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**How coffee private family enterprises enhance well-being and women
empowerment? A diverse economies case study of Tarrazú coffee micro-mills.
Los Santos Region, Costa Rica**

A thesis
submitted in partial fulfilment
of the requirements for the Degree of
Master of Applied Science in International Rural Development

at
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by
Maria del Milagro Nunez-Solis

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A small but growing number of producer households in Costa Rica are processing their coffee and selling it directly to specialty markets through the Relationship Coffee Model (RCM). These private family enterprises are called micro-mills, initiatives that have created opportunities to enhance empowerment of women, household well-being and sustainability of coffee production. This practice occurs within a coffee commodity chain that is commonly characterised as perpetuating low incomes for family producers and significant profits for retailers and commercial roasters around the world. As a commodity, coffee is associated with intensive productions systems, producer specialization in primary production and the relegation of women to traditional household roles. Responding to consistently low prices under this model, Tarrazú coffee households have embraced the innovation of family owned micro-mills and are learning to be part of direct producer-buyer relationships and networks.

In this study I evaluate the dynamics of the Costa Rican coffee sector by analysing the experiences of micro-mill households from the perspective of the diverse economies (DE) approach. This framework recognises the value of non-market and non-financial social relations in addition to more traditional market returns. It improves understanding of the diversity of economic and environmental practices that coffee households use, and contributes to the assessment of the potential of family operated micro-mill enterprises as a sustainable model for Costa Rica's coffee sector.

Using a mixed method approach, I conducted 63 surveys with conventional and micro-mill households, and one focus group and 15 interviews with women and man from micro-mill households. Results show that owning a micro-mill and selling coffee through the RCM enhances the well-being of producers' families and facilitates women's empowerment and producers' agency in the coffee value chain. Micro-mill households claimed to have greater engagement with the coffee

market; family unity and reduction of migration by the young; better income; a strong sense of occupational well-being; and sense of contributing to their community's development.

Gender equality and micro-mill women empowerment results – informed by the Women's Empowerment in Agriculture Index (WEIA) and the feminist sociology concept of 'power-within' – showed that women involved in micro-mills have reached significant advances in WEAI's five domains and demonstrate critical consciousness of the agency they have acquired. Through the gender focus, I identified that women have leadership capabilities at the processing and value-adding stages of the coffee value-chain. Likewise, applying the DE approach in the context of specialty coffee production affirms the contribution of women's economic strategies and non-paid activities to the household and family enterprise.

Lastly, the experimentation process by micro-mill households and their networks with the RCM has enhanced their agency. They embrace the potential to set a price floor for their coffee (a negotiated premium price subject to the cupping score). They especially value their experiences and close relationships with buyers and traders. Their improved capabilities derive from the acquisition of knowledge of the coffee processing and selling stages, the innovation of offering coffee services in the region, and the active promotion of consuming their own coffee production. Furthermore, the specialty coffee markets provide strong incentives to adopt agri-ecological farming practices.

Keywords: Relationship Coffee Model, Tarrazú Coffee, Costa Rican Coffee, Diverse Economies, Sustainable Livelihood Approach, Women-Empowerment, Coffee Micro-mills, Sustainable Agriculture.

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List of Abbreviations

BCR	Bank of Costa Rica
BN	National Bank of Costa Rica
BP	Costa Rica's Popular Bank
CGVC	Coffee Global Value Chain
CVC	Coffee Value Chain
DE	Diverse Economies
FG	Focus Group
FONASCAFE	Fund for the Sustainability of National Coffee Production
FONECAFE	National Fund to Stabilize Coffee Production
GGI	Gender Gap Index
GI	Geographical Indication
GII	Gender Inequality Index
HDI	Human Development Index
Icafe	Costa Rica Institute of Coffee
ICE	Costa Rican Institute of Electricity
IICA	Interamerican Institute for Agricultural Cooperation
IMAS	Mix Institute of Social Support
Inamu	Costa Rican Institute for Women
Inder	Costa Rica's Institute of Rural Development
INEC	Costa Rica's Institute of Census and Statistics
MAG	Ministry of Agriculture and Cattle
MDG	Millennium Development Goals
Mideplan	Ministry of Economic Planning
NAMA-Café	National Appropriate Mitigation Actions for Coffee
NYSE's C-price	New York Stock Exchange's Coffee Price
OECD	Organization for Economic Co-operation and Development
PE	State of the Nation Program
PGS	Participatory Guarantee System
RCM	Relationship Coffee Model
SCAA	Specialty Coffee Association of America
SIGI	Social Institutions and Gender Index
SLA	Sustainable Livelihoods Approach
USAID	United States Agency for International Development
WEAI	Women's Empowerment in Agriculture Index

Chapter 1: Introduction

Costa Rica's coffee value chain is populated by a diversity of stakeholders which facilitates the commercialization of this product around the world. Historically, coffee producer cooperatives have been the more conventional organizations. As in many other coffee producing countries, cooperatives emerged as the most advantageous business model through which small producing farmers are integrated within the Coffee Global Value Chain (CGVC). Coupled with land reform and Green Revolution farming practices during the 1960s and 1970s throughout Central America, cooperatives were considered the most viable and sustainable plan for households to earn a livelihood based on coffee (Topik, Talbot, & Samper, 2010).

However, during the last 30 years coffee production and commercialization in Costa Rica have faced many challenges, and as an outcome, new stakeholders have integrated into this country's coffee value chain (CVC). After the 1990s coffee crises, researchers and governments realized the then cooperative association system did not necessarily reduce coffee producers' vulnerabilities or increase their agency in the CGVC. Similarly, it was increasingly apparent that environmental degradation was an outcome from that period caused by the implementation of highly intensive production systems (Perfecto & Vandermeer, 2015). Under the principles of sustainability and fairness, certification schemes were introduced to promote greater social (e.g., Fair-Trade) and/or environmental (e.g., Bird-Friendly, Carbon Zero) benefits for producing households and consumers.

Despite the implementation of such practices, the international coffee industry is still discussing what are the best ways to create a fairer, sustainable and resilient CVC. While no concrete solution has been developed, people around the world are experimenting with diverse alternatives located within the social, political and economic contexts they experience. This experimentation suggests that solutions are diverse and do not necessarily follow conventional policies such as those proposed by non-governmental organizations (NGOs) and governments, that are usually based on creating horizontal organizations for producers.

One example of these alternative solutions is Costa Rica's entrepreneurial family producers who process their own coffee and sell directly to specialty markets, using the micro-mill technology. In contrast to conventional solutions, these families operate outside cooperative marketing structures and have abandoned certification. They have created the potential to significantly alter the CGVC commonly characterised as one that perpetuates low incomes for family producers and significant profits for retailers and commercial roasters around the world. Therefore, the interest of this study is to examine the potential of these individualised, market-based strategies to improve and create

more sustainable coffee practices for coffee-producing households, specifically in the context of Costa Rica's Los Santos region and its Tarrazú coffee.

This study explores three main topics, first, how the micro-mill household enterprises and their relations with international buyers have impacted their household well-being. Secondly, what are the roles of women in micro-mill households, their degree of participation and sense of empowerment in the coffee activity in Tarrazú. Thirdly, in which ways have micro-mill households enhanced their agency since they became entrepreneurs producing high-quality coffee and having closer relationships with buyers.

To capture those more-than-economic benefits, such as gender participation and household agency, and their impact on well-being, the conceptual framework of this study draws on two approaches. The first is the Sustainable Livelihoods Approach (SLA), which is a recognised approach in development studies for understanding socioeconomic dynamics at the household level (Chambers & Conway, 1991a; Scoones, 1998, 2009). The second is Diverse Economies (DE) as proposed by Gibson-Graham (2006a,b). This approach allows researchers and participants to understand their economy as a diverse space populated by different labour forms, enterprises and markets where subjects follow different objectives but coexist in their everyday life (Gibson-Graham, 2006a,b).

The thesis is divided into six chapters. The first chapter presents a brief description of the place where the study was conducted, a literature review, the research questions, the theoretical framework and methods used. The second and third chapters answer the first research question on the impact of micro-mills on household, using the alternative approaches to well-being. In the second chapter, through the Sustainable Livelihoods Approach (SLA), conventional and micro-mill coffee households are compared to identify differences in terms of their livelihoods. The third chapter looks at the more-than-economic benefits that micro-mill households report having received since becoming part of the specialty coffee market and how these have impacted their perception of well-being. The fourth chapter explores how micro-mills have or have not opened opportunities for women's empowerment at the value-adding stages of agriculture. It examines the empowerment process micro-mill women have gone through, not just in terms of agency, but also in regard to their self-awareness of the changes they are making in their communities. The fifth chapter analyses the barriers micro-mill households, as a group, face under the Cost Rican coffee value chain that does not recognise the distinct constraints and needs they face as family enterprises in contrast to cooperatives or corporate mills. Lastly, as the study's conclusion, the sixth chapter begins by making policy recommendations to address the barriers micro-mill households are facing and that undermine their development. The final chapter concludes by reviewing the main outcomes of the analysis and how the research questions were addressed.

1.1 Place description

Los Santos region¹ is located 85 km south of San José City, Costa Rica's capital. The three main counties that belong to San Jose province are Tarrazú, Dota and Leon Cortes (**Figure 1. A Map of Dota, Tarrazú and León Cortes Counties, Costa Rica**). The three counties have a total area of 809 km² and a population of 38 150. Icafe (2018a) reports that Los Santos is the second largest coffee production region with a total area planted in coffee of 18 453 hectares, distributed over 6641 farms². Although coffee contributed only 0.31% to the National Gross Domestic Product (GDP) in 2018, for Los Santos communities it is their main economic activity. In the 2017-2018 coffee season, Los Santos was the highest coffee producing region, contributing 40% of the total national production (2 017 935 fanegas³). Tarrazú and Leon Cortes were the main coffee producing counties at the national level.

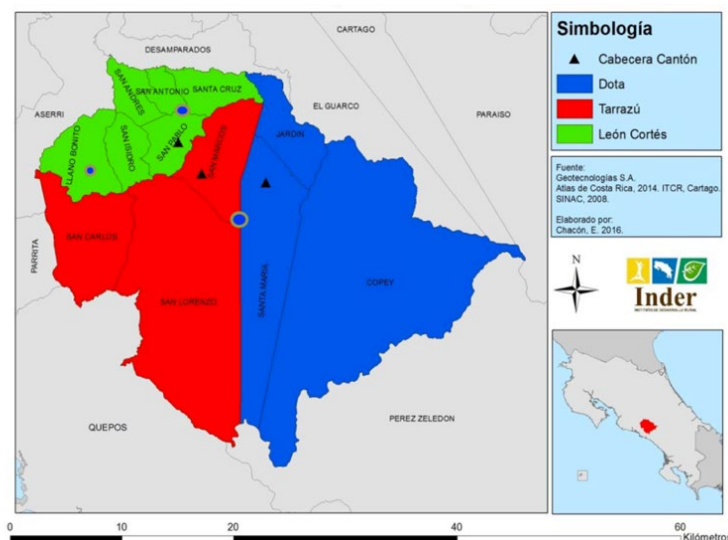


Figure 1. A Map of Dota, Tarrazú and León Cortes Counties, Costa Rica
Source: Inder (2016)

Costa Rica's coffee production is divided into eight different regions based on their altitude and coffee quality. Los Santos coffee is better known as Café Tarrazú (Tarrazú Coffee)⁴; it is considered to be among the five finest coffees in the world because of a number of factors like the high-altitude plantations (on average 1900 m.a.s.l), 95% of the coffee is *Arabica* variety and it is classified as a Strictly Hard Bean (SHB) coffee. Such factors give this coffee special organoleptic characteristics such as an excellent smell, intense flavour, high acidity and hints of chocolate and jasmine on the taste. Over 10,000 coffee households manage their production through three main cooperatives: *CoopeDota*, *CoopeTarrazú* and *Coope Llano Bonito*. However, during the last 10 years, over 100

¹ Los Santos means The Saints, the name was given because the main towns are all named after a saint.

² 84,733 hectares (1.6%) of Costa Rica's territory is planted with coffee. The largest coffee producing region is Valle Occidental with 19,132 hectares but distributed in fewer farms (5744 farms) than Los Santos.

³ One fanega equals to 46 kg of green coffee beans and is the standard measurement for coffee in Costa Rica.

⁴ In January 2019, Tarrazú Coffee received its Protected Designation of Origin label.

households have acquired their own micro-mills. These families have jumped from being producers to also being processors, with the possibility to manage very closely the quality of their product and direct it to the international specialty coffee sector.

1.2 Literature review

1.2.1 *Costa Rica coffee production*

Costa Rica has an almost 200 year coffee tradition. From 1820 until the 1990s, coffee was its primary export product and the national identity was founded on the image of a rural middle class of family farmers depending on coffee coupled with a homogeneous, egalitarian society⁵. After the 1950s, Costa Rica adopted a series of social-democratic and progressive reforms. Among them was the foundation of cooperatives and the introduction of Green Revolution techniques for the coffee farming sector (Gudmundson, 2018). Large investments were made in extension and research projects, specifically funded by USAID. Though history has shown the failure of Green Revolution projects around the world, for Costa Rica it was one of the triggers of coffee's golden age in the 1970s and 1980s. Whereas in the rest of Latin-America small family farming and family labour provision were becoming the minority, in Costa Rica the improvements associated with technological innovation helped to consolidate small-scale-coffee-farming⁶ (Babin, 2012).

In 1989, the coffee economy entered a period of constant crises. International political economic pressures contributed to the dissolution of the International Coffee Agreement (ICA), a quota system for buyer and producer countries that had kept the international price stable. As a result, producing countries lost control over coffee prices and farmers became subject to the New York Stock Exchange (NYSE)'s coffee price (C-price), which is characterised by marked collapses in price in times of coffee supply surplus. During the past 30 years, this situation has strongly affected the Los Santos region where Tarrazú coffee is produced⁷. The actual prices are not sufficient to provide a viable livelihood for households⁸. In fact, the low prices confirm Daviron and Ponte (2005) assessment of coffee as a global commodity, which notes the paradox of the coffee market in which farmers scarcely derive a livelihood from the commodity while retailers and roasters enjoy ample profits.

⁵ Contrary to its Central American neighbours marked by war, poverty and violence, the Costa Rican coffee economy allowed its rural population to enjoy economic and social well-being.

⁶ Costa Rica achieved world record yields with the introduction of dwarf varieties and increased plantation density from 1100 to 4500 bushes per 7000 m² doubling harvest volumes.

⁷ Los Santos farmers receive a price premium of approximately US\$20 above the New York Stock Exchange Coffee-price because of their high-quality beans. Their coffee is SHB Arabica, which indicates that while green coffee is in storage, it will not lose its flavour as time passes.

⁸ For 2017-2018 year's yield, cooperatives and mills paid US\$138 per fanega; but for coffee households to produce a fanega they have to spend \$115 in inputs, labour, and taxes (Icafe, 2018a).

In contrast to its Central and South American coffee producing neighbours, gate coffee sales⁹, which usually involve usurious buyer practices, are not common in Costa Rica. This distinction is mainly the product of relatively good road conditions that allow the farmers to transport the berries directly to the processing facilities. In this sense the Costa Rican Institute of Coffee (Icafe) was also a key factor in the development of coffee production in the country. Icafe is a public institution founded in 1933 to regulate Costa Rica's coffee market and stakeholders' relations. Under the Law 2762, the institution has the duty to promote an equitable market model among producers, processors and traders. Likewise, it has the objective to promote the national consumption of coffee and invest in research and development of the national coffee sector¹⁰.

With the recent changes and innovations in the ways producers and coffee industry interact, the country has, arguably, a conventional coffee production system. Basically, the farmer's role is to plant, pick and deliver the coffee berries to cooperatives or transnational processing facilities. These organizations are responsible for the other value-chain stages related to milling techniques, purchasing contracts with wholesalers and trading. They work under the 'volume system' where there is little differentiation in coffee quality and markets. However, Los Santos coffee farmers have become very critical of this system, noting that, while the cooperative grows in capital and associate memberships, its link to the commodity market generates little value for them as primary producers.

Coffee producers in Costa Rica face a complex reality defined not only by their dependence on prices set in a commodity market and their struggles to make a living, but also by their relationship with the environment. Green Revolution practices have had environmental consequences, especially related to biodiversity. The coffee landscape reflects the conversion from a forest to an unshaded plantation (Perfecto & Vandermeer, 2015). The traditional mixed-use plantation with shared space for fruit trees, *musas*¹¹, subsistence horticulture and forest disappeared with the adoption of dwarf varieties, a change that put household food security at risk. Deforestation, while increasing the planting area, constrained migratory bird habitat, exacerbated soil erosion and pests (such as leaf rust) and reduced the diversity of coffee varieties. Thus, the highly prescribed management of intensive plantations and the inability to engage directly in the coffee market both constrain farmers' agency.

By the end of the 1990s, certification schemes were introduced to Costa Rica's coffee sector with the promise of a sustainable production model that would address coffee farmers' environmental and market problems. NGOs and international certification programmes set traceability standards and trained farmers to ensure consumers of minimum quality standards, respect for basic human rights

⁹ Gate coffee sales refer to local buyers that buy very low-quality coffee after harvest season directly at the plantation and sell this coffee to private mills. These mills then process this coffee to be sold in the national or international market.

¹⁰ For an extended discussion of Icafe's role see Chapter 5.

¹¹ *Musas* refer to bananas and plantains, that are classified in the botanical genus *Musa* in the Musaceae family.

and environmental outcomes. The schemes were expected to foster an 'alternative market' with stable, higher prices and enhanced well-being for coffee communities (David, Juliane, & Stephan, 2016). Although development agencies and some academics saw certification as a pathway to sustainable production, empirical research has reported mixed results (see Jaffee, 2014; Lyon, 2009). In the 2000s, all cooperatives and commercial mills in Los Santos were engaged with mainstream certification such as Rain Forest, Cafe Practices and Fair-Trade. However, farmers are critical of how the price premiums have been allocated and the support received subject to the structural limitations of the cooperatives (Kraus, 2015; Snider, Afonso-Gallegos, Gutiérrez, & Sibelet, 2017).

1.2.2 The third wave of coffee, the Relationship Coffee Model and micro-mills

Topik et al. (2010, p. 14) identify coffee producers' strategies for adapting to low coffee prices and environmental degradation as including efforts to add value to their crops by "improving quality, move to newer areas, pay closer attention to harvesting and processing or obtain environmental certifications". Accessing such strategies has been possible because of new market opportunities related to changes in the international coffee consumption culture, a trend known as specialty coffees and the 'Third Wave in Coffee' or the Relationship Coffee Model (RCM). For Fisher (2017), the first wave of coffee began in the 1950s when buyers demanded quality and the elimination of adulteration of coffee with chicory and other substances. By the 1960s, coffee buyers began to compete on price among retailers and cared less about quality. The second wave came in the 1970s with Starbucks and the "'latte revolution' where consumers [could] choose from (and pay dearly for) hundreds of combinations of coffee variety, origin, brewing and grinding methods, flavouring, packaging, 'social content', and ambience" (Daviron & Ponte, 2005, p. 1). The social content was given to consumers through the certification branding of Fair-Trade. The terms 'sustainable coffees' and 'specialty coffee' were popularised during this wave.

The difference between specialty coffees and the Third Wave, also known as the Relationship Coffee Model (RCM), is related to the way coffee is purchased from producers. RCM is a business model where world buyers, traders and retailers set long and just relationships with producers and communities while ensuring coffee quality (Gyllensten, 2017; Hernandez-Aguilera et al., 2018; Vicol, Neilson, Hartatri, & Cooper, 2018). Hernandez-Aguilera et al. (2018) argue that RCM promotes transparency, traceability and active engagement of smallholder farmers. Buyers purchase high-quality micro-lots of coffee from specific farms and establish direct contact with their suppliers to ensure the traceability of the product. They pay according to their own assessment of the coffee

quality and the prices are not necessarily influenced by the New York Stock Exchange Coffee-price (NYSE's C-prices), but, instead, by cupping scores¹².

Currently, most studies focus on assessing the impact of conventional certification schemes such as Fair Trade, Rain Forest Alliance and Organic certification, on smallholders' livelihoods and their communities. However, understanding the impact of RCM on coffee households and organizations in terms of household agency, community well-being and economic and environmental benefits is an emergent subject. Vicol, Neilson, et al. (2018) using a political economy perspective, examine the potential for RCM in Indonesia to upgrade coffee production for marginalized coffee households. They identify that RCM has been promoted by NGOs and government programmes that, with the cooperation of foreign roasters, have set up small coffee producer cooperatives. These organizations facilitated horizontal integration for roasters to transfer technology, knowledge and financial support to producers. The findings show roasters' and government's aim of upgrading coffee households to impact the poorest families is not happening. Instead, local elites have gained power and control of the advantages offered by RCM.

From a different perspective in Colombia, Hernandez-Aguilera et al. (2018) studied the impact of being a smallholder producer linked to RCM on socio-economic, technological and environmental opportunities and practices. By comparing conventional and RCM coffee households they found that direct linkages between roasters and growers influenced coffee households to adopt environmentally friendly farming practices. Although the principal aim of RCM is to improve coffee quality, side effects have included farmer adoption of:

“higher tree diversity, implementation of water saving practices and higher use of biological and organic agronomic techniques [which translate to] high soil quality, reduced dependence on agrichemicals and increased availability of food for smallholder consumption and sale” (Hernandez-Aguilera et al., 2018, p. 15).

Though no differences were found in farmgate prices paid to farmers, other identified outcomes were smallholders' greater sense of empowerment, higher expectations of their future as coffee farmers and better access to credit in cooperatives.

Only one study has explored the specialty coffee market impacts on coffee households in Costa Rica. Using interviews with 18 stakeholders of the Costa Rica to Norway value chain, Gyllensten (2017) analysed what producers and buyers understood as direct trade, traceability and transparency. There

¹² Cupping scores are based on The Grading Green Coffee protocol that in turn is based on the SCA Green Arabica Coffee Classification System (GACCS) SCA Defect Handbook. The Cupping Form provides a means of recording important flavour attributes for coffee: fragrance/aroma, flavour, aftertaste, acidity, body, balance, uniformity, clean cup, sweetness, defects, and overall. If a sample scores between 85 and 89.99, it is considered Excellent-Specialty, and between 90-100 means Outstanding-Specialty (Specialty Coffee Association, 2017).

was not consensus on what these stakeholders understood as direct trade, each group giving different perceptions and definitions. Conversely, both groups have a similar perception of what transparency and traceability is, giving special value to these practices in their everyday commercial relations. She concludes that micro-mills are an alternative model for coffee producers to engage in the specialty coffee market and increase household income, but they require a high economic and time investment.

In contrast to the Colombian or Indonesian RCM context in which cooperatives play a main role, in Costa Rica coffee households engage individually by setting up small family enterprises called micro-mills. Micro-mill households have abandoned the coffee volume system and cooperative membership in favour of the micro-lot processing facilities. They own farms ranging from 3 to 20 hectares and have invested in basic equipment to de-pulp, wash, dry and package coffee berries. Their objective is to sell micro-lots directly to the specialty coffee market or specific overseas roasters. Most of them also sell gourmet roasted coffee to the domestic market. Additionally, most have developed rural tourist projects on their farms for visitors who want to learn about coffee at its origin. Currently, Los Santos has 80 households that have legally formalized this type of micro-enterprise that annually attracts over 200 international visitors such as buyers, baristas and roasters. Most of these enterprises depend on family members' labour for their operation and management. The expanded demands on labour have impacted on the internal dynamics of households, including the role and empowerment of women.

1.2.3 Gender participation and women's empowerment in coffee

Every day, women are taking major responsibilities in agricultural production because of male migration, their own livelihood strategies to overcome poverty or new employment opportunities in modern value-chains (Ganle, Afriyie, & Segbefia, 2015; Lyon, Bezaury, & Mutersbaugh, 2010; Waltz, 2016). Interest in the real opportunities for women in agriculture has emerged in terms of their empowerment, equality and well-being (Lara, Veloza, & Flórez, 2015; Maertens & Swinnen, 2012; Pepper, 2016-2017) and the coffee sector is no exception. The International Coffee Organization (ICO) reports that, of the 25 million households that depend on coffee, women operate 30% of coffee farms and provide over 65% of the coffee labour (ICO, 2018).

Most of the empirical research on women and the CGVC has focused on assessing women's participation and the gender gap at the farming level. Findings show women were disadvantaged compared with men in domains such as access to land, credit, training and information. As a result, their yields, income and participation in collective organizations are negatively affected and limited (Dietz, Estrella Chong, Font Gilabert, & Grabs, 2018; ICO, 2018; Lopez, Aramburo, & Chacon, 2017; Lyon, Mutersbaugh, & Worthen, 2017). Therefore, ICO declared 2018 as the year of 'Coffee and

Women'. In its report *Gender Equality in the Coffee Sector*, a public call is made to 'extend the gender analysis in coffee beyond the farm level' (ICO, 2018, p. 36).

As noted by Lyon et al. (2017), women coffee producers in Oaxaca Mexico do much of the farming and processing of coffee, plus household work. However, they have less participation in market activities, which devolves greater power to men in terms of control over revenue. This has various outcomes: women's income from coffee activities is lower than men's; time for public participation in public coffee activities—if women have any voice—is constrained; and income to reinvest in their farms is lower. Women also face cultural constraints to be taken seriously by extension and credit services (Lopez et al., 2017). Likewise, a study by Dietz et al. (2018) using the Women's Empowerment Agricultural Index (WEAI) shows that the major factors in women's disempowerment are the lack of control over their income and productive resources. They further found that ownership and control of assets, such as land, was positively correlated with their decision-making and income control.

However, there is relatively weak understanding of the constraints on and advances in gender empowerment at the processing, trading, roasting and retailing stages. As mentioned, the literature on RCM is scarce and existing studies dismiss gender empowerment analysis.

1.3 Motivation and research questions

Many initiatives have been aimed at protecting coffee producers from unfair traders and markets, to enhance their agency and increase their resilience to unstable prices and climate change. Despite the creation of institutions, laws, cooperatives and the adoption of sustainable certification schemes, Costa Rica's conventional coffee production system has had negative consequences for coffee households' livelihoods. Environmental degradation is also one of the outcomes. After 30 years of market deregulation, producers are still vulnerable in the face of low international coffee prices. Moreover, their options and opportunities to upgrade within the CGVC are limited and controlled by what governments, cooperatives or corporate mills do for them, restraining their agency and putting their livelihoods at risk.

Despite being promoted as solutions to problems in the international coffee market, the impact of certification schemes on household well-being and producer participation in cooperatives has had mixed results. And yet, research in Costa Rica continues to focus on certification, the performance of cooperatives and the economic impact on coffee households' income. Topics such as household perceptions, experiences, innovations, empowerment, economic relations and decisions, and community well-being remain secondary topics. It is no wonder that studies on alternative production systems in Costa Rica, such as the RCM, are ignored.

From the 11 studies identified as research projects in English assessing the impact of coffee certification in Costa Rica, five assess the economic impact of certification and treat non-economic effects as 'spill-over' (Hopfensitz & Miquel-Florensa, 2017; Ronchi, 2002; Ruben, Fort, & Zúñiga-Arias, 2009; Wollni & Brümmer, 2012; Wollni & Zeller, 2006), two focus on environmental impacts (Babin, 2015; Kraus, 2015) and two on cooperative management of certification. Only two studies (Luetchford, 2007; Sick, 2008) look at the certification phenomenon in depth from an anthropological perspective by examining the more-than-economic incentives to coffee households.

A similar situation exists for coffee households and gender equality. Studies from a gender perspective in coffee are an emergent field of research and many have a predominant economic focus on the impact of intervention programmes. For example Dietz et al. (2018, p. 34) define empowerment as the "combination of women's ability to succeed and advance economically and the power to make and act on economic decisions". Likewise, most scholarship on women and coffee centres on their participation in the primary stages of the value chain or is based in populations defined by membership in cooperatives. This dismisses the family enterprises and value-adding stages of the CGVC, e.g. Avila-Santamaria and Useche (2016) and Meier zu Selhausen (2016) simply quantify participation quotas in organizations, women's access to primary production resources (training, credit, land) and household bargaining constraints.

These approaches to women's empowerment and participation are missing key analytical categories such as agency, women's lived experience of their empowerment and women's cultural significance of empowerment. It is, therefore, imperative to conduct an extended gender analysis that accounts for the whole of the CVC – providing insight to the realities for women at the processing, marketing, trading, roasting and retailing stages. Wright and Annes (2016) found women were more likely to participate in agriculture value-adding operations such as tourist projects and food value-added products. Such businesses opened opportunities for public participation by women with their exposure to markets and face-to-face selling of their products. The skills acquired in traditional roles such as cooking, being a good host, and doing arts and crafts, can contribute to the development of their value-adding projects becoming an opportunity for empowerment.

1.3.1 Research questions and objectives

This study considers it important to understand how farmers' agency of engaging with coffee production innovations has affected their well-being and how this extends to their communities. The study will focus on households that decided to invest in their own micro-mill and leave conventional modes of production. In this context, the analysis of the extent to which farmers' decisions to adopt new practices have expanded their choices and enhanced their agency, self-determination, and entitlement to make decisions. The study explores empowerment and gender participation

experiences within coffee households' socioeconomic context related to their agency in the coffee market. It looks at how their agency is associated with processing their own coffee, the breadth of women's participation in the coffee enterprise, and the farmers' sense of economic security and constraints in a volatile coffee production activity.

An important feature in this context is that the specialty coffee market and RCM claim different ethical values by promoting more just and empathetic¹³ relationships in the CVC. The most common values are greater economic equality through the de-commodification of coffee; better economic returns and the promotion of closer relationships between the market and the producer. This is done with the long-term perspective of fostering community development in coffee producing localities.

Similarly, there is the need to empower farmers through direct participation in the CGVC; to educate consumers to care about where the coffee they consume comes from and what it takes to be produced; and to transform coffee agricultural practices into environmentally friendly activities. Specific attention is placed on how farmers' households experience such values, how this translates into benefits beyond profit making and how diversifying the way coffee is produced has opened opportunities for gender participation. All of the above leads to the following research questions:

- How have speciality coffee markets and the Relationship Coffee Model (RCM) contributed to coffee household well-being in Costa Rica?
- How have micro-mill household farmers and their relationships to specialty coffee influenced gender participation in the Los Santos coffee value chain?
- In which ways do micro-mill households enhance their agency in relationship to the specialty coffee market?

1.4 Theoretical framework

This study proposes an analysis of coffee farming households' well-being from two different approaches: Sustainable Livelihoods (SLA) and Diverse Economies (DE). SLA is a traditional approach used in rural development studies that allows an assessment of all the different economic activities and assets families use for their livelihood and the strategies they elaborate to realize a living. As such, it is important to assess Costa Rica's experience of how coffee farmers are innovating to engage in new coffee markets.

¹³ Gibson-Graham, Cameron, and Healy (2013, p. 102) defined empathetic market relations as those that "allowed people-to-people encounters and ensure that producers and consumers in very different circumstances are connected through alternative networks". Likewise, such market networks enhance pricing mechanisms that foster producers' well-being and environmental sustainability. When interviewed, micro-mill households referred to non-economic transactions with specialty coffee buyers that they genuinely considered to be acts of kindness that buyers do for them or they do for buyers.

Nonetheless, it is important to more deeply analyse some issues that SLA does not specifically address such as: the role women play in the household coffee enterprise; the extent to which and in what kind of situations farmers feel empowered through their engagement with these innovations; and the more-than-economic benefits households experience as meaningful to them. DE allows a better perspective of those realities and also identifies the economic decisions and relationships that occur in households' everyday life.

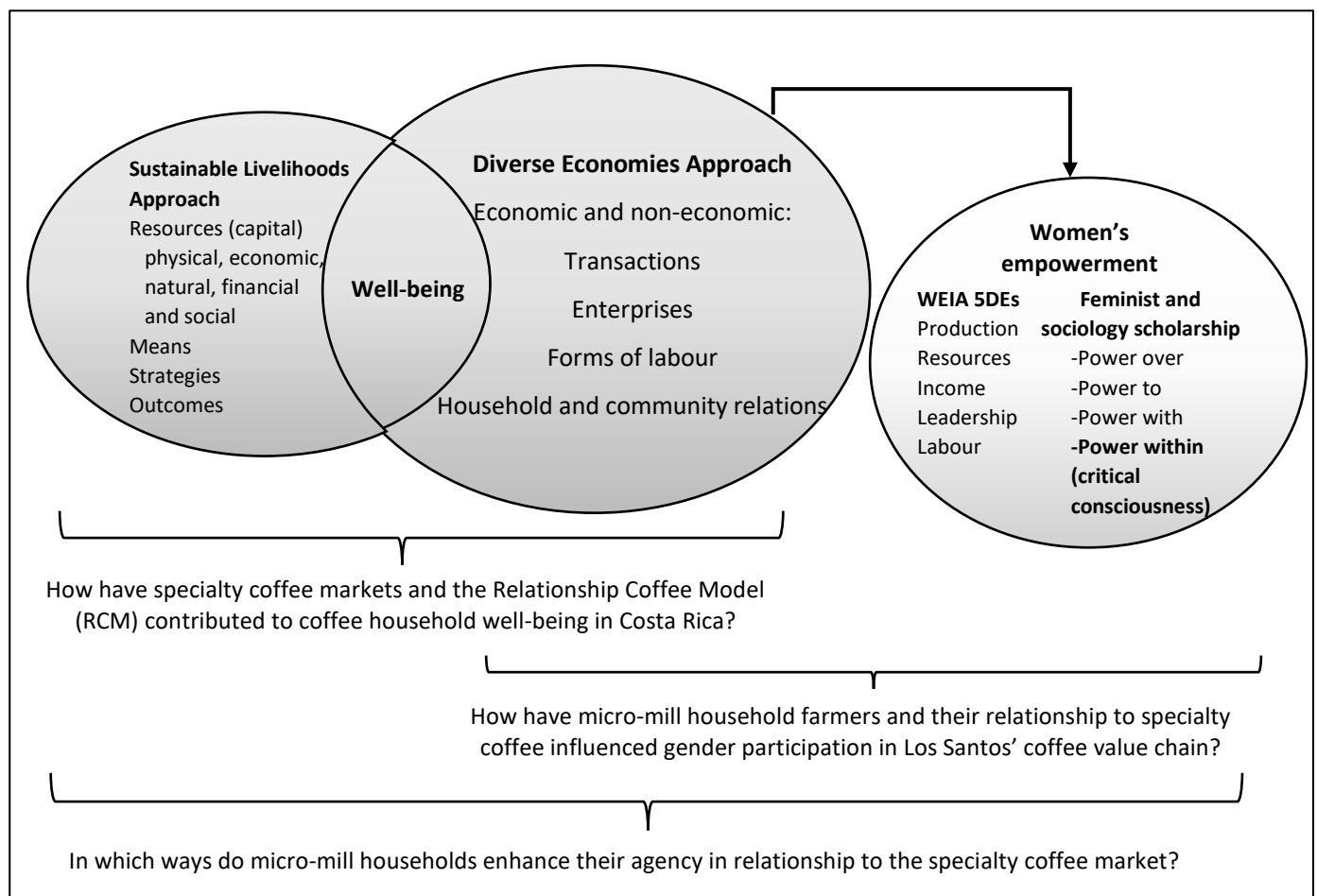


Figure 2: Theoretical Framework

As shown in **Figure 2**, SLA and DE are the main approaches used to answer the first research question. The aim is to explore, at the household level, what the transformation of traditional production practices into value-adding processes has meant for the well-being of farmers. To address the second research question, women's participation in everyday household and farm activities are analysed from a qualitative empowerment perspective. The Women's Empowerment Agricultural Index (WEAI) and its five dimensions were adapted to qualitative questions, integrating feminist sociology perspectives of 'transformative agency' or 'power within' (see Kabeer, 1999; O'Hara & Clement, 2018). The aim is to understand if changes in coffee producing practices create more opportunities for women's participation in Costa Rica's coffee sector. For the third research question

the three approaches, SLA, DE and women's empowerment analysis, will provide insight into those more-than-economic practices and the sense of agency that micro-mill households value and that are important in their perceptions and experiences of well-being.

1.4.1 *Well-being*

Well-being is a concept first developed in social psychology during the late 1970s. This became an active subject of study after the concern that clinical psychology put higher emphasis on individual's well-being, and thus missed the influence of society over a person's sense of life quality. Keyes (1998, p. 122) defines social well-being¹⁴ as "the appraisal of one's circumstance and functioning in society". Later the concept was included in economic development studies as a way to expand the traditional use of GDP as the only indicator of a society's well-being by including other dimensions of analysis, e.g., consumption, happiness, security, environment, gender equality and health. Well-being has become a central concept within economic studies following debates related to the narrowed vision of States and measures of societal progress through GDP and GDP per capita. Kapteyn, Lee, Tassot, Vonkova, and Zamarro (2015) argue that happiness became a popular term in economics when Bhutan replaced its GDP measures with the Gross National Happiness Index (GNH).

The most commonly accepted concept of well-being in the economic literature derives from Amartya Sen's 'Capability Approach'¹⁵ (Rowlands, 1995; Sen, 1999). For Sen (1999), well-being cannot be measured solely by the income or the material assets a person has; instead, it is about what a person is or can be, and does, or can do (Todaro & Smith, 2015). The approach involves a qualitative assessment of the extent to which assets can address people's functioning; thus, well-being is understood as what a person can do with the resources they have. However, for this to be realised, a person must have the capabilities that give them the freedom to choose.

Well-being can be understood as subjective and objective aspects and perceptions of a person's life quality and satisfaction based on the freedom, capabilities and opportunities in various dimensions¹⁶. The Commission of the Measurement of Economic Performance and Social Progress proposes subjective well-being and the capabilities approach as useful to understand what well-being is. The subjective and objective aspects "has to do with both economic resources, such as income, and with non-economic aspects of peoples' life (what they do and what they can do, how they feel, and the natural environment they live in)" (Stiglitz et al., 2009, p. 11). The capabilities approach facilitates a

¹⁴ This concept is analysed through five dimensions, which are social integration or cohesion, social acceptance, social contribution, social actualization and social coherence. See Keyes, M. (1998) for an in-depth analysis of the dimensions.

¹⁵ In his book *Development as Freedom*, Amartya Sen sets the basis of well-being as a measure of societal progress.

¹⁶ Stiglitz, Sen, and Fitoussi (2009) propose these dimensions: material living standards (income, consumption and wealth); health, education, and personal activities including work; political voice and governance; social connections and relationships; environment (present and future conditions) and security of a person feeling protected against crime and enjoying a safe and clean environment.

change from the “notion of an economic model of individuals trying to maximise their self-interest heedless of relationships and emotion to a focus of social justice and respecting the individual’s ability to pursue and realise the goals he or she values” (Stiglitz et al., 2009, p. 42).

The well-being concept used for this study is based on the DE approach. Gibson-Graham et al. (2013) define well-being as the elements everyone needs to survive well:

“Well-being is about the combination of our love of what we do each day, the quality of our relationships, the security of our finances, the vibrancy of our physical health and the pride we take in what we have contributed to our communities”. (Gibson-Graham et al., 2013, p. 21)

This concept comprises five interacting elements and centres relationships among the community and the environment as essential for people’s life quality. The first element is *material well-being*, which is understood as having the resources to meet basic needs and be satisfied with what we have. The second element relates to *occupational well-being* or the opportunity to enjoy what we do each day. Third, is *social well-being*, which comes from having a supportive social network. Fourth, *community well-being* is a central element to surviving well that includes being involved in community activities and enhancing social relationships. Lastly, *physical health* relates not only to the opportunity to enjoy good health but also to having a safe living environment for all (Gibson-Graham et al., 2013)

1.4.2 Sustainable livelihoods approach (SLA)

Morse and McNamara (2013) trace the emergence of SLA to three existing approaches, starting with the 1960s-1970s macroscale approach of ‘Integrated Rural Development’ (IRD), which consisted of the integration of various sectors within a territory and analysis of how they should interact and integrate. Second, was the ‘New Household Economics’ born in the 1980s, which focused on household labour and income distribution. The third, and most influential, approach was ‘Human Development’ promoted by the United Nations based on Sen’s capability approach. Scoones (2009) argues the approach became popular in the 1990s into the 2000s when the effectiveness of solutions proposed by the Washington Consensus was challenged by economists such as Stiglitz. The approach began to gain international attention because of a Chambers and Conway (1991b, p. 10) publication from the Institute of Development Studies (IDS) of Sussex University. In this paper, they define sustainable livelihoods as those that:

“can cope with and recover from the stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation, and which contribute net benefit to other livelihoods at the local and global levels in the short and long term” (Chambers & Conway, 1991b, p. 10)

Sustainable livelihoods can be described as a snapshot in time of a household's socioeconomic condition and the different activities in which they engage to pursue a living (Morse & McNamara, 2013). The approach can describe the complexities of rural poverty and overcome problems other approaches had (Kay, 2005). SLA can identify the ways people live in different places; what it means for them to earn a living and understand why and how they elaborate different strategies to cope, adapt, improve, diversify and transform their living.

The approach has been adapted into different frameworks, **Figure 3** is one example, which Scoones (2009, p. 117) summarizes as “linked inputs (designated with the term ‘capital’ or ‘assets’) and outputs (livelihood strategies), connected in turn to outcomes, which combined familiar territory (of poverty lines and employment levels) with wider framings (of well-being and sustainability)”. The levels of analysis can be assessed differently depending on the methodological focus. For example, Scoones (1998) suggests that the SLA should be applied at the institutional and households' level. DFID (2001) proposes the data collection and analysis should look at trends and shocks at the regional, community and household levels, to identify vulnerabilities and how this might influence the capacity to transform structures.

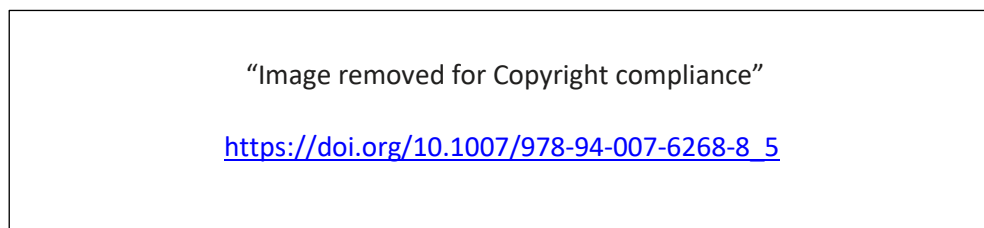


Figure 3: The Sustainable Livelihoods Approach Framework
Source: Morse and McNamara (2013, p. 19)

Critiques of the approach and developed frameworks, as argued by Morse and McNamara (2013), became popular among international development organizations. These organizations noted that the SLA began to miss its people-centered objective, turning into a mechanistic, quantitative survey that was little more than a cataloguing exercise of household assets and net balances. The approach emerged in a context where scholars were interested in how to maximize the effectiveness of interventions. Thus, the quantitative analysis fits the actual trend of statistical information in social science but misses important information about people's culture and the meaning of certain activities in their livelihood (Scoones, 2009). Another criticism is that it dismissed the complex interactions of political power and gender participation. Although some applications of SLA have added the ‘political capital’ dimension as a livelihood asset, it is hard to reduce the complexity of power relationships into metrics (Kay, 2005; Scoones, 2009). Finally, Scoones (2009) concludes that the approach lacks the means to link microscale problems with wider livelihood governance debates

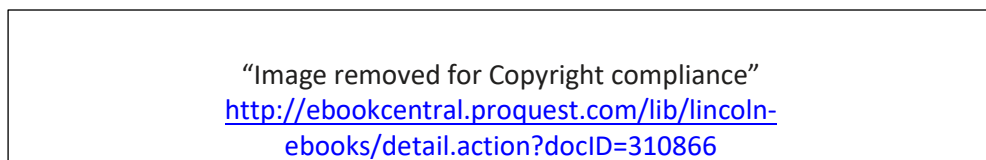
at State policy level, and fails to address emergent discussions such as climate change or agrarian movements.

1.4.3 *Diverse economies*

DE is a political ontology proposed by J.K. Gibson-Graham to understand and rethink the economy 'as a site of difference' (Roelvink, St. Martin, & Gibson-Graham, 2015). For them, the economy should be understood as a political space where subjects can reshape their economic relationships through more ethical practices. This can be done by recognising the diversity of economic activities that take place beyond the capitalistic model of profit maximization.

Their economic thinking is influenced by different theoretical framings such as feminism, poststructuralism, queer theory and anti-essentialist Marxism (Roelvink et al., 2015). The approach is based on the 'second wave' of feminist studies that questions the binary gender identities of 'man' and 'woman' as being the only natural form of feeling and being. These theories open the space for other sexual identities enabling "new practices of the self and intersubjective relation that enable the use of new discourses to be inhabited in everyday life" (Gibson-Graham, 2006b, p. xxiii). In this sense, DE reconstruct the economy by questioning what is normal and what is not. For Gibson-Graham (2006a;b) the economy does not imply the capitalistic model of wage labour, capitalistic enterprise and commodity market. They argue that capitalism is just one of the many expressions of economic relationships.

Table 1: Diverse Economies framework



Source: Gibson-Graham (2006b, p. 71)

The approach proposes to think of the economy as a zone of 'cohabitation' - of diverse economic practices and forms, including that of the human and non-human. The objective is to re-think "the economy by challenging the representation of capitalism as the necessary and naturally dominant form and identity of the economy" (Gibson-Graham, 2006b, p. 60). As shown in **Table 1**, the framework, or 'toolkit' as they name it, proposes three practices: different kinds of transaction and ways of negotiating commensurability; different types of labour and ways of compensating it; and different forms of enterprise and the ways they produce, appropriate, and distribute the surplus.

After years of field research, they identified diverse ways in which subjects relate to their economy, questioning the 'omnipresence' of the capitalist ideal and showing that there is a 'more-than-capitalist' world (Gibson-Graham, 2014). The economy is 'embodied' in different economic practices such as families, neighbourhoods, households, organizations, States, and private, public and social enterprises (Gibson-Graham, 2006b, 2008). Central to this thinking and the ability to read the more-than-capitalist economic practices there are some insights to always consider (Gibson-Graham, 2006b, p. 72):

- "Economic sectors, enterprises, and subjects occupy multiple sites in DE.
- Each site has the potential to offer one or more economic identities or subject positions.
- Each economic relationship offers different realms of economic freedom as well as opportunities for exploitation and oppression depending on circumstances.
- Economic dynamics are overdetermined and, thus, the relationships between activities at different sites cannot be predicted but are open to politics
- Political struggles have the capability to diversify the economy and change relations between activities within it.
- Capitalist enterprises are as diverse as no capitalist enterprise".

The project of reconstructing the economy and embracing the language and practices of economic difference proposes the construction of a 'community economy' as an ethical and political space of being (Gibson-Graham, 2006a). The community of common well-being, which they refer to as the 'praxis of being in common', is a community space where subjects negotiate, question their livelihood and recognise interdependence, and reconstruct themselves in the process (Gibson-Graham, 2006b).

However, to create more ethical economic practices, the process begins with the people. It requires a different 'interventionist' development practice that allows the 'cultivation of subjects'. To achieve a community economy, the DE approach incorporates a post-structuralist Participatory Action Research practice based on three core elements: a politics of language – developing a new, richer local language of economy and of economic possibility; a politics of the subject – cultivating ourselves and others as subjects of a more-than-capitalist development; and a politics of collective action – working collaboratively to produce alternative economic organizations and spaces in place (Cameron & Gibson, 2005, p. 317). Ways to enact more-than-capitalist worlds can include: distributing surpluses for communal improvements in health and environment; investing in social enterprises; or having communal projects to share products and cultural enrichment and Fair-Trade practices.

Gibson-Graham (2006a, 2006b) talks about the importance of 'enhancing well-being' in a community context through recognising and reinforcing more-than-capitalist activities that individuals,

households, groups, collectives and women develop. They recognise well-being as a concept composed of multiple dimensions. One of their arguments favours a type of labour and surplus that has economic and social recognition beyond supporting material well-being.

"When it comes to the decisions about how social surplus is to be distributed, the question of increasing the capacity to produce surplus by investment in those activities that are productive of the social surplus must be weighed against whether to expand activities that deliver social well-being directly" (Gibson-Graham, 2006b, p. 99).

Therefore, well-being is a condition that can be achieved through the ethical practice of 'cultivating subjects' in a 'community-of-being-in-common', where the economic space is created in ethical decisions, based on the capabilities and resources each person can contribute to it. Community well-being is not necessary based on quantifying people's capital and assets to come up with indicators explaining a determined or specific reality that needs to be changed. Finally, in DE, social well-being involves an individual's sense of exclusion or uselessness in relation to certain structures. It addresses whether an individual is empowered with agency to decide what they consider to be a "well-lived life".

1.4.4 Women's empowerment

Empowerment is a contested concept. Kabeer (1999, 2005) describes it as a multi-disciplinary concept that implies a process of self-transformation. Based on Sen (1999) capability approach, Kabeer (1999, 2005) considers empowerment to be the transformation of those who are dis-empowered to be able to become self-aware of their capabilities and freedom of choice. Individuals should have the 'power to' or opportunities and conditions to decide over their future.

Such personal and societal process is a challenging subject to be measured by scholars and development professionals. Initial approaches understood gender empowerment as the impact assessment of programmes in categories such as gender equality, gender participation and gender educational gap. The Social Institutions and Gender Index (SIGI) developed by the Organization for Economic Co-operation and Development (OECD), and the United Nations Gender Gap Index (GGI) and Gender Inequality Index (GII) became popular tools to understand gender equality among nations. However, Alkire et al. (2013) discuss the issue of these indexes being able to measure women's participation but not desirable agency outcomes.

With the adoption of the Millennium Development Goals (MDG), women's participation and empowerment in agriculture became central to development scholars. In an effort to have a better tool to measure agricultural programmes and their impact on women's empowerment, the United States of America programme, 'Feed the Future', developed the Women's Empowerment in

Agriculture Index (WEAI) (Alkire et al., 2013). WEAI is a multidimensional index with indicators that measure equality, participation and empowerment at the household level. The WEAI empowerment notion is based on Kabeer (1999) and Alsop, Bertelsen, and Holland (2005) idea of the individual's capacity and freedom to make choices and reach desirable life outcomes, and Narayan (2001) notion of empowerment being linked to people's democratic collective action. The index works under five pillars capturing agency, participation, and well-being outcomes. The five domains of empowerment are: 1) agricultural production, and the extent of sole or joint decision-making and autonomy; 2) access to and decision-making power over productive resources; 3) income, as the sole or joint control over the use of the income; 4) leadership, measured by participation in community groups and comfort speaking in public and 5) time use, the allocation of time in productive and domestic tasks and the time available for leisure activities (Alkire et al., 2013, p. 74).

Despite these efforts in assessing women's empowerment progress, feminist scholars critique aid interventions and economic measurements of empowerment at various levels. First, there is a consideration that instrumentalising empowerment through quantitative measures can be imprecise because people's perception of the concept varies among context and cultures (Ganle et al., 2015; Kabeer, 1999; McCarthy, Touboulic, & Matthews, 2018; O'Hara & Clement, 2018). Second, agencies promote apolitical forms of empowerment; normative indicators for empowerment do not discuss the power relations dimension of agency and its social transformation potentials (O'Hara & Clement, 2018; Rowlands, 1995; Weldon, 2018; Young, 1994). Third, in a diverse context, normative indicators might reflect the values of the aid agency rather than the values of the people to be supported (Kabeer, 1999, 2017).

O'Hara and Clement (2018) consider WEAI to be able to capture agency and its outcomes, but not the potential women have acquired to challenge traditional roles. To improve the WEAI approach, O'Hara and Clement (2018) conducted a mixed study in Nepal. By comparing WEAI data with qualitative data on women's perceptions of empowerment and critical consciousness or 'power within', they find discrepancies between local meanings of empowerment and WEAI's understanding of empowerment in terms of agency. Women report that growing and selling vegetables improved their household agency in decision-making and income. However, to go to the market they had to walk long distances carrying a heavy weight. Their husbands would not help them because of the belief that vegetable growing and selling is a women's job. Moreover, their income was not sufficiently significant to gain more bargaining power. The findings show women were gaining agency but were not critically reflecting on gender inequalities inherent to the traditional gender roles of vegetable farming.

Such empirical evidence shows the importance of incorporating the concept of ‘power within’ assessments of women’s empowerment in agriculture. The feminist approach to empowerment and power relations (Kabeer, 2005; Rowlands, 1995), argues that power can be exercised in the form of dominance relations – ‘power over’ – when someone has the power to oppress others. ‘Power to’ refers to a person’s capability to challenge and overcome the condition of ‘power over’. By contrast, those who are coerced and are beginning to denaturalize the institutionalised forms of their oppression would look for ‘power with’, or the collective action of individuals who have similar interests and pursue similar goals¹⁷ (Rowlands, 1995; Wright & Annes, 2016). However Kabeer (1999, 2005); O’Hara and Clement (2018) and Rowlands (1995) consider ‘power within’ to be central to understanding empowerment; it refers to people’s self-awareness of their ‘power to’ or sense of agency. It also relates to women’s ability to be consciously critical of their reality in identifying the sources of their oppression and feeling entitled to challenge them. For Young (1994, p. 50), consciousness is empowering because it "develops the people's ability to be reflective and critical [...] such reflection and criticism enable people to move from acceptance of institutional forms as natural and given to see them as human constructs that are challengeable".

The application of empowerment for this study is based on Kabeer (1999) definition of a person’s ability to make strategic life choices; this becomes a transformative process in the context where those choices had been denied. Such a process enables people to acquire agency (power to), have access to resources (means to) and reach achievements or outcomes. Moreover, empowerment also involves collective action and democratic participation or ‘power with’ (Narayan, 2001; Weldon, 2018; Young, 1994). This approach overlaps WEAI’s concept of empowerment. Therefore this study includes Rowlands (1995) notion of ‘power within’ or ‘critical consciousness’. Kabeer (2005, p. 15) practically defines ‘power within’ as the distinction between ‘effectiveness of agency’ and ‘transformative agency’, “the former relates to the women’s greater efficiency in carrying out their given roles, the latter to their ability to act on the restrictive aspects of these roles in order to challenge them”.

Thus, household livelihoods are composed of a broad range of social and economic aspects. Research that concentrates on their income sources and strategies would dismiss other every day relations that give sense to their well-being situation. Centring attention in their lived experiences of adding value to their production, their coffee production and commercialization networks, the roles women have adopted in the family enterprise and changes in farming practices towards quality and environment protection can provide a better understanding of the impacts of micro-mills on households’ well-

¹⁷ As used in this literature, collective action does not necessarily refer to formal organizational structures.

being and in Los Santo CVC. However, the investigation of these diverse aspects of household livelihoods requires a range of research methods as exposed in the following section.

1.5 Methodology

Coffee micro-mill households and their lived experiences as part of the RCM are relatively new research areas. This thesis examines these areas from the perspective of well-being and empowerment. Empirical research of the effects of participation in global value chains on household well-being has commonly applied more traditional approaches, including SLA. Such exercises produce quantitative information that can be compared and provide descriptive and analytical results. For that reason, an SLA survey was conducted in order to compare conventional and micro-mill households and identify existing differences in their coffee production practices and household composition. However, since well-being is a broad and open concept that can have different meanings depending on context and people's experience, the use of a qualitative approach was also considered central to this study. In that context, DE was used as an innovative approach to assess coffee households' experiences and gender participation in the RCM. The aim was to analyse people's relationships with coffee production and women's roles and recognition within the local economy. DE allows us to understand how people perceive and construct their subjectivities through their everyday life as participants in the political and economic structures of the coffee commodity chain.

Given (2008) argues that making distinctions between qualitative and quantitative approaches can be misleading. The focus should depend on the objectives of the study and the best way the researcher considers these can be achieved. For example, using mixed method research can provide a more complete answer than using qualitative or quantitative methods alone. This is the case of this study, a mix method approach was considered the most appropriate to comprehend the complexity of the realities of coffee production in Los Santos. The application of mixed methods in this case uses a research design in which "the qualitative approach privileges qualitative methods, with the quantitative methods component playing an auxiliary role" (Hesse-Biber, 2014, p. 64). In this research, the survey method facilitated the comparison between two groups and helped identify key participants for the following qualitative methods phases of the study. The Focus Group (FG) and interviews allowed participants to elaborate their perceptions and justifications of the impact of micro-mills on their households and communities.

The research objectives and conceptual-framework for the study include elements from a post-structuralist approach. For the DE approach, "economic difference is a political intervention working to be able to discern agency in 'the other' – the marginalized, invisible and depoliticized"- (Gibson-Graham, 2014, p. 81). Thus, it drops "the structural approach to social explanation and adopt[s] an

anti-essentialist approach, theorizing the contingency of social outcomes rather than the unfolding of structural logics” (Gibson-Graham, 2008, p. 615). This is a post-structuralist methodological approach that “challenges positivism’s emphasis on objective truth and instead posits how dominant discourse serves to oppress and maintain existing power relations within a society” (Hesse-Biber, 2014, p. 19).

From this standpoint, the researcher incorporates feelings, values and attitudes as important parts of the study. By giving this space, coffee producers and other members of the households participant collaborated in the process of knowledge construction. As they expressed at the end of the FG and interviews, they were grateful to be taken into account and have spaces for their voices and experiences to be heard. Likewise, a post-structuralist position uncovers the plurality of experiences, knowledge and perceptions existing in study participants by interrogating traditional approaches without considering them a ‘universal truth’. Examples of how post-structuralism influences the study are evident in the concept of well-being. The farmers’ definition in Chapter 3 reflects their capacities, experience and perceptions. A similar approach is used in Chapter 4, in which micro-mill households’ gender participation recognition within the coffee enterprise is investigated.

It is also important to mention my position as a researcher. I grew up on a coffee farm in this region and the local socioeconomic events involving coffee have impacted my life in different ways. From this standpoint, I have developed a personal interest in understanding and interpreting such societal phenomena from an academic perspective. One of these interests is the gendered relations in coffee production. Growing up in a coffee producing community I saw a diversity of situations which limited women’s opportunities of living a life with autonomy, e.g., a clear division of working roles between women and men, women belonging to the household private space and men to the public space of farm work and commercialization.

Likewise, having this background significantly helped me when conducting the fieldwork, as I could draw on my knowledge of the participants’ socioeconomic context and customs. This situation allowed participants to feel more comfortable and engaged with the research. As participants stated, they could freely talk about their experiences of important past events (e.g. the period of low coffee prices or the migration wave to the U.S) without giving me the whole context. They could also talk about coffee production and commercialisation using the local jargon without the need to explain the meaning of those words. From my own position, I could relate to their stories and understand the impact from such events on their everyday lives. Therefore, results were analysed from the situated perspective of my constant effort to identify how the local coffee culture, customs and relations are being reshaped and changed by historical events, technology and globalization in general.

1.5.1 Research design and data collection

To answer the research questions, three different methods were chosen and applied in three distinct phases of data collection as shown in **Figure 4**. The first phase consisted of a questionnaire to capture data (see Appendix A). 63 households answered the questionnaire, comprising 33 micro-mill households (out of 80 existing and legalized micro-mills) and 30 conventional households. The results were used to compare the livelihood assets and strategies of conventional households and micro-mill households. Such descriptive data show important differences between the groups in terms of household head characteristics, access to credit, farming practices, and others.

The survey was also used to identify potential participants for the qualitative research, including the 15 representatives of micro-mill households who attended the Focus Group (FG) that addressed well-being and the perceived benefits from micro-mills. The FG method captures real-life data in a social environment, is easy to adapt to the context and is low-cost (Babbie, 2016). Defining the number of people to participate in the FG was based on Given (2008) arguments that a representative sample is not required and fewer than 20 people per session is a good number. A total of 27 people attended the FG¹⁸. As a socially constructed process, this activity allowed a better accounting of the social benefits participants have perceived beyond financial returns.

The FG was divided into three group activities. First, 'Defining Well-being' explored the participants' perception of socioeconomic well-being. Second, in 'Coffee Innovation Practices', the group members identified the innovative practices they have undertaken; it allowed them to explore the relevance of these practices and their relationship to the well-being definition. The last activity, 'Recognising our Economic Relations', asked participants to identify different forms of labour, enterprise and market present in their daily lives and communities. The information collected was a central input to addressing the extent to which owning a micro-mill empowered households in their economic relations.

The last phase comprised 15 semi-structured in-depth interviews. This method facilitated the collection of information that needs more exploration than provided in the previous two phases. In this technique, the interviewer has a general plan of inquiry involving a set of topics to be discussed in depth (Babbie, 2016), e.g., what coffee production means for them and their families. Semi-structured interviews were fundamental to answering the third research question regarding micro-mill households' experiences setting up the enterprise, the struggles they have faced and the benefits they have received.

¹⁸ Appendix B presents pictures from the FG activity.

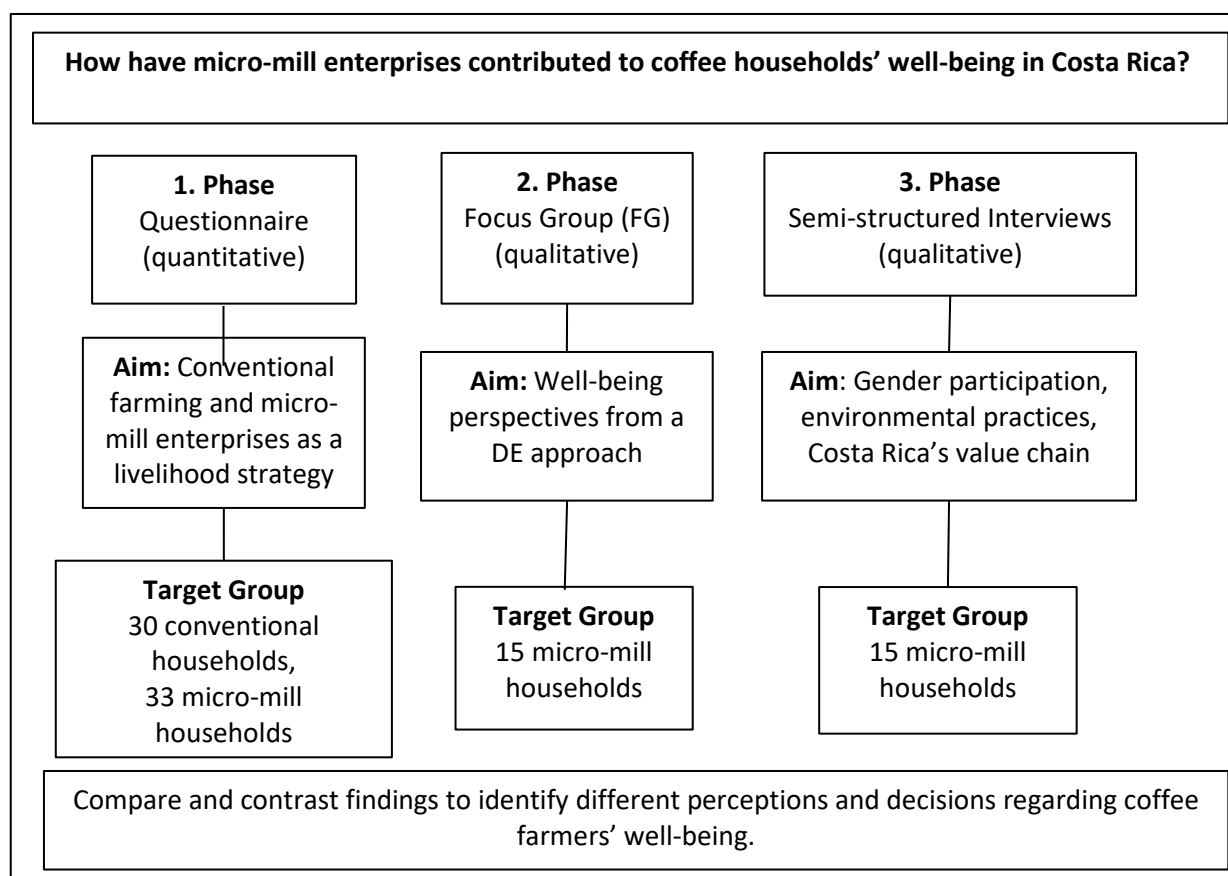


Figure 4: Research Design and Data Collection

These interviews consisted of two parts: the first asked the household head and, if this person was a man, a second part was done with one or two women over 18 years of age in the household. However, in all but four cases, the couple or the entire family participated and answered the interview together, which allowed the capture of the perspectives of younger members and more women in that household. The topics addressed in the interviews (as approved by the Lincoln University Human Ethics Committee) were: the decision to have a micro-mill; their understanding of coffee as a livelihood; the extent of shared objectives with coffee retailers; the perception of the values promoted by certification; the benefits or constraints experienced in owning a micro-mill; perceptions of consumers' valuation of coffee; the implications for the household of their environmental friendly farming practices; other changes experienced in coffee production; the representation of the coffee enterprise as a family business; and women's experiences in micro-mills.

An important aspect of the in-depth interviews was to develop a clear understanding of women's participation and empowerment in micro-mill households, adopting the WEAI and the five domains of empowerment (Alkire et al., 2013). The domains assess women's agency as related to processing stage decision-making¹⁹, control and ownership of resources, control over income, time use, and

¹⁹ The Domain 'participation in primary production' was modified to fit coffee value-adding stages.

leadership. In order to address claims in feminist sociology that structured surveys do not capture a holistic understanding of the empowerment concept (Ganle et al., 2015; Kabeer, 2015, 2017; Roodman & Morduch, 2011), I combine WEIA with the empowerment feminist approach of 'power within'. O'Hara and Clement (2018) indicate the WEIA assessment does capture improvements in women's agency and well-being, but vaguely address the power relations within the agency concept. Therefore, Kabeer (1999, 2005) and Rowlands (1995) feminist approach of 'power to', 'power with' and 'power within' was used to understand ways of empowerment that challenge 'power over'.

1.5.2 Data analysis

The data collected were in two sections for processing. Quantitative data, such as the demographic and socio-economical information, was coded using the SPSS (v.23) Statistics package. Descriptive statistical and inferential analysis such as frequencies and simple hypothesis testing were applied to these data. Such analysis facilitated the comparison of conventional and innovative coffee farmers as distinct populations. Qualitative data from the FG and in-depth interviews was coded in Spanish using NVivo (v.11) software and then quotes used in the different chapters were translated into English²⁰. The software was a useful tool to organize the data collected into different interview themes based on the analysis framework. The data were then analysed using pattern matching of analysis categories. The analysis followed an inductive process, whereby specific observations from the collected data were used to inform theoretical understandings and to reach broader results and conclusions.

As explored in this chapter, the coffee commodity chain in Costa Rica is facing increasing pressures on its traditional model. Commodity prices do not facilitate farmers' pursuit of a good livelihood and climate change is affecting their productivity. In face of such challenges, micro-mills have emerged as a form of family enterprise, representing an interesting coffee model based in quality that has allowed coffee producing households to experiment with coffee production from different perspectives and using alternative practices. In this context, it is important to better understand the impacts of micro-mills on households and their environmental farming practices as well as its potential for creating capabilities that enable agency in the CGVC and women's empowerment.

These subjects are addressed in the following chapters starting with the comparative analysis of the livelihoods of conventional and micro-mill households.

²⁰ I am a native Spanish speaker; therefore, to preserve accuracy, the interviews were coded in Spanish and then translated into English. To confirm the accuracy of the translations, a copy was reviewed by my supervisor who also speaks Spanish.

Chapter 2: Sustainable livelihood; strategies of conventional and micro-mill household coffee producers in Los Santos

The purpose of this chapter is to address the first research questions, how have specialty coffee markets and the Relationship Coffee Model (RCM) contributed to coffee household well-being in Costa Rica? Volatile coffee commodity prices, changes in productivity caused by climate change, high bank debts and other problems faced by coffee households put their livelihoods at risk (C. Bacon, 2005; C. M. Bacon, Ernesto Méndez, Gómez, Stuart, & Flores, 2008). During the last decades, they have created a variety of strategies to cope with crisis moments and continue with coffee as their main economic activity (Umaña, 2013). However, those strategies are diverse among coffee households in terms of their decision-making, and different cultural, ecological and socioeconomic factors.

Thus, it is relevant to understand how the strategies followed by coffee households in Los Santos allow to analyse different perceptions of well-being and sustainable livelihoods. Chambers and Conway (1991a, p. 10) defined a sustainable livelihood as:

“Compris[ing] the capabilities, assets (including both material and social resources) and activities required for means of living. A livelihood is sustainable when it can cope with and recover from stress and shock, maintain or enhance its capabilities and assets, while not undermining the natural resource base”.

Livelihoods literature focuses on rural households' engagement in diverse activities—farm and non-farm—to secure a livelihood. Therefore, SLA was the method chosen to understand micro-mill households' experiences as part of the RCM. SLA allowed recognition of the different means, resources, strategies and decisions coffee households are making to pursue a life of well-being. As outlined in the Chapter 1, surveys were conducted with 63 coffee producers in Los Santos, 30 were conventional farmers and 33 were micro-mill households. Data collected from both groups showed differences among them in terms of their farming practices, ownership of capital and assets, coffee markets, and credit access, among others.

The chosen indicators were based on the context of the studied population. Commonly SLA assessments include indicators for physical and human capital related to access to housing, clean water, electricity and means of transport (DFID, 2001). For this case, those variables were not addressed in the survey because the Los Santos population enjoys most of these as public services offered by the State. The Costa Rican Institute of National Statistics and Census reports that, of a population of 38,150 for Los Santos, only 14% do not have free access to health, 76% own their

house, 80% have access to potable water, 95% to a latrine, 99% to electricity, 41% own a car and 97% are considered literate (INEC, 2011). The data for each county in Los Santos can also be represented in terms of the Human Development Index (HDI),²¹ as shown in **Table 2**. These figures place them in the medium human development rankings that for some middle-high income countries would be considered a good HDI. However, in the Costa Rican context, these results place Los Santos' counties among the lowest HDIs with respect to other counties.

Table 2: Human Development Index for Los Santos Region

Indicators	Tarrazú	Leon Cortes	Dota	Regional
HDI	0.693	0.69	0.701	0.694
Life Expectancy	0.9	0.791	0.809	0.833
Knowledge	0.84	0.951	0.971	0.92
Material Well-being ²²	0.339	0.328	0.324	0.330

Source: PNUD-UCR (2016)

The chapter is structured as follows. A SLA assessment at the household level is made analysing how access to different kinds of capital lead to different livelihood strategies across the two groups surveyed. This assessment is divided into two sections, the first is the sociodemographic and economic characteristics of households. The following section analyses the CVC in Tarrazú, based on variables related to production, farming practices and markets. The chapter concludes with a critical analysis of the potential SLA has in assessing the sustainability of the livelihood strategies followed by households and the effects on their well-being.

2.1 Sociodemographic and economic characteristics of households

The differences in characteristics of household heads among micro-mill owners and conventional farmers are shown in **Table 3**. The sociodemographic characteristics of both groups are similar, except in terms of household size and sex of household head. Micro-mill households have one more member living in the household (n=4) compared to conventional households (n=3). Although small, this difference in terms of household size is statistically significant at 5 percent level. Most of the micro-mill households (97%) were reported as male-headed households in comparison to 73% male-headed households in conventional farming, indicating a gender gap in terms of entrepreneurship in coffee production.

²¹ HDI is an index that measures people's lack or enjoyment of three domains: health, education and material well-being. The value ranges from 0 to 1, with 0 meaning a very low HDI.

²² HDI uses 'decent standard of living' as one of its indicators which is measured by the GDP per capita. For Costa Rica's case and their county assessment PNUD-UCR (2016) the 'decent standard of living' indicator was changed to 'material well-being' measured as the amount to electricity kilowatts a household consumed in a year.

Table 3: Conventional and micro-mill household head sociodemographic and economic characteristics

Characteristic	Conventional n=30	Micro-mills n=33	t- <i>statistic</i>
Sociodemographic Characteristics			
Sex of household head			2.799**
Male (%)	73.3(0.45)	97(0.17)	
Female (%)	26.7(0.45)	3(0.17)	
Education of household head (years)	8.4(4.89)	10 (4.1)	1.483
Average age of household head (years)	49 (14.46)	49 (8.47)	0.145
People living at the house (number)	3 (1.00)	4 (1.57)	2.059**
Economic Characteristics			
Occupation of household head (yes %)			
Farming is the primary and permanent	26.7 (.45)	18.2(0.39)	0.800
Both farming and off-farm activities are primary and permanent	23.3 (0.44)	75.8(0.44)	4.801***
Both faming and off-farm activities are temporary	23.3 (0.43)	0(0.00)	3.118***
Off-farm activities are primary and permanent	26.7(0.45)	6.1(0.24)	2.292**
Occupation of household members			
Dependant household members	56.7(0.50)	18.2(0.39)	3.401***
Works at family farm or enterprise	13.3(0.34)	60.6(0.49)	4.345***
Employed in off-farm jobs	30(0.46)	21.2(0.41)	0.792

*** and ** denote significance at the 1 %, 5% and 10% level of probability respectively.
Standard deviation of mean values in parentheses.

Regarding economic characteristics, household head's occupation showed important differences. Conventional farmers' status was fairly evenly distributed among the four categories; but, 75.8% of the micro-mill households reported that the household-heads are involved in farming and off-farm activities. The off-farm activities refer to the processing and coffee value-adding tasks associated with their micro-mills and selling for the local market, inclusive of guided tours and roasting of coffee beans under their own brand. Furthermore, they sell the service of de-pulping and/or roasting coffee beans to conventional farmers who would like to consume their own coffee. Other micro-mill households with more capital offer packaging of green coffee for micro-mills that do not have the necessary machinery and facilities.

In contrast, over 73% of conventional households' heads reported being involved in off-farm activities. This could be either a casual or permanent off-farm occupation. 'Both farming and off-farming activities are temporary' refers to household heads that own very small plots of land, thus, working their land is not a full-time job. Likewise, it is difficult for them to find a skilled off-farm job because of their lower education level. These household heads are economically dependent on the coffee production of their very small plantations and some extra income that comes from waged labour on neighbourhood farms. When conventional farmers were asked to specify the casual income under this category, the answers referred to: informal jobs as wage workers on neighbourhood farms; construction; selling magazines and beauty products; providing small grocery and fast-food retail (the latter known as '*pulperia, verduleria and sodas*'). More formal off-farm occupations and income were derived from property rentals, professional jobs, money received from payments of environmental services²³ and employment in local agri-industry enterprises.

Table 3 indicates that household members' occupations are different between conventional households and micro-mill households. Dependant household members—those dedicated full-time to household chores or to study full time—represent 56.7% of people in conventional households. The relative lack of conventional household involvement in coffee production supports the finding by Lopez et al. (2017) that women do not participate in farm tasks and young people prefer to study rather than look for a future in coffee farming. The situation is different for micro-mill households in which 66.7% of the household members, including women and young family members, considered the farm and the micro-mills to be their main occupation under the category 'works in the family farm or enterprise'.

2.1.1 *Farm income and wealth*

Table 4 indicates that the coffee income per hectare in 2017-2018 is much higher for micro-mill households in comparison to conventional farming households. This difference can be explained by the the previous finding that the majority of micro-mill households' main income comes from farming activities, in contrast to conventional households that depend more on off-farm income. For the 2017-2018 harvest, the mean price for Los Santos coffee was US\$180 per fanega, resulting in a mean coffee income per hectare of US\$ 5,711 for conventional households. For micro-mills, the coffee income is not directly attached to the NYE's C-price. Instead, their buyers consider themselves to be CVC actors who de-commoditize the market through direct trade, long-term contracts and payments based on cup quality (Fisher, 2017; Gyllensten, 2017). Micro-mill households reported their floor price as being US\$250 per fanega. However, because some fanegas will be sold at higher

²³ Some coffee farmers have part of their farm that is still forest via a programme of Payments for Ecosystem Services under the modality 'mitigation of greenhouse gas emissions'.

prices, many of these households claim that their mean fanega price was US\$300. As a result, the mean coffee income per hectare for micro-mill households was US\$9,602, almost doubling that of conventional producers. This difference in mean per hectare coffee income is statistically significant at the 1 percent level. Standard deviations in per hectare income are large because fanegas produced per hectare are highly variable among farmers.

Table 4: Farm income and wealth for conventional and micro-mill households

Indicator	Conventional n=30	Micro-mill n=33	<i>t-statistic</i>
Coffee income per hectare in yield 2017-2018 (US\$)	5711(2878)	9602(4425)	4.092***
Avocado crop for second income (yes %)	33.3 (0.48)	27.3 (0.45)	0.516
Other crop(s) for second income (yes %)	23.3 (0.43)	12.1 (0.33)	1.165
Animal production (yes %)	43.3 (0.45)	45.5 (0.51)	0.167
Sells animals or sub products (yes %)	26.7 (0.43)	36.4 (0.49)	0.817
Consume own coffee (yes %)	43.3 (0.50)	100 (0.00)	6.464***
House improvement last 10 years (yes %)	70 (0.47)	91 (0.29)	2.155**
Continue in the coffee activity (yes %)	96.7 (0.18)	97 (0.17)	0.067
Sons and daughter in the coffee activity (yes %)	73.3 (0.45)	78.8 (0.34)	1.287

***and ** denote significance at the 1 %, 5% and 10% level of probability respectively
Standard deviation of mean values in parentheses.

Other farm income comes from intercropping coffee with fruit trees, maize and legumes. The most common alternative cash crop in the region is *Hass* avocado and high-altitude fruits such as plums, passionfruit, granadilla and uchuva. Some others such as strawberries, capsicum and tomatoes are not intercropped. None of the secondary income sources queried were significantly different in terms of the percentage of households that included them on their farms. However, households would commonly have a couple of pigs, hens for eggs and cows for milk for their own consumption. This indicates households still prefer to produce some of their own food and, as shown in Chapter 3, this practice plays an important role in their more-than-economic market relations.

Although households produce and collect the coffee, not many consume their own coffee. This behaviour of not consuming their own production has its roots in the establishment of the cooperative system, when farmers stopped investing in or practising coffee processing for consumption as argued by interviewed micro-mill owners. Each time farmers needed to collect a payment from the cooperative, the cooperative would give them a couple of bags of lower quality coffee or the households would just buy it from the store (which usually is coffee imported from Nicaragua and Honduras). The 43.3% of conventional farmers consuming their own coffee

commented that they began this practice recently, as with the emergence of micro-mills it has become easier to process small amounts of coffee. They pay a micro-mill for the services of coffee de-pulping, drying and roasting. There is also one cooperative that allows its beneficiaries to deliver special micro-lots that are processed and sold under a brand shared between the cooperative and the producer. Own coffee consumption for micro-mills (100 %) is also a recent trend, as they report first drinking their own coffee after setting up their milling enterprise.

The last three indicators in **Table 4** were chosen to understand differences in wealth and the future planning of the coffee activity in the region. Table 4 indicates that more than 90% of the micro-mill households had home renovations in comparison to 71% for conventional households. This relates back to the higher coffee income per hectare for micro-mill households.

The difference is not so obvious in terms of future planning. Around 70 percent of micro-mill households thought that their children would have a future in the coffee activity. Household heads from both groups considered coffee farming as their livelihood. Responses related to their willingness for intergenerational transition were based on tradition, passion for what they do or because they do not see any other option for income generating activities.

2.2 Coffee value chain in Los Santos

Challies and Murray (2011) and Vicol, Fold, Pritchard, and Neilson (2018) argue that research on contract farming has focused on the benefits rural regions can receive from such arrangements. However, they claimed most of the emphasis has been put on a 'Buyer-driven Global Value Chain' in which firms and smallholder farmers have been treated as equals in terms of their capacities and motivations to be part of this production model. Therefore, they propose that including a SLA perspective to GVC analysis better incorporates smallholder farmers' experiences, motivations and livelihood conditions into the governance and coordination of such projects and initiatives

Thus, the aim of this section is to understand the different assets and livelihood strategies followed by conventional and micro-mill households, as stakeholders of the CGVC in the production stage. Pepper (2016-2017) divides a common value chain into four stages: production, aggregation and processing, wholesaling and marketing. The aspects analysed in this chapter correspond to the production and aggregation stages. Under the premise that coffee farmers use a combination of assets in production, an assessment was made of the five types of capital: physical, natural, human, social and financial. This section also includes data results related to household's farming practices in order to understand aspects of coffee production sustainability.

2.2.1 Natural, physical and financial capital

Natural and physical capital are complementary resources for coffee production. For physical capital, households were asked if they owned all the basic work equipment such as car (for collection of inputs and delivery of product), chainsaw, manual and motorised sprayers, and a small greenhouse. The survey results indicate that conventional farmers and micro-mill owners are different in terms of ownership of physical capital. Despite the small difference, Table 5 indicates that this difference is statistically significant at a five percent level. The higher percentage of conventional households not having all work equipment can be related to the fact that 23% of them consider coffee a side income (see Table 3). Their investment in equipment is not a necessity, as they can borrow from a sibling or neighbour when needed.

Table 5: Natural and physical assets of conventional and micro-mill households

Indicator	Conventional n=30	Micro-mill n=33	t-statistic
Own basic equipment and infrastructure (yes %)	86.7 (0.35)	100 (0.00)	2.214**
Part of farm area inherited (yes %)	73.3 (0.45)	69.7(0.47)	0.314
Area owned (%)			
Between 0.1-5 ha	63.3 (0.49)	15.2(0.36)	4.456***
Between 5.1-15 ha	16.7(0.38)	54.5 (.50)	3.337***
Between 15.1-20 ha	3.3(0.18)	6.1(0.24)	0.501
Between 20-200 ha	16.7(0.38)	24.2(0.43)	0.733
Area with coffee ²⁴ (%)			
Between 0.1-5 ha	73.3 (0.45)	15.2(0.36)	5.666***
Between 5-15 ha	20(0.40)	60.6(0.49)	3.531***
Between 15.1-20 ha	0 (0.00)	3(0.17)	0.953
Between 20-200 ha	6.7(0.25)	21.2(0.41)	1.658
Natural forest on the land (yes %)	56.7 (0.50)	39.4 (0.50)	1.370
Reforestation of the land (yes %)	56.7 (0.50)	72.7 (0.45)	1.333
Age of coffee plantation (years)	19 (11.5)	21 (8.07)	1.041

*** and ** denote significance at the 1 %, 5% and 10% level of statistical significance respectively.

Standard deviation of mean values in parentheses.

For coffee farmers, the opportunity to own their land is a great advantage. In Los Santos, rarely would someone rent land for coffee planting because it is a permanent crop; plantations can last up

²⁴ The Inec and Icafe (2006) Coffee Census divided coffee plantation size in the following categories: less than 5 ha 'small', 5 to 10 ha 'middle-small', 10 to 20 ha 'middle large', 20 to 50 ha 'large' and more than 50 ha 'very large'.

to 30 years. However, in terms of land ownership, there were differences between the total area owned and the area planted in coffee. The percentage of households owning less than 5 hectares is greater for conventional households (63%). Regarding the land planted in coffee, almost three quarters (73.3%) of the conventional households surveyed were small coffee farmers. Conversely, micro-mill households' land ownership concentrated in mid-size farms between 5 and 15 hectares (54.5%). Similarly, in terms of area planted to coffee, 60% of these households own mid-size farms. Around 23% of micro-mill farmers, compared to 6.7% for conventional households, owned over 15 coffee hectares. Table 5 indicates that this difference is statistically significant at a 1 percent level. During in-depth interviews, micro-mill household members mentioned that they had invested in land as their income increased through adding value to the coffee, but before they owned less than 8 hectares of land.

One reason that the total area owned varies from the area planted with coffee relates to household practices of conserving natural forest or having reforestation practices near springs and rivers crossing the farm²⁵. Although Table 5 reports that there is no statistically significant difference in terms of having natural forest or reforestation practices on the land, micro-mill households are more engaged in reforestation practices. Micro-mill households affirmed they constantly reforested patches on their farms, which aligns with Hernandez-Aguilera et al. (2018) results in Colombia. The author found that farmers linked to the RCM are more environmentally concerned than conventional farmers. Lastly, the age coffee plantation is an important indicator for various reasons. Under conventional production, dependency on inorganic fertilizers means older farms are more susceptible to diseases and lower soil quality (Castro-Tanzi, Dietsch, Urena, Vindas, & Chandler, 2012).

Differences in terms of financial capital are shown in **Table 6**. In Los Santos, the main financial institutions are three national banks, four coffee cooperatives, three financial cooperatives, three transnational mills and producer credit associations. Although accessing credits have been one of the major obstacles reported by micro-mill households (broadly discuss in Chapter 5, they have managed to access loans from financial institutions. In some cases, traders have become another source of credit for them. The study findings indicate that 100% of coffee micro-mills have loans whereas 23% of conventional households reported not having any loan. Likewise, micro-mills rely more on the national bank system (72.7 %) than conventional households (30%).

In contrast, Table 6 indicates that more of the conventional farmers opted to have loans from cooperatives and mills. Often these are yearly loans that are cancelled at the end of the yield season. It is important to note that although 18.2% of the micro-mill farmers reported receiving loans from

²⁵ Under Law No.275 'Law for Water', it is a requirement to keep up to 200 m of forest near rivers and springs in rural areas.

cooperatives, it is more likely that these are general financial cooperatives because most of the micro-mill households were expelled from coffee cooperatives after being accused of disloyalty and free riding. Around 20% of both household types that already have a loan opted for a second one from the mentioned formal credit organizations.

Table 6: Financial assets for conventional and micro-mill households

Indicators	Conventional n=30	Micro-mills n=33	<i>t-statistic</i>
Has a current loan			
National bank (%)	33.3(0.48)	72.7(0.45)	3.335***
Cooperatives (%)	30(0.46)	18.2(0.39)	1.093
Mills and credit association (%)	13.4 (0.35)	3(0.17)	1.514
Traders (%)	0 (0.00)	6.1(0.24)	1.369
No credit (%)	23.2(0.43)	0 (0.00)	3.118**
Have a second loan ²⁶ (%)	20(0.40)	24.4(0.43)	0.399
Part of the Credit-Development Bank Programme (yes %)	50 (0.72)	66.7 (4.8)	1.967*
Had or have an informal credit (yes %)	26.6 (0.45)	48.5 (0.51)	1.798*
Family member migrated to the USA (yes %)	50 (0.51)	36.4 (0.49)	1.085

***, ** and * denote significance at the 1 %, 5% and 10% level of probability respectively.

Standard deviation of mean values in parentheses.

High debts, loans with high interest rates and a scarcity of credit programs that would allow coffee farmers to diversify their production are further problems that Costa Rica's coffee sector faces (Presidencia-CR, 2018). To alleviate this situation, in 2008 Costa Rica passed the Law No. 9274 'Development Bank System'²⁷ (DBS) that produces a financial mechanism at a low interest rate (4%) to support projects for micro, small and medium enterprises. To promote regional and local development any credit organization can operate this fund²⁸. Surveyed coffee households were asked if their credit was linked to this programme as an indicator of having a low-interest rate loan. The results showed a significant difference (with a p-value of < 0.1), with 50% of conventional households (out of the 73% having a loan) under the programme compared to the 66.7% of micro-

²⁶ 'A second loan' refers to farmers with an existing loan who opted for a second one with a different organization.

²⁷ The funds for the Development Bank system come from three sources: the National Escrow for Development, the Credit Funds for Development (obtained from 17% of all transactions made by private banks) and the Financial Fund for Development (composed of 5% of the net utilities from all national banks (BCR, 2015). Although the law was passed in 2008, it did not come into operation until 2014.

²⁸ The credit organizations can add up to 8 more interest rate points to the loans to cover their own expenses. Therefore, a loan can end up having an interest rate of up to 12%

mill households. Despite enjoying greater access to the DBS, micro-mill households are unhappy with the loan conditions (see Chapter 5).

In addition, households looked to two other finance sources, in the form of informal credit among family and friends and remittances from family working overseas in the United States. However, the difference between the household groups in terms of their preference for seeking help from family and friends is not statistically significant. **Table 6** indicates that almost half (48.5%) of micro-mill owners accessed informal credits in comparison to 26% of conventional households. Both conventional and micro-mill survey respondents with existing loans confirmed that they also looked for informal finance sources in the last three years, reporting interest rates that range from 0 to 34%.

2.2.2 Farming practices and household decision-making in the family enterprise.

Resources used by farmers are not the only components of production; farming practices are very important when understanding yields, target markets, resilience and sustainability (**Table 7**). Pruning and replanting²⁹ coffee plantations every year or when they consider it is needed allows better circulation of air through the plants, which reduces pest infections. Similarly, having shade trees brings many ecological benefits to the farms. Perfecto and Vandermeer (2015, p. 27) argue that trees “perform important ecological functions in the agri-ecosystem, such as providing organic matter and, in the case of nitrogen-fixing trees, increasing the amount of nitrogen in the soil. Trees are also involved with microclimate regulation, wind protection, weed suppression, refuge for natural enemies and many other ecological functions”. As shown in Table 7, the difference between the two groups in terms of replanting habits and planting shade trees are not statistically significant. However, when asked if they carried out other farming practices important for long-term farm sustainability and ecosystem regeneration, results presented significant differences. All micro-mill producers reported changing farming practices towards the use of less toxic and green label agrichemicals. Ninety-seven per cent of micro-mill households employ soil conservation techniques by including organic compost and using soil analyses to identify the nutrients the soil requires. Similarly, 93.9 % of micro-mill households practised other sustainable farming techniques. Some practices mentioned during the surveys referred to foliar fertilizers that are made using microorganisms collected from leaf litter in local mountains and N, CaO³⁰ and Mg salts. They encourage each other to follow agri-ecological practices and techniques: replace herbicides with manual control of weeds; build terraces to reduce soil erosion; plant live fences and trees for semi-shade and shaded coffee; use agri-ecological pest control; and reuse water for milling activities.

²⁹ In Los Santos it is considered a good farming practice to discharge old coffee plants and replant new ones every year, as a way to maintain a healthy plantation.

³⁰ Calcium oxide, or lime.

The data on micro-mill households' efforts to adopt more sustainable farming practices are supported by results related to the nature of the fertilizers, fungicides and weed management they used. **Table 7** indicates that a higher proportion of micro-mill households used organic inputs (24.2%) than did conventional households (13.3%); whereas a higher proportion of conventional farmers (46.7 %) depended on chemical inputs than did micro-mill farmers (24.2%).

Table 7: Farm Management and decision-making for conventional and micro-mill households

Indicators	Conventional	Micro-mill	<i>t</i> -statistic
	n=30	n=33	
Replant farm every year (yes %)	83.3 (0.60)	78.8 (0.41)	0.107
Have shade trees (yes %)	93.3 (2.54)	97 (0.17)	0.668
Less use of chemicals (yes %)	63.3 (0.50)	100 (0.00)	4.301***
Soil conservation techniques (yes %)	56.7 (0.50)	97 (0.17)	4.322***
Other changes in practices (yes %)	36.7 (0.50)	93.9 (2.42)	5.962***
Fertilizer, fungicides, management of weed, insect (%)			
Organic (manual)	13.3(0.34)	24.2 (0.43)	1.094
Chemical	46.7 (0.50)	24.2 (0.43)	1.888*
Combination	40 (0.49)	51.5 (0.50)	0.97
<i>Fanega</i> ⁺⁺ yield per hectare	30 (15.56)	32.11 (14.75)	2.98
Farm and enterprise decision-making			
Who takes farm decisions?			
Household head	63.3 (0.49)	45.5 (0.50)	1.422
Household head and sons or daughters	13.3(0.34)	3 (0.17)	1.514**
Household head with outside advise	16.7(0.38)	15.2 (0.36)	0.162
The whole family	6.7(0.25)	36.4 (0.48)	2.983**

***, ** and * denote significance at the 1 %, 5% and 10% level of probability respectively

Standard deviation of mean values in parentheses.

++ 1 fanega equals 46 kg of green coffee

Likewise, a 'combination' of farming inputs means they might use an organic fertilizer but apply herbicide for weed control, or use a chemical pesticide for leaf rust control but weed control is manual and fertilizers are organic. For this indicator, a higher percentage of micro-mill households opted for mixed inputs, which they called 'sustainable farm management' as opposed to 'organic farm management'.

Differences in yield per hectare between micro-mill and conventional plantations are not statistically significant. However, the lower yield per hectare for conventional farmers can be attributed to

various farm management techniques. Castro-Tanzi et al. (2012) argue that conventional households maintain their production under an inorganic agrichemical system to obtain product volume, but their soils are becoming poorer. Therefore, the plant cannot absorb all the nutrients from the agrichemicals and yields are not as high as expected. Conversely, micro-mill households use more agri-ecological practices or a combination of organic and non-organic products. This has allowed them to regenerate their soil and, even though they have coffee varieties with lower productivity and do not use agrichemicals to increase yields, they are achieving similar yields and better quality (Castro-Tanzi et al., 2012).

The final category considered as part of coffee production is how farm management decisions are taken between farm types. These indicators had a gender participation aspect included that will be discussed in Chapter 4. Questions on decision-making participation also had the intention to identify if women are taken into account in primary production tasks. Table 7 indicates that the two types of households are different in terms of joint decision-making. More than one third of the micro-mill households (36.4%) reported to take the decision as a family in comparison to only 6.7% of conventional households. However, 13.3% of conventional households would consult other family members in comparison to only 3% of micro-mill households. There are two explanations of the micro-mill household behaviour based on their interview responses. First, in some micro-mill households, the head is in charge of all farm decisions and other family members decide over the whole enterprise, or second, every decision about the farm and the micro-mill is made jointly in the form of a weekly family assembly.

2.2.3 Human and social capital

Tables 8 and 9 report the indicators of coffee households' human and social capital. Three indicators were chosen to assess the differences in human capital: household members with complete high school education or higher; participation in training programmes during the last three years; and attendance at more than two training programmes. The differences between conventional farmers and micro-mill farmers in terms of all three indicators are statistically significant. Table 8 indicates that micro-mill household members had more education, a higher attendance rate at training programmes and a higher participation in more than two training programmes in comparison to conventional household members. Micro-mill household members attendance at a higher number of training programmes is linked to more family members working for the family enterprise and the need for specialization in coffee value-adding skills. The respondents expressed their demand for training in a range of areas such as coffee quality, coffee processing, coffee tasting, enterprise management, barista skills, tourist guide skills, coffee roasting and coffee sub-product management.

Table 8: Human capital for conventional and micro-mill households

Characteristics	Conventional n=30	Micro-mill n=33	t-statistic
Household members with complete high school or higher (%)	23.3(.43)	45.5(0.50)	1.861**
Training in the last 3 years (yes %)	63.3 (0.49)	84.8 (0.36)	1.990**
Participated in more than two training programmes (yes %)	10 (0.30)	57.6 (0.50)	4.409***

***and ** denote significance at the 1 %, 5% and 10% level of probability respectively

Standard deviation of mean values in parentheses.

Table 9: Social capital indicators for conventional and micro-mill households.

Characteristics	Conventional n=30	Micro-mills n=33	t-statistics
Membership in farmers' organizations (yes %)	83.3 (0.38)	78.8 (0.4)	0.156
Generations as coffee farmer	3 (0.85)	3 (1.06)	0.347

Standard deviation in parentheses.

Social capital is defined by Putman (1995, p. 664) as the “features of social life – networks, norms and trust – that enable participants to act together more effectively to pursue shared objectives”. Here, the indicators focus on networks represented by organizations to which households belong and the number of generations involved in coffee. Neither indicator was statistically significant which suggests conventional and micro-mill households share similar networks within their communities.

2.2.4 Coffee marketing

One of the main differences between conventional and micro-mill households is the marketing of their product. Being a conventional coffee farmer refers to the role of planting, picking and delivering the coffee bean to cooperatives or private mills. The latter organizations coordinate the value chain stages of processing, wholesaling and global market transactions. What differentiates micro-mill households is: 1) the investment in the machinery to process their own coffee on a small scale, and 2) the RCM which describes their link with the traders of specialty coffee who distribute the green beans in small or big lots to high-end roasters around the world. Therefore, micro-mill households manage the quality of the de-pulping and drying processes, the storage period and the packaging for export. This gives them the opportunity to negotiate better prices and add value to the bean by using different processing methods and planting traditional varieties that predate the introduction of green revolution technologies.

As shown in Table 10, conventional households (63.3%) are more engaged in the cooperative system. The reasons they choose a cooperative relate to the advantages the system gives them—e.g., they can get fuel, groceries and farm inputs and pay at the end of the year with the harvest. Those who choose transnational mills (30%), such as Volcafe and Orlich Brothers, do so because they prefer to receive the full payment for their product at the end of the harvest season. Only 6.7% of conventional farmers sold their coffee to a micro-mill. In these cases, the households agree to produce beans meeting the quality demands of the micro-mill in exchange for a higher payment. In addition, the conventional household would receive some of the green or roasted coffee if their intention is to sell it in the local market under their own brand, thus adding value to their production. The conventional households provided two main reasons for preferring the cooperative to new options such as micro-mills: the lack of other services provided by micro-mill owners, and the cost of additional investment in labour and other inputs for improved quality.

Table 10: Coffee markets for conventional and micro-mill households

Indicator	Conventional n=30	Micro-mill n=33	<i>t-statistic</i>
Coffee sold to			
Cooperative (yes %)	63.3(0.92)	0 (0.00)	7.429***
Mill (yes %)	30(0.49)	0 (0.00)	3.701***
Micro-mill (yes %)	6.7(0.46)	100 (0.00)	21.150**
Coffee sold to a second organization (yes %)	16.7(0.37)	39.4(0.49)	2.207**
Had or have a coffee certification (yes %)	26.7 (0.45)	66.7 (0.48)	3.409***

*** and ** denote significance at the 1 %, 5% and 10% level of probability respectively

Standard deviation of mean values in parentheses.

By contrast, all of the micro-mill households process most of their product in their own facility. On occasion, if they needed some liquidity during the harvest season or if the day's bean collection surpassed the processing capacity of their machinery, they would deliver some of their beans to the cooperative or a commercial mill. By law, micro-mill households must also keep 1% of their production for the local market.

Certification schemes are a common possibility for receiving a price premium or positioning a differentiated coffee, with all local cooperatives and mills linked to Fair Trade, Rainforest Alliance, Café Practices or AAA Nespresso. However, only 26.47% of conventional households said they had participated or were participating in such schemes. By contrast, two-thirds of micro-mill households (66.7%) appeared to be more entrepreneurial as the majority had coffee certification before transition and continued after transition. Other micro-mills have opted for different forms of

certification that are managed by the State and do not require subscription fees, including the Ecological Blue Flag³¹ for the agricultural sector and the National Appropriate Mitigation Actions for Coffee (NAMA-Café)³².

2.3 Conclusion

Results from the SLA survey showed existing differences in terms of ownership of resources and the livelihood strategies followed by conventional and micro-mill households. Being a household that has invested in a micro-mill and processes its own coffee production to be sold to specialty coffee market does mean participating in a different coffee model with different outcomes for the household. Household members linked to the RCM have more years of education; have increased the size of their farms; have enjoyed improved income; and have actively participated in training and specialization programs in value-adding techniques. Likewise, other family members such as women and youth have the opportunity to be part of the coffee activity and take part in decision-making. Their farming practices are more aligned with environmentally friendly practices like reforestation, shade grown plantations and the combination of farming methods that reduce the use of agrichemicals and increase the use of agri-ecological techniques. However, adopting this model requires more work hours and investment. As shown by the survey, 100% of micro-mill households have a loan, 24% have opted for a second loan and 48% have had the need to look for informal credit sources.

Although based on a small sample when referring to conventional households, the survey shows a picture of the current situation of coffee production in Costa Rica. More women are household heads (26.7%) among conventional farmers compared to micro-mill households (3%). Female-headed households are all under the category of small farms. Moreover, more than 50% of conventional household's members are dependent, meaning they are not engaged full-time in a job or studies. Based on the field research observations many of these dependent members are women dedicated to household chores or are unemployed. Likewise, 63% of conventional households owned small size farms, 72% have an off-farm income and for 50%, one of their members has migrated to or is currently in the US sending remittances. Not least important, their linkage with cooperatives represents the main means to process and sell their production, while providing access to other benefits including low-price farm inputs, fuel and food.

³¹ The Ecological Blue Flag is a certification given by Costa Rican Ministry of Agriculture to those who voluntarily use strategies to protect natural resources, combat climate change and improve public health. People pursue the certification because it is linked to local and international interest in green tourism.

³² NAMA-Café certifies coffee farmers and coffee mills that reduced their greenhouse carbon emissions (GCE) as 'low-emission coffee' through reduced application of nitrogen fertilizers, more efficient use of water and energy in coffee processing, application of agri-forestry systems and conducting audits at mills to determine carbon footprints (GIZ, 2018).

The analysis of the survey data indicates that a more resilient coffee livelihood is associated with access to secure and fairer markets, opportunities to add value to coffee for local or international markets and standardised ecological farming practices to regenerate the coffee farm ecosystem. Arguably, micro-mill family enterprises are a good example through which to understand what is needed to approach more sustainable livelihoods. This raises questions regarding whether their innovative processes – including their ability to enrich their capabilities from a livelihoods perspective – allows them to think of the coffee market in different ways. Currently, they have acquired knowledge of coffee processing and selling stages, are selling new coffee services in the region which contribute to the local economy and actively promote the consumption of their own production as an essential aspect of coffee farming. The implications of these processes for the capabilities of households and within households are examined in the following chapters.

Results from this chapter are important to the validation of the extent to which micro-mill households' participation in the specialty coffee market impacts their well-being. In Chapter 1, the definition of well-being incorporated material, occupational, social, community and physical well-being as the main pillars for a good and dignified life. However, because SLA focuses the analysis on the material and social dimensions of well-being, it ignores important aspects of the quality of micro-mill households' livelihoods. Such aspects relate to their lived experiences, the enjoyment and satisfaction within their livelihood after the decision to become an entrepreneur. Similarly, it is not clearly answered how the micro-mill family enterprises have impacted their communities and the agri-ecosystems they inhabit. Such aspects can be better captured through qualitative methods. Therefore, the following chapters explore in greater depth how the micro-mill household experiences have influenced their well-being and gender participation, and to what extent micro-mills are generating community benefits.

Chapter 3: Los Santos coffee economy of difference and micro-mill households' well-being

Understanding well-being involves more than an accounting of people's resources, assets and income. The SLA approach used in the previous chapter did provide insight to the economic conditions of conventional and micro-mills households in Los Santos. However, the information gathered does not completely answer the first research question of how specialty coffee markets and the Relationship Coffee Model (RCM) have contributed to coffee household well-being in Costa Rica. Unexplored aspects related to their everyday experiences, decisions, networks and motivations remain. To better understand the influences of micro-mills and their linkages with the RCM on the well-being of households and the coffee production model in Costa Rica, the DE approach gives broader tools to examine these more-than-economic experiences and benefits.

Gibson-Graham (2006b) DE approach defines community economies as sites where different types of market and non-market transactions take place. DE seeks a more holistic understanding of community development, people's well-being and livelihoods. It recognises economic diversity through the identification of different types of transactions, forms of labour, enterprises, financial markets and property that operate in communities. As an analytical framework, DE proposes that transactions support livelihoods, labour supports material well-being and enterprise facilitates the identification of who is appropriating the surplus and how it is distributed (Gibson-Graham, 2006b).

The DE approach shares important aspects with the Sustainable Livelihood Approach (SLA). For example, Gibson, Cahill, and McKay (2015) recapture various elements of SLA presented in Chambers and Conway (1991a). First, they acknowledge the importance of considering rural communities as places where people carry out a diversity of farm and off-farm activities to pursue a livelihood. Second, heterogeneity in economic activity plays a role in increasing sustainable livelihoods. They argue that "increased livelihood diversity with reduced vulnerability enhances household security, well-being, and independence" (Gibson et al., 2015, p. 197).

However, there are critical differences in the approaches as well. The main criticism of SLA in Gibson-Graham (2006b) and Gibson et al. (2015) is similar to that made by Scoones (2009), which relates to the focus given to the approach by international development agencies. Aid organizations and NGOs place special emphasis on quantifying people's assets as the main driver to potentiate market-led development projects. From a DE perspective, rural development can hardly be achieved through capitalist market means because such initiatives keep rural "economic activities situated in the sphere of reproduction" (Gibson-Graham, 2006b, p. 57). DE theorists argue that the SLA method

allocates rural development as a unidirectional process associated exclusively with global capitalist growth. Such a narrow approach leaves fewer pathways as possible opportunities to improve livelihoods through other, not necessarily market-related, economic activities. Therefore, most of Gibson-Graham's (2006a, 2008, 2014) work has focused on identifying those more-than-economic aspects such as non-market activities that enact other economic dynamics—e.g., non-paid household jobs, the voluntary sector and neighbourhood economies. The aim of this chapter is to understand how these relationships potentiate people's and communities' well-being.

Based on the above theoretical premises, this chapter develops an analysis of the impact of the adoption of micro-mills on the well-being of coffee households in three sections. The first section gives a DE mapping of the coffee economy in the Los Santos region. The second section elaborates a DE informed analysis of the potential for market-led initiatives such as micro-mills to build a more sustainable coffee production model in Costa Rica. The last section identifies the linkages between well-being as defined within a DE framework and as perceived by micro-mill households .

3.1 Diverse coffee economy in Los Santos

The DE approach has a basic principle consisting of an 'anti-essentialist' position towards economic practices (Gibson-Graham, 2006a). This means economic relations include both ethical and non-ethical practices such as slavery, feudal property ownership and theft. Likewise, there should not be a hegemonic economic form, e.g., a socialist economy is not best or better than a capitalist economy, and capitalist enterprises are as diverse as non-capitalist ones. The main criterium is the ethic involved in each of those economic relationships. Thus, a diverse economy's relationships, places and processes are enacted through three main practices (Gibson-Graham, 2006b, p. 60):

1. There are different kinds of transactions and ways of negotiating commensurability.
2. There are different types of labour and ways of compensating it.
3. There are different forms of enterprise and ways of producing appropriations and distributing surpluses.

The following sections present the types of economic and more-than-economic transactions, labour and enterprise in Los Santos coffee economy. The information was collected as part of a focus group (FG) of 25 micro-mill households, participatory observation and informal and formal conversations with coffee producers.

3.1.1 Los Santos' capitalistic transactions, wages and enterprises

In the Los Santos coffee economy, the most conventional ways to produce and commercialize coffee are populated by big capital transnational mills and cooperatives (**Table 11**). This is the most conventional picture of the local coffee economy based in profit maximization, wage labour and

formal market transactions. Moreover, in recent years agri-input corporations such as *El Colono*³³ have invested large amounts of capital in these rural communities by opening large scale stores where farmers can find the latest technology in farm equipment and agrichemicals. While some view this as a sign of modernization for the region, others consider such enterprises to exert excessive power in their competition with local businesses.

Table 11: Los Santos' conventional economic activities

Transactions	Labour	Enterprise
Market	Wages	Capitalist
<ul style="list-style-type: none"> • Roasted coffee in supermarkets • Delivery of coffee berries to mills and cooperatives • Formal business and selling of services • Mills and cooperatives selling coffee to roasters overseas 	<ul style="list-style-type: none"> • Wages for labour in public institutions, cooperatives, services, and in farm labour during rainy and yield season 	<ul style="list-style-type: none"> • Volcafe Mill • Orlich Brothers Mill • Mill El Marques • Seca Café Mill • El Colono (farming inputs) • Agrichemical Sellers • Coffee and financial cooperatives

Sources: focus groups, interviews and surveys of micro-mill households

Coffee milling in Los Santos works as a mixed model in which private mills and cooperatives coexist. The first mill in Los Santos was established by the “Umaña” family in the 1930s, allowing them to monopolise the processing and sale of coffee in the region (Gudmundson, 2014). In the 1960s, *Coope-Tarrazú* was founded, and since then, three more local coffee cooperatives were created. Moreover, cooperatives from other regions began to buy Tarrazú coffee and process it in their own mills outside the region.

Basically, until the 1990s, coffee processing facilities were owned by cooperatives and private, nationally capitalised mills that followed a cooperative payments model. The model consisted of farmers getting a prorated share of their total coffee payment each month, which helped households to have a constant income throughout out the year. With the arrival of transnational mills (firms from China, Switzerland and Germany) in the 1990s, the cooperative payment model changed. In response to the new competition, cooperatives adapted some of the ways they did business, increasing the flexibility of their payment system, offering farmers prices that were competitive with the transnational mills and providing more benefits to members. Victor³⁴, a micro-mill owner, considers cooperatives to be one of the strengths of the region: “Cooperatives are the ones that act

³³ El Colono is an agrichemical corporation with a Costa Rican capital base. The owners control majority shares of Costa Rica's biggest hard-ware, agrichemical and farm impute stores.

³⁴ Pseudonyms are used when using quotes from the semi-structure interviews.

as a regulator for the transnational coffee buyers here, so they don't come and do whether they want with us."

However, if Gibson-Graham (2006b) and Gibson-Graham et al. (2013) classify cooperatives as non-capitalist enterprises, why do micro-mill producers link them so strongly to a form of capitalism? The reason resides in how the Los Santos coffee economy works. Farmers cultivate, pick and deliver the coffee berries to mills and cooperatives in exchange for payments and financial services. Throughout the years, farmers have become accustomed to relationships with cooperatives that are more market-led than the solidarity and democratic participation considered as essential features of cooperatives. Likewise, cooperatives are one of the main employment sources in the region, but employees are wage workers just as in any other local enterprise. This practice is contrary to Gibson-Graham (2006b) case study of the Mondragon Cooperative in Spain in which wage workers were also the owners of the cooperative.

Table 12: Los Santos number of enterprises by size and county

Type of enterprise/ County	Micro	Small	Medium	Big	County total
Tarrazú	103	5	2	2	112
Leon Cortes	56	4			60
Dota	40	10	3		53
Los Santos total	199	19	5	2	225

Source: Inec (2017)

To give a better sense of the diversity of enterprises existing in Los Santos, Table 12 lists the numbers of enterprises in the region and their number of employees³⁵. Most Los Santos enterprises are considered micro with fewer than five employees; cooperatives represent the big enterprises with over 101 employees. This gives a good picture of Los Santos local economy, the opportunities people have to be an entrepreneur and the type of development communities have prioritized, based on local enterprises.

3.1.2 Alternative markets, labour and enterprise relations

3.1.2.1 Alternative market

The DE approach asserts that the economy is composed not only of market-driven relations, but that many alternative forms of enterprises, markets and labour payment exist. For Gibson-Graham et al. (2013, p. 12), alternative enterprises "include businesses driven not by the goal of turning a profit but by a commitment to producing social and environmental well-being."

³⁵ INEC classification of enterprise size varies from Costa Rican Ministry of Economy MEIC. For INEC a micro enterprise has 1 to 5 employees, a small enterprise between 6 and 30, middle enterprise 31 to 100 employees and a big enterprise has over 101 employees. For MEIC, enterprise size is classified as follows: micro employees ≤ 15, small 15 < employees ≤ 30, middle 30 < employees ≤ 100 and big employees > 100.

Table 13: The diversity of economic activity in the Los Santos Coffee sector

Transactions	Labour	Enterprise
Alternative Markets	Alternative Payment	Alternative Enterprise
<ul style="list-style-type: none"> • Ethical markets: cooperatives and Fair Trade certification and micro-mills and the RCM • Remittances • Barter: micro-mills exchange roasted coffee for other services and products in local businesses; exchange farm products for labour. • Informal market: people sell roasted coffee without the code from ICAFE; women and informal enterprises • Black market: falsification of Tarrazú coffee and theft of coffee from the farm 	<ul style="list-style-type: none"> • Self-employment: all regional coffee households; micro-mill households; local enterprises depending on family labour • In-kind: many family members on farm jobs receive only in-kind payments • Reciprocal labour: during rainy season coffee farmers exchange other abilities they have • Internships in local public universities and cooperatives • Subsidies given by the State 	<ul style="list-style-type: none"> • Socially responsible programmes by banks and cooperatives and bigger micro-mills • Green capitalism • NGOs: NGO is in favour of indigenous people, and the Red Cross • State enterprises: Costa Rican Institute of Electricity, RECOPE • Cooperatives: for financial and electricity services

Sources: focus groups, interviews and surveys of micro-mill households

During the FG, micro-mill households observed that the Los Santos coffee economy enjoys alternative transactional pathways that facilitate fairer prices for coffee (**Table 13**). These are the Fair Trade coffee certification scheme used by cooperatives and their own experience of relationships with speciality coffee buyers. Remittances were also counted as an alternative market transaction. While for micro-mills remittances are a off-farm income, the family member sending the money considers it to be an investment in the family business.

Another example of alternative transactions is bartering, very commonly practice by micro-mill households and the community. They recall exchanging products or services they own (roasted coffee, the de-pulping or packaging of coffee) for services that other households might have because of the machinery they own (coffee dryer, roasted coffee packaging, farm consulting). Maritza gave her example of how they barter services with other micro-mill households “Santa Fe [micro-mill] right now is hulling a lot of our coffee³⁶. That is a way we share services among us [micro-mills] and many other favours”. Similarly, Evelio’s efforts to buy and look for trees that are given to a local conservationist farm is an example of bartering: “Our micro-mill has embraced a commitment to support a local environmental conservation farm here in the region. To me, that is a form of barter;

³⁶ In exchange Maritza mills Santa Fe’s coffee when they don’t have the capacity to mill all the coffee collection of one day.

and we reduce our carbon emissions and collaborate to recover the forest”. Likewise, Manuel gave the example of two barter agreements he has with farm wage workers living at his farm. The first agreement is to supply his wage workers with the necessary inputs to produce organic vegetables around the micro-mill installations. In exchange, Manuel thinks it makes the place look beautiful and contributes to the thematic farm that is essential to his tourist project. The second initiative is the way he supplies himself with coffee seedbeds, “One of the guys that helps me here is doing coffee seedbeds. I don’t have time to do them; so he makes them here, sells them and in exchange, I get some coffee plants for free”.

As explained in Chapter 2, informal economic activities are common in the region. They represent households’ off-farm income as a strategy to compensate for low coffee prices. Micro-mills reported that many people sell their own coffee and even have micro-mills without the legal export code needed from Icafe. A further catalyst to informal economic activities is the public training centre that was established in Los Santos five years ago, with the result of large numbers of people, especially women, graduating from the technical training programmes. The government did promote training programmes through the centre such as cooking techniques to add value to local fruit and vegetable production; but it did not provide other support services such as credit programs or local markets where these people can commercialize their entrepreneur ideas. Local supermarkets, restaurants and community tourism projects support such initiatives by selling their production. However, the products are not formalized under brands and sanitary permits, raising concerns about food-product safety.

The black market for unmilled coffee beans, while an alternative market for some, generates an incentive for theft that is a problem for micro-mill owners. Ronny and his family expressed their preoccupation with it during the yield season. When micro-mill households have a high workload, they also have to worry about taking care of the coffee that is drying outside in the *African beds*³⁷, because coffee theft is very common.

“During summer we need to be the whole day at the micro-mill with all of the work we have there. But also, since so many people pass by and there is a lot of fanegas drying outside, we need to be watchful because people come in to steal coffee”.

Theft also occurs at the farm level; people will enter the plantation at night and harvest some bags of coffee berries that can be delivered the next day to any private mill. Micro-mills also classify those traders and mills that take Tarrazú coffee to be processed out of the region as participating in the

³⁷ This is a method to dry coffee beans adopted from Africa. It consists of instead of washing the coffee cherry and using a mechanical dryer, coffee cherries are off the ground on elevated wooden beds. This allows air to circulate more easily, resulting in, clean cherries that dry evenly, and a more consistent coffee flavour.

black market. Historically, Tarrazú's coffee has been mixed with coffee from other regions of lower quality and the blend is sold as being exclusively from Tarrazú. As Christina and Jonny mentioned:

"That is a problem we have, you can find Tarrazú coffee anywhere [...] it is hard to know what is authentic and what is not³⁸. Transnational companies come here, buy Tarrazú coffee and the blends are even made with coffee from other [Central American] countries".

3.1.2.2 Alternative forms of payment

In relation to alternative labour payments (as listed in **Table 13**, alternative payment category), five practices were identified: self-employment, reciprocal labour, in-kind payment, internship opportunities and government subsidies. Self-employment and in-kind payment are the main family enterprise arrangements among micro-mills and, in general, of coffee households in Los Santos. Not many micro-mill household heads have a monthly payment from their coffee income. As Ronny explained, with only two years of having the enterprise, much of the investment includes family members giving their labour without formal payment "No, right now there are no salaries. There has to come the time that the enterprise is strong enough to pay salaries from the coffee profits".

Ana explains that the arrangement she and her sister, Rita, have with the family is to receive in-kind payments in exchange for their management responsibilities in the micro-mill:

"The deal is they give us clothes, shoes, anything that we want to buy. For example, on a trip to visit a buyer they are the one in charge of paying everything. Also the food at home, and we considered this to be a better deal for us".

The arrangements among households are many and varied. Luis, the household head of a micro-mill in which four of their sons have returned home to work in the family enterprise, commented:

"Here I became a 'simple' wage worker; they manage everything. Everyone has control of how many hours they have worked. They pay themselves and give me [enough] money, so we [he and his wife] can have the things needed during the week".

When referring to reciprocal labour micro-mill households talked about exchanging services not related to coffee. For example, during the rainy season, coffee farmers might work as builders in a neighbour's project, in exchange for their neighbour's welding or fixing of a machine. There are also internship opportunities, e.g. the only public university in the region offers local students tutoring options, and European universities send students to local cooperatives or to specific micro-mills.

³⁸ In January 2019, through a community collective effort, the region gained denomination of origin certification for Tarrazú Coffee. One of the implications is that corporate mills that want to continue selling Tarrazú coffee must build their processing facilities in Los Santos.

Lastly there are State subsidy programs that work as cash transfers – for example, '*Ideas Productivas del IMAS*' in which women get paid if they help in community projects.

3.1.2.3 *Alternative Enterprises*

Different types of alternative enterprises operating in the region were linked to socially responsible initiatives and green capitalism. Most banks, cooperatives and even small enterprises have been influenced by the idea of Corporate Social Responsibility. In banks and cooperatives, the initiatives include formal programmes to help local schools with study materials, the promotion of environmental conservation campaigns or the organization of local fairs to promote women-owned micro-enterprises.

Moreover, not all micro-mills are micro-enterprises. Some older ones have increased their machinery capacity and can process between 1000 and 1500 fenegas, thereby becoming a middle size mill that buys coffee from other producers. They are bigger enterprises in terms of number of wage workers and income. Such micro-mills have assumed specific social responsibilities each year in their communities. Lucas explained: "Since we are a certified mill under Starbucks Café Practices, being 'socially responsible' is a rubric we need to follow. Each year, for example, we give uniforms to the community's soccer team".

Likewise, micro-mill households identify the rain forest certification and all the 'sustainable' or green label products sold by agrichemical companies as green capitalism enterprises. During the interviews, some mentioned the new programme introduced by *Coope-Tarrazú* that is developing its own soil and foliar fertilizers from local microorganisms. This is a practice many coffee farmers had been using themselves, but now the cooperative is industrializing it. In addition, Gibson-Graham (2006b) classify State enterprises as alternative enterprises. Examples of these organizations in Los Santos are the Costa Rican Institute of Electricity (ICE), which employs many people on the *Pirris Hydroelectric Project*. The hydroelectric project has also become a very important tourist attraction for nearby communities. Lastly, and distinct from the coffee cooperatives, electricity and financial cooperatives are considered an alternative form of enterprise in the region.

3.1.3 *More-than-economic relations*

3.1.3.1 *Non-Market activities*

As stated by Gibson-Graham (2006b), market-led relations under the capitalist model can obscure other vital practices that contribute to a community's livelihood. Everyday life at the micro-mills has many representations of household flows in the neighbourhoods, e.g., gift giving, hospitality, local community organizations and volunteering (**Table 14**). It is common in coffee households of small or middle size, to have on-farm housing for wage workers who help them all year round. Farmers do not charge rent or demand a services payment for such housing. Josue explained how this

arrangement works in his case: “He lives in a house here near us. We don’t ask him to pay for the rent or anything and we do pay him a weekly salary”. Another example is gift giving, which shows the many ways empathy is expressed among micro-mill households and their communities, and between buyers and micro-mills. In the survey of 33 micro-mill households, people were asked if, from the coffee they keep for household-consumption, some was for gifts; all answered positively. They also mentioned that each time schools, churches or other organized groups ask them for donations of coffee for specific community activities, they complied as a way to support these groups.

Table 14: More-than-economic relations and activities

Non-Marketed Activities	Non-paid labour	Non-Capitalist Organizations
<ul style="list-style-type: none"> • Households flows: exchange of produce, e.g., vegetables, eggs, fruit, milk and gardening • Gift giving: micro-mills give coffee to the local church during community fairs and local bingos at schools • Hospitality: micro-mills receive buyers and visitors and feed them free • Gleaning: women collect dry beans after the picking season to sell them and have extra income • Informal credit among friends • State subsidies: for leaf rust; to reduce their carbon footprint • State appropriations: some coffee farms declared protected forest reserves • Hunting: animals such as rabbits, <i>tepesquintles</i> and armadillos. • Poaching and theft: armed theft during pay day for wage workers during berry picking season 	<ul style="list-style-type: none"> • Domestic household work, children and dependant family members’ care • Women labour during yield season or other farm subsistence activities • Communitarian work: people belonging to Community Development Associations, Education Associations, Health Associations, Church Groups, Water Associations, Associations Boars without direct payments Community work for violating the law; a local committee fighting against the garbage gasification plant in Leon Cortes • Volunteer: many young people who finish high school and don’t enter university dedicate their time volunteering at Red Cross, Scouts, and church groups; all students from Costa Rica University (UCR) are entitled to do one semester of social work, many come to Los Santos 	<ul style="list-style-type: none"> • Communal Enterprises: Communal Development Associations and associations in charge of managing communal water resources • Independent enterprises of self-employment: micro-mill households managed by family members without payment; self-employed accountants, agronomists and other independent professionals

Sources: focus groups, interviews and surveys of micro-mill households

To exemplify forms of gift giving, micro-mill households consistently refer to the empathetic relations they have with the coffee buyers from overseas. Danilo, who works with a Taiwanese buyer commented: “We receive money as the main form of payment. [But to me what is] really valuable is the marketing they do of my micro-mill in Taiwan through social media, or having a banner with my picture in Asian coffee fairs”. Similarly, Ramiro considers the buyer's act of sending samples of their

coffee from overseas to be a form of gift, “They send us coffee packages so we can see how our coffee is being sold. To me, that’s like a trophy. My coffee, the result of our efforts, is in those bags”. Not the least important, is the mutual hospitality among micro-mill households and buyers, as mentioned by Anita:

“If one has the opportunity to visit the buyer, they’ll try to treat you the best they can, always with a small gift, all the meals, accommodation and everything that is within their reach so you can meet the final consumers”.

Other forms of non-market transactions include the State subsidies coffee households have received; State appropriations of protected areas for environmental conservation; informal credits among friends with 0% interest rates; and some people still practice hunting of wild animals such as rabbits or armadillos. Likewise, in Los Santos, there traditionally has been a type of gleaning practice at the end of the coffee yield season. Women take advantage of sunny March and April afternoons to pick dry coffee beans from the floor of the plantations that fell from pickers’ baskets and were left behind during the harvest season. Women sell them as third quality coffee to local gate traders. Such practice is of great importance because it cleans the plantation floor from coffee beans that can host plagues such as the coffee berry borer (*Hypothenemus hampei*).

3.1.3.2 Non-paid labour

In terms of non-paid labour (**Table 14**), women’s housework and their collaboration in coffee farming activities are usually treated as ‘help’ (subject that will be broadly discussed in Chapter 4). However, non-paid labour is central to community development in Los Santos where they have many different institutionalised forms of community and volunteer work. Most of it is done by the young, both women and men, depending on their specific interests. Common collective organizations include community development associations, water management associations, school and high school parent committees and church groups. Young people have found interesting spaces in more recent organizations in the region, such as the Red Cross and the Scouts.

There are also isolated initiatives like the one Carmen leads. She is a micro-mill owner who has her own community tourism project and is a community leader who organizes volunteer trips for NGOs from North America that come to implement small community projects. Some International buyers also offer volunteer labour for up to several months in micro-mill households in exchange for learning more about coffee and its production and processing. Manuel had the experience of having an Australian buyer volunteering at his mill, “When he went back he started a fundraising effort and

sent me US\$1000 so I could improve my floats system³⁹". Similarly, the Gomez and the Navas families have had volunteers from New Zealand, Italy, Japan, Norway and Germany. The Navas family shared the experience they had with Mazayuki, a Japanese student: "He came here to work as a farmer. You are not going to believe me, but he was as strong as any other farmer here. Through him, one Japanese buyer came to buy coffee here in Central America".

3.1.3.3 Non-capitalist organizations

Gibson-Graham et al. (2013, p. 61) argue that self-employment and independent enterprises can be considered non-capitalist when their main drivers are not to increase private wealth. The aim of these organizations is not to maximise surplus from wage labour, but instead involves the desire to pay workers a salary that maintains dignity and meets survival needs. They also consider it important that a job is not a source of unhappiness for workers but, instead, has the potential to improve people's well-being. From this perspective, and looking back at **Table 12** where Los Santos enterprises are identified by size, the majority of them are micro-enterprises with fewer than five wage workers. To what extent all the micro-enterprises in Los Santos fit the non-capitalist type of enterprise categorized in **Table 14** is unknown; but in the case of micro-mills, there is evidence that most of them do (as shown in the following section).

The micro-mill households take pride in having an independent income and are passionate about coffee activity in a social-economic context where coffee farming, as a livelihood, represents vulnerability, migration, poverty and exclusion from the formal economy. Santiago's experience shows how valuable it is for him to be his own boss:

"My father had coffee. He incentivised us with the idea of trying to have our own means [of production] – that we should escape from being someone's wageworker. He prized very strongly that idea and that's why I have worked so hard on coffee".

Danilo's ideas are similar to Santiago's experience:

"I have developed an enterprise that self-employs me. I don't need to wait for transnational capital to come here and start an enterprise, or wait here until a position comes available in the cooperative. I have my own means to earn a living".

3.2 Micro-mill households' well-being

Coffee production, as a contributing element of household well-being in Central America and Costa Rica, faces serious problems. Canet-Brenes and Soto-Viquez (2017) identify three main issues: low coffee prices and the predicted impacts of climate change resulting in dry summers and longer, more

³⁹ When doing wet or honey milling processes coffee beans go through different stages on the milling machinery. One is the float system or a recipient with water that would filter branches, stones, imperfect beans and less dense beans from the rest.

intense rainy seasons, and increased pest infestation. As a result of low incomes, households have difficulty in properly maintaining their farms and satisfying basic needs. Some have abandoned the coffee activity or have migrated in search of complementary income to avoid the forced sale of their farms. Therefore, coffee production has become a vulnerable livelihood to the detriment of the communities' and households' well-being.

The application of the DE approach to the Los Santos coffee economy enabled the identification of additional factors related to the viability of coffee production for micro-mill households. People's perceptions of the causes of their livelihood problems pointed to their inability to participate in the coffee commodity market. At the production level, the traditional coffee system is based on volume production and intensive farming practices that add little value to the product and degrade the environment. Evidence from micro-mill households shows that access to niche, fairer, quality markets can increase their capacity to adopt better farming practices to cope with climate change. Equally important are changes in the coffee-value-adding system that would enhance households' well-being. The following sections examine micro-mill households' perceptions of well-being and how they have generated different strategies to enhance their well-being. The analysis draws on a brief definition of well-being collected from micro-mill households during the survey. Similarly, the FG activities were focused on creating a shared definition of well-being and assessed how the entrepreneurship associated with having a micro-mill has helped them to achieve it. The in-depth interview questions affirmed households' answers in the FG results.

3.2.1 Micro-mill households' perceptions of well-being

Answers given by micro-mill households (surveys and the FG) on what well-being means were divided into eight main categories: their ability to satisfy basic needs; the opportunity to work at what you enjoy; good family relations; having good health and the opportunity to access health services; having a balanced life; no debts and no worries; and a peaceful society. Dayana, during the FG, expressed a common position that participants had regarding well-being and basic needs. She said: "The first thing people need to satisfy is their basic needs. For this, they depend on their economic means. If people have a stable economic income, they are able to cover their basic needs."

However, participants gave different emphases beyond basic needs in their definitions of well-being. For Damaris, it is a matter of dignity, health and enjoyment: "You need to have a dignified life. For example, if you get sick, you should at least have the money to buy medicines or if you want to treat yourself, be able to do it too". Likewise, Monica highlighted the importance money has on achieving a good quality of life. She mentioned, "It's important to have a house to live in, have a car for greater mobility, but also enjoy good health and have peace. Money is not everything, but it is needed". For Nelson, well-being has to do more with being free of debt, "[It is important for your well-being] the

fact of not owing anything to the bank, or not to constantly worry about the need to make bank payments and not know from where to get money.” Debt was a recurring theme as an issue for micro-mill owners since most used loans to develop their enterprises. Ramiro’s perception was, “It’s not about accumulating things, it’s about having what is needed. [For me] getting out of debt would mean an improvement on my family’s well-being. I would be able to invest the money [currently repaying] debt on my family”. Having an emotionally balanced life was another important part of well-being, in Silvia’s words:

“Well-being is to have balance in everything. I can have lots of money but if I don’t have good family relations, that money is worth nothing. I can have economic means but not emotional quality [...] so it’s a balance between work, family and money.”

The participants’ explanations reflect the definition of well-being in Gibson-Graham et al. (2013, p. 21) as the:

“Combination of our love of what we do each day, the quality of our relationships, the security of our finances, the vibrancy of our physical health and the pride we take in what we have contributed to our communities.”

For them, the five types of well-being that influence people’s life quality level are: material well-being; occupational well-being; social well-being; community well-being; and physical well-being. The definition developed through the FG activities coincides with the DE perspective DE perspective⁴⁰, they consider well-being to be:

“A society’s and individual’s condition in which basic needs are satisfied (housing, food, clothing). It also includes physical and mental health and being emotionally satisfied, for example, being happy with what you do for a living. It relates to a society that brings peace, justice and a healthy environment to its citizens. Not least important is to have good relationships with your family and spiritual beliefs (be grateful to God)” (FG, 28/4/18).

For micro-mill households, occupational well-being is very valuable; they define it as ‘being happy with what you do for a living’. Similarly, material, physical and social well-being were taken into account. They refer to them as satisfying basic needs, having good relations with family and society, and enjoying physical health. Their concept of community well-being was not defined exactly as proposed by the DE approach. For the DE approach, community well-being refers to the emotional satisfaction of collaborating in pursuit of greater communal good where well-being can be guaranteed equally to all. However, micro-mill households associate community well-being with the State’s duty to provide a peaceful, just and healthy society for its citizens, instead of considering

⁴⁰ This definition was collectively constructed during the FG. The group of 27 participants were divided into 4 groups. Each group came with their own definitions and then in a collective activity each group contributed with specific elements to the definition and a final consensus was made.

‘society’ to be something in which everyone collaborates to improve. As well, micro-mill households place importance on spiritual belief as part of their well-being concept; for them being ‘grateful to God’ is part of their life quality.

In contrast to conventional farmers who, in indicating what well-being means for them, claimed to not see a good future in coffee as a livelihood given the struggles experienced every year with coffee prices. The micro-mill households’ FG exercises and qualitative interviews, showed they have a different perception of coffee as a livelihood. How has dropping from the conventional coffee production model helped enhance well-being for micro-mill households? They claimed to have greater empowerment in their engagement with the coffee market; strengthened family unity and reduction of migration by the young; better income; a strong sense of occupational well-being; and a sense of contributing to their community’s development

3.2.2 *Agency in coffee RCM*

Micro-mill households highlighted: 1) how valuable it is for them to have control over the coffee processing stages; and 2) how having access to information contributes to better decision making over farming inputs, the mill and family investments. During the FG, members of Group 3 shared their analysis:

“Though it’s not evident [to everyone], micro-mill owners are coffee professionals. In big coffee enterprises, there is only one person for each task. However, micro-mills [have gained knowledge] about [all stages] like de-pulping, drying methods, arranging contracts, selling the coffee, fixing their machinery, farm management, coffee processes, coffee storage. If we don’t know it, we put a lot of effort into learning it [...] [in comparison to conventional production] we know ahead of time the price our coffee is going to be sold this year. Which is something that helps us to establish goals in order to improve our working space and make investments.”

To which, Group 5 added, “We are becoming more entrepreneurial each day. Within our families we are constantly looking for training opportunities to do better and different things”. Group 1 reported benefits similar to Group 3 that were related to knowledge acquisition and self-awareness:

“[having a micro-mill has helped] expand our mind and the way of thinking [...] We used to think that doing certain things in certain ways might not be the correct way, but when you see people [from overseas] doing different things you go like, ‘Ohh!’ So it makes you expand your thinking.”

In their individual testimonies, micro-mill households have experienced enhanced agency differently. Santiago mentioned that it has helped him to understand that there was something beyond coffee farming: “We used to think that coffee only consisted in picking and delivering the coffee to the cooperative. From there on, I didn’t know anything; but [since I got into this] I had to seriously learn the processing bit”. Similarly, Tano believes his has greater agency due to his option to set his own coffee price:

“I began to feel the ability to put a price to my coffee based on the demand it was having, people were chasing it [...] The first year in 2006, I got a price of US\$200 per fanega when conventional coffee was valued in US\$60 per fanega”.

Likewise, Victor has experienced more authority to negotiate his prices:

“In this [coffee model] we set the rules. We tell the trader ‘we have this coffee and its cost is this one’. Then the trader looks for a buyer [willing to pay that] and then you get into a negotiation process until contracts are signed”.

Gustavo reviews his agency within the micro-mill market in this way: “You are the one in charge of giving your coffee the quality it needs. You control all the traceability parameters; have direct contact with buyers and by this your coffee market knowledge increases.”

3.2.3 Occupational well-being

Gibson-Graham et al. (2013) assert that work establishes identity and defines who you are; it can be a source of great pleasure and satisfaction or be a drudge and cause of unhappiness. For micro-mill households the opportunity to change the conventional way of producing coffee, learn about the processing and marketing stages, and realise a fair income has influenced their perception of what ‘coffee production’ is as an occupation. Coffee has been their families’ livelihood for generations, Rodrigo commented, “Coffee means everything to us. Our parents were coffee producers, and we grew up there, on the coffee plantation”. Many would consider their persistence in coffee having more to do with an emotional attachment than actually bringing a stable economic income. Jonny explained:

“Every year coffee is a new adventure. It is a way of living with constant hope. Everyone says, ‘Next year is going to be better. Yields will be higher and maybe the price will be better’. But time passes and very little changes. It is a way of living based on hope and illusions”.

Households’ decisions to invest in their coffee processing machinery were influenced by their desire to obtain better coffee prices, prevent bankruptcy and keep coffee alive as a family and community legacy. Owning and working in their micro-mills has become a source of pride

among households. As Ramiro pointed: “There is nothing more beautiful than working on what you like. Work does not become a job, it’s a pleasure [...] This activity we are in is a 50-50, 50% love and 50% passion”. Similarly, for Victor, micro-milling is a source of pride:

“I’m proud because coffee has been the livelihood through which I have supported my family. [Micro-mill] coffee is spectacular because it gives a bit to everyone, from the workers at the farm, to the owner of the milling enterprise and even the trader gains with coffee”.

Certainly, micro-mill households linked to the specialty coffee market have realised better incomes. This allows the farmers to take better care of their farms, hire more farm workers during the harvest and rainy seasons and pay them higher wages⁴¹.

The sense that, as an economic activity, coffee production and processing can be enjoyable and ensure a future for others has become an idea that younger people are also sharing. During the FG, Monica claimed: “In our case, I do feel there are hard moments; but [it’s worth it] to see our sons so happy. One just finished university and he wants to stay here because he says that coffee is what he loves”. Similarly, Ronny considers coffee to be his family’s future and, thus, finds much value in passing his coffee knowledge to the next generation: “To me coffee is passion; it is where I like to be me. It is where I have seen the future of my family [...] I want to pass to them how to plant coffee and how to manage it from an environmental perspective”.

3.2.4 *Improving coffee market networks*

In the conventional coffee model, micro-mill households could choose to sell their coffee only to private mills and cooperatives. They depended on the NYSE’s C-price each year, failed to get price premiums for their coffee varieties and quality, and their coffee world experience was limited to the production practices of the Los Santos region. Being part of the specialty coffee trend has opened to them the opportunity to meet many national and international traders, receive buyers from all around the world and be taken into account by academic researchers. No less important is that they create connections with other micro-mill households from other regions of the country, participate in specialty coffee competitions, such as the ‘Cup of Excellence’, and have been chosen by baristas all around the world who use their coffee to compete in international championships. Libertad expressed:

“I’m proud of the milestones we have achieved with coffee, the friendly relations I have formed all around the world [...]. The prizes people have obtained using our coffee, that

⁴¹ Coffee pickers during harvest get paid for the amount picked. The measurement unit is a *cajuela* which equals to 1.73 kg of green bean. Conventional farmers pay less than \$2 per cajuela whereas micro-mill ones can pay over \$3. Micro-mill owners pay more to compensate the pickers for choosing quality; they must treat the plant carefully and select only the very ripe berries making the picking process slower, which means they would collect fewer cajuelas per working day.

gives us prestige. It was very nice when in one event [in Costa Rica] the French barista champion approached us and said, ‘What a pleasure! I can’t believe I am meeting the *Tasita* micro-mill family’. I never expected she knew about us”.

Households give special value to the relations they have with overseas buyers, whom they refer to it as ‘international relations’. These close relationships with buyers have meant access to high-quality coffee markets and knowledge sharing among them and overseas buyers. During the FG, Group 2 agreed:

“We have had the opportunity to relate with other cultures. Likewise, we have had the possibility of discovering new things. When the specialty coffee began, the trend was to just have washed coffees and if it fermented, the price would drop. But not now, the opportunity of having [access to a] new coffee culture by your side, and asking them what they want and how they want it, has given us the chance to learn.”

Similarly, Group 1 contributed:

“[Being in specialty coffees] gives a lot of personal satisfaction, because many people have that dream of being able to process their coffee; but not all can. Others have been able to position [their coffee] in many countries around the world [...] which has helped us to build those ‘international relations’. We’ve been able to share knowledge and what we love doing the most, that is producing coffee”.

Josue considers that: “one of the best things that has happened in my life is meeting so many people. And also me, having the opportunity of travelling to meet them, and learning how they do our coffee”. Such connections become long-term, empathetic relations that differ from what Gibson-Graham et al. (2013) define as ‘cold market relations’. Anita exemplifies this empathy by commenting:

“One of the things I’m most proud of is when buyers come and say, ‘The coffee you sent this year was very good; keep working like that’. It makes you think your effort is worthwhile and I feel very excited [...] they also would bring a bag of our coffee [that has been roasted] and some have told us they want to grow along with us.”

3.2.5 Family unity and reduced migration of the young

Micro-mills are family-owned enterprises. Most have formalized the enterprise under the Costa Rican legal definition of a ‘commercial association’. This is a judicial arrangement in which all the enterprise assets are owned by the family members who take part in the project. Households consider family support and unity to be one of the main pillars that sustains their micro-mill enterprises. During the FG one participant shared that having a micro-mill has:

“Incentivized family unity, [families have identified] the abilities or knowledge each member has. Then, they work together as a team; and, thanks to us having responsibilities, we have reached a sense of empowerment because everyone begins to [specialize] in his or her own tasks”.

When Luis was asked what he was most proud of as result of having the mill, his answer was “To me, the most important thing is that our family is uniting, and we all are working together”. Household heads are surprised by the fact that the rest of the family is engaged with coffee production and milling tasks. During the last 30 years, coffee has not been an economic activity that younger generations have projected for their future. As Santiago mentioned: “Clearly coffee farmers’ sons and daughters don’t want to do anything related to coffee. It is not interesting for them; they don’t take it seriously”. Therefore, Josue believes micro-mills have helped his family to: “Be re-united working for the same cause. I also feel coffee is not going to end [in the region] because at the pace we were, it was going backwards”. Manuel made a similar reflection:

“I think that if I would still be under the cooperative system, my son and daughter might be working at some bank in San Jose. But now, one of them is working with a coffee trader, and the other is already speaking English fluently [to communicate better with buyers]”.

Younger generations’ opinions mirror the testimony from micro-mill household members. They state that micro-mill enterprises stimulate younger people’s interest because of their economic and innovative potential, in contraposition to monotonous conventional coffee farming. In Gustavo’s words: “It is not a secret that coffee is not a priority for younger generations. What has motivated us is the coffee specialisation, and that is what coffee represents to us now. We need to specialize so the activity is profitable and more attractive to us”. Karla’s experience is similar. She never saw herself as being involved in coffee because opportunities for women are reduced when the central focus is on the farming side.

“I didn’t want to live in San Jose any more [and then came the possibility] of coming back here. The whole family asked me if I wanted to work here and to live here. I said, ‘Yes’, because I always have liked coffee very much; but there were no opportunities in something [where] I can fit or be useful”.

3.2.6 Economic freedom

As reported in Chapter 2, micro-mill households receive up to three times more income per hectare from coffee than conventional coffee households. The increased income has allowed them to keep up with bank debt; reinvest in and improve their mill machinery each year; give careful treatment

and assistance to their coffee plantation; give better pay to wage workers; and keep their children studying at university. During the FG, participants referred to this increased income as 'economic freedom': "The micro-mill has given us the economic freedom to not be attached to a big enterprise [cooperative or mill] [...] It gives economic freedom because, even though we might be in debt with the bank, you know you have the means to pay". Luis's family, for example, are convinced that changing from the conventional model to the specialty coffee market has saved their lives: "I can assure you that, if it wasn't for this project, I would already be bankrupt". Similarly, Manuel shared: "From the coffee income we have covered the house expenses and the kids' university. I think that without this opportunity to produce specialty coffees I would already be in a really bad economic situation".

Jonny and Christina have a particular story. They invested in a micro-mill without having a farm. However, with the profits, they have acquired their own coffee farms: "We began with nothing, but the micro-mill has helped us so much. It helped us to have our own farms". It is important to highlight that within five to ten years of functioning, micro-mill households are already seeing sustained profits, e.g., for the *La Armonia* micro-mill:

"We already repaid [the investment] made in the project. We [have the resources to] give good care to the farms, and at the start of every harvest season, we have our own money to begin making the coffee pickers' payments. By the end of the harvest we still need to look for finance; but definitely we are a [economically] sustainable enterprise."

It is no wonder that entrepreneurs such as Gustavo, consider the future of coffee to be in the quality coffee model: "We know that those who keep working under the conventional system are retroceding. This region needs to focus on quality coffee lots, so coffee can revive as an economic activity; people would have access to better prices".

3.2.7 The sense of contributing to the community

During the FGs, participants did not directly mention 'community contribution' as part of their well-being. When asked how their enterprises collaborate with their communities, they had many different opinions. Answers focused on aspects such as employment, better salaries for immigrant workers, revitalisation of the economy, improved international image for Tarrazú's coffee and promotion of local tourism. However, indirect references were made, e.g., Group 1 made specific reference to micro-mills as alternatives to existing regional business models:

"We [as enterprises] have greater environmental and social conscience than other enterprises here in the region. We manage waste in different ways; we try to work in an ecological manner [...]. [We have also learned] to value the work we do and, when that happens, we begin to value the work of others. For example, when you go to the

supermarket, you begin to consume local [...]. Also we share with others the knowledge [we are acquiring] and help our own community by giving jobs to people. If we hire three, five, six workers, we are returning something to the community by employing people”.

From a different perspective, during the interviews, Tano claimed that micro-mills have brought to Los Santos: “

More cultural development related to coffee knowledge. We also have been able to technify our farms and collaborate with other producers. They come here and we tell them how things work from beginning to end. Also, buyers come every year and it is money that stays in the community, let’s say, each time they go to some restaurant or stay in a local hotel”.

Similar to Tano’s point that micro-mills share knowledge with other producers, Evelio and Rosa shared some of the experiences they have had:

“We consider the motivation we give to other families—to believe this can be done—is an act that benefits others. We have had the good fortune to meet many people that, in hard moments, remind us that it can be done, to keep on going [...] After we took this step, many people have asked us to show how they should begin. It’s not one or two; it has been like six new micro-mills”.

However, micro-mill households contributing to their communities in Gibson-Graham (2006b); Gibson-Graham et al. (2013) sense of a community-being-in-common (in which people take conscious ethical decisions to improve everyone’s well-being and where surplus is well distributed and people care for the non-human aspects of their community) is not exactly the case. The benefits of micro-mills and their relations with specialty coffee buyers largely accrue to the households. As mentioned, there are some households who engage in isolated actions that look forward to collaborating to improve the community. Nonetheless, specialty coffee buyers, traders and producers have not established any official mechanism to foster direct benefits to the Los Santos community.

3.3 More than economic gains?

Micro-mill households have a greater sense of agency in their productive relations that, as a result, benefit the livelihoods of their family members. Accomplishing the goal of having their own enterprise has involved hard work, the engagement of family members and overcoming structural obstacles. The main difficulties they have faced are: access to financial services; finding a buyer interested in their quality coffee; going through the learning process; and find their own way through

a coffee system without proper institutional structures for them. Rosa's experience in finding financial resources, is a common example of what other micro-mills have gone through:

"We are people from the countryside. [We have a] low academic background, but a lot of motivation to work hard. So you go to a bank with these arguments, it's not enough for asking them 'I need you to support me on this project' [...] [So they go] 'We can help you, after you have three or five years of continuous operations'. If I go there, it is because I don't have the resources to begin with."

One central characteristic of micro-mill households is being risk takers; their stories of how they decided to change from conventional production showed the uncertainty of the experiences they had faced. For example, Rodrigo's experience: "I began building infrastructure without knowing to whom we were going to sell the coffee. Thanks to God in that precise moment a trader came and asked us if we could give him the opportunity to help us with this". The fact this buyer approached Rodrigo and Damari's project was not pure coincidence; micro-mill households have created their own network of knowledge and information sharing. Those who went through the hardest moments were the pioneers, such as Tano who began the construction of his mill in 2000. He had to work with a low profile for five years because getting all the permits needed had proved impossible for micro-mills. At the time, permits were designed for big coffee enterprises. This is a fragment of his story:

"Learning was the hardest difficulty. I used to ask people at the traditional mills about the processes, and their reality was very different. The way to learn was here, hands-on; and another difficulty was that I need to have a low profile because there was a big cooperative just by my side that wouldn't like it (...) I met a Colombian guy that told me to go to Volcan in Panama. He said, 'There they have the machinery you need'. So, I went there and bought the crusher (...) [then] the trader told me I needed to take the coffee to another mill to be processed and I said, 'No, I will work on my own machinery'. One night I tried to mill one fanega and it ended all wet. Everything that was happening was from my own empirical process. That year I ended up taking my coffee to the place they had told me."

Micro-mill households have received support from different sources. One is their own network of micro-mill peers. There is also a specific officer of the local Ministry of Agriculture office who has been of great help to them. Nevertheless, they confirmed that they had received little direct support from the State. Danilo expressed:

"[From the State] what I have received are terrible complications [such as] bureaucratic processes and legal litigation—to access Bank for Development for example [...] These are structural problems and not people problems. Public officers have helped me, but not the structure".

Because of such difficulties, micro-mill households perceived conventional farmers as unwilling to transition to specialty coffees. For them, conventional farmers are in a comfort zone. During the rainy season, they worry only about taking care of the farm and for the harvest; they deliver the coffee and wait for a payment.

One aspect of great importance during the FGs is that micro-mill households constructed their own sharing space to express the difficulties they have experienced. For them, this facilitated the recognition that all have experienced the same hard situations. Jose, shared this reflection with the rest of the group:

“This activity [having a micro-mill] requires of a lot of effort; many times we don’t sleep. The person that is in this business is there because they like it; [anyone] who does it for money is on the wrong track. [This is why] it is so important to have the family involved because it becomes a way of living and the financial sacrifice is very high”.

Although part of the improvements in micro-mill households’ well-being relates to better income, they do place high value on non-economic aspects, many of which have been mentioned in this chapter. Silvia agrees with Jose’s argument: “We have not seen such big economic reward. Well, we have reinvested it [on the mill]; but it’s a future investment for our kids in the future. Until now the major gain has been the family unity”. For Danilo and Ronny, it is about doing what they want and like; Danilo mentioned “What I wanted was to return to farming, to the land” and Ronny said: “Having this micro-mill is not about money. That is part of it; but there are sacrifices [...]. So you have to be on what you like. The micro-mill gives me quality of life and I identify with what I do”.

As mentioned, micro-mill households deeply valued the interactions they had during the FG. They describe the venue as a ‘safe space’ where no one was trying to sell or buy something. In achieving the FG objectives, the different activities made the participants reflect on what well-being represents to them and how their enterprise has helped to enhance that well-being. The participants identified and recognised themselves as the new economic subjects of the Los Santos coffee foodscape and, therefore, became more self-aware of their importance within the CVC. Nelson’s final thought during the FG was:

“I think we are going on the right track. Twelve and 15 years ago, [Los Santos] did not have a place to pack green coffee. We needed to travel to Cartago to do it [70 km from Los Santos] and we did not know if people were stealing our coffee there. Now, many of us here have their own packaging facilities and we can be present supervising while the packaging of our coffee is taking place. I can bet that if I ask each of the families present if

they are going to close their micro-mill, the answer will be no. We are much better than if we were delivering our coffee to the cooperative or the traditional mill.”

These last quotes summarise most of the benefits households realise from having their micro-mills. However, as the new economic actors within Costa Rica and the Los Santos’ coffee system, it is necessary for them to have their own institutional structures, places, and events for knowledge sharing.

3.4 Conclusions

Using the DE approach, a rapid mapping of the Los Santos coffee economy was completed from the perspective of micro-mill households. They identified themselves as new economic subjects in the CVC of the region. Also, recognition of the economic and non-economic relations in which they took part every day had helped them to enhance the development of their community’s livelihoods. The FG functioned as a space to share, discuss and self-recognise their role in the coffee industry. Their participation in the different activities allowed them to recognise what well-being means for them and to identify how being an entrepreneur has helped them to achieve that desirable well-being.

Five main aspects of their livelihoods have improved since leaving the traditional coffee system and adopting the quality production and process model. They recognise that they have greater empowerment and self-awareness of their participation in the coffee market. Likewise, intra-household relations have improved and they have seen a reduction in migration of the young from the households. Other aspects of their life being enhanced are access to a larger income, a strong sense of occupational well-being, and a feeling of responsibility to contribute to their community.

Their perception of community participation and well-being was not related to DE’s notion of creating communities-of-being-in-common. Most benefits from micro-mills as part of the specialty coffee trend accrue to the individual households. Their collaboration in the community is based on isolated actions. Some aspects in which they recognised themselves as contributing to their community and about which they expressed a sense of pride are: being able to generate employment for people of the community; donating to organized groups; volunteering in communal work; promoting community tourism; and improving the image of Tarrazú’s coffee around the world.

While they were quick to identify benefits, the participants also reported the difficulties they had experienced, illustrating some of the non-economic values micro-mill households shared. The main constraints micro-mill households reported included: the limitations in credit access; the lack of institutionalised structures for micro-mills in the coffee sector; their learning about producing and processing quality coffee; and finding buyers. However, they were well aware of how their processes

and experimentation are building an alternative way of coffee production that is bringing them much more than economic benefits.

Nevertheless, this chapter has not adequately discussed the conflicts and challenges micro-mills have faced in the regional economic system dominated by cooperatives. Historically, cooperatives have been seen as the utopian enterprise model where households and communities benefit in a more equitable manner. Conversely, individual enterprise initiatives can generate more exposure to market risk and are considered a constraint on producer agency in the market. In the case of Los Santos, cooperatives working under the traditional coffee system have failed to accomplish the well-being expectations of micro-mill producers. The DE economy analysis of micro-mills as market-led strategies found that these individual efforts do contribute to coffee farmers' self-awareness and market agency. This finding supports the argument of Gibson-Graham et al. (2013) that the economy should be an outcome of people's decisions and the actions they take can influence the opportunities that economy offers.

Chapter 4: Can private family enterprises enhance women's empowerment? Women and coffee micro-mills in Tarrazú

The following chapter describes the multiple ways in which women contribute to the coffee economy in Los Santos through paid and non-paid work, transactions in their homes and the micro-mills. Chapter 3 presented an extensive analysis of how diverse economic activities interrelate in the Los Santos coffee economy and the ways certain non-market and market based activities contribute to people's well-being. Taking a gender perspective deepens the analysis of the diverse economic activities in Los Santos, thereby emphasising the usually underestimated and unreported economic practices through which women contribute to their household and community.

Gender roles in coffee economy and the CVC have traditionally relegated women to household tasks while men are in charge of the farming practices. However, with the emergence of micro-mills, women in Los Santos have assumed relevant leadership roles in the processing and selling stages of this value chain. Therefore, this chapter examines how women in micro-mill households have had the opportunity to gain greater economic empowerment. The five domains of the Women's Empowerment in Agriculture Index (WEAI) were evaluated qualitatively to address this question. This study shows how women's participation in the micro-mills has led them to experience a transformative process of self-awareness and, as a result, allowed them to critically reflect on the limitations women face in the CVC and the ways women challenge gender roles in the Los Santos coffee economy. Their reflections provide the basis for my analysis of the extent to which market-led transactions and enterprises undermine women's opportunities for agency and self-transformation.

4.1 Context

DE takes strong inspiration from feminist and gender studies, specifically in the demand for economic and social recognition of women's non-paid work. For Gibson-Graham (2006a,b), understanding economic diversity and how it can be operationalized is motivated by the experiences and practices of the second wave of feminist thinking. Part of the second wave of feminist scholarship captures how women around the world have come together—particularly through actions based in a shared vision rather than under formal institutions—with the common goal of challenging the traditional roles of the patriarchal system. What unites them is a shared language and webs of signification based on the following idea: “if women are everywhere, a woman is always somewhere, and those places of women are transformed as women transform themselves” (Gibson-Graham, 2006a, p. 68). Based on this principle, Gibson-Graham (2006a,b) propose a new conception of the economy that gives recognition to the multiple ways it is practised in places and communities

around the world. Gibson-Graham (2006a,b) also argue that capitalism should be understood as only one economic structure that occurs in parallel with many other market and non-market relationships. This perspective opens opportunities to overcome discourses of capitalism that frame it as hegemonic, destructive and untouchable. The feminist ideal that everyday actions and politics can lead to a transformation, inspires DE to propose a different global understanding of the economy, that can be built through more ethical, sustainable, empathetic and inclusive economic practices, leading to communities of well-being⁴².

DE and feminist thinking are linked not only in terms of a call for action for economic and social transformation, but they also reflect on how traditional measurements of economic growth, such as Gross Domestic Product (GDP), fail to account for the social reproductive work of women⁴³. Soupourmas and Ironmonger (2002) estimate that in 2002 household work contributed an economic value the equivalent of 80% of Australia's GDP. They propose a measurement of Australia's Gross Household Product (GHP) as a method to account for unpaid labour and households' capital. Making a similar point, Rai et al. (2019) argue that women's care and household work are commonly conceived as 'second category activities' to the economy, although they are important contributions to a country's economy and development. Therefore, Gibson-Graham (2006a,b) argues that the non-paid work by women in the home constitutes an economic entity by itself, where market and non-market negotiations take place among women and family members. Such a perspective differs from others which situate households as a space that only consumes and depends on the external economy. Instead, they argue, the household economy is supported thanks to the work of many people and the intricate interdependence of household members, the community and market-based economies (Gibson-Graham et al., 2013).

In the Los Santos context, coffee production follows the traditional structure of a male head of the household with control over all farming activities, household income and expenditure, and land-use, even where the land is an asset inherited by a woman. Women assume the social reproductive work of being housekeepers and family carers because, in the local cultural beliefs, they are considered too weak physically for farm work. Likewise, any work related to coffee activity – especially during harvest – such as picking and administrative tasks are perceived to be unpaid help. Lopez et al. (2017) argue that these cultural barriers limit the economic empowerment of women in coffee-producing households because their work is seen as an extension of their unpaid domestic work. However, families emphasise the idea that in the rural family enterprise model, in-kind payment is

⁴² Gibson-Graham (2006a, 2006b) also refers to this concept as communities of-being-in-common

⁴³ Rai, Brown, and Ruwanpura (2019, p. 368) define it as "the reproduction of life itself, which includes the reproduction and care of human beings, production within the home and informal labour that supports and sometimes challenges the cultural infrastructure of social relations".

fundamental to the profitability of coffee production and to ensuring that income lasts for the rest of the year.

Safri and Graham (2010) argue that households are an everyday site of production. This means that whether women get paid or not they are still contributing to the development of their community in aspects such as childcare, health care, elderly care, affective labour, education, cooking, cleaning, shopping laundry, gardening and food production, to mention some. Testimonies shared by women in micro-mill households mirrors these variety of roles women play and are responsible for. Monica proudly states how her household work is central to the functioning of the micro-mill:

“By giving them [husband and sons] clean clothes, food and a clean house, is the way I contribute to the micro-mill during harvest season. Can you imagine them working from 5 a.m. to 8 p.m. and me asking them for help? I think they have lots of work and I can help with those things.”

Likewise, Martiza’s description of her weekly activities during the harvest, resemble the multiple activities for which women are responsible:

“I have a full-time job, I take care of the boys [17 and 10 years old], and I help with the micro-mill during summer. I come from work and immediately I head to the micro-mill to see in what I can help. It can be in roasting, packaging or preparing samples for buyers [...] and also, I just completed my licentiate degree⁴⁴ with honours”.

Not least important are Tania’s reasons of why she took over the micro-mill. She saw that a generational change was needed, in face of her mother feeling tired and not able to manage all the household and micro-mill duties she had.

“My mom had to worry about the household duties, but also the stress of taking care of, let’s say, a group of 15 visitors. I guess she would have enjoyed it more if she was only dedicated to the mill; but she had to do many other things.”

Women’s micro-mill experiences of non-paid and paid work are diverse. For younger women, such as Tania, Anita, Rita, Christina and Dayana, their families’ investment in a micro-mills has opened the possibility to fully develop themselves in the specialty coffee business. In these cases, in particular, their mothers were the ones who took the lead 10 years ago during the early years of the enterprises. Now their mothers concentrate on taking care of the household, facilitating other family members’ dedication to full-time work in the micro-mill. Other women have had different experiences. Sarah, after getting married, having children and also following a professional career,

⁴⁴ This is a type of degree recognised in Latin America after you have obtained a Bachelor’s degree. It is equivalent to an Honors Degree in English speaking countries.

has delinked herself from the 'hands on' work in micro-mills. She now concentrates on the mill's paperwork. However, for many others, such as Lorna, Rosa, Monica, Cintia and Damaris, the decision to have a micro-mill as a family enterprise has opened up many opportunities. It has allowed them to revitalise their expectations of coffee as a livelihood, as Monica mentioned: "I can't imagine what our future would be without this, maybe here in the same routine." Micro-mills have impacted women's lives in terms of agency, ownership of resources and self-awareness of their roles and their capabilities within the coffee economy. Therefore, the following section analyses the empowerment experiences that these women are living. Through their testimonies, the different roles they play as women, housewives and coffee specialists will be explored.

4.2 Micro-mill women and economic empowerment

The following sections analyse expressions of women's empowerment occurring in the interviews with micro-mill households. This begins with a review of WEAI's five domains of empowerment, which assess women's agency for processing decision-making⁴⁵, control and ownership of resources, control over income, time use and leadership. The analysis is further informed by feminist sociology, which argues that structured surveys such as the WEAI do not capture a holistic understanding of the empowerment concept (Ganle et al., 2015; Kabeer, 2015, 2017; Roodman & Morduch, 2011). The WEAI five domains are therefore enhanced through engagement with the feminist approach to empowerment that, as presented by Kabeer (1999, 2005) and Rowlands (1995), develops the concepts of 'power to', 'power with' and 'power within'⁴⁶ to understand ways of empowerment that challenge 'power over'. These additional concepts help to address O'Hara and Clement (2018) claims that, while the WEAI assessment captures improvements in women's agency and well-being, it only vaguely considers the power relations within this agency.

As reported by Dietz et al. (2018), Lyon et al. (2010) and Lyon et al. (2017) in research with coffee communities in Guatemala, southern Mexico and Honduras, respectively, women had to take control of farms during periods of low coffee prices when the men migrated to urban areas or to the United States. A similar phenomenon occurred in Los Santos during the 1990s and with major waves after the 2001 coffee price crisis. Of the 33 micro-mill households surveyed, half of the households' heads migrated to the United States. This meant women had the opportunity to participate in and acquire control over coffee production. Women were in charge of receiving remittances and managing the expenditure on the farm, in addition to continuing their social reproductive work; the women's experiences of this growing responsibility are, however, diverse. For example, Lorna's experience is

⁴⁵ The Domain 'participation in primary production' was modified to fit coffee value-adding stages.

⁴⁶ Note that the five domains of empowerment overlap the concepts of 'power to' (agency) and 'power with' (collective participation).

representative of women who had complete decision-making over the remittances and how the money was invested with the support of other family members. Lorna refers to this period as:

“[...] a very hard experience. I had to take care of my four (children) [...] I went through their school and high school years alone. I raised them and took care of the farm. I had to supervise the wage workers if they were doing the pruning, fertilising and berry picking the right way. I also had to be very organized in paying the debts at the bank and cooperative.”

On the other hand, Maritza, a woman who had to fight against a patriarchal coffee system with no space for women, related her experience of having to battle with male relatives and government representatives to realise similar empowerment:

“The first time that he left [to the United States] I was pregnant with my oldest son. My husband told me, ‘I will send you the money. You give it to my father and he will be in charge of making the payments’. I began fighting with my father-in-law because I questioned him, why he needed so much money? He usually answered -‘you don’t know anything about this’-, but I did not care. I told him to explain to me how the pruning worked and how fertiliser should be applied. So I have defended myself. Ten years ago when I first asked for government’s help [to invest in the farms], they rejected my project. Someone told them the farms were abandoned because I was in charge. [...] I went to the main office [Costa Rican Ministry of Agriculture] with a newborn in my hands, and told the person in charge: ‘People have told you my husband is in the U.S. It is not fair that because I’m a woman to say those farms are abandoned. I can tell you exactly all the inputs I have used this year on the farm’”.

However, with the household investment in micro-mills, women have assumed a more empowered role within the family enterprise. Farm work is still seen as a man’s job because of the naturalized idea of needing physical strength to do the tasks, while men seem not to enjoy management tasks. As Juan said: “My thing is the farm. Leave me with that part”. Likewise, Lopez et al. (2017) find men perceived women to be more suited to micro-milling activities because they are considered to be more creative, innovative, and organized with better fine motor skills, and with more sensibility for quality control in tasting and roasting. Some of these perceptions are rooted in traditional characterisations of women and relate to the roles to which they have been traditionally confined. In the context of the introduction of micro-mills, most of the women have taken advantage of such skills to assume leading roles in the processing and selling stages in the CVC.

4.2.1 The Five Domains of the Women's Empowerment in Agriculture Index

As mentioned, the WEAI's five domains of empowerment assess women's economic empowerment. The index proposes a first domain related to 'participation in primary production'. However, since the focus of this analysis is women's inclusion and participation at the processing and selling stages of coffee, the domain has been modified accordingly. As a result, the five domains addressed in this section are: women's decision-making at the processing stage; control and ownership of resources; control over income; time use; and leadership and public participation.

4.2.1.1 Processing: decision-making and autonomy

Households that own a micro-mill showed women's participation at different levels and in different activities. Some women are fundamental to the enterprise's operational and management roles and others have developed their own associated businesses. Micro-mill tasks include operational activities from washing, crushing, de-pulping and drying, to administrative and management tasks of accounting, direct contact with buyers, organisation of buyers' visits and coffee quality control. Associated businesses include enterprises aimed at the local market, such as tourist projects selling coffee tours, being the tour guide, and selling souvenirs and food. The other type of business is to roast, pack, and sell micro-lots for the national specialty coffee market.

Decision-making depends on the family enterprise's arrangements. Some women put less effort into micro-mill tasks and concentrate more on their own enterprise. Of the 15 women interviewed, only four had complete control of decision-making of all micro-mill activities and men were dedicated to the farming tasks. Tania, Damaris, Lina and Rita would contact traders and buyers, offer them lots and qualities, decide over the prices and contracts, go to international fairs to promote their coffee and be accountable to other family members. This is Tania's experience:

"Now I can take the decisions without waiting for them [my parents] to give me an answer [...] I do everything, from cleaning the storage building so it looks organized up to all the permits and paperwork for Icafe. I also create marketing stories to attract new clients. I take coffee samples to Icafe in Heredia. I'm the one in charge of negotiations with clients. So, yes, my life has changed a lot".

Joint decision-making within households can take two forms. One is a formal legal structure under Costa Rican law called a 'commercial society'. In such an arrangement, all family members who participate in the micro-mill have different roles. During weekly family assemblies, each member is accountable for their duties, and they share ideas and communally take decisions about issues facing the farm and the micro-mill. Silvia describes it as a democratic process "We take decisions jointly, the three of them [husband, father and brother in law] and me. My husband is the one that

communicates the final decision; but he always consults me. So, everyone's ideas influence the final decision". Dayana describes the process her family follows in this way:

"We are six members and we make an assembly. Decisions are taken related to budgets and investments needed. Our interests [hers, her sister's and her mother's] are very aligned with the agreements reached. Generally, they [her brothers] have more experience in some fields—for example, the one in charge of the farm would say he needs something for the farm in any particular month. It's his field. I'm not so much into farm needs, but I know he is asking for what is fair. The same happens when there is a necessity we have. They respect us".

Libertad highlighted the important role she has as mediator for decision-making among her family:

"All decisions are taken together. I work as the bridge; complaints go through me. I'm the one who communicates the complaints from one side to the other [those in farm management to those in milling tasks]. I have to create my own strategies to see how I arrange the negotiations among them, and it works. If it wasn't for me, I can't imagine how things would work out".

The second form of micro-mill household decision-making is more informal. There is no legal protection for women or other family members with regard to their decision-making rights; but their rights to participate in decision-making processes are respected. As Rosa explained, "I think we [the household] have something in common and it's a similar vision. Decisions are taken together. I can't remember him taking a decision without asking me". Catalina's case is similar. Together with her husband, she owns 3 hectares of land and a small micro-mill machine made by her husband. She said:

"Decisions must be taken together [...] I have always said there must be equality, but for some things no—for example, mechanical issues. My husband is the one that knows about it. However, there are many situations I lead decisions—for example, the roasting types. Many times, I think my ideas are better. I tell him and what we do is [use our ideas] to complement [each other's]".

It is common in situations of informal joint decision-making that women will have an associated enterprise. Monica reported that she has always participated and had a say at micro-mill meetings, but dedicated most of her time to her business of selling clothes and beauty products. Similarly, Rosa helps with all the operational milling tasks in the harvest season, but has her own tourist project with other women from the community. Elsa has her own coffee brand and describes her role in this manner:

“I’m in charge of everything related to roasted coffee. So, I look after the kid's needs [economically] and I have my own money. I just finished the sanitary permits process for the roasted coffee. All those things are very expensive; but those investments come from the money I’m earning selling roasted coffee. I just paid \$200 for the permits for whole bean and ground coffee. I’m here, working step-by-step. I also want to have the sanitary permit for my coffee-nog⁴⁷”

Lastly, two women reported not having a say in farm and milling tasks in situations where men had complete control of management and decision making. Cintia focuses on tourist visits and offers food services. She has complete autonomy deciding the menus and keeps the income. However, Lorna who does similar tasks to Cintia, does not keep the income and needs to consult with others about the menus. When asked to describe her role in the decision-making processes in the enterprise, her answer was:

“That is kind of hard because when this man has an idea stocked in his mind, it is hard to convince him to the contrary. I’ve told him to go ‘step by step’; but he wants everything at once. And yes, I do express my opinion; but he doesn’t listen much”.

4.2.1.2 Resources, asset ownership

From the 15 households interviewed, six women reported having inherited the land that currently is part of the family enterprise. For several of them, the family home is located on part of that land. They confirmed that, in a case of need, they would demand and feel entitled to claim it as their individual asset or, if it needed to be put into a mortgage, they would be the one taking the decision. For example, Monica’s experience was:

“I told them, ‘What is my participation in San Francisco’s farm, the mountain farm?’ It’s not fair [me not being informed of what is happening there] first, because it is an inheritance I received, and second, because what I have [gains she receives from her own business] are invested in the family too”.

Particularly with the founding of a family enterprise and its legal formalisation into a commercial society, women have become owners of shares of the farm and the mill. Sarah’s experience is different. Having first aspired to being a professional as an alternative to the disadvantages women face in coffee production, she decided to invest her severance pay (after being fired from her first job) in the micro-mill owned by her husband’s family. She now owns 50% of the shares and, as a

⁴⁷ This is a beverage made with coffee, alcohol, milk and spices. It is an innovating drink as a way to add value to coffee to be sold in the domestic market.

professional accountant, manages the accounting aspects such as reporting of taxes and account balances of the micro-mill. She commented:

“Like in all good dreams, we thought that my severance [was enough for the investment]; but it took us by surprise that we needed to install the electricity for the farm. So, we began with the help of the rest of the family. Everything began from his idea [her husband’s] that I consolidated and here we are, the whole family is united”.

Women with no land or legal ownership in micro-mills reported having their own coffee brand, having permits to operate their tourist business, and their own sanitary permits. If facing a vulnerable situation, Costa Rican law protects women’s rights ensuring that, in a divorce or separation, she has an entitlement to a pension and half of the family assets.

4.2.1.3 Income: Control over the use of income

Women in micro-mill households reported having control over their income either as a salary or an independent income from a side business associated with coffee. Most of their investments are to improve their own workplace, help sons and daughters with their needs, and cover their own needs. Cintia mentioned: “Yes, it’s my own income; but this past year has been really hard. One of our daughters is studying. So, I’ve not enjoyed that income because she has many expenses”. They expressed self-satisfaction in not asking their husbands for money. Elsa mentioned:

“I do not like to beg for money. I’m very happy about having my own income. Most of the money [I get from selling] roasted coffee is for the kids’ university. The rest is for my personal expenses and a little goes to the house expenses [...] I also have my own things. I don’t have to ask my husband for a body cream or a shampoo”.

Rosa and Dayana shared Elsa’s feeling of being income autonomous for personal needs. In Rosa’s words:

“I try to look for my own comfort; if it’s something that would bring me more convenience in my kitchen then I invest in that. If there is a family event, I like to contribute with something. I like to have my own personal things and not bother someone else, for example, I always like to pay my cell-phone bill, and not be so dependent”.

For other women, the income is enough to share household expenses in an equitable manner, which is a situation of pride for Maritza:

“Once a month I buy the house groceries, and he buys them next time. One week I buy the meat and next time he buys it. If one week I ran out of money, he knows it was not my money, it was our money because maybe that week many things needed to be paid. So I know if I ask him for money [there is no problem]. It is not my money or his; it is our money.

Only three interviewed women depended on their male partners for income. For example, Lina and Rita explained the arrangement they have with the family to receive in-kind payments in exchange for their management responsibilities in the micro-mill. For example, Lina and Rita referred to the arrangement they have with the family to receive in-kind payments of clothes, shoes, food and business expenses (presented as a form of alternative payment in Chapter 3) in exchange for their management responsibilities in the micro-mill

However, some women are in the position of having to make economic sacrifices, such as not receiving a payment for their work during the initial years of operation of the micro-mill. Catalina's position is: "Since everything is together, if I need something I just ask. Like having my own salary for the work I do, it is not an option now". Likewise, Lorna commented: "All the income goes for the home expenses." However, Libertad had a more critical vision of it:

"Basically I return my money to the house. We are not yet at an equilibrium point. We just cannot [have an income for everyone]. This is the very first year we are working with a budget, and it's not even the budget we really need, but ... Well, one [as a woman] has to sacrifice even more".

Micro-mill women's testimonies provide evidence of differences among the households which are related to length of time that they have been in the business. Older micro-mills have more economic freedom to pay salaries to all family members, while newer ones rely on the workforce of the family members. Despite this, the interviews also demonstrate that the women have found diverse ways to control an income.

4.2.1.4 Time use

In coffee producing regions, the harvest and milling seasons are those requiring greater amounts of labour. Female household members reported that their workload doubles in these seasons, because their contribution to coffee production is concentrated in these activities. The season begins at the end of November and lasts to the second week of March. Dayana states that:

"Harvests are very tiring. Everything needs to be neat because image is part of what sells. You work from Monday to Sunday [...] I spend half of my day at the mill doing quality control and helping with the green coffee picking, and during the afternoon I'm at the office completing contracts and invoices".

Silvia describes it as:

“A period of a lot of sacrifices, for men and women. During this period people are at the farm at 5:30 a.m., and sometimes come back home at 6 p.m. [for dinner], and head back to the micro-mill to keep with the washing processes of the coffee collected that day”.

The harvest season is the time when buyers and traders visit micro-mills to have tastings, check the traceability of future shipments and negotiate micro-lots for upcoming years. Such a workload motivated Tania to take over the business so her parents could rest:

“I’m dedicated full time to this, so the idea is that my parents are not involved. They don’t really enjoy receiving so many people, all the stress [...] I’m the one that coordinates with the visitors and I welcome them”.

However, Damaris, who now is in charge of coffee processing, quality control, administrative paperwork and attention to visitors at the micro-mill, considers this work to be better than what she used to do at her farm: “Before I used to be at the farm. Fertiliser application is hard; it requires physical work”.

While interviewed women noted that they sacrifice leisure time during the harvest, they are compensated by the reduced workload during the rest of the year. Cintia mentioned:

“During that time you stop doing things you like. I like to walk or run during the mornings; but then, I have to limit myself depending on the people that are visiting or the duties I have that week”.

Maritza shared the strategies her family learned from other micro-mill households to enjoy family time:

“We have learned from other families that, before the harvest begins, to have family vacations in December. The oldest son used to suffer a lot because, while we were all busy here, families were sending their pictures from the beach”.

Women involved in micro-milling are committing to double workloads. Karla shared: “I’m always overloaded; I know I can ask for help and I will receive it. But is more like a pressure I put onto myself because I’m too demanding”. Moreover, Rosa’s description of her weekly duties expresses the reality for many of these women:

“I’m pretty sure I never do all the things I’ve planned when I wake up. During the harvest season I’m at the micro-mill; but normally I do the housekeeping. In my community, I play an important role at church. [Plus] my mom lives near me. She is an elderly person and I like to keep checking on her. [My tourism project] is not something that happens every week; but people ask for lunch or coffee tours. Right now, I’m not taking any kind of training; but we just finished courses on bird watching, butterflies, and compost. I’m in

charge of keeping the controls for certifications, NAMA Café and Ecological Blue Flag. I also like to paint and sew, but rarely have time for that”.

Many women keep up with the household work, the micro-mill operation, plus guest hospitality and coffee roasting for sale. Sometimes they receive an income for only one of these roles; the others are considered help. Moreover, they exercise their freedom of choice by occasionally or permanently having a wage-worker when they feel they cannot keep up with everything. Whereas the demands on their time and labour indicate that women are being exploited through their participation in the micro-mills, their testimonies also show a strong sense of satisfaction with and appreciation of the new roles that they have assumed.

4.2.1.5 Leadership: speaking in public and group membership.

Micro-mills are independent enterprises and it is, therefore, not common for them to attend cooperative assemblies and meetings. However, since many conventional producers deliver their production to transnational mills, Icafe and other public institutions give workshops, training events and meetings with coffee producers not based on cooperative membership. Micro-mill women’s testimonies reflect the fact that they have been pioneers in attending coffee public spaces dominated by men. This is Damari’s experience:

“When we began, I took one training course on coffee ovens. [...] There were no other women when I began. Men would be murmuring because I was there; but, since I like to talk, they got used to me. Now you can see a lot more women at coffee events: wives, daughters; but, when I began, it was me and 30 other men”.

Karla reaffirms Damari’s comment:

“When I began, I used to go to coffee meetings and there were only men. Now it is different because Tania is there too. But, in the beginning, there were not even young people (...) Us women, we are opening our own spaces in coffee. There are families that don’t have sons and have a micro-mill; women have been the ones embracing those roles”.

Women have the autonomy to participate in the collective groups in which they are interested. In particular, they assume leadership in certification controls. Most micro-mill households are delinked from mainstream certification such as Organic, Fair Trade and Rain Forest due to the fact that they abandoned membership in the cooperatives associated with each of certification. As a result, micro-mills have opted for the State managed Ecological Blue Flag for the agricultural sector and the NAMA-Café certifications that are free of a subscription. Both certifications have a strong focus on environmental sustainability and are well accepted by micro-mill households. Women in micro-mill households have acquired the role of ensuring certification standards are met. They attend training

and manage face-to-face relations with the certification supervisor. In the case of NAMA Café, which has a specific certification for farms and another for mills for improving their green-footprint, women are the ones to re-educate men on sustainable farm practices.

In addition, in respect to collective action initiatives, micro-mill households tried to form their own association. All women interviewed had active participation in both the fair and the association. Lastly, older couples consider their community participation in school and sports committees, bingos to raise funds for these associations, and community fairs has ended once their children have grown up. Only two women consider themselves to be community leaders.

4.3 Micro-mill women and “power-within”: a counter-critique to global market impacts on women

Gender equality is crucial for rural communities; many efforts have concentrated on ways to create just and dignified labour conditions for women in the context of the feminization of agricultural labour. Every day, women are taking major responsibility for agricultural production because of male migration, their own livelihood strategies to overcome poverty, or because of new employment opportunities in modern value-chains (Ganle et al., 2015; Lyon et al., 2010; Waltz, 2016). Interest over the real opportunities for women in this area has emerged in terms of their empowerment, equality and well-being (Lara et al., 2015; Maertens & Swinnen, 2012; Pepper, 2016-2017). Critics such as Rai et al. (2019) argue that neoliberal globalization policies in developing countries have brought precarious employment conditions for women under the discourse that it would boost economic growth. They discuss that the feminization of labour in value chains follows an instrumentalist ideal of women’s empowerment that, instead, fosters exploitative working conditions and an uneven sexual division of labour, e.g., the flower export industry in Colombia (Lara et al., 2015) and the garment sector in the Dominican Republic (Werner, 2012).

However, the ways farmers and women engage in global value chains is diverse and asserting that only one type of relationship—exploitative and disempowering—exists is an overly narrow approach. Conversely, other studies have found that value adding activities and family-owned enterprises can be a tool to attain women’s empowerment. They create opportunities to develop themselves in value adding activities by acquiring a skill or making use of what they already know how to do well, e.g., cooking, receiving guests, art and craft, and quality control (Waltz, 2016; Wright & Annes, 2016). Rai et al. (2019) argues that women have more informal enterprises compared to men because of a lack of resources to formalize them. However, micro-mill family enterprises are an example of a different story. Though they work based on market-led relationships with the CGVC and the RCM has opened opportunities for women’s empowerment.

Women's empowerment is possible in this context because of the nature of the micro-mill enterprises as family entrepreneurial initiatives. They have the opportunity to be linked to a coffee market that promotes an empathetic, fairer situation and is close to producers which creates a different context for global relationships. Having the opportunity to participate in the processing and selling stages of coffee has allowed women to enhance their access to income and resources and to have a voice and influence decision making in public spaces. Nevertheless, their testimonies demonstrate the many ways in which their sense of empowerment extends beyond the WEAI's five dimensions of empowerment. To them, empowerment has to do with the many ways they have become self-aware of recent changes in their agency. It also refers to the new skills acquired and their ability to help others; the gratification of being acknowledged by people in the coffee sector; the satisfaction from sharing their knowledge; and the opening of doors for women in the coffee sector. Micro-mill households' women recognise how they are making changes in the CVC, and have acquired critical consciousness of the roles and power they challenge. Therefore, the following section describes how their agency has also become a transformative tool for them.

4.3.1 The agency that is transformative: Power within

Damaris is a woman with only primary education who, by working hard alongside her husband, has been able to keep up with their seven hectares for 30 years since they married. Seven years ago, because of the low coffee prices, they were confronted with the decision of selling their farm or finding ways to add value to their farm and production. That is how the idea of a micro-mill came to be and became their life project. What is more impressive is Damaris's experience and her knowledge of coffee and her critical understanding of the current Costa Rican coffee system, as she mentioned:

"What Icafe really likes is producers to only deliver coffee and mills to process volumes because they charge you a tax per fanega. That is the main reason they promote that you should plant varieties such as *Catimor* and *Obata* because those varieties produce volumes. If you go to their office to buy seeds they would never offer you a *Geisha*, a *Borbom* or an *LS28* [for this varieties production is lower and quality is higher]."

However, women's knowledge of the Costa Rican CVC and their participation as important actors who collaborate every day in the coffee economy has not come without cost. Lopez et al. (2017) find that Costa Rican women in coffee suffer from cultural barriers, a situation that Lina and Rita confirmed when sharing their experience of the major the opposition they faced that came from within their community:

"We can affirm a buyer would say, 'we are not going to buy your coffee because you are women.' That does not happen. [...] It's more related to the culture of this town, saying that

we couldn't do it because we are women; but, to some extent, I have seen that it has turned into admiration. [People said,] 'That man's daughters were able to do it. We should do it too'.

Similarly, Maritza, who consciously fought the '*machista*' beliefs of her husband's family states:

"Yes, I have broken the 'machismo' barrier; but even though I'm like that [an empowered woman], my husband has known how to manage the situation and even taken advantage of it. I feel he has been one of the few that has given me my place. If he wouldn't give me the opportunity or define roles, that would have meant fighting against him too".

However, Karla has perceived some acts of discrimination from foreign buyers.

"Like discrimination from people from here, no; but people from outside, yes. We have many relations with Japanese people. They do think, when they see me, that I don't have an important position here. I know my job says I'm an administrative assistant, but I do more than that. They see it like 'I'm a woman and I'm too young'. [For example] when they have a question they would talk to my father and he tells them I'm the one in charge of those issues. It is like these people feel they need to talk to a man or someone older. When they realize it's me [the one in charge], they go like 'Ohh!! we are sorry'."

Not least important is Tania's experience, which calls for action against the disadvantages faced:

[I have perceived discrimination] like when I'm trying to negotiate coffee prices with someone [...] I don't like to say it but it is the reality. If I were a man, it would be different! The idea is to get to change the mentality of those people and show that you don't need to be a man to be taken seriously. I already have a challenge as a professional and I have another barrier to cross that is to show people that women can, which adds more stress to what I do".

Most of the challenges these women face relates to the '*machista*' culture that affects the society in which they live. The quotes claimed that discrimination comes from their families, communities, institutional officials and even misperceptions from other cultures. However, micro-mill women who are conscious of being in a disadvantageous position have faced the challenges this implies, transforming themselves in the process.

Kabeer's (2005) and Rowland's (1995) empowerment concept of the 'power within' relates to acquiring self-awareness of agency and achievements. All women interviewed recognised the limitations they face within the coffee sector and showed a great sense of self-awareness of the changes in their life with the opportunities micro-mills have opened. Damaris said: "I never imagined all of these, I never envisioned it; but I love it very much, all I have learned". Likewise, it has given

Rosa the capacity to reflect on the process she has gone through and how she is different from other women around her, she commented that having the micro-mill:

“Has helped me to notice I can take challenges and I have been able to keep ahead with them [...] we don’t fear anymore to do certain things. I used to limit myself, but now challenges are different [...] I compare myself to my twin sister, she tells me she does not understand how I’m so brave to do all of these things. She still keeps a low profile as a housewife, she is not even able to go to the grocery store alone.”

Women’s participation and experimentation in micro-mills have allowed them to acquire different identities regarding coffee. They feel important because of the specialized knowledge they have and for managing power quotas within the business. They are the person with the biggest responsibilities between the origin and the buyers. Dayana commented:

“My barista side is very enjoyable, and what I feel very proud of. Being able to show the buyer in one cup of coffee, all the work your family has done. Through my barista talent is where I’m able to show all the hard work my family has done in the milling, the drying, and roasting. If a barista does something wrong, all this hard work is not going to be reflected”.

Therefore, women, when referring to the changes they have experienced through their participation in the processing and selling stages of coffee, would usually refer to: situations they feel proud of; skills and knowledge they have learned; and how the general well-being of the family has improved. For example, Monica’s experience:

“I have learned a lot, first, we learned to drink our own coffee, we never bought coffee [from the supermarket] again, we learned to drink a good coffee. Then, the coffee world was something I did not know either, the different ways to process it, that there are washed, naturals, honeys and anaerobic coffees. Also, that coffee can have different tastes depending on the roasting processes, how to give the right roasting point to the coffee and different roasting techniques [...] Also, all the people that have visited us, friends we have made, public relations with the buyers. I can’t imagine what our future would be without this, maybe here in the same routine”.

In terms of quality of life, as analysed in Chapter 3, micro-mill enterprises contend that migration of the young has been reduced because coffee specialization is more attractive to young family members. Micro-mills and the value their coffee has acquired, have saved many families from going bankrupt. Now, the families have economic resources for quality health services and their sons and daughters to access university education. For Libertad:

“It has been our opportunity to keep going as a family. Now our family is reunited and economically we are better, with the hope to be much better in a near future. [...] I’m proud of the milestones we have achieved with coffee, the friendly relations with have set all around the world [...] the prices people have obtained using our coffee”.

Women in micro-mills also project their future developing their own side business in the coffee sector, for example, Karla said:

“When I finish the coffee farming training I’m taking, and the one on milling, I would have like a master’s degree on coffee. This is very important for me. People have approached me and asked ‘Karla help me with this issue on the micro-mill’. So I hope I can become a coffee consultant one day”.

Rosa considers Costa Rican women’s future in coffee is very bright: “Now there are many women and they would be even more in a future as this sector grows. It is no longer an activity where only men have participation.” On which Tania agrees:

“It is a big challenge; people are getting a bit used to seeing more women in this. So they accepted it. One advantage is that you can find more women in other positions [in trader companies and institutions]. So it’s easier to get help in those places because of that. Things are not any longer like hyper-dominated by men, doors are opening”.

Such testimonies show the importance of qualitative methods when understanding women’s empowerment. It is through the testimonies of women’s life experiences that a better picture of women’s empowerment can be captured. Women in micro-mills refer to the opportunities beyond economic means that being part of a micro-mill has opened for them. They centre their discourse instead in the ‘power within’, the agency they have acquired that has transformed the way they see themselves in the coffee economy, their potentials, capacities and well-being.

4.4 Conclusion

Micro-mills in the Los Santos region are a family businesses model that opened doors for women to realise they had the capacity to be part of coffee related activities. The analysis indicates that, in this kind of private enterprise, women have leadership in the processing stages of the CGVC. Different from traditional development interventions, micro-mills in the Costa Rican context are enterprises born of the producers’ own agency and innovation. Not conforming with cooperatives’ clientelist behaviours, but having their own socioeconomic conditions (savings, potential markets, land, healthy farms, family labour, basic public services) to be entrepreneurs, these families decided to take the risk. As argued by Carmen and Sobrado (2000), when people recognise their current structures fail to

be accountable, but they have strong social capital on which to rely, people have greater opportunities to exert their agency and autonomously create strategies.

In terms of women's economic empowerment, the analysis of WEAI's five dimensions showed how micro-mill households' women in Tarrazú have gained participation in decision-making aspects of the CGVC. The micro-mills opened the opportunity for women to receive an income or have an associated business related to coffee value-adding. These women report having acquired a sense of autonomy since they have complete control over their income and have the freedom to prioritize in which aspects of their life they want to invest. Though not all of them own major assets, such as land, or have complete control over all the profit generated from the micro-mill, they are protected under law in the case of divorce; the legislation is considered to be very effective in Costa Rica's case. Under these three domains, women have acquired the 'power to' or have enough resources to exert their agency and achieve desirable outcomes.

Nevertheless, the time used and public participation in coffee showed mixed results. Interviewed women consider they have a 'poor time' during the harvest and milling seasons. This affects their leisure time and increases their workload with numerous activities, for only one of which they may get paid. However, they referred to having freedom of choice to decide how many tasks they wanted to be in charge of and even felt self-satisfied in having work to do. With respect to public participation, their testimonies show them being pioneers in attending and actively participating in coffee related workshops and training. They referred to how women each time are participating more in male-dominated coffee spaces, achieving the 'power with'. However, there are no formal organizations through which they can formalize collective action to potentiate more opportunities for women in coffee.

In evaluating micro-mills as an enterprise opportunity for women's empowerment beyond 'effective agency', instead of as 'transformative agency', the evidence shows women are self-aware and conscious of discrimination situations within Costa Rica's coffee system. They have challenged discrimination by feeling entitled to have or acquire skills and knowledge useful and necessary in micro-mills. Women have not only acquired agency or 'power to' but also the 'power within'. Lopez et al. (2017) report women in coffee activity in Costa Rica have better access to information and training, but more limitations on credit and land. Micro-mill inter-household gender relations show women have taken agency in the opportunities available to them and opened their own doors to be part of an economic activity dominated by men. Initiatives to attend training and other coffee public activities come from them, under the belief men are too busy in farming activities. In addition, they have had the entrepreneurial vision to start their associated businesses. Their 'power within' is not only expressed through the testimonies of fighting a '*machista*' culture but also in how these women

have seen changes in the well-being of those around them. During interviews, they continuously referred to situations that made them proud; achievements they have made; future projects they would like to carry out; and how they value the acknowledgements from international buyers and traders.

Analysis of the interviews shows that women in Los Santos have found their own path to be part of the value-adding stages of processing and milling rather than coffee farming. Such tasks require less physical work but more skilful knowledge and training in processing methods, roasting profiles and in management and accounting. Women have become the public face to represent the enterprise in terms of buyers, certification, tastings, marketing and State institutions. However, from a national and global value-chain perspective, it is still unknown what the real opportunities women have within the industry. It remains to be seen if, at the producer stage, women in micro-mills are consigned to management and value adding processes, or they can climb into other positions as traders, barista champions or personal projects linked to an international projection in the CGVC.

Chapter 5: Barriers to micro-mills as a new production model in Costa Rica's coffee value chain

The previous three chapters presented results from households' experiences of micro-mills as a sustainable alternative for coffee production in Costa Rica. This chapter analyses the main problems micro-mill households have faced in pursuing this alternative. The identified problems are divided into exogenous and endogenous issues and challenges. The former refer to issues that come from non-recognition of the needs of micro-mill households as family owned micro-enterprises within the Costa Rican CVC. Such problems specifically involve the conditions and necessities related to the processing and selling stages of coffee production that diverge from those of conventional producers and industrial mills. Endogenous problems are situations micro-mill households have encountered as a group at the community level in their struggles to formalize collective organizations.

This chapter is divided in three sections. First, an overview of the composition of the Costa Rican coffee institutional structure is presented to explain the lack of recognition for the situation and needs of micro-mills as new economic actors in coffee. Second, the exogenous problems reported by participants during the survey, focus group and interviews are presented. The final section examines the endogenous problems identified by micro-mill households and final remarks.

5.1 A brief overview of Costa Rica's coffee system

Coffee and coffee farming have long been central to Costa Rica's economy and the construction of its democratic State. The country's national identity was founded on the image of a rural middle class of family farmers depending on coffee coupled with a homogeneous, egalitarian society inherited from colonial times. As argued by Gudmundson (2014, p. 539), the fact that farms were owned by lower and middle-class farmers allowed the coffee growers as the "peasantry of the nineteenth and early twentieth centuries to transform itself into employer, self-sufficient household, and employee classes". Coffee created conditions for the emergence of prosperous communities where the dynamics of solid relationships and strong social networks characterized the population (Samper, 1993; Topik et al., 2010).

Historians and sociologists have attributed the achievements of Costa Rica's coffee system to the role the State played in the coffee economy (Gudmundson, 1990, 2014; Topik et al., 2010). During the second half of the 1900s, peasant livelihoods and family farming around Latin America were threatened by corporate land grabbing (see de Janvry, 1975; Kay, 2015). Meanwhile, in Costa Rica family-owned farms consolidated (Babin, 2012). Progressive welfare policies adopted by the government in favour of coffee producers saw the creation of the Costa Rican Institute of Coffee

(Icafe) in 1933⁴⁸. At that time, Icafe was given the function of regulating abusive relationships between the producers and the powerful national oligarchy owning the mills and export channels. That oligarchy defined its own rules to the detriment of producers' conditions (Acuña, 1987). In the 1960s, producer coffee cooperatives were created and provided producers access to their own milling and selling facilities. This was accompanied by national banking system programmes which allowed them to access credit through the cooperatives. Additionally, large investments in extension and research projects were made to expand the Green Revolution farming techniques. This production model positioned the country's coffee production as one of the world's highest yields per hectare.

In 1961, Law No. 2760, the 'Law to regulate the relations among producers, mills and exporters', gave Icafe the legal authority to regulate the national coffee market in favour of coffee producers. Likewise, Icafe had the responsibility to promote national coffee consumption, to research and develop technology and regulate a minimum fair price paid by mills each harvest (Law-No.2762, 1961). Such State intervention ensured accessibility for producers to deliver, process and have a final market for their coffee production. One of the significant outcomes was to reduce the commonly exploitative costs of at-the-gate buying transactions. The institutionalization of the coffee system also allowed coffee producing regions to continue to exist⁴⁹ after the market was deregulated in the 1990s. Samper (2010) argues Costa Rica's coffee farmers did not suffer from the 1991's international low price coffee crisis due to the fixed prices Icafe was able to maintain for producers (Figure 5). The socio-economic relationships developed in the context of a State-regulated market were sufficiently robust to maintain a viable market for all producing regions until 1998. However, Icafe's strength to control prices from downfalls deteriorated during a price drop from 1998 to 2002 (Figure 5). Measures taken to reduce such risks included the creations of specific laws such as Law No 7301 FONECAFE 'National Fund to Stabilize Coffee Production'. The aim was to balance liquidation prices for producers when, because of international low prices, that year's production cost was 2.5% above the liquidation coffee price (Law-No.2762, 1961)

⁴⁸ It provided for annually fixed coffee prices that varied according to quality and regional designation.

⁴⁹ At least four of the coffee producing regions are 'low altitude regions', which means that, even though they produce *Arabica* coffee, the quality is lower and volumes are also lower per hectare. After the 2000 coffee crisis many coffee households were forced to change activity because they could not make a living from coffee income. Since then coffee production has become more concentrated in high altitude regions such as Los Santos.

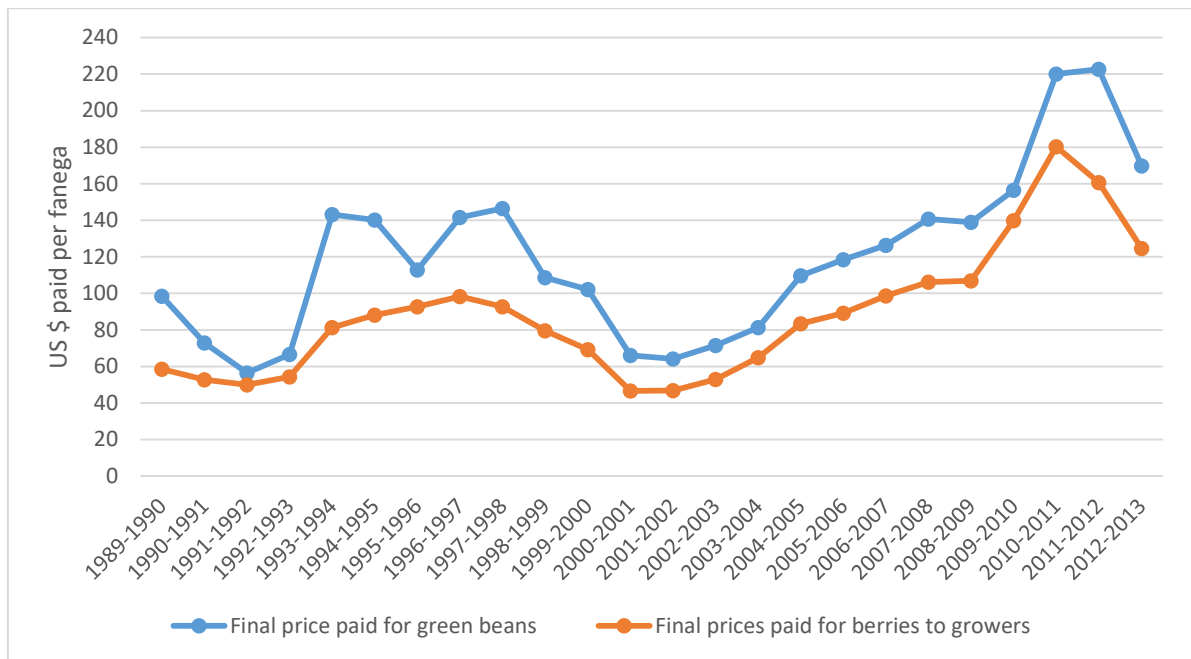


Figure 5: Coffee prices per fanega from 1988-2013 paid for green coffee and pay to farmers
Source ICO (2019) and Icafe (2018a)

During the last two decades, Icafe has tried to modernize the national coffee industry as an effort to enhance the resilience of national coffee production to international coffee price collapses and climate change. Their updates relate to demands made by the international market regarding sustainability, quality and traceability. Some of these efforts involved the creation of a Geographical Indicator (GI) for Costa Rica's coffee to enhance its international market image. At the national level, Icafe signed agreements with the milling sector about preserving coffee quality to position Costa Rican coffee in the specialty coffee market. As a result, mills have to agree to accept only ripe berries, pay differentiated prices to producers for quality berries and use standardized processing methods (Icafe, 2018b). Moreover, the 2011 leaf rust crisis which affected more than 68% of the national coffee plantations and reduced national yields in 38% (Banch, 2013) was a clear sign that plantations were affected by climate change effects. Solutions proposed by the institution were to invest in research on leaf rust-resistant varieties, pay subsidies to smallholder farmers; have meteorology stations to study climate variability in coffee producing regions; and develop a programme for low carbon emission certification for farms and mills (NAMA café) (Icafe, 2018b).

However, despite efforts made by Icafe to strategically 'promote quality over quantity' (Icafe, 2018b) and exploit the price advantages of the niche market for specialty coffees, the responses of coffee farmers analysed in this thesis indicate that such strategy in practice, is not being accomplished. Costa Rica's coffee production model is still based predominantly on quantity. As mentioned in Chapter 2, conventional farmers continue to focus on producing volume, as high quality production is perceived as requiring greater time investment and more wage labour while not guaranteeing that

mills and cooperatives will pay a fair price for such quality. Likewise, cooperatives and mills are industries owning infrastructure and facilities that process coffee at large scale and sell it to commodity markets. Mills and cooperatives would sell high quality micro-lots only when buyers request it and agree on paying differentiated prices; however, this represents a small percentage of their total production. In fact, one micro-mill household reported that a neighbouring cooperative would ask them to process micro-lots when these are requested by buyers.

Contrary to the notion of 'quality' in the volume model, the RCM looks for a kind of quality that can be realised through specific farming techniques and processing methods. At the farm level, coffee producers need to give careful attention to management: reduce their agrichemical input; have shade tress coverage so berries ripen slowly and get sweeter; renew plantations with varieties that reach high cupping scores and not necessarily higher volumes; and train and pay higher wages to pickers in order for them to collect only very ripe berries. At the processing stage berries need to be treated in micro-lots with personalized attention depending on the method choosen—washed, natural or honey. This requires machinery that is able to process micro-lots instead of large volumes, and therefore, demands greater amounts of manual labour as opposed to standardized and automated technologies. Likewise, RCM buyers take pride in offering fair prices to compensate for all the efforts micro-mill households make. Moreover, Forssell and Lankoski (2018) and Gyllensten (2017) contend that buyers re-educate consumers by linking their consumption to symbolic imagineries of sustainable farming, rural development and territoriality of coffee producers.

Micro-mill households stated that one reason they left the conventional system was that the efforts they made to produce quality and innovate were not valued. Rodrigo and Damaris commented: "We would take our very ripe berries [standard for Rainforest Certification], and they would mix it with everyone else's coffee that had green berries, stones and branches". Tano noted similar issues with the cooperative manager when proposing his initiative : "When I began to change my coffee into organic, I asked the [cooperative] manager if he was going to receive my coffee. [He answered] (...) No, that is too complicated".

Icafe is facing challenges on how to be part of high-quality coffee markets that can enhance coffee household's well-being and greater environmental sustainability. Their idea of quality is still framed in Green Revolution imaginaries and technologies, what Foxon (2011) defines as a 'technological lock-in'. Foxon (2013) argues that the adoption of certain technologies is based in positive feedbacks and returns. For example, economies of scale can reduce the unit cost of production when higher volumes are produced, reducing consumer cost, and therefore this becomes a consumer preference.

The existence of such a lock-in is evident in an audio interview given by former Icafe Executive President in August 2018, during which he argued that the institution's goal was to continue

promoting the modernization of coffee farming. He said that, because of population growth and urbanization, much fertile coffee land had been designated for housing (Castro, 2018). Therefore, the solution was to continue with a model based on varieties that give high production per hectare, are resistant to pests, and work under a commodity driven system. However, this system has proven to be vulnerable to fluctuations in the international coffee price (C. Bacon, 2005), is environmentally unsustainable (Perfecto & Vandermeer, 2015), and limits the social mobilization of smaller farmers (Canet-Brenes & Soto-Viquez, 2017; ECLAC, 2002). As shown in Chapter 2, conventional farmers reported using less environmentally friendly farming practices, and had similar yields per hectare to micro-mill households. The volume production model of conventional farmers is not as effective as it is said to be. However, conventional farmers keep using practices like unshaded coffee, and agrichemical and herbicide use. Such response is evidence of that lock-in related to technologies that conventionally have been use, limiting producers to shift to more sustainable farming practices.

5.2 Challenges for micro-mills in the Costa Rican coffee system

Chapter 3 discussed micro-mill households' journey to becoming entrepreneurs and learning the parameters of a different coffee model—a process that has the characteristic of being autonomous, outside government or ONG intervention programs. The situation has caused the households to develop in a marginal manner in comparison to former Costa Rican coffee sites. Households argue that they are not recognised as new stakeholders under the current system and feel excluded from current coffee industry development projects. For example, Manuel commented:

"Banks here don't have a credit platform adapted to micro-mills. They do have everything for cooperatives, but not something similar for us. I mean not taking us through a whole bunch of bureaucratic stuff that is very slow. In San Jose things do not get moving, they don't understand the needs of our enterprises".

However, not having an adequate credit system is not their unique problem. As shown in **Figure 6**, interviewed households stated that Icafe does not understand the micro-enterprises model. They need to comply with all the paperwork Icafe asks cooperatives and mills to complete, not considering that micro-mill households are based on family labour and process small amounts of coffee. Moreover, since the system recognises only conventional production all training programmes focus on addressing the needs of that population, putting central attention to farming techniques⁵⁰. Such focus leaves aside training in processing methods, enterprise management and coffee markets, which are crucial knowledge areas for micro-mill households.

⁵⁰ Icafe's strategic plan for 2014-2023 establishes that its technological focus is based on "genetic improvement of seeds, plague and disease control and fertilization and plant nutrition" (Icafe, 2013).

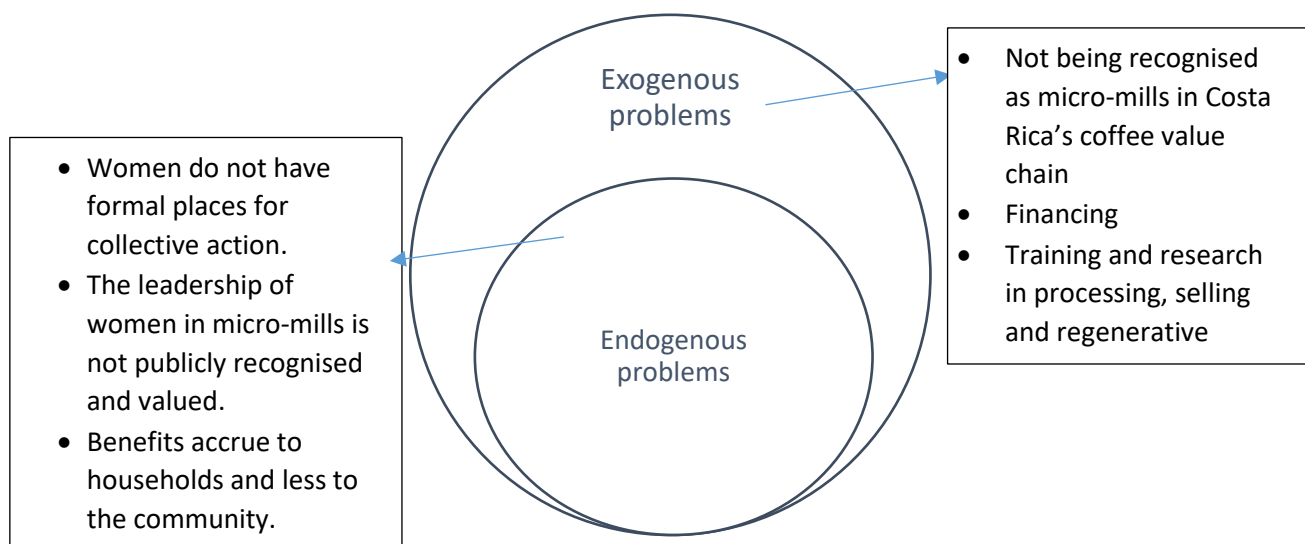


Figure 6: Exogenous and endogenous problems faced by micro-mill households

Figure 6 presents the other identified problems that are considered the endogenous issues micro-mill households face. As discussed in Chapter 4, women's labour and leadership in coffee are underrecognised. Women contend that having an organized group could enhance decision-making in the sector and create better conditions for them. Likewise, whereas Chapter 3 recounts the many ways having a micro-mill and being part of the Relational Coffee Model (RCM) has contributed to families' well-being, this wealth and the benefits stay within each household. There is no formal mechanisms where buyers and the network of knowledge sharing, better payments and global networks extend to the micro-mill households' communities.

5.2.1 Exogenous problems

5.2.1.1 Under recognition of micro-mills

The State plays an important role in how the coffee industry works in Costa Rica and defines how much support and regulations producers, mills and exporters have. However, Law No. 2762 has not been updated since it was passed in 1961. The law clearly defines the role of each stakeholder. Producers are conceived as those who produce the plants, pick and deliver the coffee, which is a vulnerable position in an international coffee market, and therefore needing support. Mills are conceived as industrial processing facilities, either private or cooperatively owned. They are in charge of selling, exporting and negotiations with international roasters. The law establishes that, to have a democratic process and address the needs of all sectors, Icafe's board has to have the participation of producers from each of the country's eight coffee regions, and representatives from mills, cooperatives and exporters (Law-No.2762, 1961). Currently, in this coffee industry structure, micro-mill households are invisible; they are not represented on Icafe's board. While that situation

continues the micro-mill households need to comply with all the technical requirements asked of industrial processing mills while having no legal support under current coffee legislation.

When micro-mill households were asked from whom they received collaboration, they clearly stated that none came from the government. They were able to start the enterprise thanks to the help of friends, family and individual government officials from institutions other than Icafe. Rita commented: “No, not from the State. It has always been our family. My grandma was the one that helped us to build this micro-mill”. Danilo and Catalina’s experience was similar: “This began thanks to the help of a buyer, close family members and the empathy some other peoples have had with us”.

Other complaints by micro-mill households relate to bureaucratic problems they have with the paperwork required by Icafe during harvest season. As Nelson and Maritza shared:

“In 10 years of having the micro-mill, we do not know what it is to have an Icafe engineer visiting us, to know how the enterprise runs. There is also paperwork we need to deliver every 2 weeks to Icafe during harvest. To our surprise, once we went to the local office to pick the forms up and their answer was ‘We don’t them have here. You need to go to Heredia’s central office to pick them up and pay for them’. Heredia is 2 hours away from here. Or they go ‘You can ask Antonio [another micro-mill owner]; he might sell you some’. It is just unbelievable that they can’t have a system where you can make a bank deposit and pick up the forms here. I only need like five of those forms a year. They cost less than a dollar and a trip to Heredia is almost 30 thousand *colones* [almost USD \$50]”.

5.2.1.2 Financing

Coffee farmer debt has become an issue in the last decade because of coffee leaf rust, international coffee prices and the age of plantations that have not been renewed. In 2018, Costa Rica’s parliament was pressured to pass a new law to create a fund to finance producers. The main objective of Law No. 9631 FONASCAFE ‘Fund for the Sustainability of National Coffee Production’ is to extend credit to renew plantations that, because of their age, are low producing (Law-No.9630, 2018). It is also intended to stimulate producers’ acquisition of better and environmentally friendly technologies and increase productivity and farm competitiveness. Though this law is very recent, it did not include any specification that could address micro-mill households’ needs.

Many farmers decided to set up their enterprise because they were already in debt and conventional coffee was not enough to repay it. As Edgar mentioned:

"The hardest on setting up the micro-mill were economic issues. We had a big debt since long ago under the conventional model. So, to pay that debt, I must sell the farm or see how I

could add value to my coffee, to do something different. So we needed to make the new investment to construct drying beds, buy the new equipment and machinery. It was hard, really hard to begin without any type of financing”.

The lack of recognition of the specific circumstances of micro-mills is also evident in other State policies related to coffee farmer subsidies or micro-credits. For example, the objective of Law No 7301 FONECAFE was to balance liquidation prices for producers when that year’s production cost above the liquidation price (Law-7301, 2001). As reported by various micro-mill households, they have never benefited from this law, a situation that is further complicated by the fact that the fund is capitalized by taxes paid by mills for every fanega processed. If a mill does not pay the FONECAFE’s tax, the mill is suspended from operating until it cancels the debt with Icafe. However, the reason why micro-mill households have never seen any benefit is that FONECAFE is in debt to the State since 2011, when some coffee regions were compensated after a low price coffee year (Icafe, 2015; Nación, 2010).

Similarly, in 2008, Law No. 8634 “National System for Development Bank” used the taxes that private banks pay to Costa Rica’s Central Bank to give loans to small and big enterprises with viable projects at low-interest rates. As shown in Chapter 2, 66.7% of micro-mill households surveyed had a bank loan from the Development Bank programme. However, some micro-mill households say they could not access this credit, mainly because it would be the very first time they had applied for a loan. Others commented that they were able to access it because a very high bank official helped them. For others, any money they received from this programme would impose conditions that do not meet their needs⁵¹. Marco’s comments are representative of other households’ experience:

“We dream about being able to process all our coffee in our micro-mill, but we also need liquidity during harvest. Contrary to conventional farmers, micro-mills do not receive any money during the harvest; it isn’t until six and nine months later [that buyers make payments]. The Bank for Development treat us like an industry; so instead of giving us disbursements from November to February when we need it, they do it in May”.

Anita explains how the payments in the RCM coffee market work in Costa Rica:

“Buyers don’t pay until they have the coffee in their storage and make sure it arrives with the cupping score they paid for. We give coffee like two months of rest in our storage, and then it takes like a month and a half to arrive, let us say to Japan. So buyers asked for the

⁵¹ GIZ project NAMA Café has a financial programme linked to the Inter-American Development Bank (IDB) in which participating micro-mills can access loans, but only to finance environmentally friendly technology for producers and mills.

coffee not to be shipped until July or August. That means the payment would be arriving to us around November, when the new harvest is almost going to start”.

The survey showed that 48.5% of micro-mill households had or have informal loans, which supports their testimonies about how difficult it has been for them to access credit. Facing a lack of formal finance channels, many micro-mill households developed their own strategies. Tano commented: “We began little by little. The first years we processed half of the harvest here and the rest was delivered to the cooperative”. A few household members migrated for short periods of time to the United States, as Maritza shared: “Nelso kept migrating to the US. He had to leave each year. If not, it would have been impossible (...) After four years of operation, and showing banks the long term contracts we had with buyers, we were able to access a loan”. Others, such as *La Tasita* micro-mills where eight siblings invested their savings to form the micro-mill, combined resources to finance their enterprise. Yet other households looked for loans with non-governmental institutions. Luis and Libertad’s experience was: “One foundation gave us a hand so we could begin. I do really appreciate their help; but we had to move from there. Their interest rates were very high”.

5.2.1.3 Research and training

Chapter 2 analysed the survey and showed micro-mill households had a higher training participation rate during the last two years compared with conventional households. Likewise, in contrast to conventional farmers whose training concentrated on farming practices, micro-mill households looked for programmes where they could learn about drying techniques, processing methods, marketing, coffee quality control, barista skills, and tourism, among others. Many of these training programmes they financed themselves. As Gustavo commented:

“To be honest with you, we began knowing nothing; it was my father and me. The very first advice we received came from the company that sold us the machinery. They were with us the first three times we operated the machines. We just assumed that when we had any doubt the solution was to consult other micro-mills that had more experience”.

In Rita’s experience, micro-mill households with more years of experience require different, more advanced training programmes that can improve their capabilities because they already manage the basics of coffee processing and selling:

“When I go to training given by public institutions, the quality varies a lot. Sometimes I feel I know more than what they are trying to teach. There have been programs that made me feel sad; I feel like I’m wasting my time”.

Not least important is Santiago's observation of the lack of government initiatives to research and investigate topics of relevance to micro-mills. Like other micro-mill households, he talks about not having access to the coffee varieties they prefer, not being able to receive training in environmentally sustainable practices, and not having coffee quality improvement adapted to the specific micro-climates present in the region. He commented:

"We have a really big problem here, and it is that no one is doing research. In the local MAG (Ministry of Agriculture and Cattle) office, there is only one engineer who helps more than 80 micro-mills here in the region; he believes in us. We are very thankful to him. In respect to Icafe, I have some appreciation for the local officials; but those with power in central offices, no. They are more interested in helping the big companies".

5.2.2 Endogenous problems

5.2.2.1 Women's role in coffee is not publicly recognised

Endogenous problems in micro-mill households, as shown in Chapter 4, relate to women's leadership in micro-mill households. Women's testimonies indicate that it required hard work to open their own places in the Costa Rican coffee industry and, most of all, be taken seriously by government officials, traders and their communities. Tania explained her realization that, in coffee related places and institutions where women participate, it is easier for her to be taken seriously or get prompt responses. She mentioned that most of the network of people on whom she relies for advice are from other coffee regions. Thus, she considers it essential that micro-mill women form an organised group in order have to have greater impact in the national industry. "Here we need a group of entrepreneurial women; but nothing, we have absolutely nothing".

One factor in the lack of recognition of the participation of micro-mill women in the CVC is the fact that they are working as isolated islands. The good contributions they make to the coffee sector can be identified only when each case is studied individually, a situation similar to that identified by Duncan and Pascucci (2017) among circular economy initiatives in Europe. However, like any other place where women have taken the lead and have active public participation, it is a challenge to attain and keep positions of greater prominence. The real opportunities for micro-mill women to participate in boards and international barista championships or to attain higher positions in trading companies are still unknown. Therefore, it is of strategic importance for them to collectively organize and influence public policy that addresses their needs.

Moreover, women's empowerment policies in Costa Rica's agricultural sector are incipient subjects. Icafe does not have any formal policy to address gender equality in the coffee sector, but the current government is working on a policy focused on the agricultural sector. Although the officials leading

the plan completed public consultation with groups of women around the country, they exclusively focussed on women working in primary production and the government reaffirmed that actions would be oriented to those necessities (Presidencia-CR, 2018). Chapter 4 explained how women's participation in coffee goes beyond primary production because their work relates to value adding and commercialization.

5.2.2.2 Micro-mills and community well-being

Micro-mills face a major challenge in democratizing the benefits they realise through their connections with the RCM. Duncan and Pascucci (2017) argue that food producers who are trained to be innovative and challenge the current ways food is produced can create elite practices instead of democratized experiences. However, Carolan (2018) provides a different perspective that is relevant when people work collectively. After studying over 300 cases in the USA, he concluded that 'big individual farming' is declining and more people are adopting strategies through what he calls 'ownership through sharing'. The latter involve organizations in which farmers share machinery, land, knowledge, equipment, and markets. He argues that, when food producers work collectively, the process of producing food becomes a different experience for farmers, households and communities (Carolan (2017, 2018). Working collectively facilitates greater participation among members, fosters social justice and autonomy, and encourages people to act more empathetically towards others' struggles (Carolan, 2018). Moreover, power is shared, opportunities for others are created, and wealth is not concentrated.

Micro-mill households have developed in an isolated way. However, they are fourth generation coffee producers, who grew up knowing the efforts their grandparents and parents made to have better coffee market conditions within the cooperative movement. Evelio and Rosa made an important remark regarding the associative culture of the region: "Here where we live, it is common to see families getting together to develop some kind of micro-project". Chapter 3 analysed the different ways micro-mill households saw themselves as contributing to the community; but those efforts depended on their individual will.

One of their biggest struggles has involved efforts to build an association. Their first attempt in 2013 lasted only three years. It included over 40 local micro-mill households who wanted to build a shared packing facility for green coffee and to host an annual coffee fair where people from around the country could learn about the different coffees from the region. Gustavo suggested their main weakness was that "The association exclusively focused on organizing the fair" and, as Tano mentioned, "After each of the three fairs, there were financial losses". Evelio considers that getting together is hard after that experience, but also because "There have been micro-mills with the opportunity to position their coffee in very high-end markets. Those people, one way or another,

think that they are fine and don't need the help of others". Tano suggests that it is part of a "Selfish attitude, and what it is needed in order to grow is to be more mature and get together because that's what strengthens groups and makes them demand solutions".

Reasons for micro-mill households' struggles to work collectively can relate to their disenchantment with the traditional cooperative system (see Nunez, Rosin, & Rata, 2019). This situation differs from how RCM has been developed in other countries where cooperatives have a central role in distributing wealth. As shown by Hernandez-Aguilera et al. (2018) and Vicol, Neilson, et al. (2018), the RCM in Indonesia and Colombia is able to function because buyers and NGOs establish the cooperatives in the coffee producing regions. This was done because, first, it is a way to gather small farmers through horizontal coordination and to make a collective investment in machinery and infrastructure. Secondly, having a central milling facility enables better traceability and monitoring of coffee quality. Thirdly, governments and roasters consider it to be a model that is consistent with the logic of empowering and promoting fairer relationships.

Moreover, the relationships between micro-mills and buyers shows the latter's primary goal is not to foster community development, but to have a close, long-term relationship with a micro-mill household. The buyer's main interest is to create adequate conditions for that supplier to keep delivering the quality desired. The Costa Rican coffee system is attractive to buyers because it ensures basic conditions relating to quality standards, coffee industry services and the provision of public services in coffee communities. Therefore, buyers do not need to worry about creating those conditions. Nonetheless, from the perspective of social justice, endogenous development and well-being, the gains from RCM are being concentrated in those who can participate. In the future, this could become problematic. On the one hand, cooperatives keep working as a solitary system where big producers sustain the very small farmers and, on the other hand, micro-mill households become a coffee elite concentrating knowledge, gains in and the control of the high-value coffee market.

5.3 Conclusions

Identifying the problems micro-mill households face allows us to reflect on how having a strong institution to support and meet the needs of the coffee sector has provided a great advantage for coffee households to keep a livelihood in the Costa Rica's coffee market. However, Icafe is facing challenges on how to identify and adapt to changes in market conditions, consumer choices and demands without excluding some groups from the support they need. This is the current situation for micro-mill households. The underlying cause of each identified problem is the lack of institutional recognition for micro-mill households. The current system is dominated by the larger firms or, in a better case, cooperatives. These groups, through their legally guaranteed access to Icafe's board, influence the decisions of the institutional authorities.

This situation reinforces Icafe's belief and actions that the future of coffee production depends on technological advances to meet the commodity market needs, albeit some of the current strategies focus on reducing the carbon footprint of the farming and processing stages. Also, corporate mills and cooperatives lead their own social responsible programs. Such initiatives do not directly impact coffee producer households' well-being in crucial areas such as income, environmental regeneration and gender equality and participation. Whereas, as shown by micro-mill households' testimonies and this research, a concentration on quality, specialization, artisanal processes and sustainable farming techniques improves household livelihoods.

Throughout this study, micro-mill households' experiences have shown that they follow more innovative and sustainable ways to make a livelihood from coffee. Regardless of the barriers analysed in this chapter, these households have established enterprises and each year more families in Los Santos follow their example. Despite their small size compared to cooperatives and private mills, micro-mill family enterprises need to be recognised and supported by the Costa Rican coffee system. The households are not asking for subsidies; but they would like to have support that makes it easier to run their businesses. Working on their research needs and experiences could produce initiatives to transform the current coffee model towards the demands of high-quality coffee markets. Moreover, women can have the recognition and support needed with a stronger presence in spaces outside their household and communities in other public spaces such as boards, trading companies and international trainings and championships. Therefore, in the next chapter as part of the conclusion, policy recommendations are made to address barriers faced by micro-mills households.

Chapter 6: Conclusions

The central motivation for this study was to understand the economic and social phenomenon associated with the micro-mill technology adopted by coffee households in Los Santos. Each year more coffee households leave a value chain dominated by the cooperative and private mills and have decided to invest in their own family enterprises. Coffee households do this knowing that coffee's international prices tend to be lower each harvest. Therefore, one critical question in this study was to understand what benefits micro-mill households are receiving that the conventional coffee model of production is not providing.

The process of exploring their history, experiences, motivations and values showed micro-mill households comprise a particular group of people. They are enterprises born from the producers' own agency and innovation. They have not conformed with the cooperatives' clientelist behaviours, but have their own socioeconomic conditions (savings, potential markets, land, healthy farms, family labour, basic public services) to be entrepreneurs. These families decided to take the risk. Pioneers saw an opportunity after the coffee crisis in the 2000s when buyers from the USA and Japan began to visit the region looking for *Tarrazú coffee*. There was a market demand for organic and high-quality coffees. However, cooperatives and mills were not incentivizing in their associates, or promoting the possibility of becoming part of a new coffee market. Against the odds, the micro-mill households decided to experiment in these new ways of producing coffee, and even created their own machinery and facilities that could process the type of coffee they wanted to sell.

Over the years, other households followed the pioneers' example; many micro-mill households commented that the hardest situations they experienced were related to learning how to process coffee, to find loans for the investment and begin with the project without prior contract with a buyer. What they did know was that their farms had the attributes to produce the desired high quality demanded by the specialty coffee market and that the conventional coffee model was not interested in promoting. A central strategy for household heads – who knew only tasks related to plantation farming – was to include family members, specifically women and the young, to be in charge of the processing and selling stages. These activities required new knowledge and higher skills.

Thus, when asking what well-being means for them and how the micro-mill has contributed to it, micro-mill households' answers centred around their stories of hard work overcoming obstacles; pride in owning an enterprise; watching their families unite around the family business; being part of a network of people whose work is acknowledged and innovation is stimulated; and realizing how

their farms have become healthier plantations with the change to more environmentally friendly farming techniques. Increased income is also one benefit, but micro-mill households refer to it as the means instead of the ultimate outcome of accumulating profit.

Likewise, understanding micro-mill households' experiences from a broader perspective, captured the more-than-economic impacts of the RCM on their livelihoods. This was possible due to the use of the SLA and DE approaches. SLA analysis in Chapter 2 compares conventional and micro-mill households, facilitating the identification of the basic differences between the two groups in terms of farming practices, income, access to credit, farm management decision-making and general strategies for households to realize an income. Analysis of the surveys raised many other questions regarding the potential micro-mill enterprises have for a more sustainable and fair coffee production model for households, communities and their agri-ecosystems. The DE approach enables the examination of those aspects, which were presented in Chapters 3 and 4.

Despite the efforts by micro-mill households to experiment and set an alternative model of coffee production in Costa Rica, they are still facing barriers that limit their participation and constrain the functioning of their businesses. For this reason, this final chapter is divided into two sections. The first part offers recommendations to enable changes to current coffee laws and policies. The objective is to enhance the agency micro-mill households have acquired within the CGVC. The final conclusions are then formulated in a resumé of the main results of each of the proposed research questions.

6.1 Policy recommendations for coffee micro-mill households

The assessment of policy in this section is based on the discussion in Chapter 5 of the endogenous and exogenous barriers that confront micro-mills households as new stakeholders in Costa Rica's system. This assessment leads to recommendations to strengthen existing legislation and the government's mid- and long-term policies, programmes and plans to better address the unique situation of micro-mill households in Costa Rica's CVC (see **Table 15**). Costa Rica has a vast amount of legislation in most areas to promote its socioeconomic and environmental development. The recent PEN (2018)⁵² assessment of Costa Rica's legislation notes that there is no lack of laws but claims that bureaucrats fail to implement them properly; there are gaps because of scarce public participation in development and implementation of the laws; and limitations deriving from disarticulation among institutions, political powers and budgets. Taking this assessment into account, the proposed

⁵² 'Programa Estado de la Nación', or 'Current State of the Nation Programme' is an annual project financed by the public universities of Costa Rica that assesses the country's situation in different areas such as sustainable human development, economy, poverty, social equality, respect for democracy, environmental sustainability, public transport and the electoral system.

recommendations are to enhance current initiatives and policies as opposed to introducing new legislation.

Table 15 summarises the exogenous and endogenous problems faced by micro-mill households. The second column lists the laws, policies, plans or possible new projects that can be strengthened to address micro-mill households' demands. The main recommendations or strategic actions are in the fourth column and the stakeholders and institutions involved are presented in the last column.

Table 15: Policy recommendations to support coffee micro-mill households

Micro-mill Situation	Current Legislature Gap/Structural Problems	Recommendation	Stakeholders Involve
Exogenous Issues and Recommendations			
1. Not recognised as a new stakeholder in the Costa Rican CVC,	Law-No.2762 (1961) is out of date in excluding new stakeholders within the CVC.	Submit a project reform of the law so micro-mill households are considered a stakeholder, based on the family enterprise model.	<ul style="list-style-type: none"> • Congress members who take part in the commission for agrarian matters • Icafe, MAG, Inder • Micro-mill households
2. No public financing programmes assessing micro-mill households' needs,	<p>Law-7301 (2001) and Law-No.9630 (2018) made to finance the coffee sector focus on production and do not recognise micro-mill households' needs.</p> <p>Bank for Development programmes does not have a credit programme adapted to micro-mill households' needs.</p>	<p>Law-No.9630 (2018) on its executive norm should include special consideration to direct funds to finance micro-mills.</p> <p>Bank for Development has to develop a specific loan programme that addresses the needs of micro-mill households.</p>	<ul style="list-style-type: none"> • Congress members who take part in the commission for agrarian matters • Icafe, MAG, Inder • Micro-mill households • National (BN, BCR, BP*) and private banks
3. No training programmes or research focused on the new capacities require by micro-mill households.	<p>Current Icafe policies focus on training for conventional farmers' needs.</p> <p>Support micro-mill households to focus on the needs of industrial size mills.</p>	<p>Icafe should develop training programmes for micro-mill households based on their research needs, farming practices.</p> <p>Focus on quality production and processing methods based on what the specialty markets demand and develop</p>	<ul style="list-style-type: none"> • Icafe, MAG, Inder • Universities (UNA, UCR, UNED, TEC, CATIE, EARTH) • NGOs (SCAA**, Coffee for Change) • International buyers and traders • Micro-mill households

		capacities for them to become traders.	
Endogenous Issues and Recommendations			
4. Women's participation in coffee is under recognised and their collective action is dispersed.	<p>National policies on gender have no plans that show specific ways women in coffee issues are going to be solved.</p> <p>Icafe does not have any policy or strategic plan to address gender equality in coffee</p>	<p>The gender policy in agriculture should include specific actions that address issues women face such as land ownership, credit conditions, gender equality sensitization for institution officials.</p> <p>Icafe has to support more programmes that enhance the role women play in coffee at all levels of the CVC and its board has to respect the norm of having 50% women representation.</p>	<ul style="list-style-type: none"> • Icafe, MAG, Inder • Inamu, IMAS*** • Programa Tejiendo Desarrollo • IICA**** • UN Women • Micro-mill households • Inder and the Territorial Rural Development Plan for Los Santos • Mideplan*****
5. Benefits from the RCM are not directly benefiting the community.	<p>Benefits and relationships among buyers and micro-mill households stay at the individual level.</p>	<p>A participatory certification system</p> <p>Workshops with buyers and micro-mill households about the importance of shared economies and collective action.</p> <p>Develop a seed bank of varieties preferred by micro-mill households</p>	<ul style="list-style-type: none"> • Inder and the Territorial Rural Development Plan for Los Santos • Micro-mill households • Universities (UNA, UCR, UNED, TEC, CATIE, EARTH) • Other local organizations (Association for Tarrazú Origin Denomination)
<p>*Costa Rica National Bank (BN), Costa Rica's Bank (BCR) and Costa Rica's Popular Bank (BP)</p> <p>**Specialty Coffee Association of America (SCAA)</p> <p>*** Mix Institute of Social Support (IMAS)</p> <p>**** Interamerican Institute for Agricultural Cooperation (IICA)</p> <p>*****Ministry of Economic Planning (Mideplan)</p>			

The first recommendation consists of micro-mill households creating alliances with current Congress members to formulate and send to Congress a legislative project to reform Law No. 2762. In the 60 years since the law was approved, coffee market relationships have become diverse with more stakeholders, in both number and variety, participating. Currently, the law exclusively protects

conventional producers from unfair market relationships with mills and traders. However, as discussed, micro-mills represent a new type stakeholder with a distinct production model based on the small enterprise, family labour and sustainable farming practices. The aim of this legislative project is for micro-mills to be recognised as a family enterprise, that is similarly vulnerable to unfair relations with exporters but have different needs from those of industrial mills in terms of paperwork, tax payments and functioning permits. Likewise, micro-mill households should have representatives on Icafe's board; create specific budgets and alliances with other institutions for research and training; and credit programmes that address the unique situation of micro-mills.

While a reform of Law-No.2762 (1961) would include consideration of the needs of micro-mill households in terms of financing and training, it is not a final solution. A law reform would work as legal protection for micro-mill households. Thus, when new laws or financing programmes for small and mid-size enterprises are made, they will have legislative protection. Therefore, prompter action is necessary for micro-mill households to negotiate with Icafe so that, in the upcoming Executive Norm for Law-No.9630 (2018) that dictates how the law is going to be executed, it includes clauses that allow FONESCAFE funds to be used to finance micro-mill households' needs. This amendment should include a system of disbursement aligned to micro-mill households' harvesting and buyers' payment calendar. A similar recommended change is needed for the Bank of Development credit programme. It is important to create a separate credit line adapted to micro-mill households and to not continue to treat them as conventional producers or industries. In order to accomplish this recommendation, micro-mill households must invest effort in articulating their needs and concerns to actors such as members of Congress, public institutions in the agricultural sector and allies from public bank boards.

Likewise, research and training is an urgent issue for Icafe to cover in addressing the needs of micro-mill households. The institution should conduct a series of workshops with all micro-mill households from the different coffee regions and listen to their research and training needs. It is crucial to establish strategic alliances with the academy and the public and private sector to facilitate collaborative research and training programmes.

Regarding a policy for gender equality in coffee, the current government is already working on a policy focused on the agricultural sector. The Ministry of Agriculture and Cattle (MAG), in conjunction with the Costa Rican Institute of Rural Development (Inder) and the Costa Rican Institute for Women (Inamu) has included a gender action line in the Costa Rican State Policy for Territorial Rural Development 2015-2030 (and its former plan for 2017-2022). The policy and plan approach gender participation in agriculture through two objectives: 1) the need to close the gender gap when delivering infrastructure subsidies and other government services for rural development; and 2) to

create differentiated credit access for women to develop small and mid-size enterprises in rural areas (Inder, 2017).

Although the officials working on the plan completed public consultation with groups of women around the country, they exclusively focussed on women working in primary production and the government reaffirmed that actions would be oriented to those necessities (Presidencia-CR, 2018). Chapter 3 explained how women's participation in coffee goes beyond primary production because their work relates to added value and commercialization of coffee products. Therefore, women in micro-mill households should be consulted to broaden the focus of the gender policy. This would open the opportunities to include actions that solve the needs of women in micro-mills. In this process, Icafe has to play an important role as the institution that represents this population.

It is also important to create alliances with neighbouring coffee producing countries and NGOs that already have experience in creating gender equality and women's empowerment policies, e.g., Colombia and its Coffee Federation (Federación de Ceferos de Colombia). Since 2006, the Colombian coffee sector has implemented a policy for gender equality and has worked with over 164 women's community organizations in over 15 counties (Federaciondecafeteros, 2016). In the last four years, in an alliance with UN Women as part of Colombia's Peace Treaty, they have created conditions for women affected by the armed conflict to become coffee farmers and have ownership of their land (UN-Women, 2017). Taking this experience on board, Icafe with Inder and the Territorial Development Plan for the region and other local associations such as the Denomination of Origin Associations have a big role to play in mobilizing women to collective action. This would help to develop a clear agenda of the strategies they would like to follow to promote gender equality and women's empowerment in the coffee sector, that includes more than infrastructure and credit objectives as established in the upcoming plan.

Lastly, improving micro-mill households' conditions will be difficult if the households do not organize as a cohesive group that takes concrete action. These households have the energy and know this is important. Once organized, there are many projects they can implement in a more autonomous manner without depending on Icafe or other public institutions. Given their experience with the failed association and unfavourable responses to the cooperative model, an option is to form a Participatory Guarantee System (PGS). This is a type of certification system that does not depend on third parties to confirm compliance. Instead, it involves local groups of producers who define the standards with which they will comply and defines those who control the group (Loconto & Hatanaka, 2018; Rosina Bara, Jarquin Gálvez, Reyes Hernández, & Fortanelli Martínez, 2017). Loconto and Hatanaka (2018) argue that a PGS allows local knowledge and practices to be heard, compared with standards introduced by third parties who define these from outside the community.

Under PGS, micro-mill households would have greater participation and collectively keep their peers accountable. This enhances their commitment to sustainable farming practices because the process of defining and controlling measurements and standards to be certified develops a sense of ownership (Loconto & Hatanaka, 2018). In a PSG, it is very important to have the support of other stakeholders and form networks, so that the producers are accompanied by interested experts, consumers and government institutions. PSG is not just an opportunity for buyers to strengthen sustainable practices, which are very important for their coffee branding, but it can also enhance equality in the distribution of benefits among the producers.

A PGS organised by micro-mill households would provide a platform to open opportunities to develop other projects. For example, a seed bank of coffee varieties could prove highly beneficial. In Chapter 3, Damaris expressed how hard it had been for her to find the kind of coffee varieties she preferred to plant; they are different from the ones Icafe develops. As micro-mill households discussed, the advantages of these varieties are that even though the volume produced is lower, the beans give better tasting scores. During the FG, ideas were mooted about the importance of creating plans to facilitate the propagation of these varieties, e.g., the creation of a local seed bank. It has been shown that such initiatives enhance producers' participation, knowledge sharing and their food sovereignty (Carolan, 2018).

6.2 Conclusions

This study was formulated to answer three research questions regarding the impacts of the RCM on Los Santos coffee-producing households and the potential to enhance sustainable coffee livelihoods. The first question explored how speciality coffee markets and the Relationship Coffee Model (RCM) have contributed to coffee households' well-being in Los Santos. The second question had a gender focus on how micro-mill household farmers and their relationships to specialty coffee have influenced gender participation in Los Santos coffee value chain. The third question asked in which ways do micro-mill households enhance their agency and relationships with the specialty coffee market?

To answer the first question, two different approaches were used, the SLA and DE. The results from the SLA survey show the differences in terms of ownership of resources and livelihood strategies between conventional and micro-mill households. Survey analysis show that households that have invested in a micro-mill and processes its own production to be sold to the specialty coffee market represents a different coffee model. Characteristics identifying household linked to the RCM related to variables such as members having more years of education and actively participate in training and specialization programmes in value-adding techniques. These micro-mill households have also increased farm size and improved income. Moreover, family members, such as women and youth,

have the opportunity to be part of the coffee production activity and take part in the decision-making processes related to their enterprise. In terms of farming practices, they are more aligned to environmentally friendly practices. However, as identified by Gyllensten (2017) adopting this model requires more working hours and economic investment.

In answering the first research question, experimenting with the usage of two different approaches lead to important findings. The SLA survey assessment did not fully answer the first research question. This approach facilitated to collect information and centre the analysis on the material and social dimensions of well-being. Nonetheless, other dimensions of well-being related to lived experiences, the enjoyment and satisfaction of coffee producers' households could not be capture. Also, it did not clearly address how micro-mill family enterprises have impacted their communities and the agri-ecosystems.

Such aspects were better portrayed through qualitative methods and the use of the DE approach reported in Chapter 3. During the FG, 27 micro-mill owners and family members mapped the Los Santos coffee economy, which enabled them to identify themselves as new economic subjects in the coffee relations of the region. It also helped them to reflect on what they value as a life of well-being and identify how their family enterprises have allowed them to reach that desirable condition. The participatory space enabled them to reflect on the need to have a shared space to discuss shared issues and experiences, and to self-recognise their role in the regional and national coffee value chain.

Experiences reported in the FG and the in-depth interviews identified five main aspects of micro-mill households' well-being that have improved since leaving the traditional coffee system and adopting the quality production and process model. They recognise that they have greater empowerment and self-awareness of their participation in the coffee market. Likewise, intra-household relations have improved, and they have seen a reduction in migration of the young from the households. Other aspects of their life being enhanced are an increase in their income; feeling satisfaction for what they do every-day as an occupation, and the sense to contribute to their communities by attracting tourism and improve the international image of Tarrazú Coffee around the world.

Using the two approaches to understand the impact of RCM on micro-mill households' well-being identified benefits but, also, the non-economic values realised and difficulties experienced. The main constraints micro-mill households reported include: limitations on credit access; the lack of institutionalized structures for micro-mills in the coffee sector; their knowledge about producing and processing quality coffee; and, finally, finding buyers. These issues were analysed in-depth in Chapter 5. Micro-mill households were well aware of how their processes and experimentation are building an alternative way of coffee production, which is bringing them much more than economic benefits.

Not the least important has been the empowerment of female household members within a culture that considers women incapable of managing coffee-related activities.

The second research question, was analysed from two perspectives: 1) the economic empowerment that women in micro-mill households have achieved in terms of agency and resources (WEIA's five empowerment domains); and 2) Kabeer (1999) and O'Hara and Clement (2018) notion of 'transformative empowerment' or 'critical consciousness'. Importance was placed on understanding why women had found better opportunities in value-adding activities related to coffee processing and selling rather than farming.

In terms of women's economic empowerment, the analysis using WEAI's five empowerment domains showed how micro-mill households' women in Tarrazú have acquired the 'power to' or have enough resources to exert their agency and achieve desirable outcomes. Women have gained participation in the decision-making aspects of CGVC. The micro-mills opened the opportunity for them to receive an income or have an associated business related to coffee value-adding. These women report having acquired a sense of autonomy since they have complete control over their income and are free to prioritize the aspects of their life in which they want to invest it. Though not all own major assets, such as land, or have complete control over all the profit generated from the micro-mill, they are protected under law in the case of divorce. Interviewed women consider their workload increases during the harvest and milling season. However, they refer to having the freedom of choice over how many tasks they wanted to be in charge of and even felt self-satisfied in having work to do.

The evaluation of micro-mills as an enterprise opportunity for women's empowerment extended beyond 'effective agency'. In addition, it disclosed their 'transformative agency' to the extent that the evidence shows women are self-aware and conscious of situations of discrimination within Costa Rica's coffee system. They have been empowered to challenge this discrimination by feeling entitled to have or acquire skills and knowledge useful and necessary in micro-mills enterprises. Women have not only acquired agency or 'power to' but also 'power within'. Micro-mill inter-household gender relations shows women have taken agency in the opportunities available to them and opened their own doors to be part of an economic activity dominated by men. They participate in public spaces related to coffee and the vision to lead their own associated enterprises. 'Power within' was a meaningful concept in order to understand those experiences and testimonies shared, related to their efforts to fight a '*machista*' culture and how these women have seen changes in the well-being of those around them. Interviewed women continuously refer to situations that make them proud and showed a sense of agency when referring to the future projects they would like to carry out.

The third question was about understanding the ways micro-mill households enhance their agency in relationship to the specialty coffee market. This was a general question answered through the process of conducting the research and, to understand its importance, looking at the problems the coffee sector faces that limit producers' agency was crucial. Canet-Brenes and Soto-Viquez (2017) identify three main issues: low coffee prices; climate change conditions of dry summers and longer, more intense rainy seasons; and increasing pest infestation. As a result of the low incomes, households have difficulty in properly maintaining their farms and satisfying basic needs. Some have abandoned coffee, others have migrated looking for complementary income to avoid the forced sale of their farms.

Furthermore, in Los Santos context, producers are confined to a coffee producing system regulated by Icafe, which brought ample benefits and advantages until the 1990s. However, after the coffee market shifted to free market competition, new market stakeholders have entered the CGVC (special coffees and the RCM). Icafe has had difficulties in creating the conditions for producers to access those markets. Currently, the system is in the hands of cooperatives and international mills that were built to satisfy the needs of the commodity market and the Green Revolution technology. Though these organizations are linked to conventional certifications schemes, the kind of quality produced and the large scale of coffee processing does not achieve equivalent benefits to the RCM for farmers.

The dominant commodity market (volume) model is restraining coffee producers' agency. Micro-mill households claimed that the causes of their livelihood problems were related to their inability to participate in the coffee commodity market. At the production level, the traditional coffee system is based on volume production and intensive farming practices that add little value to the product and degrade the environment. Conversely, micro-mill households took the initiative, looked for resources and networks to reach the niche, fairer, quality markets, that also increase their capacity to adopt better farming practices to cope with climate change.

The experimentation process by micro-mill households and their networks with the RCM have enhanced their agency. The RCM ensures these households long-term contracts and accompaniment through the year, by working together to reach the desired quality. Micro-mill households embrace the potential to set a price floor for their coffee (as opposed to depending on the NYSE's C-price and a negotiated premium subject to the cupping score). A special value is given to their experiences and close relationships with buyers and traders and the gesture of being acknowledged for the hard work they do throughout the year to reach the desired coffee quality. Their capabilities from Sen (1999) perspective have improved, permitting them to think of the coffee market in different ways. Currently, they have acquired knowledge of the coffee processing and selling stages, are selling new coffee services in the region, which contributes to the local economy, and actively promote the

importance of consuming their own coffee production. Likewise, the speciality coffee markets provide strong incentives to adopt agri-ecological practices.

As final remarks, this study recounts many ways of having a micro-mill and being part of the RCM, which has contributed to families' well-being. Icafe's official recognition of micro-mill households as a new stakeholder in the national coffee system is very important. Actions that the coffee sector should take as lessons learned from micro-mill households do not relate only to technical and market knowledge but also to social inclusion. With their strategy of processing their own coffee, other family members can participate and women are a central example of how they have taken advantage of opportunities.

The micro-mill enterprise model creates empathetic relationships with the participants' wider community, although, at this stage, evidence of an emergent shared economy or community-being-in-common (Gibson-Graham, 2006b) is relatively weak. Wealth and the benefits realized by micro-mill enterprises stay within each household. They have struggled collectively in organizing and buyers are not interested in setting formal mechanisms where knowledge sharing, better payments and global networks extend to the micro-mill households communities. Such a situation may be a future problem and micro-mill households could become a coffee elite concentrating knowledge, gains and control of the high-value coffee market. To reach that collective action or shared ownership (Carolan, 2018) in building communities of hope⁵³ (Duncan & Pascucci, 2017), traditional collective action structures such as cooperatives, can be challenged by new initiatives. If micro-mill households can reach a consensus, the PGS model could be an adequate platform to build and foster the coffee model in which they believe.

6.2.1 Research limitation and future research

This thesis centred on the experiences of micro-mill households and their relations with the RCM. One limitation was the size of the study. In-depth interviews were conducted with only 15 households owning a micro-mill out of 80 existing micro-mills in the region. There is a possibility that this study is only capturing the experiences of the most involve micro-mill households, missing to account for the negative experiences other micro-mill households might have gone through. Likewise, some people might argue that the research is bias because I as the researcher, grew up in a coffee farm in this region. Situation that can limit my ability to approach the research from an objective perspective. However, knowing about the participants' socioeconomic context and customs was of great help during my field work. This facilitated me to gain participants trust and to collect as

⁵³ Movements of associations (as opposed to working alone) collaborating and promoting the principles and practices of regenerative agriculture, sustainable consumption and non-conventional food provisioning.

much information as I did in a short period of time of 3 months. Beyond this, there were no serious limitations, the time scheduled and budget for fieldwork worked as planned.

Further investigation can be done around a diversity of topics. It is important to identify the role played by traders and the power differentials they have relative to micro-mills. Micro-mill households expressed frustration with the payments calendar traders enforce on them. Likewise, it is of utmost importance to have an assessment of the environmental regeneration happening in coffee plantations that use agri-ecological practices. The evaluation made in this study was based on testimonies and experiences from micro-mill households, but no ecological research was conducted. It is also significant to explore the role of women in the other stages of the CVC, their situation and opportunities to be in a position of equality with men in the coffee economic activity.

Another important subject for future analyses, is to understand the different strategies the coffee industry has used in introducing the idea of specialty coffees and quality into their consumer's choice habits. It is necessary to assess the sustainability that such consumer choices have on fostering sustainable livelihoods at the production and processing level. It is critical to explore the risks and consequences that a change of consumer's tastes might have in specialty coffee producer coffee families.

Appendix A: Conventional and micro-mill household Questionnaire

ID # _____

Hello, the present questionnaire is part of the final thesis project “The Role of Certifications and Specialty Coffee Markets on the Well-being of Costa Rican Coffee Producers”. Thank you for accepting to participate, the survey would take around 20 to 30 minutes to be completed and as we already discuss your anonymity would be protected at all times.

I. General Information

1. Name: _____ 2. Date: _____ 3. Telephone: _____
4. County: _____ 5. District: _____ 6. Neighbourhood: _____
7. Number of people living in the house _____ 8. Number of people under your dependence _____
9. Family members information

Name	Relationship 1. Wife, husband, partner 2. Son, daughter 3. Son or daughter in law 4. Grandson or grand-grandson 5. Brother, sister 6. Brother or sister in law 7. Father or Mother 8. Father or Mother in law 9. Other relative 10. Non relative (10)	Sex 1. Male 2. Female (11)	Age (12)	Educational Level 1. ... incomplete primary school? 2. ... complete primary school? 3. ... incomplete high school? 4. ... complete high school? 5. ... incomplete tertiary education? 6. ... complete tertiary education? 7. ... attendance to special school? 8. ... no schooling? (13)	Does he or she works in the farm? (people over 12 years old) 1. ... permanent with payment? 2. ... permanent without payment? 3. ... temporarily with payment? 4. ... temporarily without payment? 5. Works outside the farm 6. Studies full time 7. House keeping 8. none of the above (14)
1.					
2.					
3.					
4.					
5.					

15. Has a family member receive training in any topic in the last 3 years? 1. Yes__ (mention the 4 most important) No. __

Topic	Organization	Year
1.		
2.		
3.		
4.		

16. Have you made any improvements to your house in the last 10 years? 1. Yes ____ (go to question 17) 2. No ____

17. Describe some of the improvements made

18. Total number of hectares managed _____
19. How many were inherited? _____
20. How many were bought? _____
21. How many are leased? _____
22. How many are borrowed? _____

23. Do you have properties dedicated to...?	1. Yes	2. No
1. Natural Forest		

2.Reforestation area		
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24. Do you have any of these agricultural-equipment's or infrastructure?	1. Yes	2.No
1. Chainsaw		
2. Manual Backpack Sprayer		
3. Motor Backpack Sprayer		
4. Work car		
5. Feed Mill		
6. Sugar Mill		
7. Tractor		
9.Green House		
11.Other		

25. For the work of your farm, do you need to pay labour the entire year?

1. Yes_____ How many people? _____ How many of them are women? 2. No_____

26 Do you need paid labour occasionally? 1. Yes_____ How many? _____ How many are women? _____ 2. No_____

27. How many people you needed for collecting the last harvest? _____ How many were women? _____

I.I. Coffee farming

28. How old is the coffee farm? _____

29. For how many generations has your family have been in the coffee activity? _____

30. What is the main coffee variety you grow? _____

31. When was the last year you replanted your coffee plantation? _____

32. Does the coffee plantation have shade trees? 1. Yes_____ 2. No_____

33. Have you made some of these changes in the management of your farm in the last 5 years? (can select multiple items)

1. Less agrichemical use_____ 2. More soil conservation practices_____ 3. Water conservation_____ 4. Other (specify) _____

34.How many 'fanegas' (46 kg of green coffee beans) did you collected in the last harvest? _____

35.How many 'fanegas' (46 kg of green coffee beans) did you sell to...? 1. Cooperative_____ 2. Micro-mill_____ 3. Traditional Mill_____ 4. Exported directly_____

36.To which coffee organizations are you affiliated to?

37. To what kind of credit organizations you have access to? (Can select multiple options)

1. National Banks_____ 2. Cooperative _____ 3. Credit Associations_____ 4. Mill processors_____ 5. Bank for Development Program_____ 6. INDER productive credit program_____

38. Have you ever applied for a credit from an informal (family member, neighbour, friend) or private money lender? 1.Yes___ What was the interest rate? _____ 2. No_____

39. How are decisions of the farm managed taken? 1. The household head_____ 2. With a son or daughter_____ 3. With other family members (brother)_____ 4. The whole family_____

II. Income and Livelihood Strategies

40.Which are the main crops you produced last year?

Product	m ² planted	m ² harvest	Household consumption	Amount given as gift	Amount save as seed	Is there an intercrop in the coffee plantation?
1.						
2.						
3.						

41. (Only ask to those that do not produce organic coffee) ¿Would you like to change your plantation into organic systems? 1. Yes. _____ 2. No _____ ¿Why?

42. ¿Do you have animal production, including aquaculture? 1. Yes _____ 2. No _____ (Go to question 43)

Product	... Fertilizer? 1. Chemical 2. Organic 3. Combine 0. Did not use	... Weed control? 1. Chemical 2. Organic 3. Combine 0. Did not use	... Fungicide? 1. Chemic 2. Organic (bioinsumo) 3. Combine 0. Did not use	... Insecticide? 1. Chemic 2. Organic (bioinsumo) 3. Combine 0. Did not use
1.				
2.				
3.				
4.				

Type	Quantity	Amount sold	Amount consumed in the household
1)			
2)			
3)			
4)			

43. Do you produce secondary animal products? 1. Yes _____ (describe) 2. No _____

Product	Milk	Cheese	Sour Cream	Eggs	Honey	Other
To sell						
To consume						

44. Of your household home basic food intake, how much of it is produce in the farm?

1. All _____ 2. More than half _____ 3. Less than half _____ 4. None _____

45. Outside the activities that you already mentioned, are there other economic activities from which your family gain income? (Name 3)

1. _____ 2. _____

3. _____

46. In the last 20 years did a family member migrate to other country or other country temporarily or permanently?

1. Yes _____ 2. No _____ (Go to question 48)

# of the household member (# reference from the family members table)	Reason 1. Study 2. Work 3. Live	Place	How long	Year of departure	Values of remittances per month (only if they migrated for work)

47. (Ask only if the household head was the one who migrated) When you migrated who was in charge of the farm's management? _____.

48. ¿Do you feel confident to continue being a coffee farmer?

1. Yes _____ 2. No _____ Why?

49. Is coffee farming an activity your sons and/or daughters would do in the future? 1. Yes _____ 2. No _____

50. ¿What does well-being mean to you?

IV. Coffee and Markets

51. ¿Do you have any kind of coffee certification? 1. Yes _____ 2. No _____ (Go to question 59)

52. ¿Name the certification(s) you owned? _____

53. ¿How did you obtain your certification (s)? _____
54. ¿What kind of benefits have you received from being certified? _____
55. ¿Have you received any kind of training from the certification party? 1. Yes ____ what topic?
_____ 2. No _____
56. What kind of values does the certification promotes? _____.
57. What has owning a certification have taught you?

58. Of the standards that certification demands, which are the most difficult for compliance?

59. ¿Do you have a family owned micro-mill? 1. Yes ____ 2. No _____ (end of questionnaire)
60. What did motivate you to have a micro-mill? _____
61. ¿What are the benefits of having a micro-mill?

End of questionnaire

Appendix B:
Pictures of the focus-group activity



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