

FAIR TRADE USA SUPPLY CHAIN RESEARCH

COST OF SUSTAINABLE PRODUCTION

An overview of farm-level production analyses in Latin America



Dyson
Cornell
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for a Sustainable Future

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1. INTRODUCTION

Since 2014, Fair Trade USA and Cornell University have engaged in primary, farmer-centric and participatory research to analyze the farm-level costs of four coffee producing organizations in Latin America. The overall goals of this work are to advance the understanding of production costs for small-holder coffee farmers who sell into the Fair Trade market, and to disseminate findings in order to foster increased transparency, enable long-term partnerships, and enhance sustainable purchasing practices. Additionally, when considered alongside data from progress surveys and premium spending questionnaires, the results of these in-depth cost analyses inform how compliance with the Fair Trade Producer Standards, the Fair Trade Minimum Price (FTMP) and Fair Trade Premium (FTP) act as mechanisms that support economic viability for coffee producers.

Paper highlights on the methodology include:

- The determination of a benchmark farm representing the average costs and productivity per coffee producer organization.
- A description of the productive cycle of 8 years to incorporate all the activities related with the establishment and maintenance of the representative coffee farm.
- The explanation of 4 separate breakeven points for each benchmark farm, inclusive of opportunity costs, which signify a range from whether it is uneconomical to produce coffee in the short-term to viable to produce coffee in the long-term.
- A sensitivity analysis that demonstrates the need for pricing and/or productivity increases in order to breakeven.
- A description of the data collection process which actively involves the communities in a mutual learning process and inform new generations of coffee growers.

Paper highlights on preliminary analyses include:

- Each benchmark coffee producer was able to cover their operating costs, indicating either break even or modest net operating profit from production.
- No benchmark farm was able to cover their total costs; all benchmark farms face challenges to long-term viability.
- Total variable costs are between 40% and 65% of total costs per hectare.
- Labor represents between 45% and 68% of variable costs.
- Equipment depreciation ranges from 14% to 32% of total costs.
- Opportunity costs are between 12% to 26% of total costs.



Cost of Production Research in the Coffee Industry

The coffee trade has been around for more than 500 years and yet the fundamental economics of coffee production are not widely understood. The real costs of coffee production are at the heart of many of the industry's biggest challenges: farm profitability and financing, labor shortages, farm worker rights, generational succession, and gender equity. While the coffee industry moves to make coffee the first sustainable agricultural commodity, companies work to address these challenges by improving their relationships with suppliers and ensuring their responsible sourcing. Yet as these efforts proceed, basic questions of economic viability related to coffee production must be asked:

- Are farmers earning a price that enables long-term viability of production?
- Are families food secure and able to meet basic needs?
- Why are there shortages of labor during the harvest season?
- Why are younger generations leaving coffee farms?
- How does remuneration for productive activities differ between men and women?
- What level of investment is needed to ensure resilience in the face of climate change?
- What does it cost to produce specialty-grade coffee?

To begin to answer these questions for producers, importers, roasters, governments, and consumers, Fair Trade USA has partnered with Cornell University's Dyson School of Applied Economics and Management and a number of coffee cooperatives throughout Latin America to map the cost of sustainable production (COSP).

Fair Trade USA's COSP research should be viewed as part of a larger industry-wide effort to understand how to make coffee production economically viable for coffee farmers. Recent studies into this subject have helped to establish our specific interests and develop our research partnership. At the macro-level, a report published by the International Coffee Organization in 2010 examined production costs based on coffee producing countries' self-reported data. The report showed that globally, coffee production input costs have trended upwards, while coffee prices have been largely low and volatile. This finding is supported by the recent (2016) assessment on the economic sustainability of coffee production by the International Coffee Organization, which states that the composite price of coffee is currently below the 10-year average, and that in real terms (taking inflation into account) the January 2016 composite price for coffee was a little over \$0.02 higher than that of January 2000. The report stated that such "prolonged periods of low prices strain liquidity at the farm level" and "put the livelihoods of coffee producers at risk in many countries".



Looking more granularly at the subtleties of small-holder producer farming, a literature review compiled by RD2 Vision in partnership with the Sustainability Council of the Specialty Coffee Association of America, concluded that farm-level profitability is not correlated with yield due increases in variable costs (labor and capital) and that small-holder farmers may seek to increase their profitability by decreasing inputs. This insight poses further questions about the willingness of farmers to invest in renovation and natural resource management techniques, which may increase cost per pound in the short-term but benefit the production system in the long-term. It also questions the attractiveness of coffee production for future generations of growers and the prospects for supply to meet growing demand, especially for more labor intensive specialty grade coffee.

Adding to the literature on farm-level production, Catholic Relief Services (CRS) and the International Center for Tropical Agriculture (CIAT) includes coffee farm segmentation based on market positioning and income reliance in their production analysis. The report determines three types of coffee producers based on the following strategies: those that specialize in coffee farming, those with diversified crops, and those with diversified incomes (i.e. earning most of their income off-farm). The results suggest that farmers who are less specialized in coffee production trend toward lower investment overall, which can result in lower yields and increased cost per pound. They also suggest that coffee specialists can be profitable if they can access more market channels.

These important insights result in more questions for an industry where roasters and other commercial enterprises pressure an almost across-the-board adoption of input intensive strategies for quality improvement and climate smart agriculture, as well as increased wages and protections for farm laborers. While it is clear that there is a need to continue to fine-tune economic research and leverage supply chain relationships to incorporate strategies for improving farm-level profitability, how we do so is less certain. Do we use this research to segment production systems in our supply chains in order to identify who requires additional investment and who should diversify? Are there universal benchmarks on which we can rely to guide pricing and investments? If so, what are they and can they be easily adapted in specific contexts? Do we use this economic data to innovate capacity building programs for the overall benefit of short-term financial gains and long-term ecological stability? Do we use this contextualized evidence to inform price sensitive consumers and business partners that purchasing practices need to change? Should the commodity market continue to be used as the basis for price determination? The answer is: all of the above, and it is in the pursuit of this that our work exists.

We hope that you enjoy the report,
Fair Trade USA Coffee



2. METHODOLOGY AND MEASURES

Analytical Framework

The methodology designed and implemented by Cornell reflect the real-world choices that farmers make to invest in coffee production. As such, it differs in important ways from other cost studies, which take a more accounting approach to measuring cost structures. Three key distinguishing factors that add dimension to this methodology are: 1) valuation of opportunity costs; 2) the inclusion of amortized costs of establishment; and, 3) establishment of multiple breakeven points in the analysis.

First, opportunity costs are calculated not only for labor but also for other production factors such as land and physical capital. In the case of labor, a present value of the farmer's labor is established by determining the time invested in all the activities and then providing a market price for this time based on the local market. In the case of land, we consider the income that farm owner would have received if they rent the land (estimated at 4% of land value). In the case of capital, we determine the expected return received if capital were invested in alternative investments.

Second, the methodology considers an 9-year investment window, which includes costs of land preparation and planting in addition to labor costs associated with harvesting and on-going maintenance. The establishment phase occurs in years 0-1. In those years the most important activities are related to land preparation, nursery (year 0), and the proper transplant and establishment of the tree in the designated land (year 1). Meanwhile, years 2-8 refer to an established crop where principal activities are maintenance and harvest. Income is generated after the second year, and after nine years the coffee trees need to be replanted and the business cycle would start again.

Finally, the analytical framework establishes breakeven points to establish the importance of time horizons in the economic analysis. By factoring in depreciation, reinvestment and opportunity costs on top of variable and fixed costs, we can offer a guide for determining whether a farm is profitable over time. Each breakeven point defines a degree of sustainability that can be characterized as moving from uneconomical in the short-term (<1 year), to viable in the short-term (1 to 2 years), medium-term (2 to 5 years), and long-term (>5 years).



Breakeven Points & Cost Measures

By surveying a broad sample of cooperative members, we consider differences in farm size, processing methods, levels of dependency on hired labor, and other factors that affect cost structures. This establishes a benchmark cost of production for an average producer on both a per pound and per hectare basis. The **first cost measure** establishes the total variable cost baseline upon which all other cost measures add. Variable costs are those linked to production in a specific year, including labor, inputs and materials. Farmers provide detailed description of on-farm activities related to maintenance and harvest per year, which is later converted to a value using the daily wage (jornal) reported in the region. If a farmer's revenue is below his or her variable costs, then coffee farming is considered to be uneconomical to produce.

The **second cost measure** considers fixed costs in addition to variable costs. This breakeven point can be referred to as a farm's operating costs, and thus a producer must cover these costs in order to stay in business in the short-term. The fixed costs category includes annual payments for cooperative memberships, taxes and loan repayments, as well as tools and equipment. Here, however, we do not account for depreciation, but transfer it to the **third cost measure**: variable costs, fixed costs and depreciation. Farming revenues that fall short of this measure implies that coffee farming is uneconomical in the medium-term.

BREAKEVEN COST CATEGORY DEFINITIONS



Variable Costs are directly related to coffee farm output. These include hired labor and production inputs such as fertilizer or pesticides. If a producer receives less than their total variable costs, then coffee is uneconomical to produce.



Fixed costs must be paid whether or not any coffee is produced. These include cooperative memberships costs, taxes, and supplies. If a producer meets the fixed cost benchmark then coffee is considered economical in the short term.



Depreciation is considered for all assets that are in use for more than one harvest cycle. This includes equipment and vehicles. If a producer meets the Depreciation benchmark then coffee is considered economical in the medium term.



Total costs include the amortized costs of establishment from years 0 - 1, as well as the opportunity costs of land and farm management. If a producer meets the total cost benchmark, coffee is considered to be a viable activity in the long term.



The **fourth measure** includes amortization of farm establishment costs (years 0-1), as well as defined opportunity costs of land, capital and labor associated with farm management. With the addition of opportunity costs and establishment costs, profitability is not limited to a simple cash flow analysis or a thorough accounting of their physical assets or materials. This is an important consideration in a farmer's decision to invest his or her labor in coffee production, as well as for future generations to engage in coffee production relative to other options they may have. Revenues above this benchmark imply coffee production is viable in the long-term.

Survey Methodology

We partnered with Fair Trade Certified coffee cooperatives for data collection: Cooperativa de Servicios Múltiples Adisa Naranjos (ADISA), Café Orgánico Marcala SA (COMSA), Federación Campesina del Cauca (FCC), and Campesinos Ecológicos de la Sierra Madre de Chiapas (CESMACH). Fieldwork consisted of individual interviews lasting 2 to 2.5 hours to determine production costs, and included producer discussion panels to reach consensus on these costs. Farmers at each cooperative were chosen through a representative cross section taking into consideration farm size, and proximity to the cooperative. Producers who conducted



a thorough inspection of the production costs from the initial stages of establishing a nursery and land preparation to the final sale of their product to the cooperative.

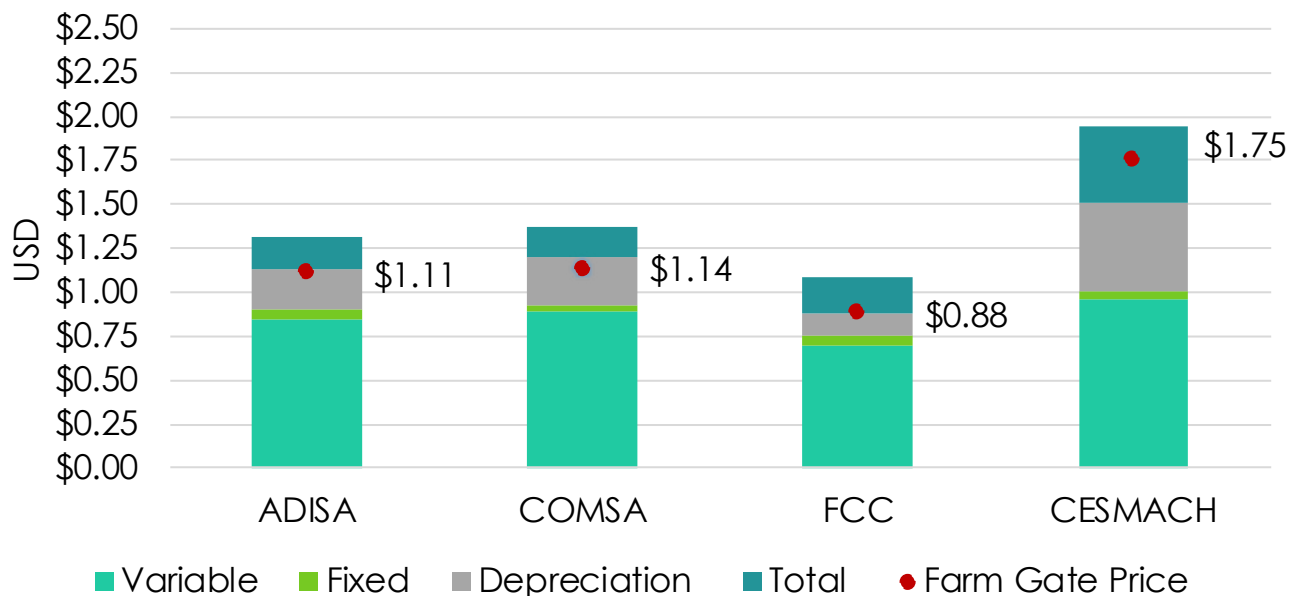
Surveys at ADISA and FCC were implemented by Cornell researchers while the enumerators at COMSA and CESMACH were youth of the cooperatives, trained by Cornell researchers through a three-day training program. The objectives of working with youth were to familiarize the next generations of coffee producers with a more business-like approach of coffee producing and to improve the comprehension of the surveys by the participants.

ADISA	COMSA	FCC	CESMACH
San Martín, Peru	La Paz, Honduras	Cauca, Colombia	Chiapas, Mexico
Founded 2001	Founded 2001	Founded 1967	Founded 1994
Membership 149	Membership 1,007	Membership 760	Membership 492
2015 Total Sales 169,257 lbs	2015 Total Sales 12,674,389 lbs	2015 Total Sales 3,123,910 lbs	2015 Total Sales 874,386 lbs
Sales on FT Terms 75%	Sales on FT Terms 61%	Sales on FT Terms 55%	Sales on FT Terms 90%
Production System Organic	Production System Organic	Production System Conventional ¹	Production System Organic
Avg. Farm Size 2.1 Ha	Avg. Farm Size 5.3 Ha	Avg. Farm Size 1.6 Ha	Avg. Farm Size 4.95 Ha
Avg. Productivity/ha 3,565 lbs parchment	Avg. Productivity/ha 4,399 lbs parchment	Avg. Productivity/ha 2,611 lbs parchment	Avg. Productivity/ha 1,166 lbs parchment
2015 Avg. Reported Farm Gate Price \$1.11	2015 Avg. Reported Farm Gate Price \$1.14	2015 Avg. Reported Farm Gate Price \$.88	2015 Avg. Reported Farm Gate Price \$1.75

1. FCC is in transition to organic



Benchmark Farm Cost Structure per pound parchment



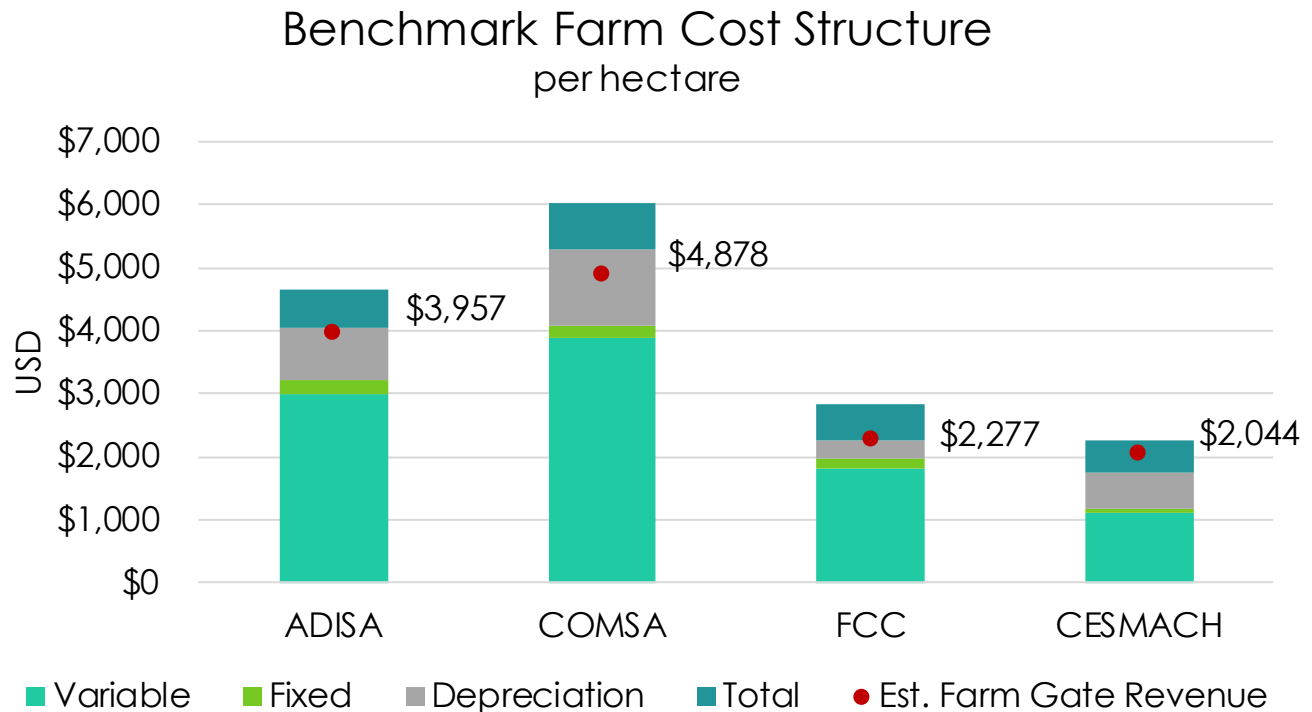
3. FINDINGS

Summary of Findings

Based on the average reported price from farmer respondents, the benchmark producer in every cooperative is able to cover to their second breakeven point, or operating costs, on both a per pound parchment and per hectare basis. Furthermore, FCC was able to meet their depreciation benchmark, while ADISA, COMSA and CESMACH were only able to cover some of their asset depreciation costs. These results suggest that producers in each cooperative are able to stay in business in at least the short-term. However, the lack of ability to cover full depreciation and opportunity costs suggests that the choice to invest capital and land in coffee may not be a long-term option, increasing the risk of loss of generational succession and decreasing long-term farm and infrastructure renovation.

While farmers in each cooperative surveyed were able to surpass the second benchmark, they each achieved this through dramatically different strategies. As each cooperative reflects a unique organizational model, history, and land tenure, these cost calculations need to be analyzed according to the specific context. For instance, COMSA demonstrates the





viability of a high cost and high productivity model, while the case of FCC demonstrates the viability of a low cost and lower productivity model.

Cooperative Cost Structures

The combination of production costs, productivity, and farm gate price received are the key determinants of whether or not a farm is profitable. A coffee producer's net operating profit is determined by multiplying their total volume of coffee sold by the price of coffee in the local market, and then subtracting the total costs of production, including calculated depreciation, opportunity and establishment costs.

$$\text{Profitability} = \text{Gross Revenue (Volume x Price)} - \text{Costs}$$

Higher per hectare productivity means that the cost of production is spread out across more units thereby reducing cost per pound. But higher productivity per hectare usually requires higher investment in inputs and time, typically increasing overall production costs. The key question for is whether increased productivity translates to a higher return on investment.



COOPERATIVA DE SERVICIOS MULTIPLES ADISA NARANJOS (ADISA)



ADISA is a cooperative of 149 members located in the San Martín region in Peru. Created in November 2001, they attained Fair Trade Certification in 2005 and Organic Certification in 2009. ADISA is characterized by its small scale infrastructure, services and commercial capacity, exporting around 5-6 containers of coffee annually. ADISA is dedicated to promoting a self-sustaining, autonomous social base in harmony with the environment, and with the aim of improving the living conditions and livelihoods of their coffee producing families. Fieldwork occurred in June 2015, when the C market was averaging \$1.36. The exchange rate used was PEN/USD: 3.19.





Benchmark Farm

Estimated Gross Revenue per Hectare from Coffee Sales

The benchmark farm at ADISA is 2.1 hectares and produces 3565 lbs of parchment per hectare. The average reported farm gate price at the time of survey was \$1.11/lb parchment. Based on the average productivity per hectare parchment and average farm gate price, the gross revenue per hectare for the benchmark producer was estimated at \$3,957.

Cost Breakdown

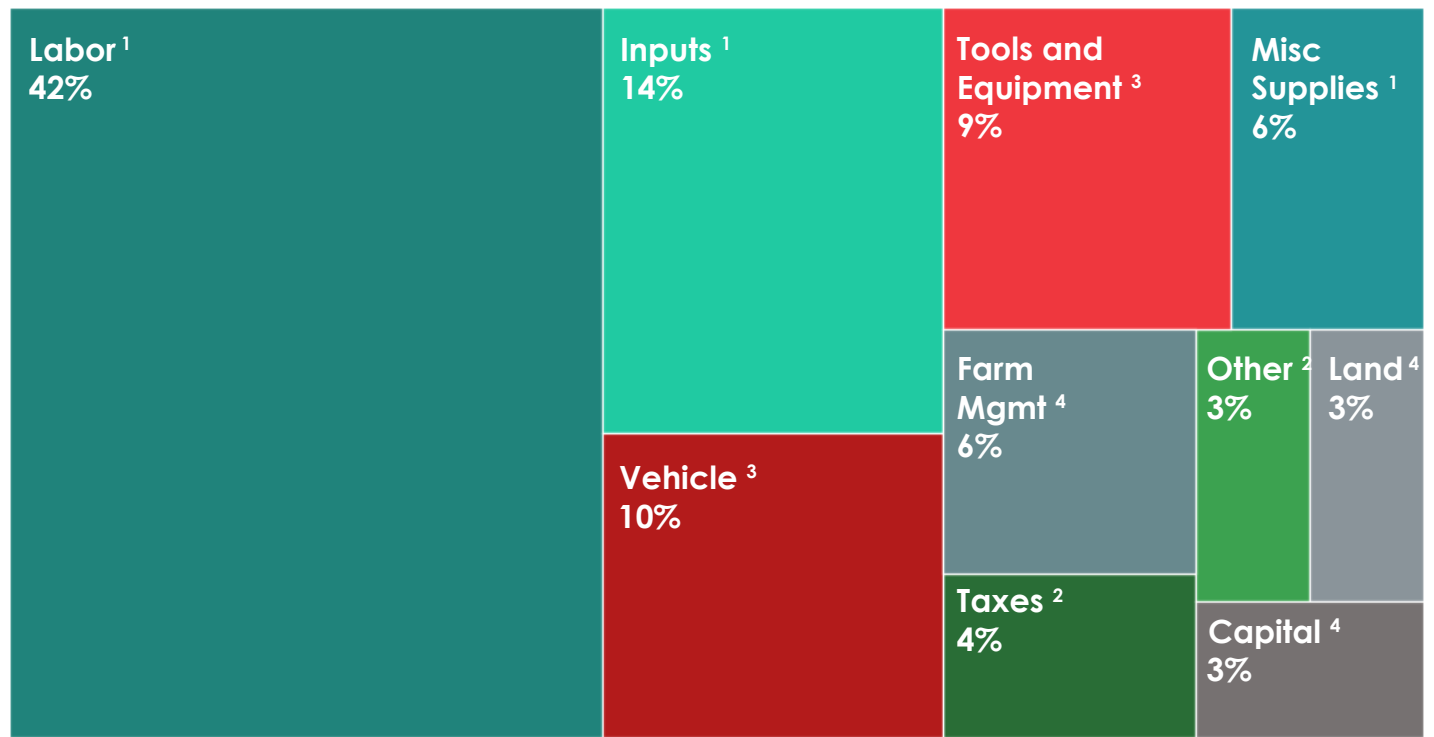
- Variable costs represent 62% of the ADISA benchmark farm's total costs. Labor accounts for 72% and inputs represent 23% of the total variable costs. The remaining 5% of variable costs include miscellaneous supplies. Labor is valued at 7.78 USD/day.
- Fixed costs represent 7% of total costs. Taxes and other costs, including cooperative

Breakeven Table ¹	Revenue/ha	Cost/ha	Net	Price/lb	Cost/lb	Net
 Variable Costs	3,957	2,988	969	1.11	.84	.27
 + Fixed Costs	3,957	3,212	745	1.11	.90	.21
 + Depreciation	3,957	4,004	-87	1.11	1.13	-.02
 Total Costs	3,957	4,658	-701	1.11	1.31	-.20

1. Represents parchment costs converted from PEN to USD



ADISA COST BREAKDOWN



1. Variable; 2: Fixed; 3: Depreciation; 4: Total

membership and loan repayments, are evenly split within this category at roughly 57% and 43% respectively.

- *Depreciation* on tools and equipment, as well as on vehicles, represents 19% of total costs.
- *Opportunity costs* and *amortized establishment costs* comprise the final 12% of total costs, the lowest of all cooperatives surveyed.

Sensitivity Analysis

Based on the benchmark productivity, the average price that would need to be received in order to meet total costs would need to increase \$0.20 per pound parchment to \$1.31. However, if the price remained the same then the average productivity would be to increase 17%, all else being equal. Efforts to increase marginal productivity would necessarily increase variable costs.



CAFE ORGANICO MARCALA SA (COMSA)



COMSA is a producer organization consisting of 1,007 members located in La Paz, Honduras, formed in 2001. COMSA is characterized by its modern infrastructure, services and large scale commercial capacity, exporting around 290 containers of coffee per year. The majority (76%) of COMSA's membership sells their coffee production in cherry form, while only 24% process cherry on farm. Fieldwork surveyed both production types, but for comparability to other coffee producing organizations in this report we are only presenting the results from parchment producers. Fieldwork was conducted in June of 2015, and average prices represent those of the 2014 - 2015 production season when the coffee market dropped from \$1.85 in November to \$1.35 in March. The exchange rate used in the analysis was HNL/USD: 22.10





Benchmark Farm

Estimated Gross Revenue per Hectare from Coffee Sales

The benchmark farm is 5.39 ha and produces 4279 lbs of parchment per hectare, the highest productivity of all of the cooperatives surveyed. Based on the average productivity per hectare and farm gate price reported farm gate price of \$1.14/lb parchment, the gross income per hectare for the benchmark producer at COMSA is roughly \$4,878.

Breakdown

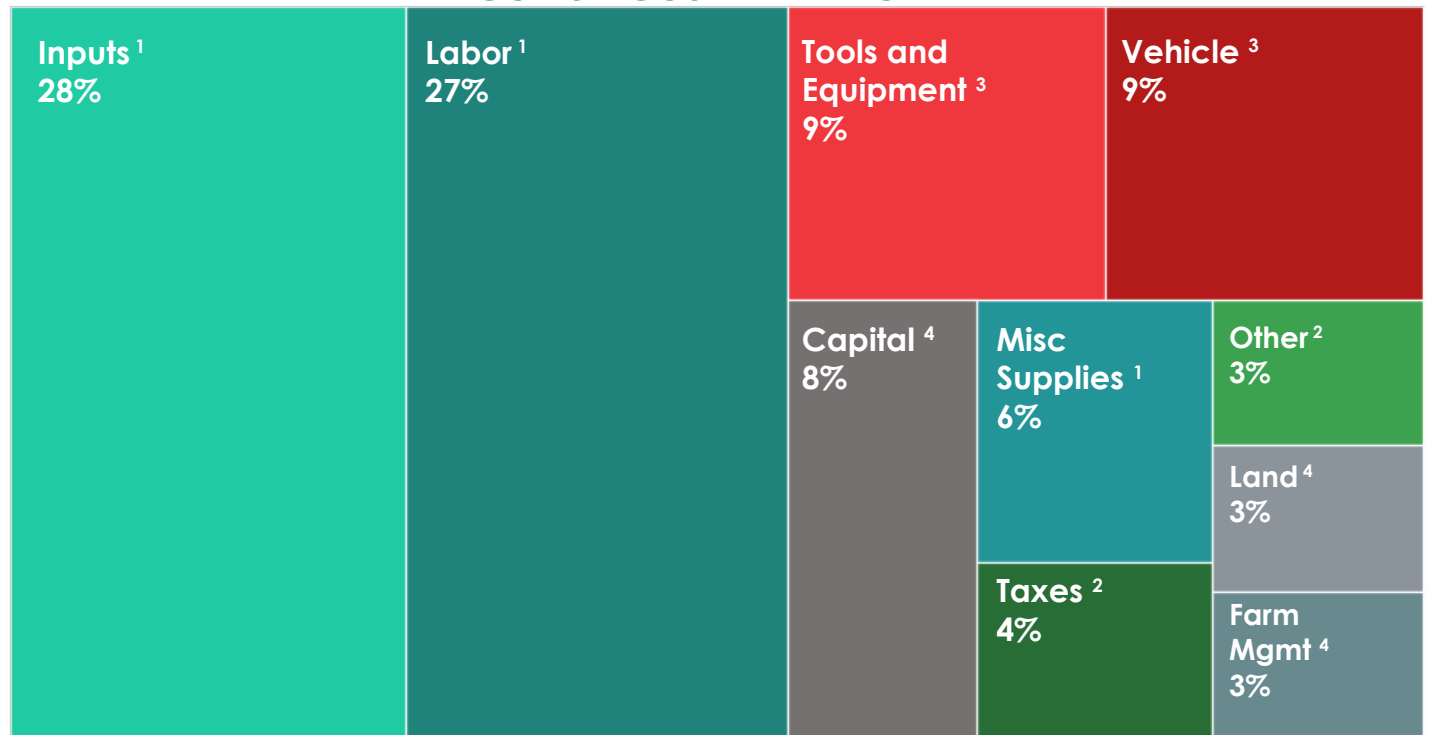
- *Variable Costs* represent 61% of total costs. Inputs are 46% of total variable costs, which is quite high in comparison to other cooperatives, due to COMSA's focus to building producer capacity around farm-based input production. This case shows both the value of

Breakeven Table ¹	Revenue/ha	Cost/ha	Net	Price/lb	Cost/lb	Net
 Variable Costs	4,878	3,898	980	1.14	.89	.25
 + Fixed Costs	4,878	4,086	792	1.14	.93	.21
 + Depreciation	4,878	5,283	-405	1.14	1.20	-.06
 Total Costs	4,878	6,027	-1,149	1.14	1.37	-.23

1. Represents parchment costs converted from HNL to USD



COMSA COST BREAKDOWN



1. Variable; 2: Fixed; 3: Depreciation; 4: Total

these inputs in terms of their impact on increased productivity and the viability of a high cost/high productivity farm model. Labor represents 27% of total costs and 44% of total variable costs due to the relatively low per day labor costs. Labor is valued at 5.35 USD/day.

- *Fixed Costs* are 7% of total costs.
- *Depreciation* is 18% of total costs, split evenly between tools and equipment and vehicles. These costs are in line with the share of total costs as with ADISA and FCC.
- *Opportunity Costs* represent 14% of total costs, in line with the average costs from ADISA and FCC.

Sensitivity Analysis

Based on the benchmark productivity, the average price that would need to be received in order to meet total costs would need to increase \$0.23 per pound parchment to \$1.37. However, if the price remained the same then the average productivity would be to increase 24%, all else being equal. Efforts to increase marginal productivity would necessarily increase variable costs.



FEDERACION CAMPESINOS DEL CAUCA (FCC)



FCC is a cooperative of 760 members located in Cauca, Colombia. Founded in 1971, FCC did not start to market coffee until the 1990s, and attained Fair Trade Certification in 2001. In 2007 exported 2 containers, in 2014 exported 27 and in 2015, 29 containers. Unlike the other coffee producing organizations in this report, the production system of FCC is conventional but is in transition to organic production. As such, the FCC structure is characterized by much lower costs and revenues than other cooperatives, largely because of their production system that solely relies in chemical fertilizer as an input and that requires less labor and maintenance. Fieldwork took place in January 2016, when the coffee market averaged \$1.69/lb. The exchange rate used for the analysis is COP/USD: 2,743.





Benchmark Farm

Estimated Gross Revenue per Hectare from Coffee Sales

The benchmark farm of FCC is 1.64 ha and produces 2,588 lbs of parchment per hectare. Based on the average productivity per hectare and farm gate price reported farm gate price of \$0.88/lb parchment, the gross income per hectare for the benchmark producer at FCC is roughly \$2,277.

Cost Breakdown

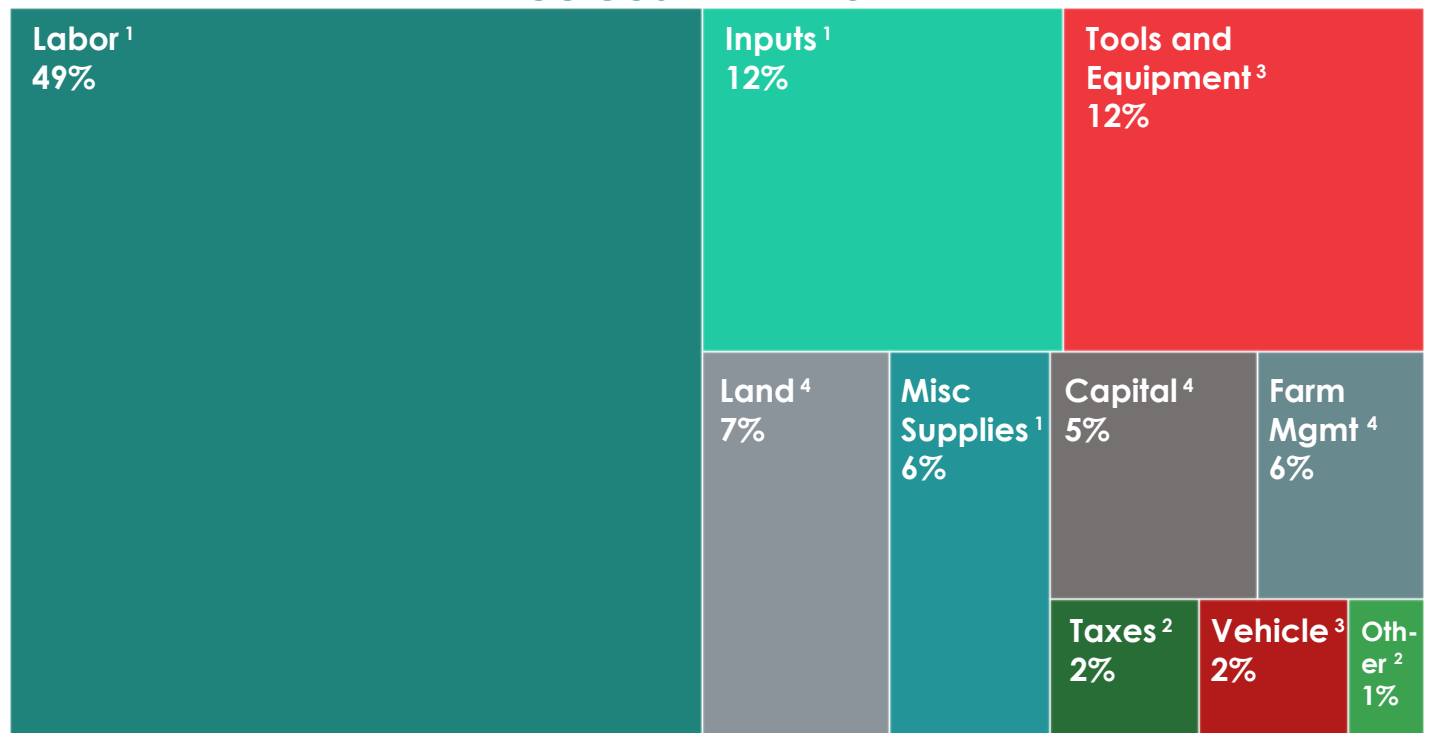
- *Variable Costs* account for 67% of total costs, which is on par with the share of total costs ADISA and COMSA. Labor represents roughly 73% of total variable costs, while inputs are only 18%. This latter number highlights the relative low input cost structure of the bench-

Breakeven Table ¹	Revenue/ha	Cost/ha	Net	Price/lb	Cost/lb	Net
 Variable Costs	2,277	1,817	460	.88	.70	.18
 + Fixed Costs	2,277	1,960	317	.88	.75	.13
 + Depreciation	2,277	2,276	1	.88	.88	0
 Total Costs	2,277	2,846	-569	.88	1.09	-.21

1. Represents parchment costs converted from COP to USD



FCC COST BREAKDOWN



1. Variable; 2: Fixed; 3: Depreciation; 4: Total

mark farm at FCC.

- Fixed costs represent 3% of total costs.
- Depreciation is 14% of total costs, which is the lowest share of total costs of all cooperatives involved in this research. Of this number, depreciation of tools and equipment represent 86%, as vehicles are uncommon for the members of FCC.
- Opportunity costs are 16% of total costs. The opportunity costs for land, which is 7% of total costs, is the highest share of any of the cooperatives surveyed.

Sensitivity Analysis

Based on the benchmark productivity, the average price that would need to be received in order to meet total costs would need to increase \$0.21 per pound parchment to \$1.09. However, if the price remained the same then the average productivity would be to increase 24%, all else being equal. Efforts to increase marginal productivity would necessarily increase variable costs.



CAMPESINOS ECOLOGICOS DE LA SIERRA MADRE DE CHIAPAS (CESMACH)



CESMACH is a 492 member Fair Trade and organic certified cooperative in Jaltenango, Chiapas. The organization's membership is nearly 100% organic production. In recent years, coffee production in Mexico has been marred by considerable damage from coffee leaf rust, with an estimated impact of up to 40% loss of total production. The results from this analysis should be considered alongside future research as recovery efforts progress and yields improve. Fieldwork was conducted in September 2016, and prices represent the 2015 - 2016 harvest when the C Market hovered around \$1.18/lb in November and ended in February with an average price of \$1.16/lb. The exchange rate used was MXN/USD: 18.21.

Benchmark Farm

Estimated Gross Revenue per Hectare from Coffee Sales

The benchmark farm at CESMACH is 4.95 hectares and produces 1168 lbs of parchment per hectare. To put this figure into perspective, this level of productivity is nearly one quarter of the production of the benchmark farm at COMSA, and one third of the volume of a the benchmark farm less than half of the size at ADISA. Not only is the low productivity due to impact from rust, but the typical production system at CESMACH is based on comparatively low tree densities due to many years of renovation efforts, thus decreasing overall yield. Based on the average productivity per hectare and average farm gate price of \$1.75 per lb parchment, the gross income per hectare for the benchmark producer at CESMACH is roughly \$2044.

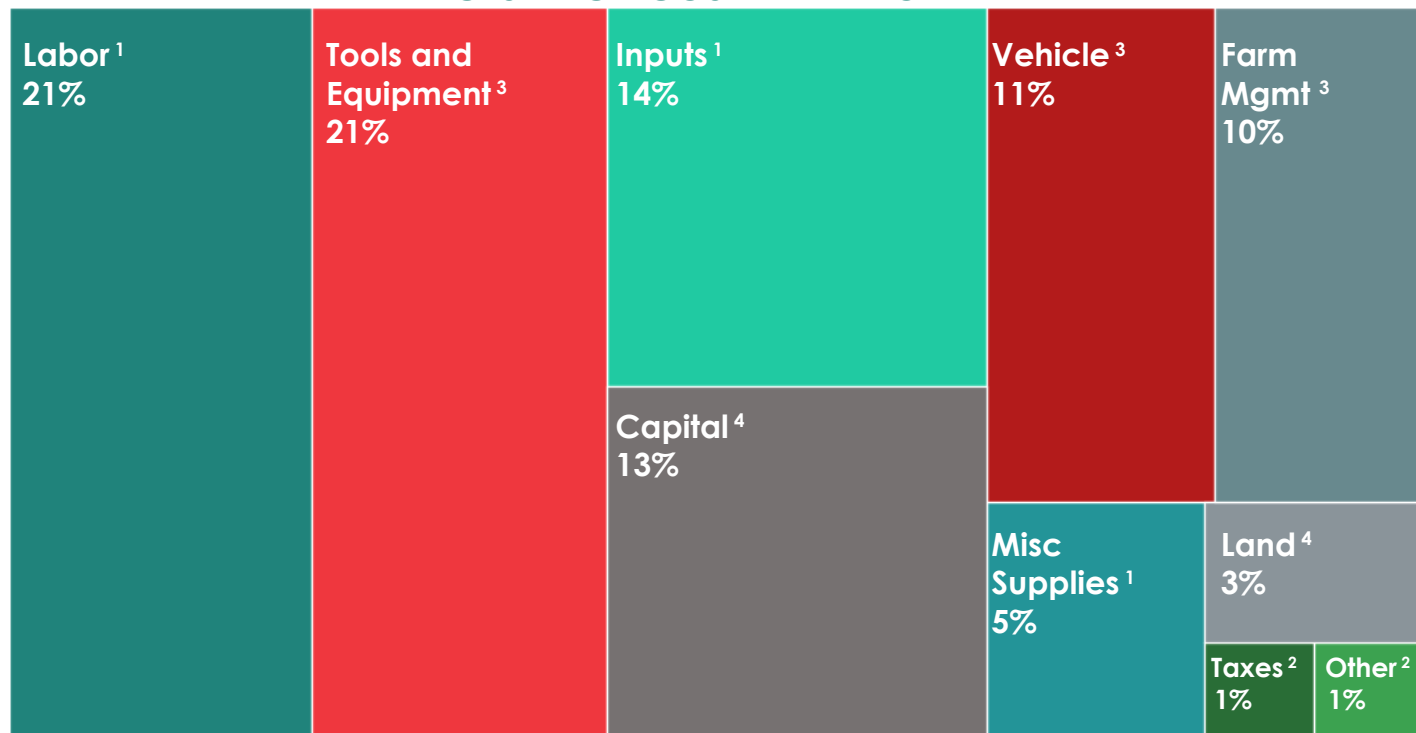
Cost Breakdown

Breakeven Table ¹	Revenue/ha	Cost/ha	Net	Price/lb	Cost/lb	Net
Variable Costs	2,044	1,127	917	1.75	.96	.79
+ Fixed Costs	2,044	1,186	858	1.75	1.01	.74
+ Depreciation	2,044	2,118	-74	1.75	1.81	-.06
Total Costs	2,044	2,839	-795	1.75	2.43	-.68

1. Represents parchment costs converted from MEX to USD



CESMACH COST BREAKDOWN



1. Variable; 2: Fixed; 3: Depreciation; 4: Total

- Variable costs total 40% of total costs. This category is comparatively low because these costs are relative to their low productivity. However, this means that on a per pound basis, the cost is comparatively high at \$.96/lb parchment.
- Fixed costs is quite low at 2% of total costs.
- Depreciation is comparatively high at 32% of their total costs. Their depreciation on tools and equipment represents 66% of total depreciation costs, while vehicle depreciation is 34% of this cost category.
- Opportunity costs are 26%, This share of total costs is comparatively high based on their higher than average capital and management cost, which are 13% and 10% respectively.

Sensitivity Analysis

Based on the benchmark productivity, the average price that would need to be received in order to meet total costs would need to increase \$0.19 per pound parchment to \$1.94. However, if the price remained the same then the average productivity would be to increase 10%, all else being equal. Efforts to increase marginal productivity would necessarily increase variable costs.



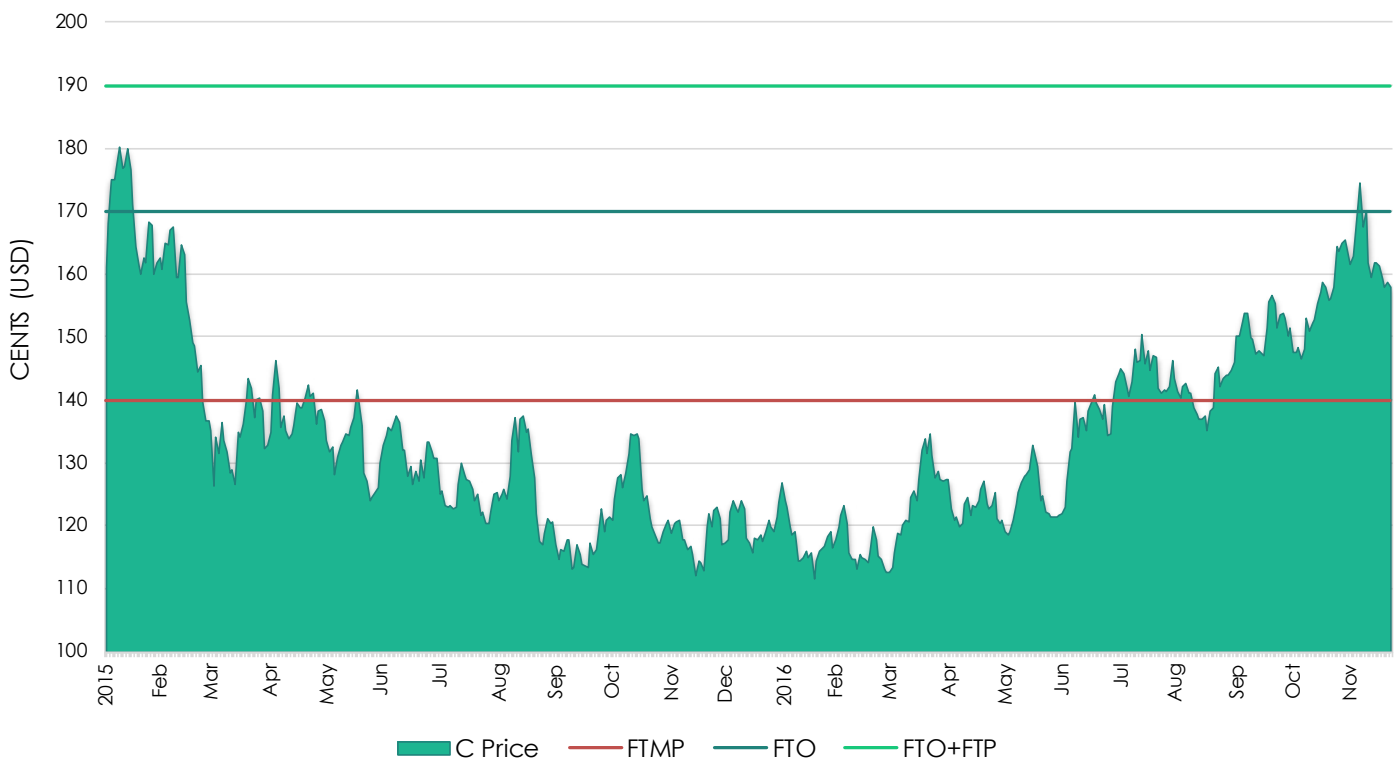
4. CONCLUSIONS

Market Context and Fair Trade Pricing Mechanisms

Through the Fair Trade Standards and our trade auditing process, we guarantee Fair Trade transactions meet or exceed a Fair Trade Minimum Price (FTMP). Currently, the FTMP for washed Arabica stands at \$1.40/lb free on board (FOB) or the C price, whichever is highest. In 2015, the market price for coffee fell below the FTMP, establishing \$1.40 as the price floor for all contracts for a full year between May 2015 and June 2016. As our COSP research fell between June 2015 and September 2016 all prices represent farm-gate pricing that includes explained FTMP and Fair Trade Organic (FTO) interventions.

In addition to a pricing floor, the Trade Standard ensures payment and regulates proper use of the Fair Trade Premium (FTP). Every Fair Trade transaction generates a premium of \$0.20/lb FOB for Arabica. The premium is the main vehicle of empowerment for producer organizations, giving them a resource to address self-identified needs as well as the ability to cost-share and

Fair Trade Minimum Price Against the C Market



enter into larger partnerships with public and/or private actors, such as governments, NGOs, and even roasters and importers. It is also the reason why the impact of Fair Trade takes a myriad of shapes depending on its local context and the character of the producer organization.

Lastly, while organic certification regulates aspects related with production such as the use of certain chemicals, it does not regulate the terms of trade. Organic production is an attractive way to add value particularly to smallholder farmers as credit is largely unavailable, which curtails their capacity to access sufficient agrochemicals to fertilize every year. However, organic production generally indicates a less intensive productive model due to diversification, shading and reduced agrochemicals use. The Fair Trade movement long ago recognized the added value and sustainability of organic production, as well as its reduction in productivity. Fair Trade is the only certification to guarantee an economic incentive for organic production. The organic premium for Fair Trade Arabica coffee is \$0.30/lb FOB.

Free on Board vs Farm Gate Pricing

Why is there a difference between the FTMP and the recorded farm gate price from each cooperative? The FTMP is an FOB price, which is offered to the coffee producing organization per pound of processed, green coffee by the first payee (generally an importer). The prices recorded in our research reflect local currency converted into USD per pound of parchment coffee. It is important to note that because the cooperative is the first buyer in the chain of custody, farmers receive a price that reflects deductions from cooperative costs associated with direct services (e.g. technical assistance, milling, transport, exporting) and indirect costs (e.g. staff, administrative, and certification costs). Additionally, the *factor de rendimiento*, or yield, assessed at the purchase point determines the weight of the farmer's delivery that will be discarded through the milling process. Typically this weight can fall between 15% and 20%, but in certain areas heavily affected by rust, such as in the case of CESMACH, this decrease can reach up to 35%.

Beyond Farm Gate: Second Payment

Unlike traditional middlemen, the cooperative as a business is owned by its members. The ultimate authority in a cooperative is the general assembly, in other words, the total ownership of the business. At the end of each fiscal year the cooperative holds an annual general meeting (AGM) with its general assembly to discuss the production and sales outcomes from the year. Cooperative members choose what to do with the profit made from coffee sales,



when available. The cooperative may vote to choose to capitalize the business by investing in things such as infrastructure or the producers by way of “second payments” – direct cash payouts, or in-kind services. Similarly, the general assembly votes on Fair Trade Premium usage. Through our 2016 Fair Trade Premium surveys, which reflects 2015 numbers, COMSA members voted to distribute a total of \$1,500,000 their earned Fair Trade Premium as farmer dividends. This represents an additional \$1,500 in direct payment for production per member. Members of FCC and CESMACH did not vote to distribute premium funds as direct payment, but voted to invest \$88,000 and \$140,000 respectively in farmer training and input subsidies, ultimately lowering their total variable costs. ADISA membership voted to invest \$24,000 in productivity and quality infrastructure including sorting tables and a cupping lab.

Next Steps for COSP Research

In 2017 Fair Trade USA and Cornell University are planning additional COSP research with non-Fair Trade certified cooperatives in Mexico, Colombia, Honduras and Peru. These research sites will focus on comparing the cost structures and cooperative service provision of certified groups to non-certified groups. Many of these additional COSP studies will be complimented by FTUSA-led impact research that will include farmer and cooperative level surveys to help us understand the relationship between the cost of production, market access, technical assistance, and quality, supplier performance and producer livelihoods. Additionally, we are working with the Cornell School of Information Science to design a web-based calculation tool. This tool will enable the scalability of COSP research and allow for producer organizations to calculate their own costs of sustainable production based on their unique characteristics.

Acknowledgments

This paper was written by Fair Trade USA based on the findings and analysis conducted by Cornell University. Thank you to Juan Nicolas Hernandez-Aguilera for leading the field research and analysis, to José Garcia and Adriana Ramirez for supporting the research, to the SMART team for their field work with FCC, and to Professor Miguel Gómez for his vision and leadership. Thank you to the Atkinson Center for a Sustainable Future for their support through the Academic Venture Fund grant. Most of all, thank you to the cooperative management, staff, and farmers who dedicating many hours of their valuable time to contribute to our collective understanding of their reality, and the fundamental economics of coffee production. We hope that this research helps those farmers and everyone who touches their coffee discover new opportunities to create long-term sustainable solutions for the coffee industry.

