

Revaluing Peasant Coffee Production:
Organic and Fair Trade Markets
in Mexico



By Muriel Calo and Timothy A. Wise

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About the authors

Muriel Calo is a researcher at the Global Development and Environment Institute. She received a fellowship from the Tufts Institute of the Environment to carry out the research in this report.

Timothy A. Wise is Deputy Director of the Global Development and Environment Institute and a researcher with the Institute's Globalization and Sustainable Development Program. He is the co-author of *Confronting Globalization: Economic Integration and Popular Resistance in Mexico* (Kumarian 2003).

Corresponding author: Timothy A. Wise, tim.wise@tufts.edu.

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Tufts University, 44 Teele Avenue, Medford, MA 02155 USA
TEL: 617 627-3530 • FAX: 617 627-2409 • E-MAIL: GDAE@tufts.edu
WEB SITE: <http://ase.tufts.edu/gdae>

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Executive Summary

The emergence of significant new markets for organic and “fairly traded” products has been hailed as an important part of the effort to address the chronic poverty suffered by many small-scale agricultural producers in the developing world. Nowhere are these markets more developed than in coffee, where a variety of organic, bird-friendly, fair trade, and other certification systems promise more value to the producer for attributes valued by consumers. With 20-25 million producers around the world suffering from a prolonged crash in coffee prices, the premiums in these niche markets may offer a way out of crisis.

The new certification schemes represent a market-based mechanism for valuing the contributions of small-scale coffee producers, contributions that the market on its own has not recognized. Social, environmental, and health attributes are identified with standards-based labels, allowing consumers to choose to pay a higher price for coffee that has such desirable attributes. Organic premiums raise export prices by US\$.10-.50/lb over the international market price. With export prices for uncertified coffee in recent years as low as US\$.50/lb, the premium can be significant. Fair Trade coffee, meanwhile, offers even higher rewards, paying a fixed US\$1.26/lb for conventional Fair Trade coffee and US\$1.41/lb directly to producer cooperatives for organic Fair Trade coffee. With conventional coffee prices so low, the organic Fair Trade premium can put more than double the amount of money into producers’ hands. Though they still represent a small fraction of total coffee sales, organic and Fair Trade coffees have established defined standards and built rapidly growing markets.

But to what extent can these dynamic new niche markets help solve the coffee crisis plaguing the world’s small-scale producers? This study evaluates this question in light of the efforts of one group of Mexican coffee farmers in the state of Oaxaca to gain maximum advantage from these new market opportunities. Mexico is the world’s leading producer of certified organic coffee and, with Peru, among the leaders in Fair Trade coffee.

We find that the organic premium paid to these producers generally failed to cover the added costs associated with organic certification and maintenance. The large labor investment required by organic production – often as much as three times the labor per hectare – was poorly remunerated by the market returns to organic production. The two-year transition period, during which producers received no premium but had to invest significantly more labor in their land, was particularly burdensome. A US\$.25/lb price premium provides a poor incentive for conversion to organic methods, allowing producers to recover their initial investment only over an unreasonably long time period. In effect, the premium alone pays the equivalent of poverty-level wages for the labor needed to comply with the standards.

Fair Trade premiums, on the other hand, have proven highly remunerative for those able to sell their coffee in Fair Trade markets, and certification costs are negligible. With prices fixed at levels meant to exceed production costs, Fair Trade premiums have been a lifeline for those able to gain access to this market. They can also cross-subsidize the transition to organic production, raising base prices to levels that can compensate producers for the costs associated with the transition.

When examining more closely the experience of one statewide marketing cooperative in Mexico, we find that even access to these niche markets left overall returns from coffee production low. This finding is particularly striking since these are well-organized producers in a cooperative that has reduced or internalized certification costs, committed itself to facilitating the organic transformation, gained significant access to the more highly remunerative Fair Trade market, and socialized gains from niche market prices throughout its membership. Nevertheless, with prices as low as they were in 2003-4 (and in many of the years preceding that), coffee sales alone compensated producers' labor at a very low rate. Because the cooperative could not sell all coffee for the Fair Trade organic premium, producers remained vulnerable in the face of low market prices. The costs of organic certification placed an additional burden on the cooperative. Only hard-won government support programs, in the end, brought producers to a more reasonable rate of return from their coffee production.

Our study also finds that there are significant barriers to entry to these new markets for most producers. The cost of meeting the standards, particularly for organic certification, can be prohibitive. Quality is a significant barrier for producers seeking to enter niche markets, and the poorest farmers often grow coffee in agro-ecological conditions that make it impossible for them to meet quality standards. As the Fair Trade market increasingly demands both organic and high-quality coffee, it too can become inaccessible to most producers. Finally, even though these new markets provide an important incentive to producers to organize, the requirement that producers be organized to access organic and Fair Trade markets leaves out a majority of growers.

Conclusions

Based on this case study research, we conclude that while market-based mechanisms add value to small-scale coffee production, a more comprehensive approach to the problem is needed. This would involve changes in rural development policies at the national level – credit, infrastructure, and agricultural extension, in addition to direct support programs.

In the end, though, neither niche markets nor national government programs can serve as a substitute for concerted international efforts to address the price crisis. As long as supply continues to outpace demand in a deregulated global market, and as long as a highly concentrated group of transnational buyers dominate that market, prices will generally be unsustainably low. This study suggests that an internationally coordinated effort to re-regulate the market is needed to stabilize prices and raise them to remunerative levels – at least to current Fair Trade prices.

For small-scale producers, any solutions to the coffee crisis will look much like the peasant economy itself – a patchwork of diverse survival strategies. It will likely combine subsistence and cash crops, unpaid family labor on the farm, off-farm employment and migration, market-based opportunities and government programs. Backed by a more favorable set of policies, the organic and Fair Trade niche markets can be integrated with other market-based mechanisms and combined with non-market initiatives to recognize the full value of small-scale coffee production. While the present study suggests that niche markets alone are unlikely to provide a comprehensive solution to the coffee price crisis, they have an important role to play in promoting more sustainable livelihoods and in beginning to revalue the environmental, economic, and cultural contributions of small-scale farmers in an increasingly global economy.

1. Introduction

The emergence of significant new markets for organic and “fairly traded” products has been cited as an important part of the effort to address the chronic poverty suffered by many small-scale agricultural producers in the developing world. The organic agriculture movement has now moved from the margins to the mainstream, with formal U.S. standards for certification, demand growing at an annual rate of twenty percent, and even large-scale U.S. producers vying for a piece of this lucrative new pie. The additional premium paid by the consumer for labeled organic products in part reflects the premium paid to producers for their organic goods.

Meanwhile, proponents of fairly traded products have built their own momentum for a niche market that guarantees a fair price for small-scale producers, mostly in the developing world. New certification schemes verify the observance of a basic set of norms designed to treat producers fairly. While still operating largely on the margins of the global economy, world Fair Trade markets are also showing dynamism, growing more than twenty percent annually since 2000 and over forty percent between 2002 and 2003 (FLO 2005a).

Among the more prominent organic and Fair Trade products is coffee, and for good reason. Coffee is grown almost entirely in the developing world, mostly by small-scale producers – some 20-25 million of them. Since 1989, they have suffered many years of depressed coffee prices, with producers often receiving less for their beans than it cost to produce them. Meanwhile, coffee is consumed overwhelmingly in the developed global North, where highly differentiated markets have emerged for gourmet or specialty coffee, distinct from the instant coffees that used to dominate the global market.

Within this relatively new specialty coffee market, organic and Fair Trade marketers and campaigners have achieved significant visibility for their brands of labeled coffee. In addition to the health and environmental benefits of organic coffee, marketers cite the premium paid to producers for certified organic coffee, generally US\$.10-.50/lb over the international market price. With conventional producer prices in recent years as low as US\$.50/lb, the premium is significant. Fair Trade coffee, meanwhile, offers even higher rewards, paying a fixed US\$1.26 for Fair Trade coffee and US\$1.41 for organic fair-trade coffee, which is increasingly the norm. With conventional coffee prices so low, this can put more than double the amount of money into producers’ hands.

But to what extent can these dynamic new niche markets solve the coffee crisis plaguing the world’s small-scale producers? The purpose of this study is to evaluate this question in light of the efforts of one group of Mexican coffee farmers to gain maximum advantage from these new market opportunities. Mexico is the world’s leading producer of certified organic coffee and, with Peru, among the leaders in Fair Trade coffee.

After providing background on the worldwide coffee crisis, the history of Mexican coffee production, and the growth and functioning of the organic and Fair Trade markets, we analyze the organic and Fair Trade coffee markets in the context of market-based mechanisms designed to overcome those market failures. In particular we assess how well such mechanisms allow producers of sustainable coffee to capture some of the value of their contributions to ecological integrity and consumer health, as transmitted through the organic and Fair Trade labels and their associated premiums. We then present the

case from Oaxaca, selected for study because the statewide producers' marketing cooperative there has expended great effort, and achieved significant success, gaining entry for its members' coffee on these markets.

We conclude with an analysis of the case study results and their implications for such market-based mechanisms. We find that the organic premium paid to producers barely covered the added costs associated with organic certification and maintenance. Fair Trade premiums, on the other hand, have proven highly remunerative for those able to sell their coffee in that market, and certification costs are negligible. In practice, the marketing cooperative we studied used the Fair Trade premiums to help subsidize the conversion of producers to organic production; coffee then gained the highest available premium as organic and Fair Trade. Despite this success, the study highlights the limited accessibility of these markets for most producers. Quality is a significant barrier for producers seeking to enter niche markets, and the smallest farmers often grow coffee in poor agro-ecological conditions that make it impossible for them to meet increasingly high quality standards.

We conclude that while market-based mechanisms add value to small-scale coffee production, a more comprehensive approach to the problem is needed. That would involve changes in rural development policies at the national level and renewed efforts to better balance supply with demand at the international level. We review some of the policy initiatives this would require, based on some of the proposals from Mexican coffee farmer organizations. We conclude with a set of recommendations for reform.

2. Background

The Coffee Price Crisis

Until 1989, the international coffee market was regulated by the International Coffee Agreement (ICA), which brought producing and consuming countries together to align supply with demand and avert the wild swings that had plagued the international coffee market. In 1989, the United States, by far the world's largest importer of coffee, pulled out of the agreement. With the collapse of the ICA, accumulated stocks were released on the market and prices plummeted.

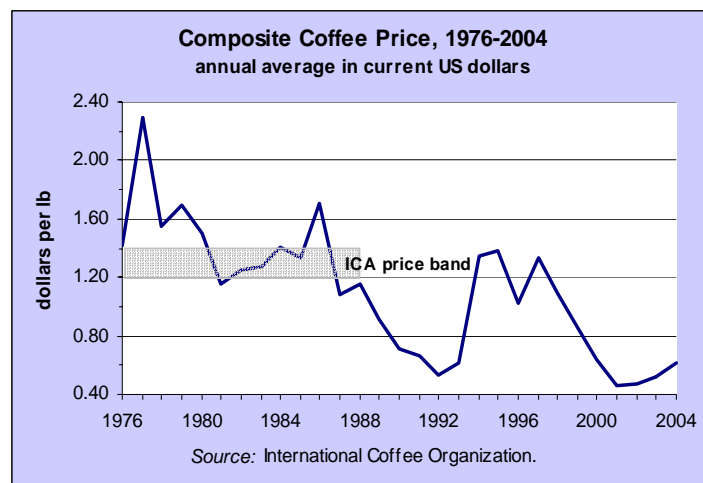
As Figure 1 shows, with the exception of two price spikes in the mid-1990s that occurred in response to adverse weather conditions in Brazil, where some 30% of the world's coffee is grown, prices have remained below the levels that prevailed during the ICA.

Market deregulation

Full market deregulation in 1989 represented a dramatic shift for coffee-producing countries. The world coffee market had been managed in some form since 1906. The first true cooperative agreement was negotiated in 1940 among Latin American producers, after efforts by Brazil to single-handedly control prices over three decades by managing its own output floundered. The 1940 Inter-American Coffee Agreement ushered in an era of multilateral controls that initially focused on the simple allocation of market share among producers. This later came to include export quotas and stock-holding, under the auspices of the first full-fledged International Coffee Agreement (ICA) in 1962. The ICA became more effective in 1980 with new economic provisions – primarily, negotiated export quotas and financed stockholding – to support a price band, which successfully maintained prices at a remunerative level – between US\$1.20 and US\$1.40 /lb – throughout the decade (Talbot 2004). Export quotas limited oversupply of international markets. National governments coordinated the purchase and holding of stocks when national production exceeded the export quota, with consuming countries helping finance the stock-holding. In this way the ICA successfully moderated the downward pressure on prices throughout the 1980s.

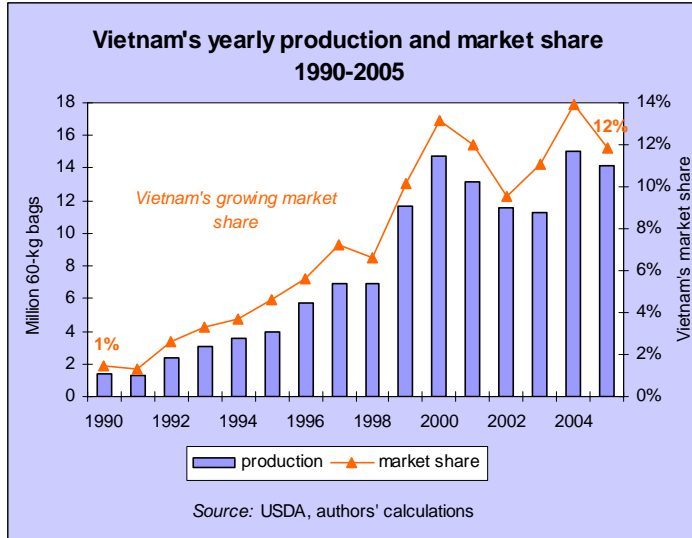
In the end, the absence of production controls in the ICA resulted in large and ultimately unsustainable stocks of coffee that eventually undermined the agreement. The introduction of new high-yielding technologies in many coffee-growing countries during the 1970s exacerbated the growth in supply. So, too, did international lenders and development agencies, which promoted export-led growth, partly in response to the debt crisis and the need for foreign exchange. Restrictive rules in the General Agreement on

Figure 1: Coffee Prices, 1976-2004



Tariffs and Trade (GATT) limited the ability of producing countries to introduce production controls into the ICA by imposing mandatory five-year terms on agreements and requiring concurrent majority rule of both importing and exporting countries (Koning, Calo et al. 2004).

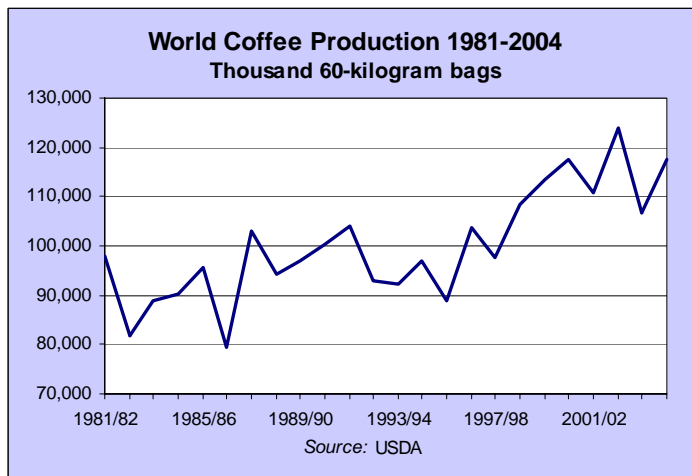
Figure 2: Vietnam's Coffee Production



new entrant, growing in ten years from an insignificant coffee grower into the second largest producer in the world (see Figure 2).

Brazil's increased coffee output since 1989 has also had a strong impact on total traded volumes, increasing production 56 percent and adding 14 million bags of coffee to an already glutted market. As Table 1 shows, Ethiopia, India, Peru, and Honduras likewise expanded production, while countries like Colombia, Indonesia, and Mexico have all seen their production drop by ten percent or more. Nevertheless, global coffee production has grown 20% since 1989, despite generally unfavorable market conditions (see Figure 3).

Figure 3: World Coffee Production, 1981-2004



The ICA's buffer stock lost its main source of funding when the United States, the largest importer of coffee, pulled out of the agreement in 1989. The loss of support from other importing countries led to the dumping of extra-quota coffee in countries not party to the agreement, further undermining the arrangement. Disagreement among exporting countries about the distribution of quotas compounded problems. The market intervention provisions of the agreement collapsed, and when public stocks were liquidated the market was flooded (Bartra, Cobo et al. 2003). Since then, the entry of new countries into the global coffee market has deepened the problem of structural oversupply. Vietnam was the most notable

Subsequent attempts at unilateral control of the coffee market by producing countries in 1993 and 2000 were unsuccessful. Government control over stocks and export flows had been weakened by market liberalization, and compliance among participating countries could not easily be enforced (Ponte 2002). In addition, several producing countries did not cooperate. Mexico, for example, did not support the 2000 scheme because the U.S. government threatened a legal challenge under NAFTA articles 702.2 and 702.3, which explicitly prohibit intergovernmental coffee

agreements.¹

Concentration in the coffee commodity chain has compounded the impact of liberalization on prices. In Mexico and elsewhere, the retreat of the state created a vacuum into which stepped transnational traders and roasters. Rapid corporate consolidation followed the breakdown of the managed market. By 2001, Neumann and Volcafé, the two largest traders, controlled 29 percent of global coffee trade, and five transnational roasters (Kraft, Nestlé, Proctor & Gamble, Sara Lee and Tchibo) accounted for 69 percent of the roasted and instant coffee market. The concentration of power in the hands of transnational corporate actors has created buyer-driven value chains in which producers, local traders and governments are increasingly marginalized (Ponte 2002). As a result, producing countries' share of value in the coffee commodity chain has declined from over 30 percent to less than 10 percent from 1992 to 2002, even as the market has more than doubled in size (International Coffee Organization 2005b).

The period following the collapse of the Agreement has since been characterized by a marked boom and bust cycle. Stocks previously held by producing-country governments are now concentrated in private warehouses in the North, and traders speculate on world coffee futures prices.

The first bust period, from 1989 to 1994, presaged an even deeper and more protracted drop in world prices. Beginning in 1999, a new period of very low prices devastated smallholder coffee communities around the world. It has brought about reductions in income of about 60 percent in areas of Mexico that were already marginalized. The loss of income has meant the growing impoverishment of coffee-dependent families and a decline in human welfare and development. It has also brought about an economic recession in coffee-growing areas, with the disintegration of regional economies built on coffee (CNOC 2004a; Hernández Navarro 2004). For this reason, many call the recent price crash a crisis.

Emergence of Organic, Fair Trade, and Other Markets

A number of new labeling schemes have emerged and developed in the wake of deregulated trading networks. Organic, Fair Trade (FT) and shade grown coffees are new segments of the specialty market, together known as *sustainable coffees*, which have arisen at the initiative of consumer, development, and agricultural producer groups. They

**Table 1:
Top Coffee Producing Countries, 2004**

	<i>thousand 60-kg bags</i>		
	Production	Share of world	% growth since 1989
Brazil	38,264	34%	56%
Vietnam	14,000	12%	1292%
Colombia	10,500	9%	-19%
Indonesia	5,750	5%	-16%
Ethiopia	5,000	4%	45%
India	4,850	4%	172%
Mexico	4,500	4%	-11%
Guatemala	3,450	3%	-1%
Peru	3,067	3%	98%
Honduras	2,750	2%	56%
<i>Other</i>	20,542	18%	-35%
Total	112,673	100%	20%

Source: International Coffee Organization.

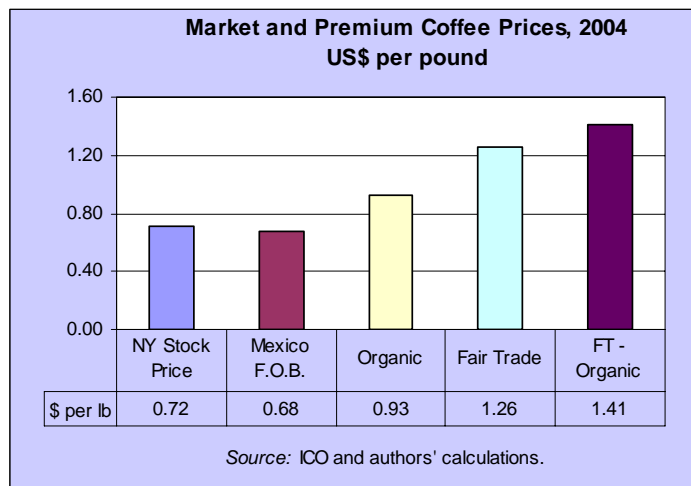
¹ Ultimately, multilateral trade agreements such as NAFTA are subordinate to WTO rules, and any dispute arising from the institution of supply control measures would ultimately have to be resolved via the WTO. A legal basis for the negotiation of supply control agreements continues to be provided in GATT articles XX, XXXVI and XXXVIII, which were incorporated into the Uruguay Round Agreement in 1994

represent a market-based effort to communicate information about environmental and social conditions surrounding coffee production to the consumer and thereby correct the failure of the market to value their associated attributes (health, environmental protection, social justice). Labels that deliver this information to the consumer can reduce the information gaps that are present in the marketplace, thereby driving changes in the structure of consumption and demand to which producers may then respond. In theory, price premiums and rising demand serve as incentives for changes in production structures, which in turn are shaped and influenced by a host of other factors that determine the capacity of producers to respond to these new market signals.

Despite the relatively recent rise of these niche markets, they have been the subject of considerable study (Nigh 1997; Hernández Castillo and Nigh 1998; Porter 2000; Raynolds 2000; Conroy 2001; Rice 2001; Oxfam International 2002; Raynolds 2002; Hellin and Higman 2003; Raynolds, Murray et al. 2004; Bacon 2005a; Oxfam America 2005; Taylor, Murray et al. 2005). The niche markets still account for only about one percent of global

coffee sales and two percent of specialty coffee sales, but they continue to grow. The U.S. specialty-coffee market is the largest in the world. While it accounts for just 17 percent of the 2.45 billion pounds of green coffee imported into the country each year, its annual sales of US\$7.8 billion in 2001 represented close to 40 percent of the U.S. coffee market that year (Giovannucci 2001). According to the ICO and the SCAA, the specialty market is expanding at the dynamic rate of 5-10 percent per year and represents the fastest-growing sector of the global coffee market, generally considered to be in slowdown.

Figure 4: Premium Coffee Prices in 2004



In this paper we analyze the organic, Fair Trade, and Fair Trade-organic coffee markets, with particular attention to how they function in Mexico. Figure 4 shows the relative export prices paid in these markets compared to the July 2004 N.Y. Stock price and the average price received for Mexican coffee in export markets, which is generally slightly lower than the N.Y. price. As the graph shows, market prices for conventional coffee were around US\$.70/lb, up slightly from their lows near US\$.50/lb in prior years. The organic premium of US\$.25/lb over the Mexican price brings the organic price to US\$.93/lb, though it is worth noting that there is significant variation in the size of the premium depending mainly on quality. The Fair Trade and FT-organic prices are fixed at US\$1.26/lb and US\$1.41/lb for these types of coffee and do not vary with the market except when prices rise above that level.

Before examining the structure of these markets in more detail, we should correct one of the common misconceptions about the functioning of niche markets. Premium prices are not paid to individual producers but to producer organizations, which market coffee. Individual producers can sell their conventional coffee directly to buyers. They generally do this through intermediaries, who take a significant cut, so producers receive a price lower than the market price, sometimes quite a bit lower. Organic buyers, though, buy organic coffee through producer associations, which ensure compliance with organic norms. The organic price is paid to the association, which then buys organic coffee from

its certified producers at a price higher than it pays for conventional coffee but lower than the price it receives, as the export price covers significant organizational costs associated with organic certification and marketing. The same is true for the FT market, and the FT-organic market. To the extent a cooperative sells coffee on a wide variety of markets, it will receive different prices for different coffees. In turn, the cooperative will pay producers different prices for their coffee based on the prices it expects to receive, its costs in marketing and certifying the coffee, and the incentives it chooses to create for different types of coffee.

As we will see, in the 2003-4 season CEPCO, the Mexican producer organization that is the subject of this study, had all of its coffee certified as Fair Trade and paid producers US\$0.32/lb for conventional FT coffee and US\$0.66/lb for organic FT coffee. Unlike the market itself, the cooperative paid a higher price for coffee from producers in the process of converting to organic production, US\$0.40/lb. While these prices might seem low compared to the price received by organizations from buyers on international markets, unorganized producers selling to local intermediaries receive even less. In the same region of Mexico, unorganized producers of conventional coffee saw prices 40 percent lower than their organized FT counterparts (Lewis and Runsten 2005).

CEPCO was certified as a FT organization, so 100 percent of its coffee was eligible for sale on the FT market. All export-quality coffee got a FT price. Lower quality coffees – some 20 percent of CEPCO's coffee in 2002-3 – got lower prices, often as low as US\$0.38/lb on the Mexican market.²

The internal producer prices paid by the cooperative to its members reflected the mix of these different national and international prices in the given production and marketing cycle. While the success of this cooperative in selling on the FT market and in marketing a high percentage of its coffee as organic are unusual, the complex mix of market and premium prices, the overlap of distinct niche markets, and the translation of the higher prices in those markets to the producer through the cooperative are typical of the organic and FT coffee markets.

Structure and Functioning of Niche Markets

Organic coffee

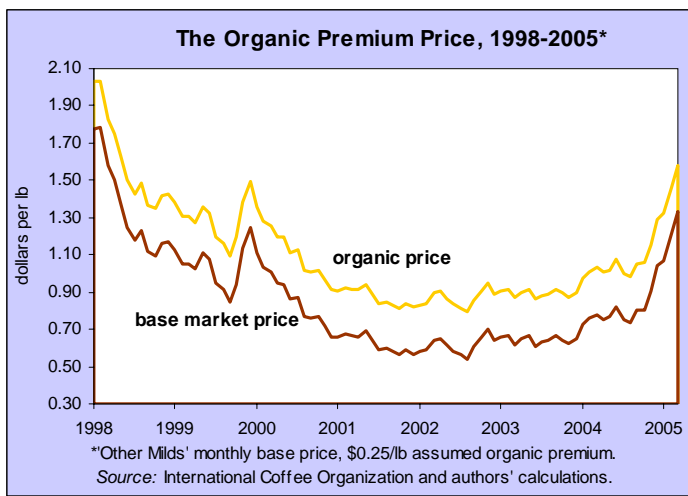
The term organic describes a third-party certified product grown using methods that enhance biodiversity, feed soils, and minimize reliance on purchased inputs. Among the sustainable coffee niches, organic coffee is experiencing the most rapid growth, estimated at 12-20 percent per year, leading to a doubling of the market every 5 to 6 years. Global exports of certified and uncertified organic coffee for 1999/2000 were in the range of 15 to 21 million pounds (Giovannucci 2001). Until recently, estimates suggested demand was still outstripping supply of certified organic coffee (Giovannucci and Koekoek 2003). In part, this was due to the spectacular growth in the world retail market for organic foods, as consumers placed increasing value on the protection of health and environment (NACEC 1999; Giovannucci and Koekoek 2003). In the last two years, however, supply and demand have become more balanced; organic coffee premiums have declined as the market experiences increasing supply even as quality continues to rise (Ponte 2004; Bacon 2005b; Giovannucci 2005). Primary markets are located in Germany, Holland,

² From unofficial CEPCO figures for the marketing year 2002-3.

Switzerland, Belgium, and the United States. In the United States, certified organic coffee accounts for 3-5 percent of the specialty coffee market.

Organic coffee is indexed to global market prices and receives a premium of US\$.10-.50/lb above the prevailing conventional coffee price. The variation in the premium relates primarily to quality characteristics. As we will see, it is important to recognize that the premium for organic coffee is market-based in two different ways. First, it is a premium above the market price for conventional coffee. When prices are low the premium stays the same, so the organic price falls with the market. It rises with the market as well (see Figure 5). Second, the premium is market-based in that the size of the premium is determined by supply and demand in the market for such coffees. To the extent demand for certified organic coffee outstrips supply, the premium will rise. If supply catches up to demand growth, the premium will fall.

Figure 5: Organic Premium Price 1998-2005



Organic coffee is much more expensive to produce. Land can require as much as three times the labor of a moderately-tended conventional coffee plot. This is by far the biggest cost associated with the switch from conventional to organic production. Because it generally takes two to three years to gain certification, and to begin receiving a premium price, the initial labor investments by producers are formidable. The organic market offers no institutional support for the conversion period itself. Affordable long-term credit is often lacking as well, to cover not only annual outlays associated with coffee production but the multi-year labor investment in the coffee plot.

The other principal cost associated with organic coffee is the certification process itself. There is a wide range of international standards and organic seals, and producer organizations often need to gain more than one form of certification to sell in different markets. (See text box.) The producers, through their organizations, pay for the costs of certification, which involves paying high labor costs for Northern certification agents to document compliance with organic norms. Because 100 percent of a cooperative's organic farmland needs to be monitored, such external monitoring systems proved too expensive to promote significant organic certification in the global South. In response, national certification bodies have been created that carry out the majority of inspections. In combination with organization-level initiatives to internalize some of the monitoring costs for organic certification, decentralized certification reduced costs some 60 percent. Still, certification represents a significant ongoing cost for organic coffee producers, as annual inspections must be done on all certified plots. Certification is, therefore, not an up-front cost for producers and their organizations but an annual expense that can easily amount to five percent of total sales.

In addition to the organic price premium, producers see two other direct economic benefits from conversion to organic production. First, quality generally improves with the increased attention to the plot. This can gain producers a higher price on national and international markets. Second, yields can be demonstrably higher, often as much as

Organic Certification

The *International Federation of Organic Agriculture Movements* (IFOAM), based in Germany, is recognized at a global level as the leading nongovernmental organization in the development of minimum normative standards for organic production, not only in agriculture but also in agro-processing and livestock rearing. IFOAM has 750 member organizations based in 108 countries, and its norms form the basis for organic inspection and certification services provided by over 30 IFOAM-accredited certification bodies (IFOAM 2005). The U.S. Department of Agriculture (USDA) also accredits agencies that then certify US-bound coffee. Intergovernmental bodies such as the International Standards Organization (ISO) and the European Union (EU) have also elaborated organic standards with which IFOAM standards and IFOAM-accredited bodies must comply. In addition, the Codex Alimentarius contains guidelines for organic production, while sanitary and phytosanitary regulations for market access in internationally traded organic products also impose de facto standards.

Although IFOAM elaborates the basic standards, consumers of organic products play a key role in shaping and defining organic norms by their advocacy and presence in the marketplace. Since the main organic markets have, until now, been located in developed countries, the legislative and certification structures underpinning the organic norms have their origin there, and are now being reproduced in developing countries as international markets expand for organic tropical products such as coffee, tea, fruit and cocoa. The organic infrastructure in developing countries thus reflects a bias towards Northern consumer concerns that translates into significant additional costs for producers attempting to meet norms and obtain certification. Although costs vary according to production volume, size and sophistication of the producer organization, certification has been documented to represent up to 5 percent

of the value of total sales (FAO 1999, paragraph 10). Opportunities to negotiate with certifiers for lower costs or a guaranteed price premium are limited as these standards are based on IFOAM, ISO and EU norms (Gómez, Gómez et al. 1999; Gómez Tovar, Gómez Cruz et al. 1999; Mutersbaugh 2002). Producers' lack of bargaining power has led to standards developed without consultation with producer groups, which raises rather than minimizes transaction costs.

More than 200 IFOAM-accredited certification agencies carry out inspection and certification services around the world, in addition to many more independent organizations certifying for local markets as well as USDA. Each accredited body relies on standards with unique variations on the basic IFOAM norms, reflecting the demands of consumer interest groups in specific markets. Each attaches a unique organic "seal" to its certified product. Standards may diverge, for example, in relation to the size of buffer zones between organic and conventional crops, the number of years of transition before certified organic production may be claimed, or specific management practices related to soil conservation, compost, prohibited substances, etc (Gómez Tovar, Gómez Cruz et al. 1999). Lack of harmonization of standards between certifying bodies in many cases has led to the failure of a particular seal to be recognized across countries, despite efforts by IFOAM to promote the use of an international organic seal among accredited certifiers (Gómez Tovar, Gómez Cruz et al. 1999). As a result, producer groups have been forced to obtain double or triple certifications for a single product in order to guarantee access to all markets. In Mexico, for example, organic coffee producers frequently certify with both OCIA-International (*Organic Crop Improvement Association International*) for the U.S. market and Certimex / Naturland / IMO Control for the European market.

three times the output per hectare.³ Organic standards provide guidelines for the development of soil conservation plans with measures designed to stem soil erosion, boost soil fertility, encourage the recycling of byproducts from wet-processing, etc. (OCIA 2004). These include terracing and live barriers to stabilize soil in steeply-sloped fields, a composting system to recycle coffee pulp and improve tilth and organic matter, mulching, etc. Likewise, the development of a pest management system serves to control losses from coffee borer and other pests.

³ This is true for systems that are initially very low-input, such as those that characterize Mexican smallholder production.

Productivity is also raised through intensive shade regulation, pruning and renovation of the coffee plants, and bi-annual clearing of underbrush. For producers, increased yields and higher quality are in many cases of more important economic benefit than the higher organic price. Producers in transition to organic production, but not yet certified, begin to see the benefits of higher quality and yields even before they begin to receive the higher price.

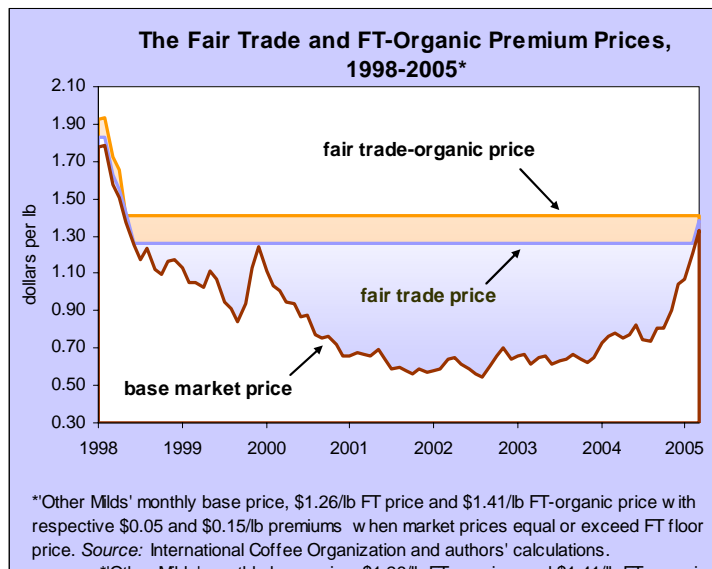
Fair Trade Coffee

Based on alternative economic principles, the Fair Trade movement offers greater voice and power to marginalized producers in the global economy by challenging the notion of market-based pricing and ensuring producers earn a greater portion of final product value. Greater value is returned to the producer, in part through reduced intermediary transactions and in part through a higher and guaranteed consumer price justified as “fair” in marketing (Raynolds, Murray *et al.* 2004; Low and Davenport 2005).

Mexico and Peru lead the way in the production of Fair Trade coffee, with more than 70 percent of their output also certified as organic. While Fair Trade certification agencies suggest a total production capacity of 165 million pounds of Fair Trade coffee across the globe, actual import volume of certified green coffee for 2003 was only 61.3 million pounds, with supply far outpacing demand (TransFair USA 2005). This is because Fair Trade certification is given widely to small organized coffee producers, creating a supply of large volumes of coffee with highly variable quality. Certification in itself does not guarantee that the goods can be sold on Fair Trade markets; quality remains key.

Nevertheless, the sector continues to experience dynamic growth. Fair Trade sales worldwide for all products grew 42 percent between 2002 and 2003, with certain European markets and the United States experiencing growth rates between 90 and 700 percent (FLO 2005a). Volumes of Fair Trade coffee sold on world markets between those years grew 26 percent (FLO 2005b).

Figure 6: Market and Fair Trade Prices 1998-2005



The Fair Trade market offers guaranteed floor prices rather than market-indexed premiums. Prices are set to guarantee a reasonable return to producers. Since the early days of the FT market, those prices have been US\$1.26/lb for conventional Arabica coffee and US\$1.41/lb for organic. In both cases, US\$.05 of the FT price is understood to be a social premium, intended to support producer organizations. If market prices rise above these floor prices, conventional FT prices rise only to US\$.05/lb above the market price; FT-organic prices are US\$.15 above market. When market prices are very low, the Fair Trade premium can easily double the total value returned to the cooperative (see Figure 6).

The costs associated with Fair Trade coffee production are far lower than they are for certified organic production. For conventional producers, there is no additional labor investment required (though record-keeping is

often an overlooked organizational cost), and certification costs are largely borne by FLO, the international certification body. Because FT producers are certified as organizations rather than as individuals, the costs are low in any case. FT labels are more harmonized than organic seals, so multiple certifications are not required. In 2004, FLO began charging producer organizations an initial certification fee and an annual membership fee based on the prior year's FT sales.

Fair Trade Certification

A single organization, *Fair Trade Labeling Organizations International* (FLO-International), serves as the umbrella for a global network of 20 national Fair Trade initiatives, such as TransFair and Max Havelaar, the majority of which are based in consumer countries. Harmonized international Fair Trade standards under a single recognized certifier has eliminated potential additional costs faced by producers forced to receive duplicate certification for their product in order to access different markets. While FLO-International certifies producer groups and manages Fair Trade producer registers, nationally-based certification initiatives actually conduct inspections. Governance of the international and regional FLO branches is shared among representatives of the different actors in the Fair Trade market, including producers, industry representatives and consumers. The certified Fair Trade coffee market is unique in that it is the only niche market where smallholder coffee producers are both guaranteed a floor price and favored over well-capitalized large estates and traders.

Until 2004 FLO, rather than producers, carried the monetary inspection costs associated with

initial certification. As a prerequisite to free inspection and certification services, producer organizations first needed to show interest from a prospective buyer. Annual membership renewal was also free. In recent years however, rapidly expanding demand for certification services among producers has led to a change in policy. In 2004, the former FLO Certification Unit became an autonomous private entity (FLO-Cert Ltd). The company implemented a new cost structure for certification that includes an annual membership fee charged to producer organizations equivalent to 0.45 percent of the FOB value of the previous year's Fair Trade sales, in addition to an initial certification fee charged at both at the primary (cooperative or producer organization) level and at the secondary (producer association or network) level. Grants from an institutional fund are made available to producer organizations unable to meet the new costs (TransFair 2004). Organizations may also be required to make annual contributions to support institutional development and operations (FLO - Central America 2004).

Other Niche Markets

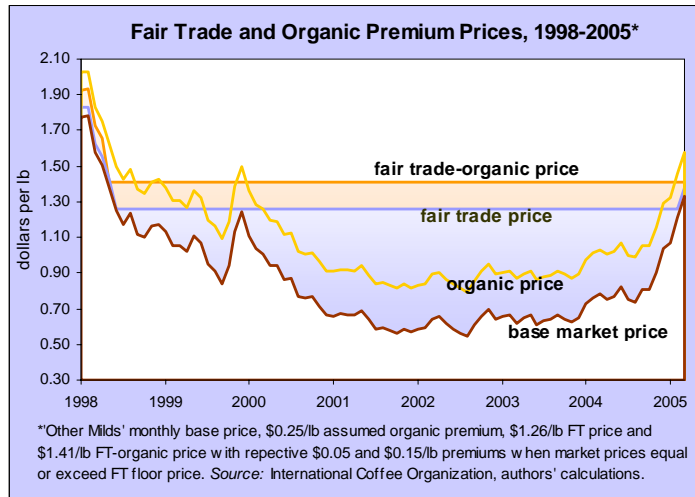
Other niche markets such as "shade-grown" and "bird-friendly coffee" – indicating the presence of an arboreal canopy on the coffee farm that sustains biodiversity – are still small and in the early stages of development. They lack a basic tracking system. International standards for the production of shade coffee are set by the Smithsonian Migratory Bird Center; the bulk of the certified coffee originates in Guatemala and El Salvador. Global sales in 2000 were approximately 1.2 million pounds, with the major consumer markets located in the United States. Premiums in these markets typically range from US\$.10-.60 per lb. Because this analysis is based on a case study of FT and organic coffee, we do not address shade-grown, bird-friendly and other certification schemes in greater detail in this paper.

Niche Markets Compared

How do these different premium-based coffee markets compare? Figure 7 shows conventional and niche market coffee prices from 1998-2005. The graph is instructive about the relative benefits of the different premium markets depending on market prices. The graph begins with the end of the mid-1990s price spike, runs through the low-price years from 2001-2004, and ends with the current run-up in market prices, which has

boosted prices in early 2005 to almost US\$1.30/lb.

Figure 7: Fair Trade and Organic Prices Compared



As the figure shows, the organic premium (assumed here to be US\$.25/lb) is simply added on top of the conventional market price. When prices are high, organic prices are higher still. When prices are low, as in 2002, organic prices can still be below the costs of production. FT markets, on the other hand, offer a much more significant premium when prices are low, and provide long-term stability that the organic price cannot match. Still, when prices are high organic prices can surpass the prices for FT organic coffee.

This graph does not incorporate quality premiums. Analyses of market prospects for Fair Trade and shade-grown coffee confirm that while consumer concerns about health, environmental and social attributes are clearly on the rise, quality and taste remain the key attributes for which consumers will pay a premium (NACEC 1999; Giovannucci and Koekoek 2003). This quality is notably associated with altitude and soils, not shade conditions or organic methods particularly. Further expansion of the shade, organic, Fair Trade and other niche markets is likely to depend on carefully controlling for quality all along the production, processing and marketing chain (Bray, Sánchez *et al.* 2002).

Mexican Coffee in Context

In Mexico, the loss of an international mechanism for price support with the 1989 rupture of the International Coffee Agreement came within a broader national context of neoliberal market reforms. The Salinas administration had already initiated a process of economic liberalization with Mexico's accession to GATT in the mid-1980s; the process came to include the removal of support to the agricultural sector with the substantial cutback of the parastatal Instituto Mexicano del Café (INMECAFE) in 1990 and its dismantling in 1993. INMECAFE previously handled production, processing and marketing of Mexican coffee. The concurrent dismantling of INMECAFE and the collapse of the ICA came as a sudden shock to coffee producers. After years of supported export prices between US\$1.00 and US\$1.40 per pound, prices dropped to US\$0.50/lb. This left producer prices well below production costs (see Figure 8).

Many smallholders responded to the coffee crisis by shifting resources away from their coffee parcels and concentrating household labor on subsistence crops or other income-generating activities. Because the coffee field represents invested capital, and producers know prices often recover from glutted markets, most producers did not abandon their farms or remove trees. More often, small farmers will invest a minimum of labor in coffee, sometimes even leaving beans unharvested on the trees. Such survival strategies are common among Mexican smallholders (Martínez Quezada 1995).

Coffee productivity is very sensitive to regular upkeep, though trees will continue to produce beans without it. Basic maintenance tasks include clearing of underbrush as well as pruning and renovation of coffee plants (together known as *limpia-poda*). Neglect leads to a downward cycle in productivity. Production falls, reducing household income from coffee. Meanwhile, quality declines, reducing the price the family can earn on the coffee, cutting incomes further. Multiple years of minimum maintenance can make it very costly to bring the parcel back to high levels of production of high-quality beans.

Figures from Mexico’s Agriculture Ministry confirm that smallholders have reduced maintenance on their farms in response to the crisis. Since 1989, the area planted in coffee has remained relatively stable at nearly 800,000 hectares. Yet over the years, area harvested has varied dramatically as producers respond to price. Years of high prices (such as 1994 and 1996) have seen harvest rates topping 97 percent, while at the outset of the crisis in 1998, producers harvested just 88 percent of the crop (see Figure 9).

With smaller harvests, national coffee production during this period declined 13 percent, from a peak of 1.85 million tons in 1988 to 1.62 million tons in 2003.⁴ Mexico’s National Coalition of Coffee Producers’ Organizations (CNOC) estimated the 2004-5 harvest to be just 1.14 million tons of cherry coffee (Pérez

Figure 8: Mexican Coffee Prices

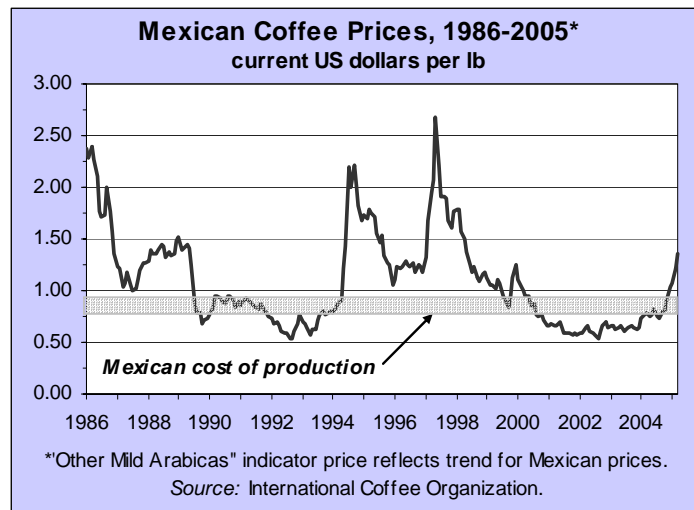
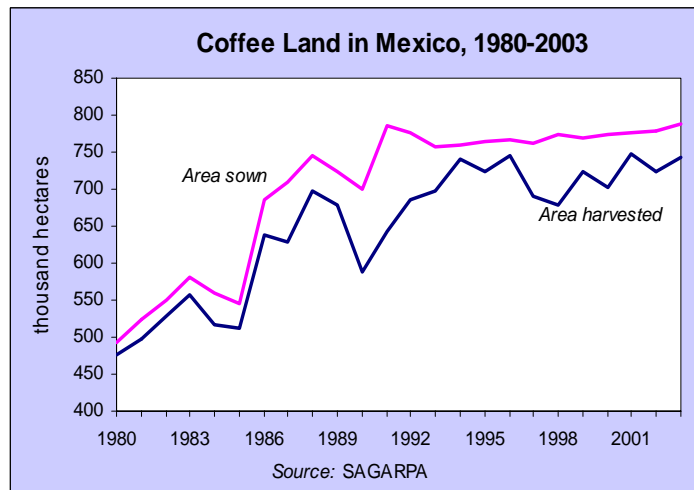


Figure 9: Coffee Area in Mexico, 1980-2003



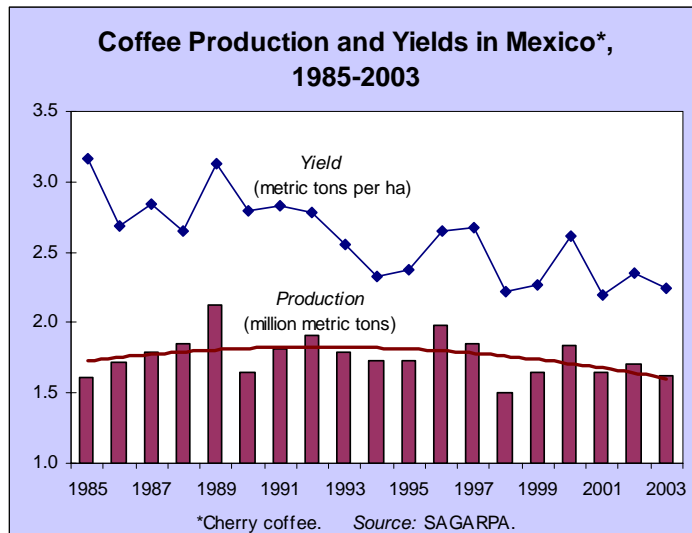
⁴ Tons of coffee cherries, or *cereza*. Cherry refers to the recently harvested bean; dried cherry or *capulín* is the dried bean; parchment coffee or *pergamino* refers to the depulped, fermented, washed and dried bean; while green coffee or *café oro (verde)* is the processed bean with parchment removed. Green coffee is 80% by weight of parchment coffee, 50% of dried cherry, and 20% of cherry. In Mexico, 40% of coffee producers sell their coffee as *cereza*.

2005), which, if true, represents an additional decline of 42 percent since 2003. This would leave Mexican production at barely three-fifths its 1988 level. As Figure 10 shows, the decline is largely attributable to falling productivity. Yields have dropped 22 percent, from a national average of 2.90 tons per hectare in the pre-1990 period to 2.25 tons in 2003.

Organic and Fair Trade Coffee in Mexico

Mexico is an ideal place to evaluate the extent to which the organic and Fair Trade markets are succeeding in reclaiming some of the externalized value of peasant coffee production. Mexico is the world’s second largest producer of certified organic coffee after Peru with thirteen percent of the total volume supplied on international markets in

Figure 10: Production and Yields in Mexico



2004 (International Coffee Organization 2004). Mexico is the world leader in Fair Trade green coffee exports and dual-certified organic and Fair Trade coffee exports (Raynolds 2002). Its coffee sector is dominated by small-scale farmers. Their low-input farming methods are well-suited to organic certification. Their relatively high levels of social organization make them excellent candidates for the FT market. Most grow the highland *arabica* coffee that is highly valued on both the organic and FT markets. Mexico thus offers an excellent opportunity to assess the ways these niche markets operate in practice and their effectiveness in adding value to peasant production.

In 2000, nearly 79,000 coffee hectares in Mexico were either managed organically or were in transition (Gómez Cruz, Gómez Tovar et al. 2002). The numbers have grown considerably since then to over one-tenth of Mexico’s coffee producers and nearly one-fifth of its land in coffee. According to a recent survey, 132,965 hectares are now certified organic or in transition to certified status, involving 49,687 producers (Gómez Cruz, Schwentesius Rindermann et al. 2005). Such rapid growth is indicative of producer organizations’ aggressive strategy for entering organic markets.

Historical development

Globally, Mexico ranks fifth in coffee production and land and ninth in coffee yield performance. Although its relative importance has declined, coffee remains the country’s largest single export crop and a significant source of foreign earnings for the country, together with petroleum, remittances, manufactured goods and high-value fruits and vegetables. Three-and-a-half million people depend on coffee for their livelihoods, including nearly half a million peasant farmers who grow the bean (see Table 2).

Coffee was originally introduced to the country in the late nineteenth century and was grown in large plantations under largely foreign ownership and management. Over the following decades, it gradually became a smallholder crop as workers took home young plants and started cultivation in their villages and communities. The sector experienced a strong expansion in land area between 1970 and 1992 driven by the relatively high and

stable prices achieved under the International Coffee Agreements as well as high rural population growth. By 1992, the landscape occupied by coffee had risen to 762,000 hectares from 356,000 in 1970; the number of producers had nearly tripled. With the entry of many small-scale indigenous producers into the coffee sector, average farm size declined some 25 percent to under 3 hectares (Bray, Sánchez et al. 2002).

In the 1970s and 1980s, INMECAFE promoted the adoption of a technological package to small and mid-sized farmers in a program designed to expand national coffee production. The agency provided credit that was tied to the purchase and distribution of agrochemicals, distributed hybrid coffee seedlings and provided technical assistance to farmers on the adoption of the new technologies (Nestel 1995). These efforts, however, achieved mixed results. Increases in coffee production during that period appear to be due mostly to the incorporation of new land rather than improvements in yield, and much of this expansion took place in lower montane areas inappropriate to the production of high quality coffee.

Agroecological context

Today, Mexican coffee production systems run along a continuum of biological and structural diversity and intensity of management that reflects the historical and cultural landscape in which they are embedded. Productive systems remain broadly divided between traditional systems using native forest cover and the semi-intensive systems promoted by INMECAFE and characterized by specialized shade trees. In traditional rustic and polyculture systems, coffee plants are substituted for the forest understory and numerous arboreal and herbaceous species are introduced alongside coffee under the native canopy, creating a highly biodiverse agroecosystem. Producers rely on the coffee plot for a range of products besides just coffee, which contribute to the subsistence and survival of the household, including fruits and other foods, medicines and timber products. More specialized systems are intensively managed and feature more densely planted coffee under a single leguminous replacement canopy. At the extreme, highly technified production occurs under full sun and relies on agrochemicals for fertility and pest control.⁵

Highland and lowland coffee can also be distinguished, with coffee grown in montane areas above 500-600 meters of a higher quality due to the agronomic requirements of the crop. Much of the expansion by indigenous small-scale farmers that occurred in the years the ICAs were in operation took place in lower montane tropical areas inappropriate to quality coffee production. The proportion of Mexican coffee production in these areas more than doubled during this period.

Currently, almost two-thirds of Mexican coffee production is located in highland areas (Bray, Sánchez et al. 2002). Mexican production is in *arabica* coffee (rather than *robusta*), the variety that commands a higher price on international markets and for which demand is expanding most rapidly. Mexican coffee is grouped as “other milds,” a class of *arabica* below “Colombian milds” in price and quality but above Brazilian and other *arabicas*. Mexico’s primary competitors in this class are El Salvador and Nicaragua, with its relatively low ranking (behind Costa Rica and Guatemala) mainly stemming from inconsistencies in quality (NACEC 1999).

⁵ See Moguel and Toledo (1999) for a typology of Mexican coffee production systems.

Shade coffee: social and environmental contributions

Shade coffee offers a range of social and environmental benefits. Despite pressures to adopt modern methods, a significant portion of Mexican coffee production remains small-scale and under traditional management: 86 percent of coffee growers work holdings of ten hectares or less, and 27 percent work one hectare or less (see Table 2). The bulk of Mexican coffee remains low-input, shaded, and passively organic. Coffee production is concentrated in the southern mountainous states of Chiapas, Oaxaca, Veracruz, and Guerrero, which are also principally indigenous and among the poorest in the country. In these states, coffee is an important cash crop, and small-scale coffee production represents one of the major productive activities for peasant farmers alongside subsistence maize and bean production, the raising of livestock and small-scale timber extraction.

By generating revenues in areas where few other economic opportunities exist, small-scale coffee production ensures social stability by enabling people to stay on the land and in their communities. Because a majority of small-scale coffee growers are also

indigenous (Moguel and Toledo 1999), coffee-growing regions in Mexico tend to be areas of very high cultural diversity. As an economic activity, coffee thus contributes to the survival of culture, communities and a way of life otherwise threatened by deep poverty and migration.

Besides its social contributions, smallholder coffee production also provides notable environmental services. Standing at the geographic crossroads of the Nearctic and the Neotropics, Mexico is a living bridge between these two major ecological spheres in the Americas. Given this position, it boasts unusually high species diversity and is counted among the world's handful of "megadiverse" countries. More than half of the

country's territory is forested and provides crucial habitat for diverse endemic species. Mexican smallholder shade coffee covers 775,000 hectares concentrated in the forested lands of southern and southeastern Mexico and provides a variety of ecological services. It serves as a "hydrological sponge," regulating water absorption into the subsoil in times of heavy rain and gradually releasing water into surface waterways in dry periods. It also contributes to atmospheric carbon fixation and air filtration.

These functions translate into ecosystem services that include watershed protection (water filtration, absorption, and release; groundwater recharge; reduction of flooding and downstream sedimentation, maintenance of aquatic habitats), and the regulation of air quality and temperature. These services are provided at a fraction of the cost that would be incurred via modern technology. Many are non-replicable, such as soil conservation (organic matter contributed by shade trees, soil retention by plant root systems on steep hillsides, reduction of erosion), and habitat and biodiversity services (ecosystem functioning, protection of native tree, bird, insect and mammal species, migratory bird stopover habitat). These environmental services have been extensively surveyed in the literature (Perfecto, Rice et al. 1996; Beer, Muschler et al. 1997; Moguel and Toledo 1999; Soto-Pinto, Perfecto et al. 2000; Bartra, Cobo et al. 2003).

Table 2:
Coffee Land Distribution in Mexico, 2004

Size of landholding	Producers		Land in coffee	
	number	share	hectares	Share
< 0.5 ha.	169,737	36.0%	64,144	10.2%
0.5 – 1 ha.	132,609	28.1%	103,684	16.4%
1 – 10 ha.	166,897	35.4%	377,573	59.8%
> 10 ha.	2,536	0.5%	86,227	13.7%
TOTAL	471,779	100.0%	631,627	100.0%

Source: Padrón Nacional Cafetalero, June 2004.

The valuation and rewarding of these services is urgent considering the magnitude of the threat posed by deforestation in the country, most recently estimated at 545,000 hectares each year (Velázquez, Mas *et al.* 2002). Two-thirds of this area lost to deforestation is in tropical forests which are particularly rich in biodiversity. Based on reliable land cover mapping data, Velázquez *et al.* found Mexico's deforestation rate to be 0.43 percent overall, with an annual rate of loss of 0.76 percent in tropical forests.

A recent study in the *Sierra Sur y Costa* region of Oaxaca, which produces one-fifth of Mexico's coffee, suggests the coffee crisis contributed to deforestation in shade coffee areas in the region (Blackman, Albers *et al.* 2004). The study documented a higher rate of loss of forest cover than Velázquez. The study found a three percent annual loss of forest cover from 1993 to 2001 due to shifting agriculture, mainly from rural households clearing small plots of land on or around their farms to market the timber and grow subsistence crops.⁶ Nevertheless, comparing spatial patterns of land use inside and outside the coffee range, the authors found that there was less deforestation inside the coffee range than outside prior to the onset of the coffee crisis (in 1993), adding weight to the argument that shade coffee cultivation preserves forest cover. Even after the onset of the crisis (1993-2001), analysis showed average annual deforestation rates inside the coffee range were below rates for natural forests in Mexico as a whole, although suggesting the crisis may have accelerated the depletion of forest cover. The authors suggest that creating economic incentives for rural households to maintain forest cover is the most effective way to stem deforestation. These could include the provision of credit, agricultural extension, and the offer of price premiums and price floors in coffee markets.

Sustainability Standards: revaluing peasant production?

In this report, we argue that the low prices now received by traditional coffee growers are partly due to the failure of the market to recognize and reward the multiple functions of the peasant coffee economy, including ecosystem and social services. Arrangements offering Payments for Environmental Services⁷ and sustainable coffee markets offering price premiums represent two new market-based mechanisms for the revaluation of smallholder coffee production in Mexico. The price premium or payment received by growers through their participation in such schemes is a partial compensation for previously externalized positive environmental and social services. In the case of coffee, it also can allow producers to capture a greater proportion of the final retail value of their product, thus improving the distribution of value in the value chain to their advantage (Daviron and Ponte 2005).

Mexico has a clear comparative advantage in markets that reward both social and environmental attributes. High costs of production in Mexico are partly related to environmental stewardship that has not been adequately compensated by conventional markets. The prevalence of low-input shade-grown coffee and passive organic practices among Mexican smallholders implies low transition costs to certified organic systems. Topography, geographic isolation, and small landholdings in rural areas tend to favor high-yielding and labor-intensive practices such as organic production. High endemic poverty, unemployment and the absence of viable alternative livelihoods in many coffee-

⁶ The study also found the deforestation was more likely to take place on steeply sloped land, which is especially vulnerable to soil erosion.

⁷ As recently launched by the Mexican Agency for Forest Resources, CONAFOR (SEMARNAT 2004).

growing regions has meant low opportunity costs for labor.⁸ Many communities already boast a strong organizational infrastructure of producer cooperatives to assist with certification and commercialization of smallholder coffee. Certification costs are relatively low with the establishment of an internationally-accredited national certifying body, *Certimex*. Finally, Mexico produces highland *arabica* coffee, the most coveted on international specialty markets. For these reasons the country has successfully established itself as one of the world leaders in certified organic and FT coffee – and should be poised to expand its advantage and market share.

But to what extent have these emerging markets been successful in revaluing peasant production in coffee-growing communities across Mexico, during the heart of the coffee crisis?

Sustainability standards are known to impose additional costs on the producer which may or may not be adequately remunerated by the price premium. Hidden costs imposed on existing governance structures in coffee-growing communities and cooperatives are often substantial (Mutersbaugh 2002). Producers may remain excluded from key decision-making processes undertaken by managers in cooperatives, certifiers, and traders and roasters, leaving them few real benefits. As standards are mainstreamed, premiums can fall and standards can become new entry barriers to the market without adequate compensation.

Giovannucci and Ponte outline a series of criteria to ensure that standards to meet producers' needs: transparency and clarity of standards; effective participation by developing country producers in standards setting and monitoring procedures; reasonable access; and just compensation. They note that "most standards and their certification procedures are not sufficiently transparent," and "many...provide no guarantee that direct benefits, particularly price premiums, necessarily reach farm laborers or local communities." They also point out that only Fair Trade guarantees a minimum price, which remunerates the costs to the producer of matching and verifying standards (Giovannucci and Ponte 2005, p. 15).

In this report, we focus on whether Fair Trade and certified organic coffee markets fulfill the last criteria of "just compensation" – that is, whether the extra costs of achieving standards are balanced with extra income from premium prices and from quality and productivity gains. Further, we evaluate whether income from certified coffee covers basic costs of production and reasonably remunerates labor for a group of organized Mexican producers. Finally, we assess the barriers to entry to these niche markets, addressing the criteria of "reasonable access". Mexico's apparent comparative advantage in both organic and Fair Trade markets relative to other coffee exporters makes it an ideal laboratory for evaluating the costs and benefits of participation, and the extent to which niche markets have served as market-based solutions to the recent global coffee crisis.

⁸ However, increasing migration from coffee-growing regions in Oaxaca has been draining workers out of these communities in recent years, thus raising the opportunity cost of labor and the local wage. For more on migration in coffee-growing regions in Oaxaca, see Lewis and Runsten (2005).

3. Organized Producers and Niche Markets

To deepen our understanding of the role of niche markets in returning value to small-scale producers, we studied a statewide coffee-producers' association in Oaxaca, Mexico's third most important coffee-producing state. Coffee is the state's primary cash agricultural activity, central to the economy and livelihoods of its mostly agrarian population. In Oaxaca, smallholders dominate coffee production, with two-thirds of producers managing one hectare or less in coffee, and nearly all managing ten hectares or less (see Table 3).

National trends in declining coffee productivity have played out in Oaxaca with great severity. It is worth looking more closely at the state production volume and yield data to illuminate the depth of the crisis. While total harvested area in Oaxaca has dropped only slightly, production volume in the state has declined 46 percent, from a high of 425,000 metric tons in 1989 to 229,000 in 2003. Yields over that period experienced a dramatic 42 percent decline, from 2.44 to 1.41 tons per hectare (see Figure 11). The decline is attributable to producers reducing maintenance on their coffee plots or leaving coffee unharvested while prices were low.

Organizational Background

The subject of this study is the statewide Oaxacan Coffee Producers' Network, or CEPCO (*La Coordinadora Estatal de Productores de Café del Estado de Oaxaca A.C.*). CEPCO is the state's largest coffee-marketing cooperative, specializing in providing technical assistance, commercialization services and low-cost credit to the members of its statewide network.

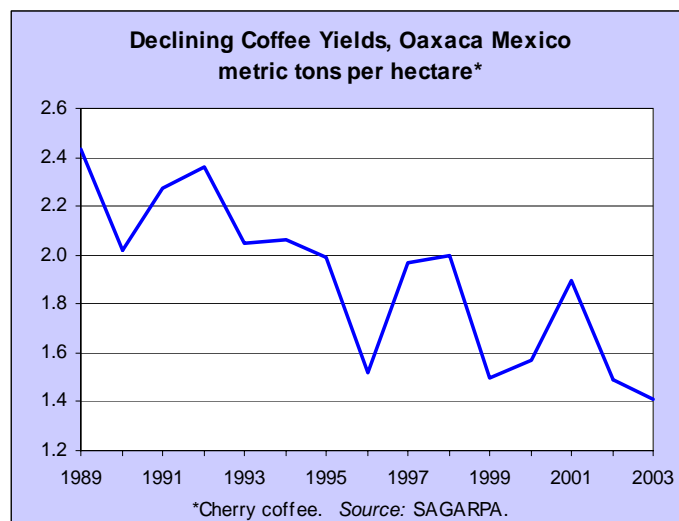
As an organization, CEPCO had its birth in the broad coffee producers' movement that emerged in Mexico at the time of the collapse of world coffee prices in 1989. CEPCO's current (2004) membership includes 42 regional cooperatives which together represent 16,000 individual coffee producers in 630 districts across the state, covering each of Oaxaca's six distinct and varied coffee growing regions: Mazateca, Mixteca, Sierra Norte, Istmo, Costa and Sierra Sur. Its members

**Table 3:
Coffee Land Distribution in Oaxaca, 2004**

Size of landholding	Producers		Land in coffee	
	number	Share	hectares	share
< 0.5 ha.	39,176	39.4%	13,759	11.4%
0.5 – 1 ha.	27,354	27.5%	21,006	17.4%
1 – 10 ha.	32,417	32.6%	70,641	58.6%
> 10 ha.	475	0.5%	15,154	12.6%
TOTAL	99,422	100.0%	120,561	100.0%

Source: Padrón Nacional Cafetalero, June 2004.

Figure 11: Declining Oaxaca Coffee Yields 1989-2003

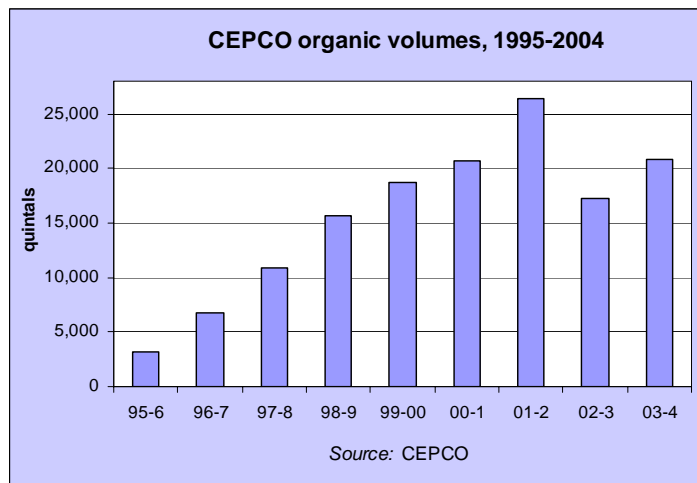


belong to the seven broad ethnic groupings in the state: mazateco, chinanteco, zapoteco, serrano, istmeño, mixteco and mixe.

In 1990, CEPCO constituted the Commercializadora Agropecuaria del Estado de Oaxaca (CAEO) under which it consolidated its commercialization and marketing activities. Three years later, CEPCO founded the Unión de Crédito Estatal de Productores de Café de Oaxaca, CEPCO's credit union, to provide low-cost credit to its members. Member cooperatives belonging to the CEPCO network deliver their members' wet-processed coffee following harvest each year to one of two dry-processing plants owned by CEPCO. The organization's professional staff then processes, sorts and grades the coffee and undertakes all the relevant activities related to marketing the cooperatives' coffee. A rotating six-person board of directors representing each of Oaxaca's coffee-growing regions is elected every two years by the membership and represents the highest decision-making body within the organization.

After the price crisis of 1991-1995, CEPCO reassessed its options given the severe impacts of the crisis on coffee-dependent households. Many producers were abandoning their parcels or dramatically limiting their maintenance in order to diversify into other activities. Meanwhile yields and export quality had dropped significantly. CEPCO had already begun supporting organic certification alongside other strategies since the start of the crisis, but in 1996 the organization began aggressively promoting organic to its members as an economically viable alternative.

Figure 12: CEPCO Organic volumes 1995-2004



In that year, CEPCO as an organization made a strategic decision to create incentives for its members' entry into certified markets by offering a price premium on coffee *in transition* to organic, even though the organization sold this volume at a loss on conventional markets. It was able to do this in part by channeling the monetary surplus from sales in certified markets (both organic and Fair Trade) to subsidize transitioning growers. In addition, for several years the cooperative paid above-market prices to its growers of conventional coffee in an effort to secure their continued participation in the organization. Producers of higher

quality and certified coffees partly compensated for these losses, but the organization's sales failed to cover its operational costs for all but one of the years in the period between the late 1990s and early 2000s (Bartra 2002).

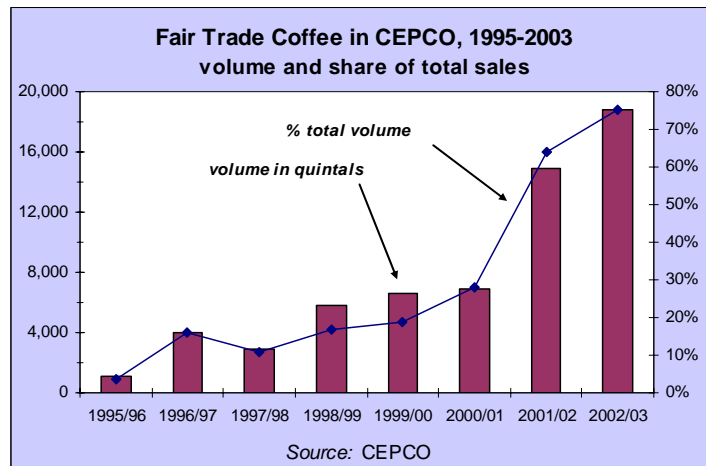
By the 2000-2001 agricultural cycle, more than 3,000 producers were participating in the newly-minted organic program, producing more than 20,000 quintals⁹ on 10,000 certified hectares. By the 2003-4 season, 5,700 CEPCO producers had gained organic certification. CEPCO's successful promotion of the organic transition led to a rapid rise in certified production (see Figure 12). This was made possible in part by innovations within the organization towards internal monitoring and inspection systems that brought down

⁹ 1 quintal (qq) of green coffee is equal to 100 lbs.

certification costs to acceptable levels and permitted entry into specialized markets for a large portion of the membership. A brief period of high world market price conditions also facilitated this shift, as did access to external sources of funding.

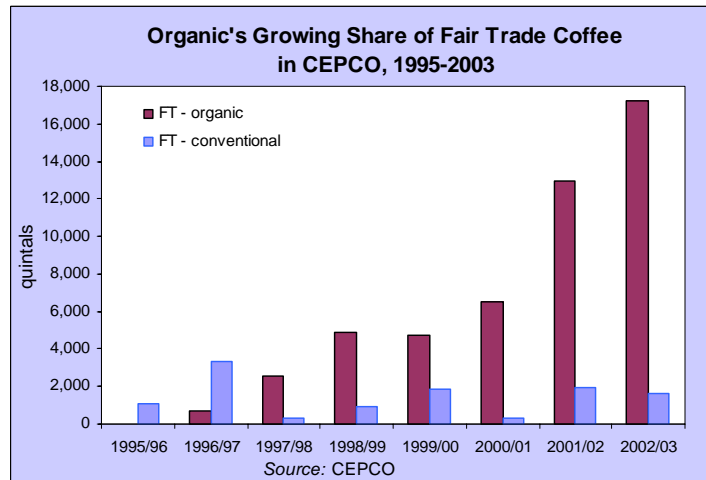
CEPCO has been able to expand organic production in part because of the organization’s growing participation in Fair Trade markets. As Figure 13 illustrates, in the last decade CEPCO has aggressively and successfully pursued a strategy of marketing a growing proportion of its coffee through Fair Trade rather than conventional channels. In 1995 CEPCO sold only 3.5 percent of its coffee (1,100 quintals) on the Fair Trade market; seven cycles later that share had risen to 75 percent of total volume (18,800 quintals).

Figure 13: CEPCO Fair Trade Coffee 1995-2003



Not surprisingly, a growing share of FT coffee is being sold as certified organic, reflecting CEPCO’s aggressive push to enter both specialty markets at once in order to capture cumulative premiums. While the volume of conventional FT coffee has stayed below 2,000 quintals, organic FT coffee production had grown to nearly 18,000 quintals per year by 2002-3 (see Figure 14). The simultaneous growth of FT and organic coffee highlights the interdependence and convergence of these markets, as consumers increasingly demand both environmental and social attributes.

Figure 14: CEPCO's Fair Trade-Organic Coffee



Reducing certification costs

One of the keys to expanding organic and FT coffee production has been CEPCO’s ability to reduce certification costs. Fair Trade certification has been relatively inexpensive, though costs have recently risen. With a membership of 42 producer organizations representing 16,000 growers, CEPCO faces an initial cost of 4,400 Euros plus annual renewals for certification and registration with FLO. The organization faces additional costs related to its participation in the governance and administration of a regional FLO office and its contribution to an institutional development fund.

Organic certification costs, which require annual inspections of all certified farms, are far higher. Until the creation of an IFOAM-accredited Mexican body for organic certification, Mexican coffee cooperatives were forced to procure inspection and certification services from European and U.S.-based organizations. The costs of this outsourcing were exceptionally high in both monetary and adaptive terms. Paying for inspectors’ international travel and daily fees at developed-country rates imposed a large

financial burden. Field research in 1995-98 among Mexican coffee producers' organizations found costs up to US\$72/producer and US\$49/ha. In some medium-sized organizations, these amounted to US\$30,000 annually. The certification process for coffee cooperatives seeking to gain entry into the market was further complicated by Northern-developed norms that were incongruent with tropical agriculture, inspectors' lack of experience with tropical systems, and often inappropriate language and record-keeping requirements (Gómez Tovar, Gómez Cruz et al. 1999).

The creation of national certification bodies such as *Certimex* in Mexico in 1997, and multiple counterparts in countries across Latin America in recent years, resolved some of the expense and inefficiencies of foreign inspection and certification. The goal was to consolidate processes for national certification through the elimination of cultural and language barriers. Co-certification of *Certimex* with international certifiers such as IMO Control (Swiss) has allowed access to European markets using the recognized seal of these organizations without the extensive investment in marketing necessary to launch a new seal, not to mention the hefty price tag of accreditation with IFOAM (\$6,000-\$15,000).

In collaboration with *Certimex*, coffee cooperatives such as CEPCO also developed innovative village-based monitoring systems in response to the entry into force of ISO-mandated standards in the EU and U.S. rules in 1999 requiring annual certification of 100 percent of farms. An alternative system of internal control was set in place whereby internal inspectors take responsibility for the annual inspection and the monitoring of compliance for the entire membership, while outside inspectors verify a sample of 10-20 percent of coffee farms. In addition, community technicians provide technical assistance

to producers on the implementation of standards. Internal monitoring systems for organic certification have reduced inspection costs to one-half to one-third of those that would have prevailed in externally monitored systems given the heightened regulatory oversight.

This internalization of monitoring carries its own costs, financial and otherwise. On the financial side, CEPCO maintains a staff to carry out inspections and provide technical assistance to producers. Community-based volunteers monitor compliance, which is where some of the non-financial costs accrue. In Oaxaca's indigenous communities, traditional local governance structures are forced to adapt to the exigencies of the organic monitoring system, altering their practices in subtle but important ways. For example, monitors may be selected on the basis of literacy skills and Spanish language facility rather than prior service to the community. The internal monitoring system should thus be seen not as costless but rather as internalizing costs of organic compliance. (For a detailed analysis of these costs, see Mutersbaugh 2002; Mutersbaugh 2004)

For this study, we estimated average organic

Table 4: Annual certification costs for 300-member cooperative

INSPECTION		PESOS
	External (labor)	11,500
	Internal (labor)	3,750
DIRECT CERTIFICATION COSTS		
	Fees (membership, administration, use of seal)	42,234
TOTAL (pesos)	Per organization	57,484
	Per producer	192
	Per quintal	38
TOTAL (USD)	Per organization	US\$ 5,051
	Per producer	US\$ 16.84
	Per quintal	US\$ 3.37
	Annual sales per organization (US\$)	\$150,000
CERTIFICATION COSTS as % of sales		3.37%

*A detailed explanation of the elements in this table can be found in the Appendix. Figures represent the estimated costs, by category, for a 300-member cooperative in Mexico for certification with a single certifier. Actual costs may be higher or lower.

Source: adapted from information provided by Clemente Santiago Paz, CEPCO, Oaxaca, Mexico.

certification costs based on this internal monitoring system for CEPSCO. With outside inspectors monitoring only 10 percent of coffee fields, certification costs for a typical 300-member cooperative can still be significant: just over US\$5,000/organization, equivalent to almost US\$17 per producer and US\$3.37/quintal of coffee. This amounts to 3.4 percent of sales (see Table 4).¹⁰ This is well below externally monitored organic certification costs, which can reach eight percent of sales, but it remains above average developed country costs, which run 1-2 percent of sales. It should be noted that these costs are often doubled or tripled due to the need for multiple certification. If the bulk of the inspection and monitoring was not done internally, the cooperative would incur another 26,000 pesos in labor costs, increasing annual certification costs by 45 percent. As we will see, these additional costs combine with higher labor investments to consume most if not all of the organic premium for producers.

Previous Work on Mexican Coffee

CEPCO as an organization has been the subject of some study (Aranda and Morales 2002; Aranda 2003). But few researchers have assessed the viability of the organization's aggressive entry into niche markets. Armando Bartra and colleagues at Mexico City's Instituto Maya have conducted a number of research studies on small shade coffee producers in southern Mexico, some of which remain unpublished. Because two of these studies look explicitly at production costs among CEPSCO members, they lay crucial groundwork for the analysis that follows.

Bartra *et al.* (2003), in a report for NAFTA's environmental commission, studied the viability of the conversion to organic and Fair Trade in Mexico. Their case study, on La Sociedad Cooperativa Agropecuaria Regional Tosepan Titataniske from the state of Puebla, showed that with a substantial three-year line of credit – a rarity in the Mexican countryside – the cooperative could increase yields to a remarkable 20 quintals/ha.

It could get organic premium prices on all of its production, earning US\$1.10/lb, and Fair Trade prices – US\$1.40/lb – on half of that production, at a time when market prices were as low as US\$.50/lb. This would triple net producer income and increase land values. Some of the yield increases come from new, higher yielding plants, which would take six years to fully mature. Interestingly, half of the increased producer income comes from the FT market; the organic premium alone was found to produce only a small profit margin for producers. Even with FT prices, in this hypothetical scenario, the average producer household would see a net increase in income equivalent to just one year's minimum wage – 16,000 pesos.

Instituto Maya carried out two studies of CEPSCO's experience with FT and organic production. Bartra (2002) analyzed the profitability of certified organic systems relative to conventional and transitional systems from 1998 to 2002. He assessed the cooperative's profitability, quantifying operational costs, purchase price and sale price, with most coffee sold as Fair Trade. He found net losses on conventional FT coffee for all cycles but one and net gains on organic FT coffee for all four cycles. CEPSCO as a whole showed positive overall returns only in the last year studied (2001-02). This was attributed to organic FT coffee's higher net returns on international markets, and its growing share of the volume marketed by CEPSCO thanks to CEPSCO's aggressive organic conversion program.

¹⁰ Certification costs vary significantly; actual costs may be lower or higher depending on arrangements with CERTIMEX.

Bartra also found that the returns to labor from coffee sales for uncertified producers were only 26-30 pesos per day of labor on the coffee plot, well below the average regional wage of 50 pesos per day. When government subsidies were added to the returns of CEPCO's conventional and transitional producers, daily remuneration rose to 72 pesos/day. In contrast, because FT organic producers achieved substantial positive net gains on their certified production (5,000 pesos/ha), their labor earned returns of 119 pesos/day, including subsidies. Importantly, all four types of producers showed net positive returns to land when subsidies were included. Those of certified organic producers were 7,900 pesos/ha, whereas their counterparts' were just 360-830 pesos/ha.

Instituto Maya's current study (Paz Paredes and Cobo González 2005), which is underway, seeks to "reconstruct the rationality of the peasant economy," sampling representative households in two coffee-growing regions each in the southern states of Puebla and Oaxaca. The study made use of two distinct methodologies for the estimation of costs in these households. The first was based on a market model with prices (and therefore expenditures) assigned to all inputs and labor, while the second was based on a peasant model where prices were assigned only to inputs acquired on the market and to hired labor. Family labor and non-market inputs were not assigned prices. In the case of coffee production, costs were calculated on a farm, hectare, and price basis leading up to and including the harvest phase or the wet-processing phase (depending on the producer). The study is seeking to answer a set of key questions about peasant economies, including why small coffee producers pursue an economic activity with 'negative' returns, why they invest their labor on-farm while off-farm it is valued more highly, and what basic subsistence or productive investments the household foregoes when incomes fall.

Preliminary results from the pilot phase of the study show that the Oaxacan households, which were all CEPCO members receiving FT organic prices, had returns to household labor from coffee sales that were well below the average wages in each of the two regions. As in the Institute's previous study, government subsidies represented a significant source of income and brought overall returns to labor above prevailing daily wage rates. This pilot study suggests that even FT organic prices, on their own, failed to compensate small-scale coffee farmers at a reasonable rate.

Case Study Findings

Our case study research shows that under prevailing market conditions an organic premium of US\$.25/lb failed to cover the costs of conversion to organic production and was too low even to make certified organic coffee profitable. In contrast, Fair Trade's fixed and higher premiums for both conventional and organic coffee could bring all producers to profitability. In addition, they have proven essential to the organic conversion process, given the inadequacy of the organic premium with low market prices. Finally, we examined how these markets have worked in practice, looking at producers' experience in a well-organized marketing cooperative that has succeeded in gaining significant access to both organic and FT markets. We find that returns from coffee sales are still low. Only government subsidies, combined with the premium prices, have brought producers to profitability, kept them in coffee, and allowed them to undertake a significant productive innovation – namely, the implementation of organic standards.

Based on data collected on-site in the summer of 2004, we investigate how well specialty markets value small-scale shade coffee production in Oaxaca, Mexico. We consider the 2003-4 growing season in this analysis, comparing labor and certification costs for the

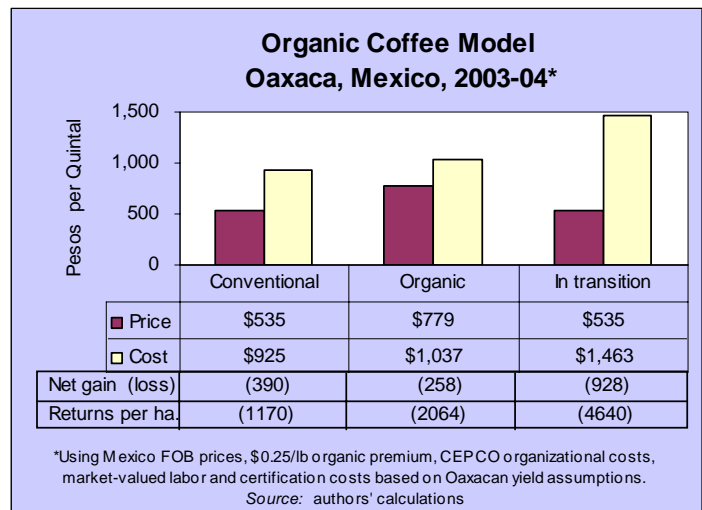
2003-4 season with proceeds from sales made at prevailing market rates or under contract in the first half of 2004. In particular, we look at whether organic premiums cover the added costs of certification and maintenance in different contexts. We use three models, the specifications for which are detailed in the appendix. The first two are theoretical, market-based models which evaluate cost and price structures faced by organized coffee smallholders in Oaxaca in differentiated markets (conventional and organic) under Fair Trade and non-Fair Trade conditions. These provide a rough approximation of the costs and benefits associated with these markets. The third model more closely approximates conditions faced by producers within CEPCO, since the model incorporates actual prices paid to producers by the cooperative based on the range of prices for which it was able to sell their coffee on both niche and conventional markets.

Organic Coffee Model

The Organic Coffee Model, with a US\$.25/lb price premium, suggests that when market prices are low, as they were in 2003-4, the organic premium is too low to bring organic producers to profitability, let alone recover the costs of the transition. Under such market conditions, which have prevailed for the majority of years since the collapse of the ICA in 1989, conventional, organic and transitional systems all fail to break even. The US\$.25/lb premium is a reasonable incentive for producers to convert to organic production only under conditions of unusually high coffee prices. Even a US\$.50/lb premium, when market prices are low, leaves producers facing a seven-year time period to recover their costs of conversion to organic production.

As Figure 15 shows, a producer of conventional coffee under 2003-4 market conditions, with family labor valued at prevailing market rates, faced a loss on his/her coffee sales of 390 pesos/quintal of coffee, and 1,170 pesos per hectare.¹¹ Producers making the transition to organic production fared only slightly better. After certification, with the organic premium of US\$.25/lb, the producer faced a loss of 258 pesos/quintal, and even higher losses per hectare – 2,064 pesos – as higher production brought further losses rather than gains. The annual losses during the two-year transition to organic production were 928 pesos/quintal and 4,640 pesos/hectare.

Figure 15: Organic Coffee Model



Because the organic premium fails to bring the producer to profitability under this model scenario, the high cost of the initial investment in converting to organic production – 538 pesos/quintal/year for two years – is never recouped, even when the producer sees unit

¹¹ Costs include only labor, valued at prevailing local wages, and certification expenses, while prices are estimates of producer prices based on premium export prices minus the portion that accrues to the organization, rather than the producer, to cover administration, marketing, and other collective expenses. See appendix for details on estimates of costs and prices.

costs fall and prices rise with the organic premium. Analyzing only the marginal returns on investment in the organic transition, the producer invests an additional 1,078 pesos/quintal in the two-year transition for a marginal return, after the first two years, of 132 pesos/quintal. On a per hectare basis, the net investment is 6,940 pesos, and the returns on that investment are 1,056 pesos. At that rate, it would take nearly 9 years from the start of the organic transition for the producer to recoup his/her two-year investment. As noted earlier, with even certified organic coffee unprofitable under 2003-4 market conditions, the investment would in fact never be recouped but would only mount as the producer ends up with larger volumes of coffee he/she can only sell at a loss.

It is worth noting that the long break-even point for the organic conversion, based on marginal returns, improves under better market conditions. With a US\$.25/lb organic premium, but with market coffee prices at US\$.95/lb – equivalent to the high end of the range for estimated Mexican costs of conventional production – instead of US\$.67/lb, the organic premium barely covers costs. Whereas in the previous scenario organic coffee was still not profitable, so returns never recovered the initial investment, here, even with a price of US\$.95/lb, conversion costs are only recouped over an improbably long period – more than a decade. If prices rise to US\$1.30/lb – unusually high but the prevailing price in May 2005 – organic coffee is highly profitable and the marginal returns on organic coffee, from higher price and higher yields, pay off the two-year conversion costs in four years, a reasonable return on investment for a peasant producer if he/she has access to credit.

Under 2003-4 market conditions, though, the US\$.25/lb organic premium neither brought the producer to profitability nor allowed him/her to recover the costs of conversion. Higher prices make organic production profitable, but still leave producers with an unsustainable transition. With a premium of US\$.50/lb – the high end of the range reported in Mexico for organic coffee – instead of US\$.25/lb, organic production becomes only marginally profitable (240 pesos/hectare) and it would take seven years for the producer to recoup the costs of conversion.

Fair Trade Model

Under conditions of low market prices, the Fair Trade Model, with its guaranteed prices, suggests all producers could be solvent. Conventional producers who can gain access to the FT market and the organic market, see the most dramatic improvements, recovering their transition costs almost immediately. Gaining access to the FT market is most important, as even conventional FT production is viable at premium prices. While the premium in the FT market for organic coffee can be lower than the organic premium – US\$.20/lb compared to US\$.25/lb – the higher FT prices for all coffees subsidize the transition to organic production. This finding shows why the FT market has served as a lifeline for producers who can access it, while subsidizing producers' efforts to convert to organic production at a time when organic premiums alone are insufficient to stimulate such a productive innovation.

As Figure 16 shows, with Fair Trade prices of US\$1.26 for conventional coffee and US\$1.41 for organic, both certified organic and conventional production can be profitable. Conventional FT coffee earns 283 pesos/quintal, or 849 pesos/hectare, while certified organic producers earn 276 pesos/quintal and 2,208 pesos/hectare. Producers still suffer a moderate loss during the transition to organic, but it is more sustainable. The return on investment under the full FT price model shows that the initial investment is recouped in five years, with annual marginal returns of 1,359 pesos/hectare. Even though the FT differential between organic and conventional coffee is lower than the organic premium – US\$.20 compared to US\$.25 – the higher prices for FT coffee during the transition reduce the producer’s losses and allow for a more rapid recovery of his/her investment.

This contrasts with the previous results showing certified organic production *in isolation* failing to recoup basic costs, even for certified producers. It also suggests that if a cooperative is able to market its full volume as Fair Trade, however, conventional production is profitable and producers may have few monetary incentives to convert to organic production. For a peasant producer, a five-year return on investment may well be prohibitive.

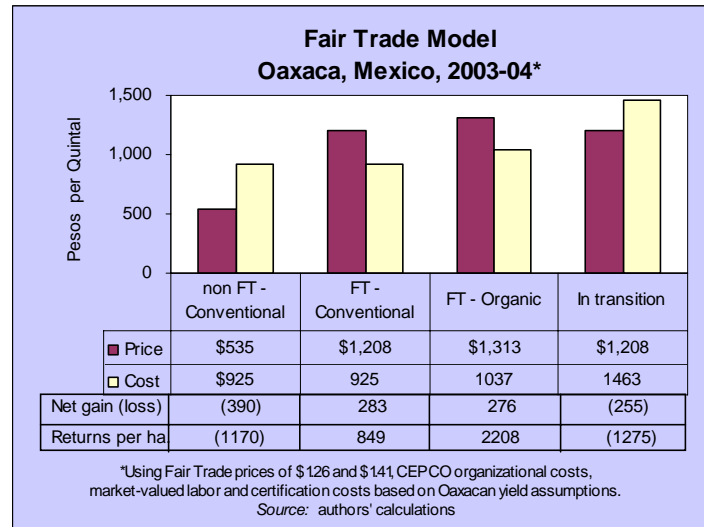
This analysis highlights the role played by the Fair Trade market in supplementing the premium offered in organic markets. Participation in Fair Trade networks substantially reduces the barriers posed by the transitional phase for those producers interested in undertaking productive innovation towards certified organic coffee. The Fair Trade premium on its own notably remunerates both conventional and organic production, while the organic premium on its own fails to remunerate organic production.

For conventional producers getting market prices, of course, the transition to FT organic production is a boon. The model estimates that organized producers receiving conventional market prices in 2003-4 lost 1,170 pesos/hectare on their coffee. Producers who could convert to FT organic coffee, and get the FT price during the transition, would see the higher transition price almost fully cover the cost of conversion, reducing the time to recover the initial investment to just two years, as soon as the producer would begin receiving the FT organic price. The benefit to unorganized producers is even more dramatic, as they generally receive significantly lower prices for their coffee from intermediary buyers.

CEPCO Model

How do these niche markets affect producers in the real world, where producer-run marketing cooperatives sell a mix of coffees on niche and conventional markets? Based on an analysis of actual prices paid to producers by CEPCO, we find all producers – conventional, transitional, and organic – still showing costs that exceed coffee income, when labor is valued at market rates. The premiums paid by CEPCO for organic and

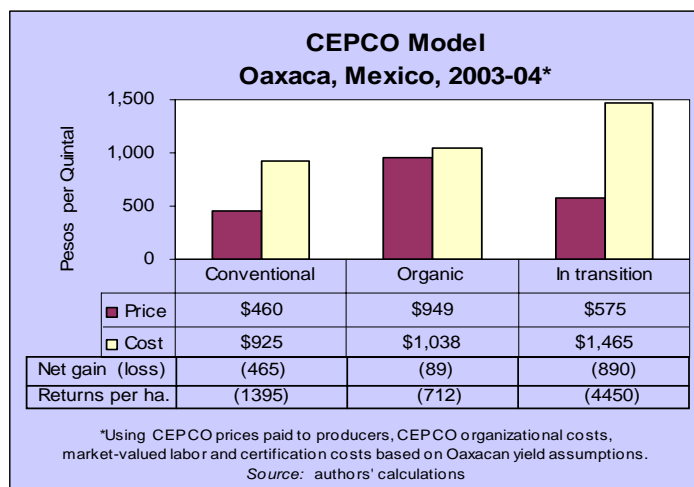
Figure 16: Fair Trade Coffee Model



transitional coffee proved to be incentives, but weak ones on their own, to innovate. Returns on coffee sales for the additional labor needed to manage the organic plot were below market rates for labor, even for certified organic producers. Only government subsidies brought CEPSCO's certified producers to profitability. Even for them, it would still take six years to recover their investments in organic certification.

It is important to understand how Fair Trade and organic premiums operate for a marketing cooperative. CEPSCO has succeeded in marketing ever-increasing shares of coffee via Fair Trade channels; in 2003-4 the Fair Trade share of CEPSCO's total volume surpassed 90 percent. Regardless of the origin of the coffee within the CEPSCO network, all producers benefit from Fair Trade sales; the premium is incorporated into CEPSCO's internal price structure for coffee beans across different markets. CEPSCO markets some coffee that contains defective and/or low-quality beans; it sells low-grade coffee on the Mexican market for a lower price, while selling some on export markets but at prices well below premium. For the 2002-3 season, 20 percent of CEPSCO's coffee, some of it certified organic, was of too low quality to earn the FT or organic premium. CEPSCO's own quality campaign has reduced that percentage in recent years, but the organization still gets below-premium prices on some of its coffee. Like the gains from FT premiums, these losses are socialized across both low- and high-quality producers and represent an additional deduction from premium market prices. Finally, a portion of the earnings remain at the organizational level to fund collaborative projects and initiatives agreed upon by the membership; these costs may exceed the FT social premium of five cents per pound.

Figure 17: Integrated CEPSCO Model



The resulting prices to producers from the cooperative therefore reflect these deductions. In 2003-4, CEPSCO paid producers 16.50 pesos/kilo for organic beans, 10.00 pesos/kilo for transition coffee, and 8.00 pesos/kilo for conventional beans. (In addition, some producers received additional premiums for special quality attributes). This amounts to US\$0.66/lb, US\$0.40/lb, and US\$0.32/lb for the three different types of coffee. The higher price for transitional coffee is CEPSCO's own incentive to producers to convert to organic production.

As Figure 17 shows, returns for all three kinds of coffee fail to exceed costs, with labor valued at market rates of 75 pesos/day. Conventional producers lose 465 pesos/quintal, equivalent to 1,395 pesos/hectare. Certified organic producers also lose money on their coffee – 89 pesos/quintal, and 712 pesos/hectare. The losses per hectare on organic coffee are 683 pesos less than those for conventional coffee, so there is a marginal return on investment in the conversion to organic. The costs of transition are exceptionally high, even with the small premium paid to producers in transition. Transitional coffee loses 890 pesos/quintal and 4,450 pesos/hectare. At these rates of marginal return, it would take 11 years for a producer to recoup his/her two-year investment in the conversion to organic production.

As noted, the producer would still face losses, even with CEPCO's producer price premium, which is as high as it is only because of the organization's success in selling its coffee on Fair Trade markets. FT organic prices would have to be about ten percent higher to make organic production profitable, and much higher than that to generate returns sizeable enough to make the organic transition economically viable.

Returns to labor

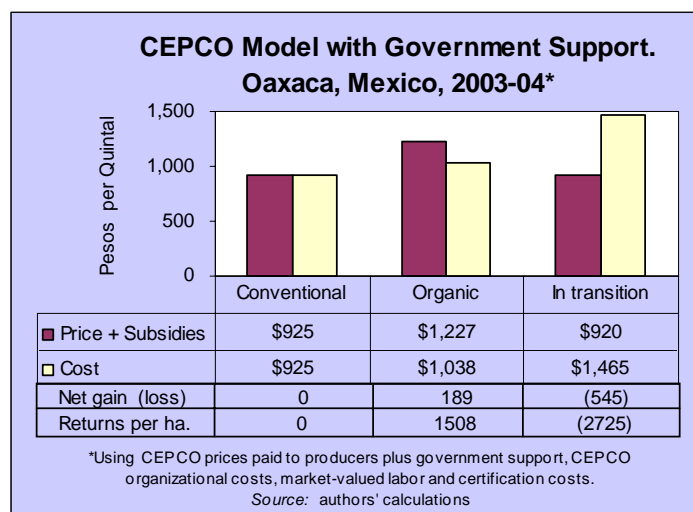
As Paz Paredes and others have pointed out, assuming market labor rates for household labor is a distinctly market-based way to assess the peasant economy, where labor investments are not necessarily evaluated based on their market opportunity costs. Paz Paredes suggests that a more revealing way to assess how a peasant producer might evaluate his/her production decisions is to assess the returns to family labor from coffee (Paz Paredes and Cobo González 2005). If one calculates the return to labor from coffee, rather than estimating profitability assuming the 75 pesos/day value for household labor, one can estimate the effective wage being offered under these conditions for work on the coffee plot. Using this method, conventional producers received only 37 pesos/day for their estimated 37 days/hectare spent on coffee cultivation and harvesting. Organic producers received 68 pesos/day, 31 pesos more but still below the prevailing wage of 75 pesos. Interestingly, CEPCO's higher price for transition coffee translates into only 3 pesos/hectare/day for each additional day of labor required to make the transition to certified organic coffee, and the net return of 28 pesos/day on transitional coffee is, in the end, lower than the return for conventional coffee.

Table 5: Returns to Labor from Coffee

	Conven- tional	Certified Organic	In Transition
Net income per quintal (price minus direct costs)	460	924	535
Labor-days per hectare	37	108	95
Imputed Wage, pesos per labor-day	37	68	28

In practice, small-scale coffee producers will typically hire some labor to help during harvest time on their coffee plots. Paz Paredes and Cobo González (2005), in a recent survey of a small number of organized organic-coffee-producing families in two regions of Oaxaca, found that families were hiring roughly 60 percent of their harvest-time labor needs. The more families rely on outside labor at harvest, the lower will be the returns on their own labor from coffee, since imputed wages are below market rates.

These findings suggest that even in a producer cooperative in which most coffee, conventional and organic, is successfully sold on the FT market, returns to producers from coffee sales are not sufficient to make coffee profitable at prevailing market rates for labor, even for certified organic producers. Returns are low because market prices are low, and neither the FT nor organic FT premiums are sufficient to make coffee production profitable, except when coffee families provide all the required labor and accept returns on that labor that are below market rates. In part this is because the marketing cooperative is unable to earn the full FT premium price on all the coffee it markets for its members. Under these conditions, households see positive returns from their coffee labors, but returns are below market rates. As we will discuss later, in areas in which the opportunity costs to labor are relatively high, such prices may not be sufficient to keep producers in coffee. Where opportunity costs are low, they may.

Figure 18: CEPCO Model with Government Support


distribution of these funds was patchy, with some receiving nothing and others receiving late and/or incomplete distributions (Lewis and Runsten 2005; Paz Paredes and Cobo González 2005), we include them here because these programs were in effect during the period under study.¹³

As Figure 18 shows, when subsidies are added to market returns, conventional producers break even, while certified organic producers earn a positive return of 1,508 pesos/ha. Under such conditions, the break-even period for the organic conversion drops

Table 6: Returns to Labor from Coffee, with Subsidies

	Conven- -tional	Certified Organic	In Transition
Net income per quintal (price + subsidies – direct costs)	925	1202	880
Labor-days per hectare	37	108	95
Imputed Wage, pesos per labor-day	75	89	46

from 11 years to 6 years. Assuming all labor is household-based rather than hired at market rates, the imputed returns to labor for conventional producers are 75 pesos/day. Organic producers receive 89 pesos/day, while transitional producers now see 46 pesos/day, a lower but positive return to labor.

Discussion

These findings confirm that since the onset of the coffee price crisis, base market prices are failing to adequately value smallholders' conventional production. They also corroborate a second story that one hears often from coffee farmers in Oaxaca: systems under organic management likewise struggle to cover their costs. The organic price premium often does not cover the added costs associated with organic production in

¹² It is worth noting that, paradoxically, the productivity fund is paid on a per hectare basis, so it does not reward high-productivity producers at a higher rate. The price stabilization fund, which is tied to production, does. This provides an implicit incentive for organic conversion due to the higher productivity achieved in organic cultivation.

¹³ Producers also should have received distributions from other government support programs to the rural sector such as Procampo, but these are not incorporated here.

Oaxaca when labor is valued at the prevailing wage rate. The large labor investment required by organic production is poorly remunerated by the market returns to organic production.

The first simulation, using our market-derived model to analyze the value of the organic premium, showed the inadequacy of a US\$.25/lb price premium under market conditions of low prices. That premium was shown to be a reasonable incentive for producers to convert to organic production only under conditions of unusually high coffee prices. A US\$.50/lb premium under conditions of low market prices still leaves producers facing a seven-year time period to recover their costs of conversion.

It is important to remember that the organic premium is market-driven in two senses. First, unlike the FT premium, it is a premium above prevailing market prices. Second, also unlike the FT premium, it is itself a market-based premium based on the more desirable attributes of organic coffee in the marketplace, most notably the attributes associated with health, protection of the environment, and quality. The premium is therefore not likely to rise unless the growth in demand for these attributes outpaces the growth in supply.

The second simulation, applying the same model to the Fair Trade market, demonstrated how much more viable the FT market can be when market prices are low. The cost-recovery in the transition drops to a still-daunting five years for conventional coffee producers getting FT prices and contemplating organic conversion. But all producers – conventional, transitional, and organic – are solvent under FT prices, if only to a limited extent. Most notably, non-FT conventional producers transitioning to organic who can gain access to the FT market see their conversion costs recovered almost immediately, in just two years. This finding highlights the ways in which the FT market has served as a lifeline for producers who can access it, while in the process subsidizing a productive innovation (organics) when organic premiums alone are insufficient to stimulate such improvements.

The third set of simulations, based on actual prices and estimated labor and certification costs for CEPCO producers during the 2003-4 cycle, showed that market returns even for FT organic producers remained low, creating limited incentives for conversion to organic production. It is particularly striking that this remained the case even with producers having wide access to niche markets. These are well-organized producers in a cooperative that has reduced or internalized certification costs, committed itself to facilitating the organic transformation, gained significant access to the more highly remunerative Fair Trade market, and socialized gains from niche market prices throughout its membership. Nevertheless, with prices as low as they were in 2003-4 (and in many of the years preceding that), the cooperative finds market returns on organic coffee to be a weak incentive to convince producers to undertake the investments needed to achieve organic certification.

The notably poor level of recovered costs among producers transitioning to certified production suggests that unless assistance is provided, the transition period is likely to represent a significant barrier to entry into the organic market. Producer costs for systems in transition are exceptionally high because the smallholder invests nearly as much as his/her certified neighbor per hectare, but initially fails to reap the benefits of higher yields. Costs per quintal are nearly 40 percent higher than those of certified organic producers.

Despite poor market incentives, it is remarkable that CEPCO has been able to manage the incentives for certified organic production by shifting the premiums received on Fair Trade markets to promote organic production. Likewise, it has shifted part of the organic premium to transitional producers, something the organic coffee market fails to do. As a result, a producer can expect a return on his/her investment in organic certification which would not have been possible otherwise. This strategy was made possible by harnessing the power of the Fair Trade premium at the level of the cooperative and using it to subsidize certified organic production.

These findings confirm Bartra's earlier conclusions. In his original 2001 study, all three systems (conventional, organic and in-transition) failed to break even at market rates for labor, this despite slightly higher average yields which better compensated labor. It is noteworthy that from the time of Bartra's study and this one, average regional daily wages rose from 45 to 75 pesos/day, with a great deal of variation across coffee-growing regions of the state. In some areas the daily wage is 100 pesos/day (Lewis and Runsten 2005). This rise in wages reduces the viability of coffee based on market returns. For producers who hire a significant portion of the labor on their farms, the cost is higher. For those who rely on household labor, the opportunity costs are higher, making the additional labor investment required to produce organic coffee less attractive.

Rising labor costs are likely to discourage long-term investments in coffee by households who are already pursuing viable alternative livelihood strategies, most notably migration. Because the analysis shows organic coffee to be dependably profitable only when producers are able or willing to value their labor at a low rate, organic certification emerges as a livelihood strategy most appropriate in areas with low opportunity costs for labor. In regions in Oaxaca now experiencing accelerating migration, such as the *mixteca alta*, organic coffee may become progressively less appealing as local wage rates surpass 100 pesos/day. While remittances from migrants play a role in helping coffee-growing households to keep growing coffee in spite of low prices – an implicit subsidy – they also drive up the costs of more labor-intensive organic cultivation. In the long run, migration may undermine rather than support the spread of organic and Fair Trade coffee production, particularly since there is evidence migration is a more common livelihood strategy in more highly organized communities (Lewis and Runsten 2005). Further research is needed in this area.

In the meantime, producers choose to continue growing coffee even in the face of adverse economic conditions for many reasons. While remittances and government subsidies play a role in compensating the low returns to land and labor from coffee sales in many households, there are other reasons for staying on the land that are difficult to value monetarily. Coffee-growing fits within a diverse set of livelihood strategies that households undertake to minimize risk, meet their basic needs and generate a surplus to invest in their future (Kabeer and Van Anh 2002). In order to reduce risk and meet subsistence needs, households may resist completely diversifying away from coffee while continuing to extract a diversity of food and other products from the coffee plot. Few alternatives for cash income may exist or be feasible for the poorest families; migration or a wholesale switch to other labor-intensive crops entails risk and requires a large up-front investment that could exceed household resources. Meanwhile, tending coffee plants alongside important food or timber crops may require only a small additional effort. Sociocultural norms and habits also guide decision-making; coffee production often forms an integral part of household and communal life, as it has for generations in parts of Oaxaca. These are only just a few examples illustrating the logic of

security, subsistence and survival that underpins livelihood strategies in peasant communities (Chayanov 1966; Chambers 1983; Toledo 1990; Netting 1993; Sevilla Guzmán and González de Molina Navarro 1993; Kearney 1996).

Producers who choose to participate in organic production also reap other kinds of benefits, including the security of having an assured market at harvest and the social benefits derived from being organized. Further, to be organized means to have access to affordable credit, government programs and other services provided or facilitated by the cooperative (Bray, Sánchez et al. 2002; Lewis 2004; Milford 2004; Ponte 2004). In some CEPCO cooperatives, membership implies organic management, with all members implementing organic norms. At the community level, strong producer organizations translate into social gains including community cohesion and stability. At an individual level, inclusion and participation in community-level social networks may motivate membership in the organization.¹⁴

Despite the benefits of market-based premiums, the analysis reveals that only in the presence of government support do producers see returns to labor above market rates. Government support programs were made possible in part by the persistent lobbying by CEPCO and other producer organizations on behalf of the coffee sector. These support programs helped raise producer incomes, subsidize producers' transition to organic and reduce the investment period to a more manageable five years. New legislation intended to further subsidize organic certification costs, if passed and implemented, would reduce this time period and enable greater access to organic markets by coffee smallholders. In any case, our analysis makes clear that government support programs ultimately made it possible for many small-scale coffee producers to continue producing coffee despite prices that were too low, even with significant access to the Fair Trade and organic markets.

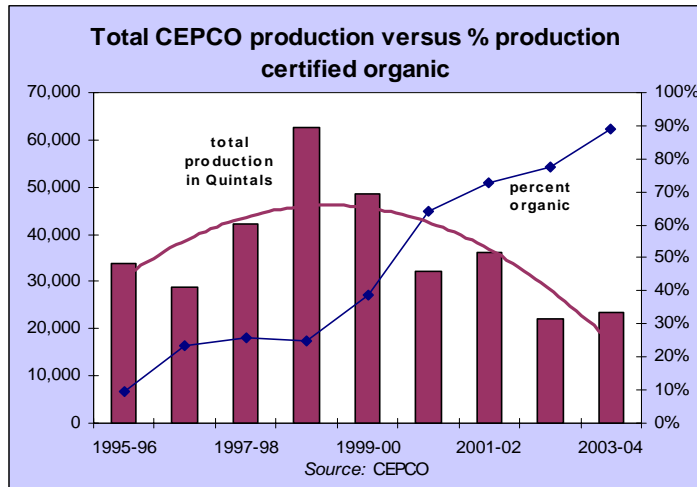
Finally, it is important to discuss the limited scope of these conclusions in relation to the broader coffee price crisis. The vast majority of small-scale coffee producers in Mexico do not have access to these niche markets, nor are they likely to in the foreseeable future. CEPCO is the best-organized statewide cooperative in the country, and certainly one of the leaders in gaining access for its members to niche markets. Most Mexican producers are excluded from these markets either because of barriers to entry or poor quality. Transition and certification costs preclude the participation of more marginal producers. The additional labor investment is a barrier to entry for producers who have limited disposable labor in the household, generally due to previous out-migration, and who lack the financial resources to hire additional labor. Cooperatives often have minimum volume requirements, which may bar the smallest producers. Organic production requires a high level of technical maintenance (basic cleaning and pruning), which many producers lack the skills to carry out and the access to training that could give them those skills. For some of the poorest producers, the organization's annual membership fee is a barrier to entry. Finally, the limited demand for Fair Trade and organic coffee, and the fallacy of composition as more producers enter the market, mean that these niche markets are likely to remain a lifeline for only a small minority of small-scale producers.

¹⁴ Zapotec anthropologist Jaime Martínez Luna documents the centrality of service, reciprocity and community in indigenous societies of the Sierra Juárez of southern Oaxaca, as the manifestation of what he terms *communality* (Luna 2003). These observations are further underscored in the literature on peasant production (Chayanov 1966; Durrenberger 1984; Toledo 1990).

Revealing Trends

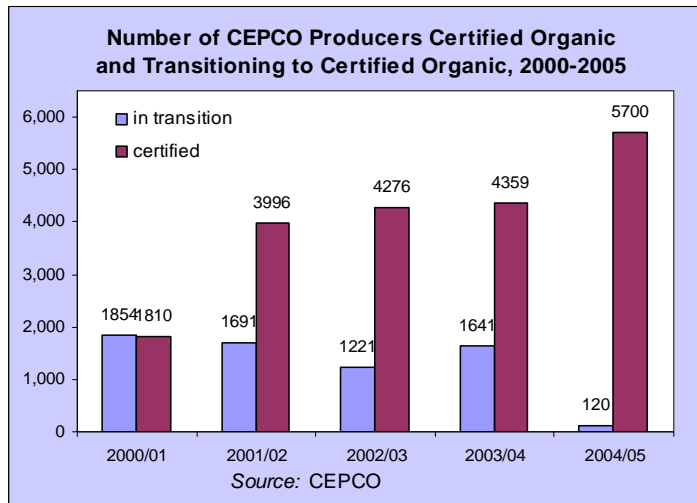
A closer analysis of recent trends in CEPCO's marketing suggest that the cooperative is finding it more difficult to gain access for its members to niche markets. As Figure 19 shows, the organization's strategic orientation towards organic markets increased the share of organic coffee in CEPCO's total volume, from less than 10 percent in 1995 to 89 percent in the 2003-4 season. But over the same period total volumes marketed through the cooperative (both organic and conventional) fell to below-1995 levels. Marketed volumes grew with the run-up in world prices through 1998-99, but then began a gradual decline as world prices fell.

Figure 19: CEPCO's Organic Production as Share of Total



CEPCO membership. It may also be a reflection of high entry barriers in organic markets, so that producers who may have wanted to gain entry were deterred from doing so as prices dropped and existing incentives were insufficient to pay for the transition and yearly costs. Low world prices, in conjunction with few viable alternatives to certified organic coffee production, meant total volumes sold through the cooperative declined. This suggests that as CEPCO made the commitment to niche markets as a lifeline during the crisis, the organization's own barriers to entry may have grown. At the same time, some of the poorer farmers were abandoning their farms in search of work, leaving coffee beans unharvested.

Figure 20: Declining Organic Conversions



The decline is largely the product of the prolonged downturn in world prices. Still, the decline in CEPCO volumes was larger than the statewide drop in coffee production.¹⁵ This suggests that the crisis has contributed to an attrition of producers and cooperatives from the

organic coffee production, meant total volumes sold through the cooperative declined. This suggests that as CEPCO made the commitment to niche markets as a lifeline during the crisis, the organization's own barriers to entry may have grown. At the same time, some of the poorer farmers were abandoning their farms in search of work, leaving coffee beans unharvested.

If the costs associated with the transition to organic present an entry barrier to risk-averse and more marginal producers, then it is logical to see the numbers of producers who are choosing to transition into organic fall off as market prices fall, even if certified production presents a more

¹⁵ While Oaxacan coffee production declined 29% between 1998 and 2003, volumes marketed through CEPCO have dropped 44% in the same period.

secure long-term survival strategy. Indeed, the above trends and analysis seem to confirm this line of reasoning. If annual certification costs represent an important burden when prices are low, we can expect certified production to decline.

Figure 20 suggests that for CEPCO's remaining uncertified members, the organic market does not represent a viable livelihood strategy. Last production cycle, only 120 producers were in the two-year transition process to organic production, down from more than ten times that many in each of the four previous years. CEPCO has an estimated 16,000 producers, so more than 10,000 of those have not undertaken the organic transition. This suggests that those who were able or willing may have already entered the organic market, despite low prices. CEPCO's high volume of organic sales also suggests that the organization is buying very little coffee from its 10,000 uncertified producers.

As organic production became a de facto requirement for CEPCO to market its members' coffee, and as Fair Trade buyers responded to market demands for consistent and high-quality organic coffee, CEPCO may have reached a limit regarding the number of producers it can bring into niche markets. Barriers to entry in organic markets are part of this. Increasingly, though, quality is a decisive barrier to entry for many CEPCO members. Many of the cooperative's members grow coffee in sub-optimal agro-ecological conditions, many at altitudes too low to produce gourmet-quality beans. There is no organic premium for coffee beans that are of too poor quality to sell on the specialty market. So there is little incentive for CEPCO to convert producers who cannot meet quality standards. And low prices make it difficult for the cooperative to sell conventional coffee.

4. Conclusions

This analysis suggests that organic and Fair Trade markets are an important but limited solution to the coffee crisis and that a much more comprehensive international effort is needed. In the end, market-based mechanisms such as these need to be encouraged but state intervention will be required to address the market failures endemic to the sector.

At a time of deep structural crisis, a minority of Mexican producers have succeeded in tapping a rich natural asset base and broad organizational networks to capture greater shares of the coffee value chain. Specialty coffee markets and other market-based mechanisms to revalue production have provided a lifeline to the sector, representing a valuable new source of funds and serving to soften or postpone the worst effects of the price crisis. When prices have been well below production costs, the guaranteed prices in the Fair Trade market have been of much greater value to producers than market-based organic premiums. FT premiums have helped subsidize the organic transition.

Still, organic and specialty markets remain inaccessible to the majority of smallholders due to quality constraints and the presence of transaction costs and barriers to entry that both deter new entrants and fail to adequately remunerate required investments. This is true despite a strong strategic orientation towards these new markets in several producer cooperatives in Mexico, including the one examined in detail in this paper.

Organic Coffee: Externalizing the Costs of Consumer Preferences

The lack of guaranteed economic remuneration (with the exception of Fair Trade) and the additional costs arising from a lack of producer participation in standards design represent the most important weaknesses of specialty markets. The low world price of coffee in the period examined highlights the value of the guaranteed FT premium over the organic premium, which is indexed to the market. The data from this and other studies¹⁶ suggest that under these market conditions, the organic premium fails to make coffee profitable for producers in Oaxaca, Mexico. If supply continues to grow faster than demand, the premium will continue to fall.

While some argue that market-based mechanisms alone can internalize the costs of valuable attributes, such as healthier food and environmental protection, this study shows that Northern consumers would need to pay significantly higher premiums for organic coffee for this to be true. When market prices are low, the organic market fails to pay the full cost associated with this environmentally beneficial productive innovation. Producers are left to absorb those added costs, which are principally associated with the two-year transition to certified organic production. On its own, the organic coffee premium is paying sub-poverty wages for the household labor needed to convert to and maintain an organic coffee farm. Our initial calculation suggested that even a premium as high as US\$.50/lb would barely cover the costs of conversion for Mexican producers. To the extent it does in our simulation, this is largely because of rising yields. Our assumed increase in coffee yields from three to eight quintals per hectare is, if anything, a generous assumption regarding the yield improvements likely with such a transition.

¹⁶ See (Bartra, Cobo et al. 2003) and (Bartra 2002).

It is unrealistic to think market-mechanisms such as the organic coffee premium will cover these transition costs. That is why many European governments play a role in subsidizing the costs of conversion to organic agriculture. Governments in Denmark, Sweden, Norway, Finland, Switzerland, Austria and Germany have offered various forms of limited-term support to farmers for organic conversion since the 1980s and 1990s (Lampkin and Padel 1994; Lohr and Salomonsson 2000). There, market-based premiums are assumed to be only part of the answer; government intervention is also needed.

One benefit that does not show up in this straight benefit-cost calculation is the improvement in both quality and productivity associated with the transition from conventional to organic coffee production. Organic processes require more of an investment in the coffee plot, and the evidence is clear that this investment, of labor and capital, pays off for those who can afford it. Yields can be two to three times higher after the transition.¹⁷ Since small-scale farmers in Mexico suffer lower yields than most of their competitors, Mexican producers need to raise yields, and to do so in ways that depend more on relatively abundant labor than on expensive chemical inputs. If the organic transition process can help drive such productivity gains, that will be an important benefit.

To the extent the organic transition can also raise quality levels, it will bring more widespread benefits beyond its relatively low premiums. As we have seen, quality is the principal barrier to higher-priced global markets for both organic and Fair Trade coffee. For many global markets, the premium for non-organic, non-FT specialty coffee, which is also market-based, is often higher than the organic premium and sometimes higher even than the FT premium. Quality control is relatively undeveloped in the smallholder sector in Mexico compared to other countries. Mexico's producers in general, and CEPCO's in particular, could sell more of their coffee for quality premiums if a more consistent quality assurance system was put in place at local, state and national levels. In fact, many in the sector are aware of this gap; quality initiatives funded by organizations as diverse as USAID, Starbucks, Oxfam America, the Ford Foundation and local governments are now being piloted in CEPCO and elsewhere.

Fair Trade Coffee: Lifeline for Some, Subsidy for Organic Production

Fair Trade coffee presents its own opportunities and limitations. The benefits of Fair Trade coffee over organic and conventional coffees are particularly strong when prices are low, as they were for the period under study here. The premium differential is large under such conditions – roughly US\$.80/lb compared to less than US\$.20/lb for organic at the producer level. In addition, certification and maintenance costs are well below those for organic coffee. With conventional prices below basic production costs, this can be a life-saving boost for those able to enter the market.

Under such market conditions, quality remains the key barrier for organizations like CEPCO to integrate their members into the FT market. Equal Exchange and other FT buyers are placing renewed emphasis on quality, a trend that will only increase as the FT market develops its market niche. Producer organizations like CEPCO are responding

¹⁷ The reported yield improvements for Mexican coffee producers may not be typical of other organic conversion processes. Where yield-enhancing innovations have already taken place, there may be little or no improvement in yields, and there have been reports of lower yields with the withdrawal of chemical inputs.

with new quality initiatives. Buyers' quality constraints undoubtedly exclude some of the smallest, poorest, and least endowed farmers from gaining the benefits of this alternative market. As a market instrument, the FT movement cannot be blamed for its inability to reach some of the more poorly endowed farmers. Fair Trade will be successful in revaluing small-scale coffee production only to the extent the market continues to grow, and ensuring high quality in the specialty market in which it is embedded will be critical to its growth.

Fair Trade coffee faces a very different set of challenges when prices rise, as they do cyclically and as we are now seeing. The FT premium is not market-tied but fixed; if market prices exceed the FT price, the FT premium is simply a fixed US\$.05/lb for conventional coffee and US\$.20 for organic. So FT's advantage over conventional and organic coffees can diminish or evaporate altogether with higher prices, as we saw for a time in 2005.

It remains to be seen how long prices maintain that level and how producers react to the dramatically changed incentive structure in these niche markets. FT marketers are counting on their long-term relationships with FT producer organizations to generate loyalty and a continued supply of quality coffee. But as CEPSCO's experience has shown, the producer organization itself is a buyer of coffee from its members, and when there are shortages and market prices are high, producers get competing offers from local buyers tied into other networks. CEPSCO has found that price may well be more important to cash-strapped producers than long-term market development or loyalty.

This will pose a challenge to the basic structure of the FT coffee movement if prices indeed rise for any significant period of time. Marketers could respond simply by raising their premiums to exceed those in the organic market. They could also adjust FT prices generally to account for inflation. The FT price has not risen in ten years. In that time, the FT price has lost 75 percent of its value to inflation in Mexico.

Of course, our case study also shows how the separation between these two niche markets may be somewhat artificial at the level of the producer. The FT market is under increasing pressure to deliver not just high-quality but organic coffee. All of CEPSCO's producers are certified for Fair Trade, and the organization has made it a priority to gain organic certification for as many producers as possible. As noted earlier, CEPSCO has effectively used the higher FT premiums to subsidize the organic transition process in the face of low organic premiums. The quality and productivity advantages seem to make this a sensible strategy.

To the extent the FT market becomes, in practice, a market for FT-organic coffee, the analysis of relative premium differentials between FT and organic coffees becomes less relevant. With higher prices, though, the FT buyers may still face competition from organic and other specialty buyers and may need to consider raising their premiums above the current guaranteed US\$1.41 for organic FT coffee.

As noted earlier, demand for specialty, organic, and at least high-quality FT coffees has been growing. If this trend continues, there remains ample opportunity for organic and FT certified coffees to gain a more significant share of the growing specialty coffee market, and for producers to benefit from that growth. As this study has shown, when prices are very low, the FT market has served as a lifeline for those who can grab hold.

To the extent these markets require producer investments in quality and organic certification, though, the barriers to entry remain daunting, and price instability works against such markets. An organization like CEPSCO is asking producers to make long-

term investments of time and resources in their coffee parcels. Even for those producers who have the agro-ecological conditions and the resources to produce high-quality coffee, many may consider the return on such investments too uncertain. Wild swings in coffee prices only add to that sense of uncertainty. Why work to gain certification if, every few years, coffee prices spike and you can get a good price for your crop whether you are certified or not?

Beyond the Market: Government Intervention Critical

If organized producers succeed in winning continued or expanded government support for the coffee sector, such subsidies represent a far more important source of income for conventional producers than is the costly investment in organic production. During the period of low prices studied here, conventional producers were eligible for nearly as much from government programs as they were from the sales of their coffee. Eligibility for government payments, in our case study, seems to be at least as important a factor in keeping households growing coffee as returns from niche markets.

Our CEPSCO simulation showed that without Mexican government support neither the organic nor FT premiums would have provided enough of an incentive for producers to stay in coffee and improve their farming practices. Government programs made the difference in the lean years under study. It is important to note that the two subsidy programs included in our simulation are new, the product of farm group pressure on the Mexican government. Coffee producers won additional commitments from the government as well, but they have been thus far disappointed in the government's implementation of programs to improve quality, strengthen a weak national market for coffee, increase incentives for productivity improvements, and work internationally to remove low-quality coffee from the market. For example, the agriculture ministry (SAGARPA) is alleged to have unilaterally changed the eligibility rules for the Coffee Productivity Fund, excluding producers with less than one hectare in coffee (Celis 2004). In effect, that excludes some 70 percent of Mexico's coffee producers from such programs (CNOC 2004c).

Still, these programs represent a significant departure from the hands-off approach to the countryside taken by the Mexican government in recent years, even during the worst of the coffee price crisis. An expansion of proactive government investments in rural communities and in agriculture is needed to stabilize the Mexican smallholder sector, raise productivity levels, and improve rural livelihoods. The Mexican farmers' movement demanded just such investments in its negotiations with the administration of President Vicente Fox. They called for affordable credit, improved rural infrastructure, and investments in agricultural productivity, among other demands (MECNAM 2004). Such measures would supplement government programs specifically designed for the coffee sector.

Other market-based schemes also offer promise, if not a solution to the crisis for most producers. Mexico's new program of Payment for Environmental Services, which can give coffee producers credit for carbon-sequestering improvements to their farms, could be one part of such a solution. It remains to be seen how much such programs could supplement the earnings from niche-market premiums and contribute to the internalization of environmental costs and benefits. Coffee farmers growing conventional coffee could be eligible for about 400 pesos/hectare/year, with certified organic farmers getting 500 pesos/ha/yr (SEMARNAT 2004). With margins so small when market prices

are low, particularly for conventional producers, that relatively small amount could be the difference between solvency and migration.

Addressing the International Commodity Crisis

In the end, neither niche markets nor national government programs can serve as a substitute for concerted international efforts to address the crisis. As long as supply continues to outpace demand in a deregulated global market, and as long as a highly concentrated group of transnational buyers dominate that market, prices will be forced down to unsustainable levels. This study suggests that supply should be managed in such a way that prices are maintained at least at current FT price levels.

Current low prices are caused by a combination of market power among the handful of large coffee roasters and processors who dominate the trade, and the presence of large inventories in importing countries (estimated at approximately 20 million bags). Structural oversupply further inflates the gap between supply and demand, which was most recently estimated at between 7 and 13 million bags worldwide, or 420 – 780 thousand metric tons. Only coordinated action at the international level among producing countries to restrict supply is likely to alleviate this situation.

A new research initiative led by UNCTAD and an independent group of international economists has generated fresh analyses of the International Commodity Agreements' period of relative success. It confirms that the collapse of the Agreements was due to political rather than technical factors (Koning, Calo et al. 2004). This research effort complements efforts by Kenya, Tanzania and Uganda to raise the issue of declining commodity prices in the WTO's Committee on Trade and Development (WTO Committee on Trade and Development 2003). These countries were recently joined by three other African nations in presenting a proposal for the WTO's agriculture negotiating session in June 2005 to address the commodity price crisis. Among the proposals is the creation of a price stabilization fund (WTO Committee on Agriculture 2005).

On the other hand, the U.S. government's September 2004 announcement that it would rejoin the International Coffee Organization (ICO), the institutional host for past ICAs in coffee, is less auspicious. Its renewed membership in the ICO was conditional on the exclusion of economic instruments from any current or future coffee agreement. In its remarks to the International Coffee Council at the ICO in May 2005, the U.S. delegation declared that it "saw the removal of ICO provisions for market intervention as an essential step prior to U.S. membership," and went on to say that "as a Member we will be vigilant regarding any efforts to reinstate economic clauses in an effort to manipulate markets" (International Coffee Organization 2005a). Indeed, the Coffee Quality Improvement Program at the ICO lost its "teeth" just prior to the U.S. announcement when the organization proclaimed the program to be newly non-binding, a move which likely helped spur U.S. participation.

However, the cooperation of reticent Northern governments may not be required to regulate the market. Whereas in the past international commodity agreements have generally failed because of the withdrawal of support and funds by Northern countries, a new self-financing arrangement designed to limit global coffee production could be established with the use of a temporary and uniform export tax by participating producer states (Koning, Calo et al. 2004; Koning and Robbins 2005). Enforcement of such a scheme could be leveraged through consumer and NGO pressure on the largest roasters and processors.

5. Recommendations

The findings in this report suggest several areas in which policy reform could contribute to the important goal of revaluing the contributions of small-scale coffee farmers in Mexico. Many have implications beyond Mexico. They fall in three broad categories: reforms within the niche markets themselves; policy reforms at the national level in Mexico; and international reforms to better manage the imbalance between supply and demand.

Niche Market Reforms

Organic coffee – One of the principal findings in this study is that the premiums paid for organic coffee, which range from US\$.10/lb to US\$.50/lb, are generally inadequate to pay for the transition to organic methods. The significant additional labor required in such systems is rewarded by such premiums at poverty-level wages. In addition, certification costs, which are ongoing annual costs, not one-time investments to gain certification, can pose a significant barrier to entry for small-scale producers and their organizations. In effect, the organic coffee movement is externalizing the costs associated with the production of coffee under more desirable conditions. Possible reforms include:

1. **Higher premiums, or equivalent market-based support** – One of the limitations of the organic coffee market is its market-based premiums, which do not rise when prices are low and are likely to continue falling as organic coffee supplies grow to meet demand. In lieu of higher premiums, organic coffee buyers can take concerted action to reduce externalized costs of the conversion process, working with non-governmental organizations and governments to help fund the organic transition and thereby stimulate technical change on the coffee farm.
2. **Mutual recognition** – In this regard, one of the most important steps developed country organic standards agencies can take is to reduce producers' need to pay for multiple certifications. At the very least, mutual recognition among organic certifiers and the development of common organic standards would serve to substantially reduce costs incurred by producers and ease access to international markets (TerraChoice 2000).
3. **Coordinated labeling** – Further, an effort to coordinate labels by certifiers of organic, shade-grown, bird-friendly, and Fair Trade products, via the creation of an umbrella "sustainability" label, would ease the heavy burden on the producer, reduce duplication and confusion in the marketplace, and add needed social justice content to the organic label. Such an umbrella label would be based on a set of common environmental and social justice principles and be recognizable in the marketplace. In a large survey of the North American specialty coffee industry, two-thirds of those surveyed were said to favor coordinated action toward harmonized labeling, yet another step in the process of developing true "sustainability standards" (Giovannucci 2001; Ponte 2004)¹⁸.

¹⁸ For an in-depth and practical discussion of how coordination among the various certification initiatives might be undertaken, see (Ponte 2004).

4. **Long-term credit** – This study confirms that the organic transition represents a long-term investment for producers with far more natural, human, and social capital than financial capital. Even under relatively favorable market conditions, the organic transition represents a three-to-five year investment. It should be financed through long-term, low-interest credit. In Mexico, as in many developing countries, affordable rural credit is very limited, and the government itself is under fiscal pressures that make it difficult for small-scale farmers to win subsidized credit. Developed country governments, international agencies, and/or the organic standards organizations themselves should develop mechanisms to provide such long-term credit.
5. **Government support for organic conversion** – Subsidized credit is only one area in which government support is needed to promote the shift to organic methods. Other forms of assistance that have been offered in countries like Sweden which have successfully promoted organic agriculture include cost-sharing of transition expenses, support for research and extension, and assistance in market development (Lohr and Salomonsson 2000). Similar programs, financed through official development assistance or international agencies, would address the persistent barriers to entry faced by small coffee farmers.

Fair Trade coffee – This study found that the higher Fair Trade premiums have provided a critical lifeline to some small-scale producers during the most recent phase of the coffee price crisis. These non-market-based premiums have also helped subsidize the transition to organic methods. While the FT market cannot be expected to serve more than a small fraction of the world’s small-scale coffee producers, it must continue to grow as a market and evolve as a movement. To promote that growth and evolution, possible reforms include:

1. **Upward adjustment in prices** – FT prices have not been raised since they were set more than ten years ago. The value of the FT price in Mexico has therefore fallen 76 percent with continued increases in producers’ costs of living. The FT movement, unlike the organic market, can make policy reforms to its pricing structure. Revaluing the FT premium is an important step in the evolution of the FT market.
2. **Revise price structure for price spikes** – When prices are high, the FT premium often drops to US\$.05/lb, equivalent to the “social” premium designated for organizational support to FT producer groups, with an additional US\$.15/lb for FT organic coffee. While this policy is understandable, the FT movement needs to ensure that its pricing structure remains competitive with both market prices and non-FT organic prices. Exhorting FT producers to be loyal does not prove effective for cash-strapped producers with alternative buyers. At low market prices, FT prices are a godsend; at high market prices they must also reward producers more than the market itself does.
3. **Offer long-term contracts** – FT buyers should consider signing long-term contracts with producer organizations at FT prices. While this will only be possible when FT markets have grown significantly to more closely match supplies, such long-term contracts can be an essential component of both market development and producer loyalty. It can also allow the FT movement to answer the challenge of Starbucks, and others, looking to skirt FT standards through their own independent purchasing policies.

4. **Reduce exclusions because of higher dues** – While it may make market sense for FT organizations to impose membership dues, the move violates the spirit of a movement based on alternative trade principles. The institution of fees have the potential to create a new, exclusionary hierarchy of producer organizations that penalizes the more marginal coops and cuts into already thin margins. While the FT dues remain significantly below organic certification costs, FT buyers must strive to prevent these new costs from serving as an additional barrier to entry in a market that favors those producers and coops already able to make quality investments.
5. **Build the Fair Trade market** – It is important to continue to seek ways to introduce FT standards into mainstream markets – while protecting premiums and sustainability content. Alternative niche markets continue to grow, and the FT market can continue to gain a more significant share of that growth. But the majority of the world’s coffee farmers sell on the conventional coffee market, which remains dominated by large transnational roasters and traders. For the FT movement to impact more farmers’ lives – and the *poorest* farmers’ lives – it must create openings in this market while continuing to critically engage the industry around the need for reforming trade relations. FLO’s shift to a mainstreaming strategy has already won the movement some important victories in this regard, but the challenge will be how to sustain such an approach while remaining true to the principles and practices that now guide the movement.¹⁹

National Policy Reforms in Mexico

A comprehensive set of reforms in Mexican government policies toward the coffee sector are outlined in recent proposals by the Mexican farmers’ movement and an alliance of Mexican coffee producer organizations (CNOc 2004a; CNOc 2004b; MECNAM 2004). Among the most urgently needed reforms are:

1. **Fulfill existing government commitments on support programs** – As noted earlier, the Mexican government has reneged on many of its commitments to support the coffee sector. It has unilaterally changed implementation guidelines in ways that exclude many smaller-scale producers. The negotiated reforms were an important first step in addressing the coffee price crisis facing Mexican producers. This study has shown how critical government support can be in such circumstances, making the difference between solvency and bankruptcy, between continued coffee production and migration.
2. **Develop viable rural credit institutions** – Small-scale coffee farmers have relatively abundant natural, social, and human capital to invest in their coffee production, and in the transition to organic methods where appropriate. They lack financial capital, and it is foolhardy to think that the market will provide the needed financing to small-scale producers in a country in which even relatively large businesses cannot obtain adequate credit. The government has an important role to play here. Producer organizations cannot be expected on their own to address this market failure. As with other rural development programs, the government could provide incentives for the use of remittances from migrants to promote quality, productivity, and the organic conversion.

¹⁹ For a critical reflection on the current debate surrounding the ‘mainstreaming’ of Fair Trade, see Low and Davenport (2005).

3. **Promote quality on the farm** – Mexican coffee currently suffers from variable quality, but given appropriate agroecological conditions, pockets of organized producers have shown it is possible to produce and successfully market excellent, highly rated Mexican coffee through careful quality control. More smallholder farmers would benefit from the rapid growth in quality coffee markets with the establishment of a local quality-control infrastructure, including specialized technical assistance and basic cupping laboratories.
4. **Raise productivity** – Mexican coffee in general suffers from low levels of productivity compared to its competitors. With the recent price crisis, productivity has fallen further. If the coffee sector becomes a priority for the further development of export agriculture, investments in productivity will be critical. In low-input systems like those found in Mexico, the organic transition alone can bring productivity gains. Government programs should promote the organic transition, as well as other productivity programs, through extension services as well as financing.
5. **Develop the national coffee market** – Producer organizations have made concrete proposals to increase the quality of coffee sold in the Mexican market and to develop that market to play a more dynamic part in Mexican coffee sales. The development of national quality standards backed by a government-led certification system would stimulate demand among consumers for high quality, nationally sourced coffee. Other coffee-producing countries have shown that such measures can generate significant internal demand for quality coffee and help reduce dependence on oversupplied international markets.²⁰ In addition, the establishment of mandatory quality control procedures for coffee exports would reward more competitive producers and boost prices received in international markets.
6. **Finance diversification** – The large number of smallholders who are not able to meet basic quality standards or for whom entry into niche markets is not feasible need assistance diversifying into other activities, even though alternatives are often very limited. The provision of low-cost credit and one-time start-up grants would help support the move towards alternative livelihoods, such as the production of *magüey mezcalero* and smallholder honey.
7. **Implement long-term rural development programs** – The national farmers' movement demanded increased long-term investment in rural areas, in part as a response to the lackluster job-creation associated with NAFTA-related economic reforms. These include infrastructure improvements and other investments. They are critical to the diversification effort, and critical to reducing the transaction costs associated with marketing Mexican smallholders' coffee.
8. **Develop the market for environmental services** – The Mexican government has taken important first steps towards establishing meaningful payment for environmental services programs that can benefit small-scale producers. Coffee producers are eligible for a new carbon-sequestration program. While such market-based mechanisms cannot fully compensate producers' environmental contributions, they can supplement niche market premiums and government programs.

²⁰ The national coalition of coffee producing organizations in Mexico (CNOOC) has made the development of the domestic market via a national quality assurance system a centerpiece in its proposed solutions to the crisis (CNOOC 2004a).

International Cooperation on Commodity Prices

The most important finding from this study is that niche markets alone cannot address the price crisis faced by small-scale coffee farmers. The organic premium is too low to promote the conversion to organic, and the Fair Trade premium was only found to reward coffee farmers' labor adequately when it was supplemented with government subsidies. Even if niche markets continue to grow at a rapid rate, they will only serve a small minority of the world's 20-25 million coffee farmers. The only solution to the coffee price crisis is a return to the active international management of supply and demand, a step back from the deregulation of markets. Prices that fail to pay farmers a fair wage for their labor and for their contributions to social and environmental stability can only be raised through international cooperation. Important reform initiatives in this regard include:

1. **Strengthen international cooperation** – The International Coffee Agreement, whose economic clause collapsed in 1989, showed that international cooperation could manage supply and demand in such a way as to maintain prices at a level acceptable to both producing and consuming countries. Its failure was a sign not of its inherent weakness but the political nature of its constitution, which isolated coffee from other commodities and made its financing dependent on developed country contributions. New initiatives are needed that reflect contemporary political realities. UNCTAD has shown new interest in developing a broad solution to the commodity problem, beyond coffee. And proposals have been filed with the WTO to take up the matter at the December 2005 ministerial meeting in Hong Kong. These are important initiatives and they should be promoted.²¹
2. **Provide financing for diversification** – The World Bank was partially responsible for expanding the supply of coffee beyond demand, by promoting the expansion of coffee production in Vietnam and elsewhere as part of its promotion of export agriculture. Such policies should not only be abandoned but reversed, with funds allocated to promote the diversification of low-quality coffee producers into other crops.
3. **Reduce liberalization in sensitive crops** – As Mexico's experience with maize has shown, trade liberalization in sensitive crops, particularly food crops, can undermine rural livelihoods. Coffee alone cannot ensure a viable rural economy, even if prices are higher. Developing country governments should approach further trade negotiations – at the WTO and in regional trade agreements such as CAFTA – with great care to ensure that provisions do not increase poverty or weaken rural development.
4. **Apply transparency measures to transnational corporations** – The WTO now requires the reporting of market dominance by state trading enterprises. It should extend the same requirement to the private sector. Many international markets are

²¹ The International Coffee Organization's initiative to reduce global inventories by removing low-quality beans was downgraded from mandatory to voluntary in 2004 in response to problems with financing and non-compliance by producing countries. The United States' strong reluctance to support the program also contributed to the policy change. While the initiative would have likely succeeded in raising prices, it is precisely this regulatory function which brought about its demise in the current political arena (Daviron and Ponte 2005).

dominated by a small number of transnational firms. This is true of coffee, where five firms control almost half the trade in green coffee.. This allows them to exert undue influence in commodity markets, generally with the goal of reducing prices to their lowest possible levels. This works against efforts to raise producer prices, promote quality programs, and revalue the production of family farmers.

For small-scale producers, any solutions to the coffee crisis will look much like the peasant economy itself – a patchwork of diverse survival strategies. It will likely combine subsistence and cash crops, unpaid family labor on the farm and off-farm employment, market-based opportunities and government programs. Backed by a more favorable set of policies, the organic and Fair Trade niche markets can be integrated into other market-based mechanisms and combined with non-market initiatives to recognize the full value of small-scale coffee production to Mexican society, culture, and the environment. While the present study suggests that niche markets alone are unlikely to provide a comprehensive solution to the coffee price crisis, they have an important role to play in promoting more sustainable livelihoods and in beginning to revalue the contributions of small-scale farmers in an increasingly global economy.

Appendix: Guide to Methodology

Most of the data on which this analysis is based were gathered on-site by one of the authors at the head offices of CEPCO in Oaxaca City, Mexico, during July and August of 2004. Both CEPCO's marketing entity, the CAEO, and its Organic Program, the *Programa Orgánico*, provided multiyear data series detailing production, yield, and certification patterns as well as price and market information. This provided the quantitative basis for much of the analysis below. In addition, both quantitative and qualitative data were gathered through individual interviews and consultations with individual professional staff at CEPCO, staff at *Servicios Ambientales de Oaxaca* (SAO), and the elected CEPCO leadership in the summer and fall of 2004, and through consultations in the field with coffee growers participating in CEPCO's organic program. These were used to qualify and interpret the findings derived from the quantitative analysis.

The coffee cycle for 2003-4 is used in all calculations. The selection of the year under study is important, since coffee prices vary considerably from year to year. The purpose of this study is to assess the extent to which the FT and organic markets are addressing producers' economic difficulties resulting from low prices. The 2003-4 season is a good choice for study. The Mexican FOB price was US\$.67.55/lb (July 2004). This is not the lowest price in the recent period of price depression (US\$.50/lb in 2002), but it is below average production costs (see Fig. 8 earlier). It is typical of the period 2001-4, when prices averaged US\$.67.12/lb.

Documentation of assumptions and sources

The following figures for conventional, organic, and transitional coffee production are used in the simulations, with all currency in Mexican pesos:

Producer cost estimates – Producer costs are calculated on a unit basis (the quintal – 100 lbs) and are held constant for the Organic and Fair Trade Models. Costs are not comprehensive but rather reflect only the additional investments associated with organic and Fair Trade production, principally labor and certification.

Table 7: Parameters and Cost-Price Structures in Analytic Models

	Conventional	Organic	Transition
Average yield, quintals per ha.	3	8	5
Land in coffee per producer (hectares)	1	1	1
Labor-days required per hectare	37	108	95
Average prevailing wage rate in Oaxaca, pesos per labor-day	75	75	75
Labor costs per quintal, at 75 pesos/day	925	1013	1425
Organic certification costs, pesos per quintal*	-	24	38
Organizational costs of certification, pesos per quintal	243	287	243
Coffee prices, assuming Mexico FOB price and US\$0.25/lb organic premium	778	1066	778
Fair Trade prices	1451	1600	1451
CEPCO prices to producers	460	949	575
<i>*Adjusted downward for organic systems under an assumption of equal landholding, to reflect a uniform fee across producers.</i>			

Labor – Costs reflect average labor investments in the coffee parcel for conventional and organic systems, priced at the average rural daily wage rate in Oaxaca (75 pesos) in 2003-4. Based on previous survey research in the region (Bartra 2002), we assume labor investments of:

- 37 days per hectare per year for conventional coffee for the minimal essential tasks of a single annual cleaning and pruning – *limpia-poda* – amounting to 13 days per hectare annually, and another 24 days for harvest and wet-processing (*corte y beneficio*);
- 108 days for certified organic – two annual cleanings and prunings, terrace construction, nursery and compost work, and biological pest control, amounting to 50 days, plus another 58 devoted to harvest and processing;
- 95 days for transitional systems, who faced the same demands as certified producers but incurred lower labor costs at harvest due to lower productivity.

To convert labor costs to a quintal basis, we divide by average yields in each of the systems, assumed to be 3, 8 and 5 quintals per hectare, respectively.

Certification – In the case of organic and transitional systems, the annual cost per quintal of organic certification is added to the labor cost: 38 pesos/quintal for transitional producers, and 24 pesos/quintal for certified producers. These figures are derived from an estimated uniform certification cost per producer of 192 pesos, which is then scaled to reflect the difference in productivity between transitional and certified coffee systems based on estimated land in coffee of one hectare for each of the coffee systems (see Table 8). Estimates were derived from figures collected from CEPCO in 2003.

Producer price estimates – For the Organic Model and Fair Trade Model, prices received by the producer on organic and conventional markets were calculated by subtracting from the US\$.67.55/lb market price (July 2004 Mexico FOB price from ICO) the operational costs incurred by CEPCO for processing, marketing, commercialization, technical assistance and administrative overhead. This yields the net price for CEPCO producers, an estimate of the average prices the marketing organization can pay producers. These organizational costs were derived from an average of costs over the 2000-2 period for both organic and conventional/transitional coffee as documented by Bartra (2002), with a modest 3 percent annual increment to account for inflation over the two-year period that followed. The organizational costs amounted to 243 pesos/quintal for conventional coffee and coffee in transition and 287 pesos/quintal for certified organic coffee. Because the new fee structure now associated with Fair Trade membership was not implemented until the following growing season, no additional operational costs for marketing Fair Trade coffee are assumed.

The Organic Model assumes an organic premium of US\$0.25/lb above Mexico's FOB price of US\$67.55/lb (July 2004). Mexican organic coffee generally earns a premium in the range of US\$.10/lb – U\$.50/lb.

The Fair Trade Model reflects the FT prices of US\$1.26/lb and US\$1.41/lb for conventional and certified organic coffee, respectively (FLO 2005a).

These models must be considered theoretical because they are based on the following assumptions:

- the entire volume of Fair Trade and organic certified production is sold on these markets (which assumes uniform high quality beans and the capacity to make the sale);
- a simplified cost and price structure;
- productive choices determined primarily by price signaling in coffee markets, rather than a combination of price signals, availability of government support and alternative livelihood opportunities, and other influences;
- segregated markets;
- good price transmission to the producer

CEPCO Model – In the CEPCO Model, producer costs are assumed to be the same as those employed in the previous models as far as labor investments are concerned. Certification costs are adjusted for certified producers, based on an assumed average 200 peso/member *cooperación*, or membership fee, which covers members' share of certification costs borne by the cooperative. This amounts to an estimated 40 pesos/quintal for certification in transitional systems and 25 pesos/quintal in certified systems, comparable to the derived respective costs of 38 and 24 pesos/quintal used in the other models. This is added to the organizational costs of membership in CEPCO, which are estimated here at 200 pesos per member and covers basic marketing – including storage, transportation to a CEPCO processing plant, dry-processing, sorting, grading, and marketing – as well as administrative and financial costs.

Producer prices are the actual prices paid by CEPCO to members in 2003-4 for the three different types of coffee: 16.50 pesos/kilo for organic beans, 10.00 pesos/kilo for transition coffee, and 8.00 pesos/kilo for conventional beans (US\$0.66/lb, US\$0.40/lb, and US\$0.32/lb).

Imputed wages are calculated by removing the labor costs, calculated at the market rate of 75 pesos/day, from the cost estimates and dividing the resulting returns per hectare by the appropriate labor investment per hectare for the given type of coffee.

Government subsidies – In this simulation, we add to producers' incomes funds from two government programs specifically for coffee producers:

- *El Fondo de Estabilización de Precios* (Price Stabilization Fund) paid the difference between the N.Y. stock price and US\$.85/lb, up to US\$.20/lb. In 2003/4 producers were eligible to receive US\$.15/lb, or 165 pesos/quintal.
- *El Fondo de Fomento Productivo* (Coffee Productivity Fund) paid 900 pesos/hectare.

Though not all producers received these subsidies, for the simulation we assume they did. We do not add in receipts from other government programs, such as the rural anti-poverty program Procampo. Thus, this simulation should be considered a hypothetical assessment of the potential impact of two coffee-promotion programs under the conditions in the model.

Model Specifications

Organic Model – We calculate returns on each of the three types of coffee, per quintal and per hectare, based on the price and cost assumptions specified above.

- Producer price equals market price minus per-producer organizational expenses, as specified above. An organic premium of US\$.25/lb (288 pesos) is added to estimate the organic price.

- Costs equal labor on the coffee plot, which changes for the three types of coffee, at the rate of 75 pesos/day, plus certification costs for transitional and organic producers, as specified above.
- Investment in the conversion equals the marginal costs of transitional coffee over conventional coffee, times two for the assumed two-year transition period to certified status.
- Marginal return on investment equals the difference in returns per hectare between organic and conventional coffee, minus the initial two-year investment.
- Years to recoup investment equals investment divided by marginal returns, plus two years for the transition period.

Fair Trade Model – Specifications are the same, with the following adjustments:

- Prices are FT prices for conventional (US\$1.26) and FT-organic (US\$1.41) coffee, with no additional premium for transitional coffee. Also included in the model is the conventional non-FT producer, as specified in the previous model.
- Certification costs are eliminated, as there were no FT certification costs in the year under study, beyond general organizational costs.
- Marginal returns on investment were calculated in the same manner as the previous model. We add the calculation for the marginal return to the conventional non-FT producer of transitioning to FT organic production.

CEPCO Model – Specifications are the same for the CEPCO model, with the following adjustments:

- Instead of deriving producer prices, we use actual producer prices paid by the marketing cooperative to producers for the three different types of coffee in the 2003-4 season.
- We use estimates of member dues for organizational costs and the portion of those that cover certification.
- In addition to calculating returns to coffee and marginal returns on investment in certified coffee, based on market rates for labor, we calculate imputed returns to labor on the coffee parcel. Imputed wages equal returns from coffee, less market labor costs, divided by the number of days invested in the coffee plot. The result is the imputed return to labor for the three different types of coffee.
- We add government subsidies to returns from coffee and carry out the same set of calculations, giving the return/hectare for the different types of coffee, the marginal return on investment for the organic transition, and the imputed returns to labor for each type of coffee.

Table 8: Annual certification costs for 300-member cooperative, with references

	<i>pesos/day</i>	<i>pesos/organization</i>
EXTERNAL INSPECTION		
Field inspection (3 days)	1,000	3,000
Process inspection (2 days)	1,000	2,000
Report writing (1.5 days)	1,000	1,500
Travel ^a (1 day)	1,000	1,000
Verification of internal monitoring (1 day)	1,000	1,000
Verification of storage & commercialization (1 day)	1,000	1,000
Translation services (1 day)	2,000	2,000
INTERNAL INSPECTION		
Field Inspection (30 days)	125	3,750
DIRECT CERTIFICATION COSTS		
	<i>(Unit cost)</i>	
Certimex Administration ^b	70 pesos/member	21,000
Use of seal ^c	1% sales	17,070
Naturland annual membership ^d	1 euro/member	4,164
TOTAL (pesos)		
Per organization		57,484
Per producer		192
Per quintal		38
TOTAL (USD) ^e		
Per organization		US\$ 5,051
Per producer		US\$ 16.84
Per quintal		US\$ 3.37
Annual sales per organization in US Dollars ^f		\$150,000
CERTIFICATION COSTS as a % of sales		3.37%

Source: adapted from information provided by Clemente Santiago Paz, CEPACO, Oaxaca, Mexico.

Figures are rough estimates for a 300-member cooperative in Mexico. Figures for external and internal inspection are based on inspection of 10 members per day. Labor costs are a breakdown of CERTIMEX inspection costs; they are not charged as such to the cooperative but are the basis for the fees charged to cooperatives. External inspector (CERTIMEX) reviews 10% of membership while internal inspector reviews 100%.

a. Charged for travel to remote communities.

b. 35% of membership fee charged to producers (200 pesos) is paid to CERTIMEX. The balance is retained at the level of the organization to cover internal monitoring and technical assistance costs. Annual fees amount to 200 pesos per member, although this varies among organizations.

c. 1% of sales. Calculated based on average volume of 5 Quintals per producer, at US\$1.00/lb (average non-Fair Trade price received for organic in 2002-3).

d. Naturland membership: 1 euro per member. (1 EURO = 13.88 pesos) CMX does not charge for membership.

e. 1 U.S. Dollar = 11.38 pesos (January 2005)

f. Calculated based on average volume of 5 Quintals per producer, at US\$1.00/lb (average non-Fair Trade price received for organic in 2002-03). 1 Quintal = 100 lbs.

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