



Improving Rural Livelihoods: A Study of Four Guatemalan Coffee Cooperatives

EXECUTIVE SUMMARY



About Root Capital

Root Capital is a nonprofit agricultural lender that grows rural prosperity in poor, environmentally vulnerable places in Africa and Latin America by providing capital, delivering financial training, and strengthening market connections for small and growing agricultural businesses. Since 1999, Root Capital has disbursed \$740 million in credit to 530 businesses, representing 1.1 million smallholder farmers.

For more information, visit www.rootcapital.org.



About the Multilateral Investment Fund

The Multilateral Investment Fund (MIF), a member of the Inter-American Development Bank Group, supports economic growth and poverty reduction in Latin America and the Caribbean through encouraging increased private investment and advancing private-sector development. It works with the private sector to develop, finance, and execute innovative business models that benefit entrepreneurs and poor and low-income households; partners with a wide variety of institutions from the private, public and non-profit sectors; evaluates results; and shares lessons learned. The MIF is a laboratory for testing pioneering, market-based approaches to development, and an agent of change that seeks to broaden the reach and deepen the impact of its most successful interventions.

For more information, visit www.fomin.org.

Overview

Across the developing world, the rural poor — who make up 75 percent of the 2.6 billion people living on less than \$2 a day — are marginalized from the formal economy. Most depend on agriculture as their primary source of income. Without viable markets for their crops, millions of small-scale farmers are trapped in enduring poverty. Small and growing businesses (SGBs) such as farmer cooperatives and agroprocessing companies can play an important role in improving farmer livelihoods by providing inputs and other services and by linking farmers to more reliable and better-paying markets than they can access on their own.

Despite the recent resurgence of international development funding in agriculture and increased interest in working through agricultural value chains, there is a dearth of research examining the impacts of enterprise development on the livelihoods of smallholder producers and the environment. A review conducted by the Initiative for Smallholder Finance¹ identified **gaps in research on the effects of financing on agricultural businesses and the effects, in turn, of these businesses on affiliated farmers and their communities.**² Stakeholders working with agricultural enterprises need data on the conditions facing these enterprises and their suppliers in order to appropriately target and improve their services, and to hold themselves accountable to the communities with which they work.

Root Capital's impact studies, launched in 2011 as a complement to the social and environmental metrics collected during our lending due diligence, help to address the knowledge gap in the sector. We conduct studies on a subset of the businesses (or clients) in our loan portfolio³ to shed light on two questions:

1. What are the impacts of agricultural businesses on small-scale farmers and their families and communities?
2. Does Root Capital's financing and training enable our clients to increase their impacts, and if so, how and to what extent?

In 2013, we implemented mixed-method studies with four of our coffee cooperative clients in Guatemala, in collaboration with the Multilateral Investment Fund of the Inter-American Development Bank and the Committee on Sustainability Assessment (COSA).⁴ The groups that participated — Catalina, Girasol, Idesa, and Lirio⁵ — reflected the range of our Guatemalan coffee portfolio in terms of geography, ethnicity, length of relationship with Root Capital, and diversity of certifications and buyer relationships.

Among the four groups, we surveyed 640 farmers, including 407 cooperative members and 233 nonmembers. Our research focused on the cooperatives' roles in promoting farmer livelihoods. With each cooperative, we recruited a comparison group of farmers living in the same communities to allow us to correlate differences (e.g., in income, access to services, and production practices) with services provided by the cooperatives.⁶

Alongside the producer-level surveys, we interviewed cooperative managers, governing boards, and technical staff, and we conducted focus groups relating to agronomic practices and women's roles in the cooperatives to contextualize the farmer-level results.

By conducting simultaneous studies with four enterprises in the same country and sector, we sought to determine what patterns in impact these businesses shared, while also identifying and understanding the reasons for differences. Similar results between the groups would potentially point to generalizable impacts in Root Capital's Latin American coffee portfolio and among similar enterprises.

1 The Initiative for Smallholder Finance (ISF) is an effort led by the Global Development Incubator, affiliated with Dalberg Global Development Advisors. Root Capital participates in the ISF in an advisory function.

2 The Initiative for Smallholder Finance, Smallholder Impact Literature Wiki.

3 To date, we have conducted deep-dive studies with individual enterprises in Burkina Faso, Haiti, Mexico, Nicaragua, Peru, and Uganda.

4 COSA is an independent research organization promoting universal metrics to measure social, economic, and environmental sustainability in smallholder value chains.

5 We used pseudonyms for the cooperatives to protect our clients' reputations and to candidly discuss their achievements, failures, and challenges.

6 The comparison group included incoming members, independent farmers, and members of neighboring coffee cooperatives that did not export or receive financing. For more details on the study methodology, please refer to Appendix I.



Main Findings

Of the four businesses we profiled, three were what we term “well functioning,” by which we mean that they reliably provided producers with valued services: higher prices, credit for production, and agronomic assistance. **In these three well-functioning groups, cooperative membership was associated with greater levels of self-reported well-being, higher incomes, expanded access to credit and training, and more widespread application of sustainable farming practices linked to soil health and water quality.**

Root Capital’s trade credit amplified the cooperatives’ impacts by enabling them to shift from paying farmers at the end of the season, after the crop had been exported, to paying them a base price upon delivery during the harvest. This practice is essential for the enterprises to compete with local intermediaries and for farmers to sell more to the cooperatives. A higher sale rate to the enterprise meant that farmers received the cooperative’s higher price per unit on a larger volume of coffee.

Notably, the fourth, less well-functioning group (Lirio) achieved the least impact on producers, and Root Capital’s lending had little incremental impact on this group. We believe that Lirio was at too early a commercial stage to benefit from Root Capital’s financial services.⁷

This report includes the following chapters, with the main findings of each chapter summarized below:

Chapter 1: Impact of Cooperatives and Root Capital

Chapter 2: Differences in Impact by Gender of Cooperative Member

Chapter 3: Agricultural Practices and Environmental Performance

⁷ We describe the factors behind Lirio’s underperformance in Chapter 1.

Chapter 1: Impact of Cooperatives and Root Capital

- **Both farmer-member and nonmember households are poor.**
 - » Coffee-farm households are income-poor, although the self-reported cash income ranged significantly between groups from \$1 to \$5.50 per person per day.
 - » Participation in the coffee cooperatives is not bringing prosperity in absolute terms, with our data showing that members still experience food insecurity and education gaps, with children below grade level for their age.
- **Participation in the enterprises correlates with relatively higher levels of well-being.**
 - » Members in the three well-functioning groups reported a better quality of life than nonmembers, rating their life as “good,” while independent farmers rated theirs as “average.”
 - » Members earned more coffee revenue than nonmembers. Total coffee revenue for member farmers would have been 16 to 24 percent lower had they not been members, that is, had they sold all their coffee into the local market.
 - » Members’ higher revenue is a function of the higher prices paid by the cooperatives (between 25 and 63 percent above market price) and larger landholdings with correspondingly greater production.⁸
 - » Members tended to report less migration than nonmembers, particularly in Girasol, the group located closest to the Mexican border.
- **Members identified higher prices, credit, and agronomic training as the most significant benefits of cooperative membership.**
 - » Members have greater access to these services than do nonmembers.
 - » In the well-functioning groups, members had access to initial payments upon delivery of their coffee. In addition, many farmers took out loans from the cooperatives, ranging from 40 percent of members in Idesa to 83 percent of members in Catalina and Girasol.
 - » Farmer members were significantly more likely to receive agronomic training than nonmembers. Between 45 and 84 percent of cooperative members reported participating in agronomic training during the last production year.
 - » There is preliminary evidence that higher payments and credit may facilitate members’ land acquisition, enabling higher production.
- **The evidence is inconclusive on whether members achieve higher yields.**
 - » Self-reported yield data indicates that farmers in three of the groups suffered productivity gaps relative to optimal yields for Central American smallholders.
 - » Cooperative membership apparently did not correlate with higher yields, as we found no statistically significant difference between members and nonmembers.
 - » However, members of the three well-functioning groups reported increased production since joining the cooperative.
 - » Despite the inconclusive evidence on yields, it appears that membership in Girasol and Catalina correlated with members’ greater ability to cope with coffee leaf rust, with nonmembers reporting higher production losses than members.

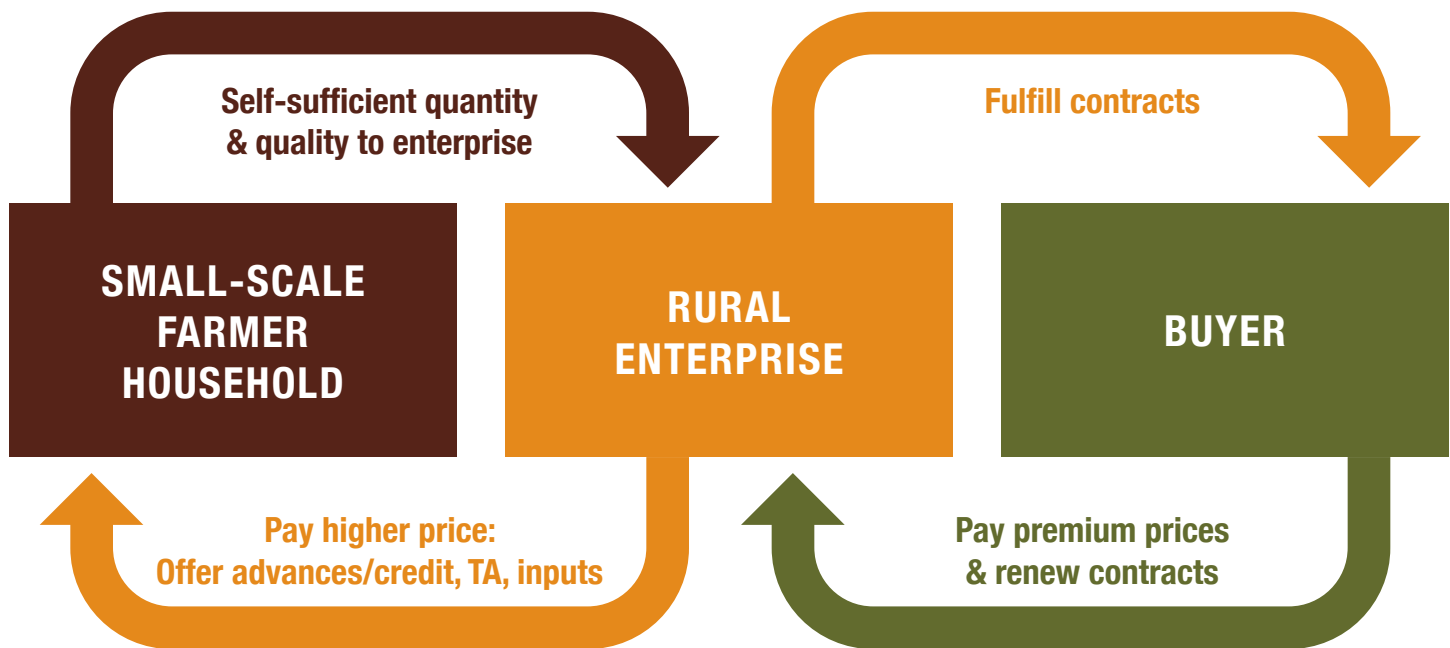
⁸ The potential difference in total revenue between members and nonmembers (16 to 24 percent) is not proportional to the cooperatives’ price premiums (25 to 63 percent above the market price) because members do not sell all of their coffee to the cooperatives but side-sell a portion to intermediaries.

- **Root Capital's trade credit enabled the well-functioning groups to shift from paying farmers at the end of the season to paying them a base price upon delivery.**
 - » This change in the payment timing generally gives farmers an incentive to sell a higher proportion of their crop to the enterprise than to intermediaries. The higher delivery rate reinforces the mutually beneficial cycle, as shown below, with farmers selling more through the cooperative and earning a higher income, and the business fulfilling its contracts and reinforcing its credibility to buyers and farmers.⁹
 - » There is a positive correlation between the number of years of Root Capital-enabled payments upon delivery and the delivery rate to the enterprise.
- **Based on this study, Root Capital has developed a Farmer-Enterprise Impact Framework** (see figure 2).
 - » The framework describes how the relationship between farmers and an enterprise unfolds over the course of multiple years and generates impact for farmer households.

Implications for Practitioners

- This study provides evidence that supporting well-functioning rural SGBs, as well as actors that address enterprise needs such as financing, can improve rural livelihoods for smallholder farmers.
- The degree of benefit for enterprise members varies widely, such that the relationship between the enterprise and farmers is not a binary, but rather a spectrum. It is important to assess this relationship — the services that are being adequately provided and those that are missing — for practitioners to understand how best to engage with and support the groups.
- We presented study results in person to the management and boards (composed of farmer members) of the four participating cooperatives, allowing them to see their impacts to date and identify concrete areas for improvement. Our clients found this to be valuable. (Please see Appendix II for more details on how the four groups are using these results and on methodological lessons for client-oriented presentations of results.) In future studies, we will similarly prioritize the reporting of actionable data to clients. More broadly, we hope that the feedback loop with clients becomes a standard practice among practitioners.

FIGURE 1: MUTUALLY BENEFICIAL CYCLE

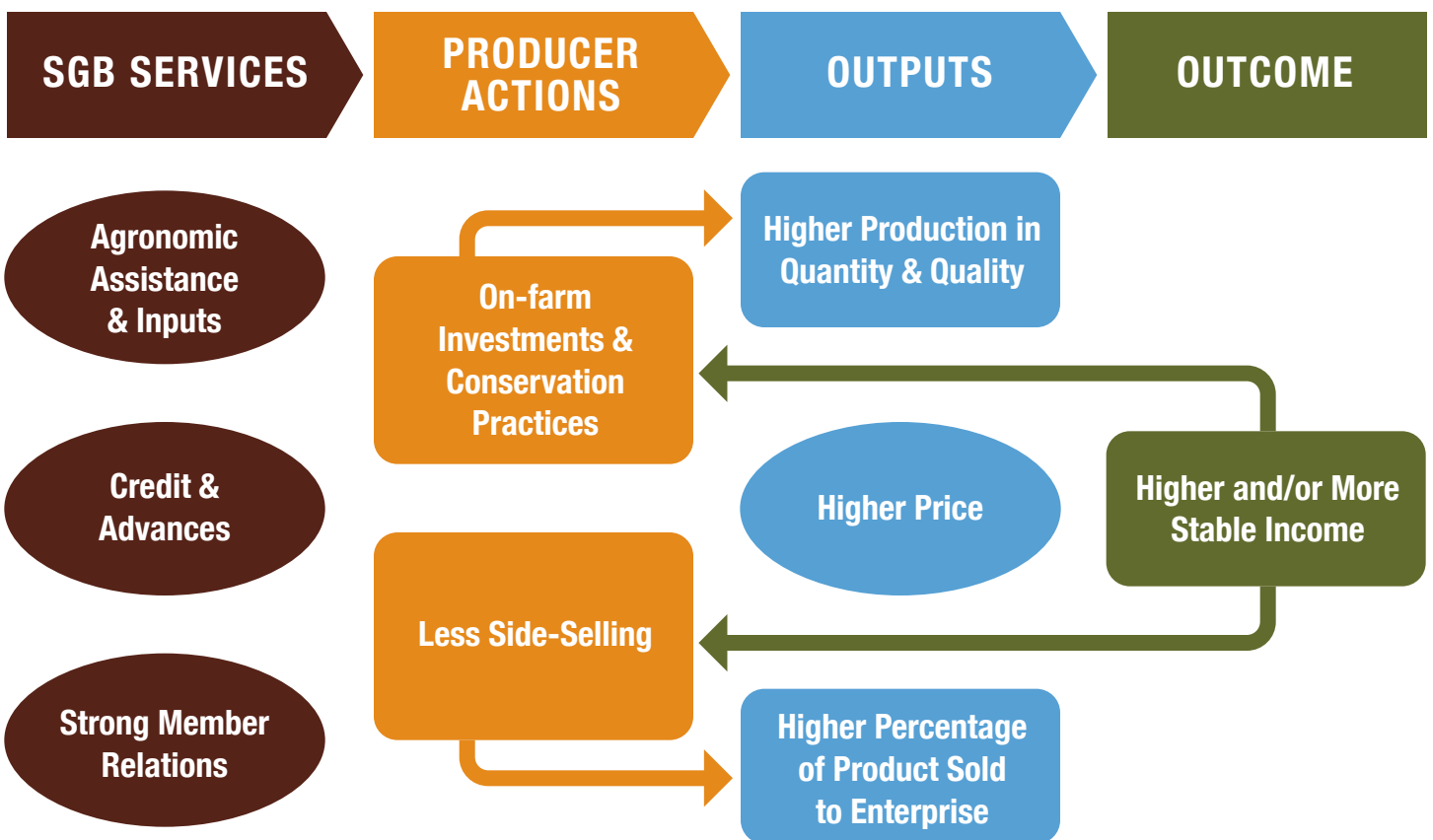


⁹ We have learned through field experience accumulated over successive harvests (though did not verify in this study) that this mutually beneficial cycle is what allows a business to commercialize a progressively higher volume, offer better-quality services to its members, and provide downside protection to its affiliated farmers by linking them to specialty markets that pay price premiums even when commodity prices fall, as they did in 2013. The business's success can also have a ripple effect in the broader community because its very presence can raise prices for unaffiliated farmers selling to other buyers.



FIGURE 2: FARMER-ENTERPRISE IMPACT FRAMEWORK

The Farmer-Enterprise Impact Framework demonstrates how enterprises that reliably offer services to farmers at critical moments during the production cycle, including higher prices, financing, training, and inputs, help farmers to earn higher and more stable incomes.



Chapter 2: Differences in Impact by Gender of Cooperative Member

- **Most women are unable to join cooperatives and access the associated benefits.**
 - » In three of the groups, women comprise a minority of membership, ranging from seven to 31 percent; in Catalina, women represent 54 percent of membership.
 - » Explicit discrimination by the cooperative does not seem to be a factor.
 - » Rather, women are less likely to join the cooperative for two reasons:
 - » The traditional division of labor stipulates that a woman's rightful place is in the home while the man's is in the fields or at the cooperative meeting.
 - » Women own very little land, as fathers give all or most of their land to sons.
- **When women do join cooperatives, they and their households benefit.**
 - » Women access cooperative services in similar rates as their male counterparts. This is because there is no overt discrimination and cooperatives in the study offer services equitably to male and female members. Female members, like male members, named **higher prices, credit, and agronomic training** as the most significant benefits of membership.
 - » These barriers include limited production knowledge and literacy, limited time and ability to travel, and, in the more traditional communities, cultural norms against women's participation in public spaces with men.
 - » Women's membership is correlated with moderate empowerment at the household level, as measured by female members' self-reported involvement in intra-household decision-making.
- » In Catalina, Café Femenino — a social-business brand of coffee developed by Organic Products Trading Company that markets coffee exclusively from women — has given the cooperative incentives and resources to offer higher pricing, credit, and training geared toward female members. In light of these programs, more women have become members and assumed leadership positions.
- **Women reported a greater benefit than men in self-reported quality of life since joining the cooperative.**
 - » This suggests that the cooperative, in relative terms, is more important for their households than it is for households with male members.
 - » Cooperatives' provision of agronomic training is especially useful for women, given that they tend to have less knowledge of coffee production and less access to technical assistance from entities other than the cooperative.
- **Despite women having equal access and reporting significant improvements in quality of life since joining the cooperatives, households represented in cooperatives by women benefited less in absolute terms than households represented by men.**
 - » Households represented in the cooperative by women, whether or not those women were heads of households, sold a smaller volume of coffee and therefore earned less coffee income than households represented by men, because households with female members own less land.
 - » Differences in yields did not appear to be a determining factor in female-member households' lower incomes. In three of the groups, yield differences among households represented in the cooperative by men versus those represented by women were not statistically significant. This was likely due to the similar division of labor in both sets of households.

- **Women participate significantly less than men in cooperative governance, leadership, and decision-making.**
 - » In three of the groups, women are absent from the cooperative boards in which most decisions are made. Girasol is the only group led by a female manager.
 - » There has been significant progress in women's participation in office employment and middle management, with women serving in up to half of positions.
 - » The biggest gap in women's participation is among extension agents. This is an area for improvement, as many women prefer to receive technical assistance from other women.
 - » Female cooperative members are less likely to attend cooperative meetings than men, and report being less comfortable participating in meetings.

Implications for Practitioners

- Coffee cooperatives can be a vehicle for reaching and positively impacting women and their households by offering services and linkages to premium markets. Supporting these groups is a way to reach an important subset of female farmers.
- Yet women and the households they support face systemic constraints in participating in cooperatives and benefiting from cooperative services. In light of these findings, we brainstormed ideas for how cooperatives, in partnership with value-chain and NGO partners, can address these challenges so as to economically benefit women and the households they support. We present these ideas below with the dual caveats that we are not gender experts and that more data points are necessary before making generalizable recommendations¹⁰:
 - » **Target agronomic training to female producers.** This study identified gaps in knowledge of best production practices among female coffee farmers. Training programs need to take into account this knowledge disparity, as well as women's relatively limited mobility, limited literacy, and cultural norms against women's participation in public spaces. It is also important for cooperatives, and those supporting them with technical assistance, to train female agronomists and extensionists, who may be more effective at communicating with female producers.

- » **Support women's land acquisition.** This was the main barrier to cooperative membership and the associated income premium for households with female cooperative members, and the most intractable. We recognize that inheritance patterns are culturally entrenched, and we encourage cooperatives and service providers specializing in land tenure and gender to explore additional paths for promoting equity in land transfers.
- » **Consider implementing an economic incentive.** The price premium and supporting programs offered by Café Femenino did not achieve full-scale gender equity within Catalina, but they did catalyze greater participation and leadership by women.
- » **Encourage women's participation in decision-making and leadership.** In Catalina, the creation of a women's committee — a requirement of Café Femenino — gave women a space to practice public speaking and collaborative decision-making, skills they then applied in the cooperative's general board.
- » **Encourage women to participate in middle-management positions.** The cooperatives in this study showed moderate success in attracting women to paid cooperative positions. Cooperatives and partners can explore new areas for women's participation and provide appropriate training (e.g., in seedling production, coffee roasting, milling, and cupping). Partners could offer incentives and financial resources for cooperatives to hire and train women for middle-management positions. Women's participation as personnel would contribute to gender equity, while creating additional income-generating opportunities for women and their households.

¹⁰ The ideas we offer are guided by our vision that female smallholders have equal opportunities to their male counterparts. We believe that equality of opportunity is fundamental for women's economic empowerment and necessary for strengthening livelihoods for women and the households they support. Furthermore, we believe, though did not investigate in this study, that these ideas are at least neutral and potentially positive for the enterprises themselves, as greater women's involvement can increase the quantity of product sold through the cooperative and can reinforce relationships with buyers and partners who similarly prioritize gender equity (and in certain cases, as with Café Femenino, are willing to pay a premium for coffee sourced from women).

Chapter 3: Agricultural Practices and Environmental Performance

- **Cooperative services are associated with the adoption of sustainable agricultural practices by members, with positive implications for environmental health.**

- » Members of all four cooperatives reported greater usage of sustainable agricultural practices than nonmembers, with the most significant differences in the areas of soil conservation and coffee wastewater treatment.
- » Members from all four cooperatives also reported higher usage of sustainable agricultural practices during the most recent production season, as compared with prior to cooperative membership.
- » In focus groups, members of the three well-functioning groups attributed the adoption of these practices to cooperative services, namely agronomic training, input provision, and credit.

- **Despite these signs of improvement, current use of sustainable agricultural practices remains lower than is ideal across all four enterprises.**

- » Members of Girasol reported the best environmental performance of the cohort, with 50 percent or more of members reporting current use of six of the 10 practices examined. In Idesa, at least 50 percent of members reported using five practices; in Catalina, four practices; and in Lirio, one practice.
- » Even when sustainable agricultural practices are used, focus group discussions suggest that members may not be implementing them appropriately or consistently from year to year, likely due to a combination of financial constraints and limited agronomic knowledge.




Implications for Practitioners





































- Members' limited use of sustainable agricultural practices and suboptimal productivity suggest that, in all four cases, cooperative extension services are not adequately meeting the agronomic needs of members. In light of these findings, we identified potential areas of improvement for the cooperatives, with the dual caveats that we are not experts in agronomic extension and that more data points are necessary before making generalizable recommendations. The following ideas are meant for cooperative managers and boards, partnering with value-chain and NGO partners as appropriate.
 - » **Provide more support to farmers for creation of and/or investment in fertilizers.** Across all four cooperatives, one of farmers' greatest challenges was applying sufficient quantities of fertilizer, due to resource constraints. Cooperatives could support members in applying adequate fertilizer by providing centralized organic composting facilities and/or fertilizer for sale; training on creating and using organic soil amendments; and input subsidies or credit for inputs.¹¹
 - » **Customize training to the needs of individual members.** Members across all four groups requested on-farm training as a complement to centralized trainings, ideally in members' local languages¹² rather than in Spanish. This would allow cooperatives to identify and respond to members' unique needs. It might also allow the cooperatives to help narrow the knowledge gap between male and female members, whom, as mentioned above, we found to be less familiar with coffee production techniques than male members and often less fluent in Spanish (their second language).
 - » **Leverage data to inform training.** Prior to this study, the cooperatives lacked detailed data on the agricultural practices used by members or on the environmental health of their farms, making it difficult to identify areas of strength or areas for improvement. Analysis of members' farm profiles, using data collected through internal inspections or external studies such as this one, could help cooperatives develop or facilitate more targeted training curricula.

11 Root Capital supports agricultural enterprises in promoting members' fertilizer use by offering short-term pre-harvest loans to support fertilizer credit and/or subsidy programs and long-term loans for centralized fertilizer facilities.

12 Guatemala has 23 spoken languages.

FIGURE 3: DASHBOARD OF DIFFERENCES IN USAGE OF AGRICULTURAL PRACTICES BETWEEN COOPERATIVE MEMBERS AND NONMEMBERS

-  Indicates statistically significantly higher usage of practice by members than nonmembers (higher usage is better, indicating more widespread application of sustainable agricultural practice)
-  Indicates statistically significantly lower usage of practice by members than nonmembers
-  Indicates no statistically significant difference in usage of practice between members and nonmembers

	GIRASOL	IDESA	CATALINA	LIRIO
SOIL CONSERVATION				
Use of Fertilizer				
1. Coffee Pulp				
2. Chemical		N/A	N/A	 ¹³
3. Organic				
Use of Erosion Prevention Measures				
4. Live Barriers				
5. Soil Ridges				
6. Terracing				
WATER CONSERVATION				
Treatment of Wastewater				
7. Domestic				
8. Processing				
9. Safe Washing of Agrochemical Equipment		N/A	N/A	
BIODIVERSITY CONSERVATION				
10. Agroforestry Production (Degree of Shade Cover)				

¹³ For chemical fertilizer use, focus group discussions suggests that the more limited use of chemical fertilizer by Lirio members likely has negative implications for soil health on members' farms, as farmers are in many cases deferring fertilizer application entirely due to financial constraints and thus not investing in rebuilding soil fertility.



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