows the ways that global export chains can mitigate some of the traditional problems. It shows that some of these problems are traditional for a reason – and that they will affect producers regardless of the product.

4.1.1 RAINS AND ROADS

One of the most often-cited problems that producers in both zones faced is the issue of roads and rains. Rains are a problem as rainfall is erratic and swings from too little to too much; Roads are a problem because they are of a poor quality and make transportation difficult and costly. Transportation is also scarce especially for the communities that are further from the centre. Both are difficult enough on their own. Together, these two elements create isolation and inhibit transportation of produce to the markets. Of the forty-nine respondents, 21 noted roads and/or rain and resulting inundations as one of the major barriers they faced.

Interestingly, only two from the northern zone had this complaint and the remaining 19 were all based in the south where coffee has not yet been substantially

produced. Of the two southern farmers, one noted that the situation was improving since his association had purchased depulping machines in order to circumvent this problem. He stated that during rainy periods they are “an island” but that they are able to depulp the coffee and hold off on the sale until the roads are in better shape. It is striking that the south’s most significant barrier is largely absent in the north. This results from producing a crop that is not for immediate consumption. Also, exceptions in the north demonstrate that the ability to overcome this barrier is also linked to the capacity to participate in a value-adding step: depulping and drying the beans.

4.1.2 A BEVY OF BLIGHTS

One of the largest concerns that permeated both zones is the trouble with disease and pests, 61% of the producers stated that they had problems with disease control in the citrus and/or coffee production. It is also notable that fifteen of the twenty northern producers (75%) responded that they had some sort of pest or disease in their crops. The good news is that many of them felt confident in spite of this challenge. A Yapacaní producer who had one year old plants in a new plot noted that he already had seen *antracnosis* and *roya*, two of the common coffee diseases present in the area. But a producer from the same community noted that the incidence of *broca* was less now that they had controlled it biologically. Each of the five farmers from the community of San Rafael answered that they had diseases in their parcels. Yet, four of the responses indicated that controlling them was simply a part of life and not something that either surprised or concerned them. An Agricabv representative felt the same way. Disease is a discernable problem – one that is more or less under control by way of the social fabric of

the community. The farmers hold one another accountable for disease control, as they know that their lands have fluid boundaries. If one gets *broca*, they all will.

As stated earlier, the project started as a reaction to the citrus diseases plaguing the region. The fact that every community questioned in the northern zone reported the presence of one or more of the major coffee diseases indicates that a change of crop will not remove this threat to producer livelihood. This is it would seem is a lynchpin of success in agricultural development efforts: environmental plagues will be a part of life whether one plants coffee or another product. However, they are not insurmountable with proper care and technique. Six producers from the municipality of El Torno noted that the lack of technical assistance was a problem for them and four stated explicitly that they wanted more technical advisors to help deal with disease or fungus control. A project technician stated that one of the crucial benefits of the program arises from its term, 4 years for southern municipalities, 8 for the northern ones. While it is not practical for projects to be interminable, it is important that they last long enough to observe pestilence and successful control. There is a general sense among several producers who had previous experience working with agricultural extension programs that they tend to come only for a short time.

4.1.3 A DUBIOUS COST-BENEFIT

In the same way that the agro-ecological system of the farm must be balanced to control pests, so too must the books. Agricultural inputs and crop prices are yet another perpetual challenge to farmers. In El Torno, producers were burdened by low citrus prices. For some this problem was exacerbated by cost of labour and individual family situations. For example, two neighbouring women from El Torno are single. The excess

and/or hard labour that they cannot do themselves or would normally be done by their male partner must be doled out to wage labourers – an added input cost, as most small-scale farmers get by largely on family labour. In El Salao, the going rate for wage labourers is about 50 Bolivianos (BOB) per day (about \$7USD). As one producer noted, this does not include the requisite meal that the producer would be expected to provide for them. The wage is considered expensive and complicated by the fact that labourers are scarce in the area. In El Salao particularly, the proximity to both El Torno and the city of Santa Cruz de la Sierra means that there is a significantly wider pool of employment options for day labourers than there might be in a more remote community.

On the other side of Amboró, two producers in the Yapacaní municipality noted that labourers take a significant portion of their coffee earnings. A coffee labourer earns 1BOB/kg (\$0.14USD) of coffee picked. During a discussion with an OCAFESY association producer and a project technician, it emerged that the price of coffee for the 2009 harvest was 2.4BOB/kg – thus 40% of the earnings was spent in labour. Unlike the El Torno communities, there were sufficient labourers for the harvest needs. Yet like their southern neighbours, the Yapacaní farmers were still concerned with profitability of the prices being offered them in view of their labour costs. On the bright side, other input costs are relatively low. The technical package being taught by CEPAC focused on using readily available materials for fertilizers, such as manure from one's own animals, rice chaff and compost. An association president noted that the inputs that had to be bought were fairly low cost. All that was required in organic production was lime and sulphur, two items that – despite lime's illicit status due to the cocaine trade – were still relatively available and cheap.

Table 3: *Guinda* Coffee Prices

Prices by Purchasing Company for CEPAC-affiliated Producers (BOB/kg, in <i>guinda</i>)				
Company	Ideal	Agricabv		
Certification Type	N/A	Conventional	Utz Kapeh	Utz and Organic
Price	2.40 BOB	2.00 BOB	2.20 BOB	2.40 BOB

Source: Personal communication, R. Burgoa, 17/11/2009.

Labour and input costs are not the only points to consider against the price earned. The issue of harvest transportation figures as much in costs-effectiveness as it does in physical logistics. One farmer from El Tigre stated that the cost of transportation to El Torno was double when it has been raining. The scarcity of transportation and the difficulty of reaching some of the more remote communities naturally raise the price. Once again, however, we can note that the cost and difficulty of transportation was not a factor in the Yapacaní communities. In three of the associations¹⁰ connected to the project, according to a project staff member, the purchasing company paid a transport fee of 2BOB/kg to bring it from the farms to the processing centre. An Agricabv representative, on the other hand, noted that there are producers who bring the harvest directly to the processing plant. The critical point from each of these arrangements is that the coffee associations provide a mechanism for organizing transportation and lowering its cost. This does not appear to be present in the El Torno communities at the moment.

¹⁰ OCAFESY, CONDOR are associations from Yapacaní and an APAFECH member, from Buena Vista, reported Agricabv picks it up at a nearby river.

4.1.4 SQUEEZING CITRUS IN THE MARKET

While very few producers articulated this need, one of the major problems that became apparent in El Torno is the lack of value-adding and depository capacity for the current products. Two producers from Lomerio/El Tigre felt that they were at a particular disadvantage in the citrus market due to the lack of a warehouse and prices fixed by intermediaries in El Torno. One producer summarized the situation: the El Torno intermediaries buy and then turn around and sell to the trucks heading to the highlands, earning a higher price. Those in the community who don't have access to their own transportation and have to hire it to bring their crop to town are forced to sell everything in one day, regardless of the price. Another producer suggested that they would benefit from a juice plant. The problem stems from the fact that there is virtually no citrus processing amongst the small-scale producers of project. As citrus is ubiquitous and temporal, everyone harvests and sells at the same time of year, which depresses prices. There are only so many oranges the surrounding population can eat before the fruit is rotten.

This problem is not limited to the citrus production and manifested itself in other areas of income generation for the project farmers. In Lomerio/El Tigre the women had formed a "mother's club" under assistance from another community development project. The club, attended by women of various ages includes a knitting circle that produced handicrafts to sell in El Torno. One of the women from this club pointed out that recently more people have learned how to make the knitted items and that they are being squeezed out of the El Torno market, making less of a profit. Like mandarins, there are only so many headbands or scarves one town needs.

One may question why they did not take their items to sell in Santa Cruz. While none of these women stated any reason, it is likely related to the commercialization process they follow with other products. During multiple conversations with farmers and technicians it became apparent that members of particular communities would generally sell in the same market. For example, in El Salao, three of the five producers surveyed indicated that they sold in El Torno. One woman stated they take it into the market in Santa Cruz only when there is an excessive amount because the transportation into the city has a higher cost. A project technician commented that certain communities have their established markets. For example, Elvira producers do not sell in El Torno, but in the city instead with occasional sales to trucks headed for Sucre and the highlands. On the other hand, the neighbouring community of Forestal sells in El Torno. This indicates that producers are fairly entrenched in their commercialization. Raj Patel observes that the poor, especially the rural poor in the global south, are not easily able to adjust based on the market's price or demand signals. In his example of Mexican corn farmers, Patel documents how production was actually increased after the corn price fell due to NAFTA and the devaluation of the peso in an effort to make back the loss of market to the new competitors brought in by the trade agreement. "Although free market thinking assumes that farmers can invest in other crops, the reality was that few had the necessary resources in order to be able to switch" (Patel 2007, p.49-50).

Thus, small-scale farmers are often in a tenuous situation. Change is not impossible, for one farmer was able to recount to me the experience of changing from horticulture to citrus in the past. Nonetheless, it is not an easy step to take. Many farmers feel that they are walking a fine line with their current production. They eke out enough

to cover their incidentals from the citrus sale and subsist on their own production for the rest. Yet, many are sensitive to extra costs, such as transportation, so much so that increased profits and a more stable income are out of reach. As a result, it is worth considering what events and factors prompted farmers to take the risk to begin coffee – a three year investment to production. In the next section we will examine some of the motivations that have precipitated diversifying with coffee production.

4.2 MAKING THE SWITCH

Considering the preceding list of problems facing farmers and the subsequent realization that left to their own, they are not easily able to change crops one must question “how does any farmer get involved in the coffee business?” One of the outstanding causes is the presence of an organization actively promoting coffee production. When asked how they got involved with CEPAC’s coffee program, 22 of the 29 southern producers indicated it was either from speaking directly to a project technician or from attending a community meeting during which the technicians had presented information on it. Two producers from Junta Pirai and El Salao respectively also noted the importance of a tour to Yapacaní taken to visit farms there that had produced coffee for several years. They became enthusiastic seeing the positive results of coffee for producers with similar farms to theirs. One woman noted that her community’s interest in participating in the coffee project really didn’t take off until she had attended the tour. Table two gives an indication of how the producers were introduced to the coffee program.

Table 4: Introduction and Integration into the Coffee Project

Community (# of participants)	How El Torno participants heard about and integrated into the coffee project				
	Through a project technician	Through a neighbour	Through a municipality representative	Other	No response
Nuevo Surutu (1)					1
El Salao (5)	4			2 (affiliated university program)	1
Junta Pirai (6)	4	2	1		
Elvira (3)	2		1		
Lomerio/Tigre (11)	8	2		2 (Mothers' club), 1 (family member)	1
Angostura (2)	1		1		
Total	19	4	3	4	3

For the majority of El Torno producers, coffee was a new crop that had largely been introduced through the project. A few noted that they had some plants that they had received from the *alcaldía*, or local government. However it is safe to say that the producers did not spontaneously decide to diversify into coffee without some sort of institutional assistance. Prior to the project's encouragement of coffee as a cash crop, it was generally considered nothing more than a wild mountain bush or a decorative plant. This indicates an important barrier to entrance into new and more lucrative value-chain

participation. The fact that the market gives a signal that they should switch crops does not change the reality that they may not have the knowledge to assess the alternatives and make the change based on those indicators.

In the municipality of Yapacaní, there were a variety of reasons that producers identified that gave them reason to value the addition of coffee to their total farm production. Eight of the twenty producers indicated some sort of economic benefit when asked why they switched to coffee or what particular advantages they had gained since doing so. The most common reason was, of course, the increased earnings that were available to them from coffee production. However, some farmers also stated concomitant benefits. Two of the responses indicated that the stability of the income as a benefit. One woman compared her coffee production to rice production, stating that if there happened to be rain during the rice harvest, then it was all ruined. This was not an issue with the coffee harvest. Another producer who had been one of the earliest in his community to plant stated that he saw benefit in the long-run stability of a perennial crop.

One of the more interesting responses regarding the economic benefit came from an association producer who recounted how the members from his community came to be involved in coffee production. His community had wanted a bridge due to the isolation during the rainy season when the rivers washed out the road. The municipal government asked what they were producing and told them that their thinking was too limited with annual plants. Economically, it was unstable: dependency on the traditional annual crops such as rice or corn limited their annual cash flow to a particular time of year and a low level of income. In addition, their slash-and-burn practices were environmentally unsustainable. However, with diversification into perennial plants, such as coffee and

mango, they were able to show the long-term economic viability of the community. This in turn would make the municipal government more apt to foot the bill to open the community up through infrastructure to more economic opportunities.

This account indicates another benefit manifested in Yapacaní. There were several who cited the agro-ecological benefits of coffee. Three producers stated that they had seen lower yields in their other crops. This is both an economic and environmental commentary. Clearly, lower yields equals lower income. However, there is reason to believe that producers have reason to value the environmental health of their land for more than what it will give them. One producer noted that there was less slash-and-burn, which he knew was a detrimental practice. A project technician working in El Torno observed that beginning coffee production was a way to “forget” the traditional practices of using damaging chemicals.

The project also underscores the importance of agricultural diversification over the dependency on a single cash crop. Two Yapacaní producers indicated that coffee was no better a product in and of itself than their other ones. One woman from the OCAFESY did not see much of a difference between cattle production and the extra plot of coffee that she had been tending for the last four years. Another producer from the same association stated that the benefit of coffee is “more or less, nothing more,” but that the point was to diversify their production. This is one of the fundamental goals of the project precisely because it provides stability and security against mono-crop production and market dependency. It protects against blight, eccentric and extreme climatic conditions and market fluctuations.

The tepid enthusiasm for coffee itself in these latter responses demonstrates a critical point of the project, and one that is fundamental to a sustainable agrifood development paradigm. The point is not to boost income so much that producers move out of agriculture entirely and into a modern (read: urban) life. This end goal is absurd – we would starve without farm production. Moreover, it completely ignores the fact that people have reason to value and enjoy agricultural work itself. For example, one producer stated that the benefit of coffee and the reason he had replanted it after purchasing a new plot of land is that it is fun to grow. Therefore, the point of such development endeavours is to make agrifood production economically and environmentally sustainable, allowing producers to do what they do better and with the dignity of a decent living standard.

4.3 A HISTORY OF HELP

Since most farmers are not likely to change production modes spontaneously when market signals communicate the need to do so, it is valuable to examine the Bolivian farmers' experience with institutions that are providing services to assist in this effort. In the case of the producers in El Torno and Yapacaní, Table 6 shows the incidence of previous experience with technical or development assistance programs.

	Yes*	No†	No Answer
El Torno	21	6	2
Yapacaní	8	8	4

Table 5: Incidence of previous experience with development programs

* Includes those who stated they participated in the Club de Madres, which according to one member is well-connected with a larger central body

† Refers to participation of an institution outside of CEPAC and its affiliated bodies

It is notable that El Torno had a higher rate of experience with development projects. In Yapacaní, producers were as likely as not to have had some experience. One of the reasons for this may be the distance from the central city of Santa Cruz. Yapacaní sits approximately two and a half hours north-west of the city, whereas El Torno is about half an hour to the south with urban and suburban settlement for much of that distance. The ability for service delivery is therefore much greater in El Torno than in Yapacaní.

More important than the quantity of assistance programs is the quality of those offered. Several producers, particularly in El Torno, communicated that programs came only for a short time and generally left before any real progress could be made. One producer who recently joined CEPAC's program specifically asked during his interview that the program would be more than just a few *charlas*, or community training lectures. Another farmer from the same community recounted his previous experience with other NGOs such as CARITAS that had gone relatively well until a change of management resulted in its project termination. However, this same producer had a negative wariness

of the CEPAC program because of a poor experience with another NGO. During a conversation with a technician and project participant, it was agreed that one of the major problems in the communities around El Torno, was the short terms of projects. The one in particular that they cited was the government-sponsored PASA program for tomato production. This same technician later noted in an individual interview that one of the greatest advantages of the CEPAC coffee project was its length. He explains:

“I think that it is because of the continuity of the project - The project lasts for four years, right. The big problem when an NGO or an institution comes, sometimes, more than anything else, when they are state-sponsored, there are changes in authority and things just end. But when we’re talking about an NGO that is non-governmental, that has its own external funding and it sticks around for four years, it’s possible. I mean, because we are going to sow [...] This gets the people to follow the technical recommendations and someone is there keeping watch over it.” – CEPAC project technician.

Upon further reflection, he also added that the issue with other government-sponsored agricultural extension programs is that they usually dispense seed and leave without trying to address the production methods that are causing some of the problems in the first place. One may wonder with him, what good are seeds for tomatoes if it is evident that current tomato production isn’t particularly successful? The answer, as we have already noted, is neither merely to sow more nor to move out of production altogether, but to produce *better*. This is the essential role that extension institutions must take on, if farmers are to reach that goal. Programs like CEPAC play the role of a springboard by giving farmers the opportunity to jump and the added momentum that they need, but not making the leap for them. That leap into improved, diversified and sustainable production must come from their own participation.

5 RESULTS: COMPARING BEANS TO ORANGES

The factors and barriers thus far discussed in the case of El Torno and Yapacaní producers represent a specific example of some of the problems facing small-scale producers and their access to livelihoods within a global agrifood supply chain. While the confluence of problems and issues of production may pertain to the Santa Cruz producers, there are some general lessons to be learned from this case sample. The comparison of El Torno to Yapacaní producers leads to important conclusions on the need for three practical things to reduce rural poverty through value-chain participation:

- ❖ Access to a viable market
- ❖ Potential opportunity to participate in higher-value adding points
- ❖ Availability of technical assistance to make the transition from subsistence to diversified production

5.1 IT WON'T AMOUNT TO A HILL OF BEANS: THE NECESSITY OF A MARKET

One of the most critical aspects visible in the comparison between Yapacaní and El Torno was the difference that access to a market makes. There are several issues to keep in mind when discussing market opportunities for small-scale farmers. First, they may very likely not be aware of the opportunities and markets that exist. The Bolivian national coffee market is extremely underdeveloped in comparison to developed nations' markets. Not only is the majority of consumption in soluble, low-quality coffees, but also

it must compete with the consumption of coca tea, a Bolivian national symbol. According to Agricabv, 80% of the coffee they process is exported, while only 20% is kept for the national market. To the producers involved in the CEPAC project, the scale of the global market was far beyond anything in which they had ever participated.

Second, the closest markets may not be the best markets. The El Torno producers are indicative of the small-scale Bolivian producer. Most of the interviewed producers sell their citrus products within a 60km radius. However, when we look at the opportunities to sell citrus outside of the local market, the picture doesn't particularly improve. As project coordinator Rodrigo Burgoa pointed out, the elephant in the trading room is Brazil. There are few opportunities to sell citrus in the international "neighbourhood" because most of the countries around Bolivia can produce it themselves or get it from the Brazilian powerhouse economy. Bolivia itself is a limited economy, with only 9.7 million people over a wide area. If farmers are to have lasting success in integrating a cash crop into their production, they will need a stable and wide enough market that can handle their supply. This makes the magnitude of the global coffee demand important on the local level.

One may ask if coffee will be any different from citrus, in terms of competition from Bolivia's neighbours. After all, Brazil and Colombia, along with Vietnam, currently account for 50% of the global coffee trade. Brazil exported 24 million bags in 2006/2007 alone (Burgoa 2009) and had grown to more than 31.5 million in 2008/2009 (ICO 2009). Yet, there are two key elements that differentiate coffee from traditional food crops for export. First, coffee may be stored and shipped long distances as a dry bean. This means that it will not be rotten before it hits the Argentine or Brazilian border as citrus can be.

Its packable qualities allow it to access markets that are not within the geographical near-neighbourhood. Second, the international coffee market has substantial room for differentiation from mass exporters like Brazil. It is true that soluble, ersatz coffee accounts for a mammoth share of the global trade. Yet, the gourmet market is sufficiently entrenched in Europe, North America and Japan, that smaller producing nations such as Bolivia have the opportunity to carve out a niche for themselves. This, however, leads to our next conclusion. As important as a market is, not all participation is equal.

5.2 THERE'S MORE THAN ONE WAY TO ENTER A MARKET: ACCESSING VALUE-ADDING POINTS

An Agricabv manager pointed out one of the pitfalls he saw in his own culture: the dependence on raw exports. To be sure, Bolivia is rich in a wide array of natural resources. However, with coffee, as with other products such as sulphur, Bolivians are exporting the raw materials only to import the finished product. Brands such as Nescafé dominate the supermarket shelves in Santa Cruz as well the markets and corner-stores where most Bolivians purchase their food, but as he noted Bolivians are becoming more aware of increased value-added production. He offered the quick calculation that if a 1lb bag of coffee goes for \$12USD and from that you can make 50 cups and sell them at a dollar a piece, you stand to make a decent profit.

This is not to say that there are no barriers to the higher echelons of the coffee market. Bolivia has a relatively small national gourmet demand, so depending upon it at this moment would have limits. Furthermore, coffee is generally exported in the green bean stage to preserve its freshness. Once it is roasted, it loses its flavour rapidly.

Regardless, Bolivian roasters will be limited by distance from the large gourmet markets. According to Fitter and Kaplinsky's idea of income elasticity for coffee, the higher incomes of countries such as Chile and Argentina may provide suitable markets. However, one may run into the problem of competition from other South American suppliers.

What is needed ultimately is a way to access some of the differentiation stages of the gourmet coffee trade. Many CEPAC participants are already ahead by pursuing organic, bird-friendly or rainforest certifications as well as following the environmental aspects of technical package of the project. Participating in such modes of distinction, as well as using coffee as a diversification crop will insulate farmers against major fluctuations of the market. Yet even this participation has challenges. David Goodman discusses a fundamental element at play in the value-adding process of the agrifood chains in general and coffee in particular. In discussing Lewin, Giovannucci and Varangis's insight on the subject, he recognizes that what is really at stake is the "historically subordinate position of producers in the value chain and their consequent vulnerability to cyclical price fluctuations" (Goodman 2008, p.15). He also references Fitter and Kaplinsky's observation that the gourmet café industry is "offering ambiance" rather than just coffee, which is source of much of the mark up (Fitter, Robert and Raphael Kaplinsky 2001, 69-82; Goodman 2008, p.15). He makes the final suggestion that the San Carlos Association has already started considering: branding. "In response to this long-term prognosis, value-chain analysis would suggest that producers seek access to more stable sources of value – notably, in the case of coffee, symbolic value"

(Goodman 2008, p.15) According to one San Carlos producer, the association has decided on their own brand, “Café Amboró.”

This particular route to improved income for small-scale producers will certainly not be easy. It calls for a complete revision of even the fair trade and gourmet markets, which currently use northern-based brands. Yet, it is critical that the underlying structural elements are addressed if conscientious consumers, advocates and farmers themselves want to have a significant impact for the rural poor producing our food and beverages.

5.3 A PERCOLATOR FOR CHANGE: THE ROLE OF INSTITUTIONS DURING TRANSITION

There is one critical link connecting farmers to the value-chain that remains for discussion: the role of the producer associations. The role and performance of the associations was not within the scope of the primary research of this study, yet through observation and comments of the producers, it has emerged as an important element for their viable participation in the coffee. Therefore, it should be stated that while what follows are basic observations, further research is necessary. Part of the imperative for further research is to understand what makes an association successful. In the northern municipalities, the San Carlos association, APROASA, is looking forward so that they may grow opportunities for direct trade, which would provide members with a higher income. However, the interviews with OCAFESY association members in the neighbouring municipality of Yapacaní reveal that the association had fallen on hard times with membership at about half the original 70 members. Such a comparison

between associations raises the question of what is necessary to make an association – and by extension, producer participation in such a global value-chain – work.

While each case study may have different cultural and social factors at play, wider literature on the subject of organizations is helpful in answering this question. Anthony Bebbington documents the role of “rural people’s organizations (RPOs)” (Bebbington 1996, p.1162). Bebbington offers a critical insight on this subject. He recognizes the trend toward “diversification of rural livelihoods, linking on and off-farm income sources and employment. This means that any strategy fostering intensification, growth and poverty alleviation in the [Andean] region cannot be a purely agricultural strategy” (Bebbington 1996, p.1162). As a result, Bebbington emphasizes that when RPOs can offer more than simple technical assistance, such increasing opportunities for value-adding through social enterprises, they have “the most to contribute” to the process of rural development (Bebbington 1996, p.1174).

In the current case study of CEPAC producers, the coffee processing company, Agricabv would be an example of what Bebbington refers to as ‘social enterprises.’ Agricabv works with and through the community in which it is based, Candelaria. Through an interview with a senior Agricabv member, the community-enterprise relationship was explained: The community has about 30 families, or about 150 to 200 people, the majority of who are involved and working at Agricabv in some sort of capacity. Some work as caretakers, mechanics, drivers and harvesters in the *el Cafetal*, the plantation. The youth of the community principally manage the tourism of the plantation, which offers coffee tours and a hostel. Beyond the immediate community that participates in running the facility, Agricabv acts as a gateway to the global trade for

producers in the surrounding area. There is a caveat, Agricabv is selling not only to larger corporations such as Starbucks, but also smaller direct and fair trade roasters, such as the Canadian company Level Ground and the Chicago-based Intelligentsia Coffee and Tea Inc. As a result, their buyers require a certain standard, which means that the quality must match price. As the Agricabv member at Agricabv pointed out, the producers know what the price is on the world stage and that they usually pay above that, for example for Starbucks. “It’s not a top secret,” he stated.

While Agricabv is not the same as a producer association and is its own business entity, it does serve as an example of how the organizations in the specialty coffee chain can be an entity of both opportunity and opposition for farmers. Jaffee’s study of Mexican farmers in and outside of a fair trade cooperative shows how the cooperative can provide the certification necessary to gain a minimum “floor price” offered by fair trade and organic buyers (Jaffee 2007, p.160). On the other hand, cooperatives can lock producers into certification systems that place heavy burdens upon the producer, such as extra labour, initial infrastructural costs, time and rigid standards that spill over into other non-coffee production (Jaffee 2007, p.124-125, 151-152).

Santa Cruz is still at the beginning stages of having a coffee producing industry in the region. There are two entities that are playing tag-team roles for the ANMIA-region producers. First, there is the NGO, CEPAC, which is doing the leg work to attract farmers to coffee-diversified production. Next, there are the associations, which are vehicles for passing on training to producers as well as collective sales. The associations currently only formally exist in the northern municipalities. After the length of the first phase of the project, they have a checkered record, as has been shown through the

OCAFESY and San Carlos comparisons. Yet, these associations are still young and their fate is not written in stone. The associations provide a forum for producers to learn about production methods and disease control, which will help farmers reach higher yields and quality for sale in the specialty market. For instance, in a monthly meeting, the San Rafael community members of the OCAFESY association gathered one member's home to learn through rudimentary diagrams drawn in the dirt about how lunar phases can affect the coffee bush's ability to grow back after pruning, making it more resilient toward diseases.

There is a community aspect that reinforces what is learned in these meetings. One of the San Rafael producers stated that he came to participate in the coffee project because he had seen the coffee production in one of the other member's farms and had come over to learn from him how to do it. In Lomerio and Tigre, though there is not a consolidated producers' association, the families are already working together on a community nursery to produce their own coffee plants. During one meeting, they worked alongside each other to prepare the nursery soil. At the end of the work day, they decided as a community how they would manage the nursery and the work that needed to be done for it, including organizing food so that the next work day would not be interrupted when the (female) members had to go home and prepare lunch for their families.

Moreover, the community-style transmission is important for effective service delivery in considering that the remoteness of some of the communities makes it untenable for NGO staff members to be present and teaching. The need to travel by motorcycle an hour or so would make this work extremely difficult if not impossible during particular weeks of the year when the rains have washed out the roads and the

gasoline and maintenance are added costs. Eventually, the NGO will have to phase out: it is good policy not to create institutional service dependency and the external donor funds are, of course, only guaranteed for so long. Therefore, in order for the technical expertise to continue, the associations have to be strong and with sufficient network connections that after the exit of CEPAC, they are still able to access the resources and current information on production. In time they may move into Bebbington's preferred "social enterprise" form. However, from the outset, they must be fortified to be the crucial "organizations which link the traditional to the modern... grounded [in] local social processes" (Bebbington 1996, p.1163).

This leads back to the original questions of the paper: what are the barriers to producers in the coffee chain and what is going to help them overcome these barriers? The role of both the NGO and the associations prove critical in overcoming the central barriers that prevent producers from making the transition to coffee – lack of knowledge, technical expertise and resources. Also, they can be imperative to long-term success, as they make the connections between producers and (potentially higher-paying) buyers within the value-chain. Finally, they can provide critical community-based transfer of knowledge and assistance. Not only was there knowledge-transfer in San Rafael, but Lomerio and Tigre demonstrate that there can be labour assistance as well. This may prove important for communities such as El Salao, where there are single-women and families do not have sufficient labour to manage their coffee plot. Therefore, the role of NGOs and producer associations can be critical for producer success, particularly at the beginning of a producer's participation in a global value chain.

6 CONCLUSION: TAKING A CUP FOR THE ROAD AHEAD

The CEPAC case study provides an interesting set of barriers as well as insight on how to manoeuvre forward. How to create enduring change is not easily prescribed, yet, I will conclude with some ideas and observations in light of the case study. Many of the conclusions are reflections of those who are participating in Bolivian coffee production – through the project, local government and export business. While these conclusions are particularly situated with the case study in mind, there is some generalization that can be made. Bolivian farmers are by no means alone in their struggle with poor roads and rains. Such problems will continue to arise wherever global market systems meet the constrictions of small-scale production in the developing world.

Some of the biggest problems in the eyes of producers are concerns that will be a constant barrier to farmers whether they live in Bolivia or in British Columbia. The weather and diseases are something with which farmers have had to contend since the invention of the spade. It may simply have to be an acceptance of humanity's dependence on an earth that does not go without a fight. However, this is not to resign oneself to the belief that farmers, particularly poor ones, are at the mercy of the elements. As CEPAC's program shows, there are ways to mitigate those 'forces of nature,' and those solutions can fit within the economic constraints of world's rural poor. The nature-friendly technology, which includes everything from soil management to live barriers to using organic and bio-fertilizers, are easily within the reach of the target group of farmers. The production barriers are not simple to control. As evidenced by some of the Yapacaní farmers, the technology of the program require a significant amount of manual labour, a

difficult thing for the aging or single women producers. However, the point remains that they are not insurmountable. The Yapacaní farmers were also those who evidenced the most confidence about the plan to control their disease infestations.

There is a deeper issue that surfaces in relation to the technology. While the tools are available, there is no guarantee that they will be used. I have shown in this paper how the switch to diversify crops with coffee appears to be driven by the institutions that are active in the area. The greatest challenge is not getting farmers to sign up and attend meetings; it is getting them to change their mindset. An Agricabv representative, referring to the experience with the Candelaria producers commented that they were “fighting against a tradition of not being coffee producers for many years. It’s to say, you are a doctor and from this morning onward you are going to be an engineer. It’s a silly comparison, but this is the reality.” Another program technician reiterated this sentiment. He pointed out that there are some who will be take the risks to be the first movers and there will be the “conformists” who may join a program like CEPAC but don’t know what to do with the resources it provides. In the end, organizations like CEPAC or government-sponsored projects cannot force adoption. In the same way that production barriers are ever-present, but not insurmountable, value-chain stakeholders must realise that conscientious steps must be taken to help producers integrate.

This leads to our final conclusion: the integration of producers into a secure position in a value-chain is not a given. It will require technical assistance for the production and ecological aspects that are new to producers, familiar with traditional practices. More importantly, if stakeholders are concerned with making the value-chain

process substantial in providing adequate livelihoods, then the structure of the chain will have to be analysed and reoriented to include the producers.

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APPENDIX: INTERVIEW QUESTIONNAIRE – PRODUCERS¹¹

Demographic Information	
Name:	Community:
Gender:	Age:
Place of Birth	
Number of years in school: 0 0-2 3-5 6-8 9-11 12+	Civil status:
In what does your spouse work (if you have one)?	
Number of children:	Boys Girls
Number of people living with you:	Ages:
What do they do: go to school / work on the farm / work outside of the community / other	

¹¹ The Questionnaire here formed the basis of the interviews, however, these interviews were conducted as a conversation and some questions were answered out of order or not at all depending on cultural cues. See page 37 for such an example.

FAMILY FARM:

- 1) How many hectares of coffee do you have? How many in total (including other crops)?
- 2) How long have you had this land?
- 3) What type of products do are traditionally planted in this area or in your family? What type do you have now (if there is a difference?)
- 4) How much is used for family consumption and how much do you normally have left over for the market?
- 5) What earnings do you normally get from the farm (in terms of prices, quantity produced, difference in price at different seasons)
- 6) Why did you decide to change crops (to coffee, for example)?
- 7) What are the benefits to producing coffee?
- 8) What are some of the problems associated with its production?
- 9) Do you have an irrigation system?
- 10) How many people are sustained by the production of the farm?
- 11) How much of the harvest is for family consumption and how much is to sell in the market?

INPUT, OUTPUT AND MARKETING:

- 12) Where do you sell the harvest?

- 13) What is your annual production process like? (e.g. when is harvest, when are you planting)?
- 14) How many people work in your production? How many are members of the family and how many are paid hands?
- 15) How much do paid farm hands earn?
- 16) What type of inputs do you normally use (Fertilizer, manure, pesticide, rented or bought equipment)
- 17) What are the costs associated with these
- 18) Where do you buy these items?

PARTICIPATION WITH CEPAC

- 19) How long have you been involved with CEPAC?
- 20) What sort of service do they give you?

OTHER ORGANIZATIONS: CREDIT INSTITUTIONS, ASSOCIATIONS AND OTHER NGOS

- 21) Are you involved in any other programs or organizations related to your agricultural production?
- 22) Do you have credit for investing in your production? Have you had credit in the past? If yes, how much were the loans and how were they used?
- 23) In your opinion, what are some of the biggest problems for producers in this community?