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Coffee Agroecology, Food Sovereignty, and Agrarian Livelihoods in Puerto Rico

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A thesis submitted in partial fulfillment of the requirements for the Master of Arts degree in Geography

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Abstract

This research investigates whether coffee can play a role in building food sovereignty in Puerto Rico as well as how farmers perceive the effects of growing coffee agroecologically on their livelihoods. The most important contribution of this research is to raise and answer the question of whether a cash crop such as coffee can be part of a food sovereignty strategy. I conducted 18 semi-structured interviews with farmers in Puerto Rico. The findings indicate that agroecological farmers in Puerto Rico believe that growing coffee is an important part of pursuing food sovereignty - which is the framework they used to articulate their activities - because coffee is a central aspect of Puerto Rico's culture and because it can be grown in ways congruent with the values of food sovereignty, such as small-scale farming and cultural autonomy. An aspect of sovereignty is self-determination, and Puerto Rican farmers believe that growing coffee is a form of cultural production, and therefore is essential to food sovereignty.

Keywords

Food Sovereignty, Puerto Rico, Coffee, Agroecology, Agrarian Organizations

Dedication

For my dear *Abuela*, Petra Matos-Ramos, who poured me my first cup of coffee when I was three years old and shared bread with me while watching *la novela*. In many of my vivid and happiest recollections, Abuela and I shared stories over coffee. She brought me up to enjoy, savour and experience coffee. Abuela, you are an infinite source of inspiration, love and guidance, you are deeply missed.

Also for Dr. Elayne Zorn and Dr. Leslie Sue Lieberman, thank you for looking out for me, for your mentorship and support early on. Your scholarship has been truly inspiring to me and I am grateful to have had the opportunity to learn from you.

Finally, for Katie - my rock, thank you for standing by me and with me through this ambitious endeavor. Thank you for lifting me up each and every time I felt defeated and lost. I love you.

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I want to begin with an acknowledgment that much of the work for my MA degree at the University of Western Ontario was completed in the traditional territories of the Chippewa of the Thames First nation, the Oneida Nation of the Thames and the Munsee-Delaware Nation. I also want to acknowledge the long history of colonization and the resulting violence and erasure directed towards Indigenous peoples on the land UWO now occupies. This is part of an ongoing process of settler colonialism and imperialism across the world and I acknowledge that my work and research is entangled in this reality while I attempt to work against, through and beyond it.

I am most grateful for the support, contributions and encouragement I have received from several individuals throughout my time at Western. First of all, thank you Dr. Carol Hunsberger for your thorough and dedicated oversight of this thesis, for taking me on as your student and for your generous support. Thank you as well to Dr. Tony Weis, Dr. Belinda Dodson, and Dr. Andrew Walsh for being part of my committee and for the thoughtful feedback and kind advice provided by all of you. Dr. Adriana Premat, Dr. Jeff Hopkins, Dr. Anton Allahar, Dr. Katrina Moser, Dr. Stephanie Bangarth, Dr. Bipasha Baruah, Lori Johnson, and Angelica Lucaci have each assisted me in a time where I very much needed it and I am very appreciative. I sincerely thank you for your support.

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Chapter 1

1 Introduction

1.1 Research Focus and Background

Puerto Rico is highly dependent on food produced in the mainland United States¹ and its agro-food system is currently unable to meet the food needs of its population. However, while 80% of Puerto Rico's food is now imported (including food from the mainland US), some believe that the island has the potential to grow 90% of the food it consumes (Monclova Vázquez, 2014). This research explores some of the possibilities for Puerto Rico to achieve a food system that not only produces more food on the island, but does so in a manner consistent with principles of food sovereignty: encouraging smallholder farming, striving for gender equity, protecting the environment and cultural autonomy (Desmarais, 2007).

Many countries that rely on food imports face similar problems of being vulnerable to the volatility of the global economy and the uncertainty that comes with relying on long-distance shipments (Rosset, 2009). As a territory of a superpower, Puerto Rico is also vulnerable to the almost absolute control that the United States has over its food supply (Mintz, 2010b). While Puerto Ricans are technically citizens of the United States, they cannot exercise many of their citizenship rights while living on the island (Setrini, 2012). For instance, in order to vote for the President of the United States, Puerto Ricans must live in the mainland United States, and Puerto Ricans are not represented in the United States Congress (Duany, 2010). This arrangement has numerous implications for the abilities of Puerto Ricans to participate in the governance of the island and what powers

¹ Puerto Rico is officially a commonwealth of the United States with limited political autonomy (Duany, 2010). Duany defines Puerto Rico as “a nation, an imagined community with its own history, language and culture,” despite lacking an independent government that represents Puerto Ricans (2010, p. 227). In these terms, nation is defined by identity, rather than political sovereignty in the sense that typically defines nationhood.

they have to change their food system. This is reflected in Puerto Rico's two dominant political parties, which differ based on how they envision Puerto Rico's future: pro-commonwealth (continuing with its current status) and pro-statist (becoming a US state), though there is also a party which advocates for full independence (Dayen 2015).

In addition to geopolitical constraints on their autonomy, many Puerto Ricans also face economic constraints on their food choices. One third of Puerto Ricans living on the island are now dependent on government assistance, relying on the United States Food Stamp program in order to eat and provide food for their families (Setrini, 2012; USDA Food and Nutrition Service, 2015). This reliance is exacerbated by the ongoing debt crisis in Puerto Rico, which contributed to the collapse of the island's economy² (Beyer, 2015; Corkery & Walsh, 2015; Marans, 2016). Many of the farmers interviewed for this thesis spoke about the difficulties of making ends meet for all Puerto Ricans under a dramatically increased sales tax³ and an unemployment rate of over 12%, in addition to the closure of many hospitals, schools and the cutting of some social services. All of these measures were meant to address Puerto Rico's \$70 billion debt, which the governor of Puerto Rico recently called unpayable (Corkery & Walsh, 2015; Walsh, 2016). Rising food costs have become especially difficult to cope with.

This economic crisis is rooted in centuries of colonialism, which Puerto Rico has not recovered from (Martínez-Otero & Seda-Irizarry, 2015). This is due to several factors including governance by political parties who often act in the best interests of the United States and also have limited powers under the United States' and Puerto Rico's constitutions (Martínez-Otero & Seda-Irizarry, 2015; Garcia-Colon, 2009). Yet Puerto

² Puerto Rico owes over \$70 billion to external lenders and in an attempt to make loan payments has cut public services while increasing taxes since 2014, but this has been unsuccessful, as Puerto Rico defaulted on a \$422 million loan payment in the summer of 2016 (Maranas, 2016).

³ The sales tax increased by 3.5% overnight, resulting in an 11.5% sales tax on goods that many Puerto Ricans already found difficult to afford (Dayen, 2015).

Rico had been one of the more prosperous Caribbean islands in the 1980s and 1990s, propped up by a tax exemption for U.S. manufacturing on the island (Dayen, 2015). In 1996, that tax exemption, called Section 936, began to be phased out with no plan set in place for developing the island's economy (Dayen, 2015). As the exemption ended, any possibility of increasing employment through manufacturing also ended, and the economy slowed (Dayen, 2015). Since the collapse of the housing bubble in 2008, which affected construction on the island, Puerto Rico's economy has been declining by 2% each year (Martínez-Otero & Seda-Irizarry, 2015). The government of Puerto Rico responded to this decline by increasing privatization and cutting spending (including laying off over 30,000 government employees in 2009), while encouraging American capital to enter the economy through subsidies and tax exemptions for businesses and the wealthy (Martínez-Otero & Seda-Irizarry, 2015). This approach has contributed to the fragility of Puerto Rico's economy, because it is dependent on "foreign" (American) capital, which generates wealth that is generally reinvested in the United States (Martínez-Otero & Seda-Irizarry, 2015). As a result, Puerto Rico has no funds to address its debt and it has few options as it is prohibited from declaring bankruptcy and restructuring its debt under US federal bankruptcy law (Dayen, 2015). Since 2014, Puerto Rico has cut even more public services, including closing schools and hospitals, while introducing a 3.5% increase to its sales tax, in an attempt to address its debt (Maranas, 2016). Rather than addressing the debt problem, these measures have primarily resulted in increasing poverty, with 45% of the population living under the poverty line set by the US Census Bureau (Martínez-Otero & Seda-Irizarry, 2015).

Building an island-based food system could ameliorate many of the food-related issues on the island, but there are several competing notions of what an ideal food system would look like and most of these face a complex array of barriers. For instance, a challenge associated with agroecological growing methods may be that they require more human labor, resulting in a more expensive product that may not be accessible to all Puerto Ricans (Departamento de Agricultura, 2015). Additionally, there is currently a labor shortage of willing farm workers and many farmers do not have the funds to pay

adequate wages (Monclova Vázquez, 2014). At the same time, government programs tend to focus on industrial-style farming practices and encourage the use of agrochemicals. Many industrial or conventional agricultural activities, including most coffee production, are directly subsidized by the government of Puerto Rico through wage subsidies, preferential land lease terms for government land, and matching funds for infrastructural changes to mechanize farming (Setrini, 2012). However, research suggests that the current subsidy programs have done little to address the decline of agriculture in Puerto Rico and are insufficient to cover all labor shortages (Setrini, 2012).

In light of these facts, and my love of coffee that I always associate with being Puerto Rican, I began this research project with a desire to understand how the pursuit of food sovereignty in Puerto Rico might be affected by coffee: its production on the island as well as the relationship Puerto Rican people have to it. In Puerto Rico, coffee was historically produced for export, benefiting a small number of large-scale plantation owners (Garcia-Colon, 2006). Because of its status as a cash crop – particularly one that is not a food – coffee is not typically associated with movements towards food sovereignty. My research has aimed to investigate whether growing coffee can play a role in achieving food sovereignty in Puerto Rico, and if so, how important the method of growing coffee is to reaching this goal. More broadly, I was interested in farmers' perceptions of whether and how coffee production affects their livelihoods, agro-food systems, gender relations and relationships to agrarian organizations in Puerto Rico.

Coffee production in Puerto Rico is undergoing a rapid shift. Data collected before 2014 suggested that there were about 4000 farms in Puerto Rico that produced coffee as their main or sole crop, which accounted for approximately 34% of all farms on the island (USDA, 2014). At that time, family owned monocrop farms produced 95% of the coffee in Puerto Rico, making up 11% of all crop sales on the island (USDA, 2014). Farmers interviewed for this research noted that in 2015, regions made up of family-owned coffee plantations were being bought by corporations. Agroecological farmers, who grow multiple crops at once, were also growing coffee, although in amounts that are

necessarily much smaller due to the nature of their growing methods. Puerto Ricans consume far more coffee than they produce, which means that Puerto Ricans are reliant on imports, even for a commodity that they were once famous for exporting in large amounts (USDA, 2014; Monclova Vázquez, 2014).

Food sovereignty is distinguished from food security in that it is concerned with more than simply having enough food accessible to everyone; food sovereignty places priority on *how* food is produced as well as the ability of food systems to provide food that is appropriate to particular cultural contexts (Desmarais, 2007; FAO, 2011). There are several aspirations that tend to be associated with food sovereignty including: the right of smallholders to cultivate land; gender equality in household and community-level decision-making; cultural autonomy; non-exploitative labour conditions; and respect for knowledge (Desmarais, 2007). This study is inspired by the broad goals of food sovereignty -which were articulated by farmers in Puerto Rico as relevant and important to them- including a belief in the need to support local production and ensure that small farmers can maintain their livelihoods and autonomy (Desmarais, 2007). This study seeks to investigate one of the key questions facing food sovereignty scholars and practitioners: whether a historically export-oriented crop can play a useful role in promoting food sovereignty (Edelman et al., 2014).

1.2 Research Scope

This project's focus on food sovereignty and coffee production goes hand-in-hand with agroecology, which is another major focus of my research. Often considered essential to achieving food sovereignty, agroecology involves cultivating multiple crops together (intercropping) within a given agro-ecosystem, with the goal of creating a more sustainable farming system that relies on shared farmer knowledge rather than expensive technologies and inputs (Altieri and Toledo, 2011). Agroecology also greatly reduces reliance on fossil fuels (Altieri and Toledo, 2011). I was interested in whether growing coffee agroecologically was something that farmers perceived to be an important part of achieving food sovereignty in Puerto Rico. In Puerto Rico, the term "ecological" refers to

locally produced crops that meet criteria for organic labelling as well as to crops that are grown agroecologically.⁴ Participants in this research used the term almost exclusively to refer to agroecological produce and I adopt the same usage in this thesis, thus my use of the term “ecological coffee” always refers to agroecologically produced coffee.

The targeted participants for this research project were practicing agroecological farmers (n=13), and one food activist (n=1); conventional farmers (n=4) were also interviewed. Since promoting food sovereignty and agroecology are inherently political projects that are often initiated and supported by agrarian organizations, this project also necessarily included agrarian social movements, who play a large role in the lives of farmers in Puerto Rico in the project’s analysis. For this project I use the term “agrarian organization” to refer to a collective group of people -predominantly farmers- who have a different vision for the production of food in Puerto Rico than the current reality. The term encompasses multiple groups which are discussed in Chapter 5, who see themselves as advocating for changes to Puerto Rico’s agri-food system, who place an emphasis on agroecology and food sovereignty. Additionally, because the food sovereignty framework places value on gender equality, I wanted to understand how agroecological practices may affect gendered roles. Data for the project was collected for one month, from the end of June to the end of July 2015, throughout the island of Puerto Rico. As discussed in Chapter 3, agroecological farmers and activists are not concentrated to one area of the island; with the result that my research spans eight provinces, three ecological farmers’ markets, and 17 farms. Since Puerto Rico is a small island, I was able to interview people in all the major regions of the island, from the urban areas in and around the Capital of San Juan, to the most mountainous and isolated farms.

⁴ Agricultural products that are produced without chemicals by small-scale farms are labeled as ‘ecological’ in Puerto Rico (Organización Boricúa, n.d.). However, crops grown without chemicals are not necessarily agroecological.

1.3 Research Design and Participants

Since agroecological farmers tended to frame their agricultural activities in terms of food sovereignty and organized politically through agrarian organizations, the purpose of the research was to understand the relationship between ecological coffee, agrarian organizations and food sovereignty in Puerto Rico, as well as the effects that these interactions have on farmers. As there is limited research on food sovereignty and agrarian organizations in Puerto Rico, I collected primary data on ecological coffee growers through interviews. The project was designed so that the views of farmers would be integral to the research, including at the stages of analyzing the data and articulating the findings. As such, my findings are based on semi-structured individual interviews (n=18) and participant observation along with a close reading of documents produced by agrarian organizations (mostly websites).

Several terms used to describe participants that are commonly used in this thesis include “ecological/agroecological farmer,” “coffee farmer,” and “conventional farmer.” For the purpose of this thesis, a conventional farmer produces coffee as a monocrop and coffee is their primary means of earning an income. This is contrasted with ecological/agroecological farmers, who use the terms “ecological” and “agroecological” interchangeably. Ecological farmers in this study all produced coffee, but to different extents, with nearly all producing coffee for sale, and one growing it for personal consumption only. Additionally, since agroecological methods are inherently diverse and reject monocropping, it would not make sense to define some as coffee farmers and others as not based on the amount of coffee produced, because what is important to this study was the practice of agroecology in the production of coffee. Therefore, all ecological farmers in this study are considered agroecological coffee farmers to signal that they do produce coffee and to elucidate the variety of ways coffee is incorporated into farmers’ goals of food sovereignty. Finally, the term coffee farmers is used in cases where a policy or event was pertinent to all the farmers I interviewed who grew coffee. Each ecological farmer had a different strategy for their farm in terms of how market-oriented their activities were and which crops were focused on, though all emphasized

growing a diversity of crops and all sold at least some of what they produced. Some common intercropping combinations with coffee include orange, lemon, plantain, starfruit and guava, and the variety of crops grown both at individual farms and amongst the group of interviewees was diverse. One farmer named Lola preferred not to buy coffee and harvested some for personal use but focused on producing other crops, with the goal of being able to sell food directly to her immediate community. The other ecological farmers in this study produced coffee for sale to varying degrees. For Esteban, another ecological farmer, coffee is his primary focus (though he still intercrops) while other farmers produce coffee to a lesser extent. Six farmers stated that they hoped to one day live entirely off of their farming activities but have had to resort to outside economic activities to make ends meet, such as doing odd jobs, others such as Esteban (who is an engineer) kept their previous employment. An additional 5 ecological farmers have a spouse who works outside of the farm, while the remaining two ecological farmers are able to live off of what they earn through their farms and off of the produce they grow.

Research questions explored participants' views on (1) whether ecological coffee can be part of a food sovereignty strategy; (2) if growing ecological coffee has any effect on farmers' quality of life, gender relationships, or their food systems; and (3) the relationship between ecological coffee and agrarian organizations. While an interest in the relationship between agroecological coffee and gender relations was an important part of designing this project, time restrictions impacted my ability to recruit and interview more women farmers and explore this theme in depth. Unfortunately, this has limited my ability to analyze the gender relations aspect of this research.

I chose qualitative methods because the research questions are best answered by building a narrative of farmers' perceptions of their lives and the challenges and constraints that shape agriculture on the island. Months before I arrived in Puerto Rico, I initiated contact with the largest agrarian organization on the island, La Organización Boricúa de Agricultura Ecológica (Organización Boricúa), which served as my jumping off point for identifying interviewees. Since Organización Boricúa has ties with nearly every other

agroecological organization on the island, I was able to make contact with representatives from various organizations, discussed in Chapter 5. I conducted all but two of the interviews in Spanish (one was in Spanglish, the other in English) and relied on my own fluency in Puerto Rican Spanish to translate and transcribe all of the interview recordings.

1.4 Thesis Outline

This thesis consists of six chapters including this introduction. Chapter 2 reviews literature on Puerto Rico's colonial history of plantations and slavery that created conditions of dependence on food imports. It also introduces key government policies that shape Puerto Rico's agricultural system and reviews the literature on food sovereignty and agroecology. Chapter 3 specifies the methods utilized in this study as well as the epistemological approach guiding the research. It discusses the research questions in detail and describes some of Puerto Rico's attributes that are relevant to the research.. In Chapter 3 I also reflect on some of the challenging, and surprising experiences of conducting research in Puerto Rico.

Chapters 4 and 5 comprise the bulk of the analysis in this thesis. Chapter 4, titled Government, Import Dependence, and Coffee Production in Puerto Rico, analyzes the challenges and constraints faced by agroecological farmers, beginning with the economic collapse of the island and then exploring how the widespread dependence on food stamps and food imports affects farmers. Chapter 4 also discusses the program of government subsidies which farmers feel encourage conventional or increasingly industrialized methods of farming. Chapter 5, Puerto Rican Agrarian Social Movements, discusses the potential that farmers see both in ecological coffee and in agroecological farming more generally, through the perspectives of members of agrarian social movements on the island. It includes details about social movements on the island, including their characteristics and individual members' views on their goals and efficacy. Chapter 5 explores gender dynamics within agrarian social movements and views of gender articulated by individual farmers, as well as some of the opportunities and potentials within agroecological farming that participants articulated. Finally, Chapter 6

summarizes the findings by revisiting each research question in detail and suggesting future areas of research.

1.5 Significance of Research

In terms of food sovereignty and agroecology, Puerto Rico has not been studied in detail, perhaps because its political status complicates and obscures how food sovereignty might be achieved. However, these complications can provide new ways of thinking through the concept of food sovereignty, its limits and potentials. Additionally, investigating the ways that a cash crop such as coffee can play a role in food sovereignty is rarely explored in existing literature. It is my hope that this study will contribute to the geographical literature on Puerto Rico regarding alternative agricultural practices including ecological coffee production. Through the perspectives of farmers and social movements, this project aims to illuminate the roles that governments, producers and consumers play in the agricultural sector in Puerto Rico, and the potential for change in Puerto Rico's food system. While there are serious doubts as to whether agroecological methods alone can shift Puerto Rico's food system, in the context of Puerto Rico's difficult economic conditions, it is increasingly important to investigate and understand what alternatives exist to a system that participants in this study found to be increasingly untenable. My research findings will be shared with the farmers and members of organizations that I interviewed in Puerto Rico, and they can disseminate the information as they wish. Through this research I hoped to gain a deeper understanding of food security and food sovereignty in Puerto Rico, both as a unique case in terms of its political status and through comparison to other parts of the Caribbean.

Chapter 2

2 Literature Review

This chapter outlines the literature informing this thesis. I begin by discussing key aspects of Puerto Rico's history that have shaped its agro-food system, from its establishment as a Spanish colony through to its present-day political arrangement with the United States, describing influential economic policies that were characteristic of each era. I also briefly sketch out factors which have shaped women's roles in agriculture over time. I then introduce food regime analysis as an approach that can help understand how Puerto Rico's food system has been shaped by global capital. A discussion of food sovereignty and how it is used in this thesis follows. Finally, I introduce agroecology – an array of cultivation methods often considered to be the most conducive to achieving food sovereignty – and begin to consider its relationship to coffee production.

2.1 Colonialism and Puerto Rico

The Puerto Rican agro-food system is rooted in a long history of colonization characterized by plantations and slavery (Garcia-Colon, 2009). According to Mintz (2010a), the relationship between sugar, slavery and the plantation formed the basis of European profit and rule in the Caribbean (p. 10). Puerto Rico was colonized by Spain in 1508, sugar cane was introduced shortly after, and while other plantation crops such as coffee and tobacco were also grown in large quantities, Puerto Rico's economy revolved around sugar (Mintz, 2010a). The island's economy was characterized by booms and busts, resulting in the freeing of slaves during bust cycles (Mintz, 2010b). Freed and escaped slaves settled the island's interior and mountains, contributing to the formation of Puerto Rico's class of mixed-race, "squatter farmers" known as *Jíbaros* (Mintz, 2010b). The reestablishment of the sugar industry in the 1770s by Spanish elites meant that by the 1800s the plantation system rapidly grew again in Puerto Rico (Mintz, 2010b). *Jíbaros* became the targeted population for plantation labor as Spain outlawed slavery in 1820 (Mintz, 2010b). Throughout the 1820s successive laws were passed that forced

Jíbaros into plantation labor. Puerto Rican plantation workers had little access to land and little opportunity to implement small-scale, local food production, which threatened the security of Jíbaro livelihoods (Garcia-Colon, 2006).

During the 19th century into the 20th century, the plantation system in Puerto Rico was characterized by large-scale production of cash crops including sugar, tobacco, and coffee that were owned by a small elite who employed the much larger population of landless workers (Garcia-Colon, 2009). In 1898 Puerto Rico became an American colony after the Spanish American War (Duany, 2010). When Puerto Rico was transferred to the control of the United States little changed for landless agricultural workers in the plantation system, except for the scale of the plantations, which grew with the influx of American capital (Collo, 1989; Garcia-Colon, 2006). The United States instituted protections through its tariff system for the sugar and tobacco industries, which created conditions that encouraged the rapid expansion of these industries in the early 20th century (Garcia-Colon, 2009). Because tariffs were not applied to coffee from competing countries entering the United States, Puerto Rico's coffee (its primary export crop before colonization by the United States), was soon outcompeted by Brazil (Garcia-Colon, 2009).

The plantation system exported wealth outside of Puerto Rico and tied the island to the emerging global economic system (Garcia-Colon, 2006; Mintz, 2010a). Sugar cane production on plantations dominated the Puerto Rican economy into the Great Depression (Garcia-Colon; 2009. Mintz, 2010a). Conditions in the 1930s were dire for Puerto Rican workers. The number of jobs grew by only 1.7% while the population rose by 21.1% and incomes declined by 30% (Garcia-Colon, 2009). Wages were so low that most landless and worker families could not afford even substandard housing; many lived in houses made from cast-off materials that were overcrowded, without plumbing or electricity (Garcia-Colon, 2009). Since landless workers did not have the time or means to grow their own food and food prices also increased, and many families were near starvation (Garcia-Colon, 2009).

Proposed in 1934 as a response to the conditions of the Great Depression, the Chardon Plan put forward by the Puerto Rico Reconstruction Agency appointed by Puerto Rico's Governor Winship recommended that farmland be redistributed to create semi-public agricultural corporations (Collo, 1989). This was meant to challenge the monocropping practices in sugar plantations and re-invest money back into Puerto Rico (Collo, 1989). The plan would have institutionalized cooperative agriculture in Puerto Rico but was met with heavy resistance by politicians and was never implemented (Collo, 1989). The government of Puerto Rico relied on the outmigration of farm workers recruited by US employers to meet the employment needs of peasants, rather than providing opportunities for farm work on the island. Agrarian decline also contributed to Puerto Rico's increasing dependence on labor migration to the United States (Setrini 2012; Duany, 2010). Migration was seen as a temporary fix that would address problems that ranged from lack of employment to food scarcity quickly, because developing the capacity of agriculture on the island, as well as social and economic programs, took time. However, over time, migration became an integral part of economic development in Puerto Rico which eclipsed agrarian reform and became the safety valve through which Puerto Rico addressed social and economic problems (Duany, 2010). Thus, Puerto Ricans providing their physical labor in United States became part of a much larger transformation of political, economic and social life on the island.

2.2 Developing the Island and Agrarian Decline

The 1940s saw the installation of a government that was committed to industrializing and urbanizing Puerto Rico (Garcia-Colon, 2009). Land reform can take on many different forms; at a most basic level, it is "the state-led reorganization of agricultural land holding" (Castree, et al., 2013, n.p.). The implementation of land reform, which usually requires someone's dispossession and some formal mechanism for restructuring, is typically politically contentious. In order to permanently settle landless workers, the Land Law of 1941 was passed and small parcels of land that were once privately-owned plantations were redistributed to agricultural workers (Garcia-Colon, 2009). The effects of the Land Law of 1941 included the urbanization of areas of land that had previously

been used for agriculture and a decrease in the number of people whose livelihoods depended on agriculture as the plots of land were only developed for housing and were too small to grow enough food to subsist from (Garcia-Colon, 2009). Land reform is often used as a tool of state or nation building, as it reconfigures the maps and titles of spaces within the nation (Borras et al., 2007). The study of land reform in Puerto Rico is also the study of modernization, urbanization and development. Land reform contributed to the decline of agriculture on the island, creating rural housing without bolstering agricultural opportunities, because plots were designed to encourage people to seek industrial employment by being too small to subsist on (Garcia-Colon, 2006, 2009; Setrini, 2012). Small-scale farming has thus not been encouraged on the island, a situation which strongly contributes to Puerto Rico's lack of food sovereignty and food security.

Another factor that contributed to Puerto Rico's agrarian decline was the government's focus on 'modernizing' the island. Modernization theory was the dominant perspective in global development studies from the Second World War until the 1960s (Dorner, 1992) and provided the impetus for the Land Law of 1941. From the viewpoint of modernization theory, all countries can be categorized according to specific, pre-determined, Eurocentric indicators of development, including an industrial economy, rational legal administration and elected governments (McMichael, 2008a). Modernization theory influenced the concept of development so that it was understood as a linear process that can be followed, with "underdeveloped" countries following the lead of "developed" countries⁵ (Dorner, 1992; McMichael, 2008a; Williams et al., 2009).

⁵ However, agricultural economist Peter Dorner notes that rather than understanding development as a linear progression, the state of being underdeveloped and developed are simply two sides of the same historical process that produce each other (Dorner, 1992). This process included the rise of capitalism, which necessitated colonial expansion, because the system must constantly grow in order to continue (Meiksins Wood, 2009).

After decolonization, former colonies were expected to ‘catch up,’ and quickly, generally through rapid industrialization with little to no social investment (Williams et al., 2009). Puerto Rico is not a sovereign state, though it asserts some autonomy over the daily running of the territory and has had its own constitution since 1952 (Garcia-Colon, 2009). As such, Puerto Rico was still subject to the same expectations of the American government and various multinational institutions for development at the time: to establish thriving manufacturing economies and democratic institutions. Modernists generally considered peasants and peasant agriculture to be “redundant” (McMichael, 2008a, p. 81). In this regard, Puerto Rico’s large population of rural, landless, and mobile agricultural workers in the 1930s represented a challenge to achieving a modern industrial economy for American planners and Puerto Rico’s fledgling government (Garcia-Colon, 2009). In Puerto Rico, rural and economic development are inextricably linked and rooted in the logic of modernization theory.

2.3 Gender and Agriculture in Puerto Rico

The literature on women and agriculture in Puerto Rico is limited; however, Mintz (2010b) and Garcia-Colon (2006), discuss some of the historical conditions of Puerto Rican women and farming. Up to and during the early twentieth century Puerto Rican women rarely worked in plantation agriculture, and when they did, their roles were limited to spreading fertilizer, planting seeds and weeding; they did not cut or load sugar cane, which were the best paid jobs (Mintz, 2010b). These jobs were only available to men, while women also faced frequent sexual harassment, verbal abuse, rape and physical violence from their employers and coworkers in their daily lives (Garcia-Colon, 2009). By the late 1940s some women in Puerto Rico had factory jobs but the decisions to pursue employment and what to do with their wages would continue to be controlled by their husbands (Mintz, 2010b). Historically it is clear that women’s roles in agriculture have been severely constrained, in large part because of restrictive gender roles, and data from the 2012 Agricultural Census in Puerto Rico indicate that women continue to play marginal roles in agriculture, as they make up only 9% of the total principal operators –

the person who has the final word in decisions relating to the farm - on all farms (United States Department of Agriculture, 2014).

2.4 Food Sovereignty and Agroecology

Since my research is framed by food sovereignty, it is important to outline the development of food sovereignty as a conceptual framework for envisioning pro-small farmer agrarian change and how it has been critiqued. The emergence of food sovereignty is often credited to the agrarian movement La Via Campesina, which defined it as “the right of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity” (Patel, 2009, p. 665). However, views on when and where the concept of food sovereignty originated are contested and range from a response to the globalization of the 1970s (advocated by Bernstein, 2014), to a Mexican government program in the 1980s, to a result of coalition building between transnational agrarian movements such as La Via Campesina and NGOs in the 1990s (Edelman, et. al, 2014). More important than the dates and roots of food sovereignty’s origins are the debates around its meanings. The years 2013 and 2014 saw food sovereignty debates become wider and deeper, particularly over the roles of scholars, activists and farmers in food sovereignty. Some challenged the “idealistic righteousness” and “self-congratulatory celebrations” of food sovereignty actors by critically engaging with the limitations and possibilities of food sovereignty (Edelman et al., 2014).

One core tenet of food sovereignty is the importance of agroecological farming methods, which seeks to transition agriculture away from fossil fuel dependence, expensive technologies, and export-orientation towards sustainable food production by local small-scale farmers (Altieri and Toledo, 2011). Agroecological methods are integrated into the ecosystem, produce multiple crops simultaneously and do not rely on external inputs such as fertilizers (Altieri and Toledo, 2011). Rather than relying on external capital, agroecology is knowledge-intensive, relying on the skills of communities to share

innovation and foster resilience (Altieri and Toledo, 2011; Holt-Giménez and Altieri, 2013). Many scholars argue that Indigenous and small-scale farming methods, including agroecology, are the best alternatives to globalized food systems (Altieri and Toledo, 2011; Desmarais, 2002; 2008; McMichael, 2006; 2008b; Welch and Fernandes, 2009; van der Ploeg, 2014). Agroecology is place-based, requires more human labour and knowledge than industrial farming, and depends upon more farmers having control of their land than is the case with industrial agriculture (Altieri and Toledo, 2011).

Edelman et al. (2014) pose challenging questions for food sovereignty, including: “What are the obstacles to scaling up agroecology as a strategy of resistance to industrial agriculture and to centering agroecology as a normative farming style in the future?,” (p. 913). Most agrarian organizations continue to advocate for agroecology based on their experiences and it remains to be seen how the focus on agroecology will affect farming styles (Edelman, et. al, 2014). Additionally, while agroecology has been extensively researched and endorsed by scholars as indispensable to food sovereignty, Bernstein (2014) argues that it will likely be unsuccessful at meeting world food demands.

Understandings of food sovereignty have shifted over time, most notably from a goal of national self-determination regarding the production of food to that of local sufficiency (Agarwal, 2014). Agarwal (2014) usefully charts out some of the tensions that can arise in agrarian movements as they advocate for the freedoms of individuals and communities while also advocating a particular way of producing food. For example, there can be a tension between the needs of the community on one hand, and individual farmers having the freedom to grow what they want how they want on the other (Agarwal, 2014). Different interpretations of food sovereignty will ultimately result in different practices of food sovereignty.

Van der Ploeg (2014) argues that while neoliberalization and globalization have greatly affected farmers and landless agricultural workers, so too have rural peoples through agrarian movements laid out the terms through which capitalism is critiqued and in some cases challenged. As such, agrarian movements are essential to understanding food

systems. Since the 1990s agrarian movements have become increasingly organized transnationally (Desmarais, 2008). Responding to marginalization in both capitalist and socialist economics, agrarian movements are seeking not to simply reform economic systems, but to transform them (McMichael, 2008b). Agrarian movements seek to build food systems that are guided by a different vision for the world, where communities rather than external markets are at the centre of production, and where reciprocal relationships to the environment are prioritized (McMichael, 2008b). Puerto Rican agrarian organizations have modelled themselves after transnational agrarian movements, in particular La Via Campesina. Informed by the diverse interpretations of food sovereignty just discussed, my usage of the term reflects interviewees' articulation that the meaning of food sovereignty for them involves challenging political systems of domination through farmer and community-centered agroecological food production.

2.5 Agroecological Coffee in Puerto Rico

'Ecological coffee' provides an example of agroecological practices in Puerto Rico. Although coffee does not have nutritional value, if it is grown using agroecological methods it raises questions of what role coffee could play in achieving food sovereignty. One possibility is that it could allow farmers to earn extra income, resulting in greater farmer autonomy. The coffee produced in Puerto Rico is largely consumed domestically, and though Puerto Rican farmers produced over 12 million pounds of coffee in 2012 they only met about a quarter of domestic demands (USDA, 2014). The rest of the coffee comes from Mexico via the US (Denis, 2015). As there is considerable opportunity to increase the local production of coffee, and coffee is in many cases already incorporated into integrated farming for local consumption, it raises interesting questions about how this non-food crop might contribute to the pursuit of food sovereignty in Puerto Rico.

2.6 Conclusion

Puerto Rico continues to be affected by its colonial history, though the context has changed from a slavery-driven, plantation-based site of resource extraction and export, to

one of import dependency and political constraint. The most significant shift occurred in a post-depression attempt to modernize Puerto Rico through a program of industrialization and land reform, which had the effect of constraining food production on the island. Food sovereignty has arisen as the preferred framework for agrarian movements (including agrarian organizations in Puerto Rico) to contest the inequities inherent in the current food regime and to create more stable, autonomous food systems; the term is used in this study to denote a farmer- and community-oriented approach to producing local food for local people to the greatest extent possible. Usually food sovereignty is associated with moving away from producing plantation or cash crops, yet because coffee is already integrated into Puerto Rico's cultural and agricultural life and some are already producing it using agroecological methods, it is possible that agroecological coffee production can be part of a food sovereignty strategy for Puerto Rico. How farmers and members of agrarian organizations perceive and engage with this potential is the focus of this investigation.

Chapter 3

3 Methods

This study explores the following overarching research questions:

- 1) Can ecological coffee production contribute to the pursuit of food sovereignty in Puerto Rico, and if so, how?
- 2) How do farmers perceive the effects of growing ecological coffee on their livelihoods, agro-food systems, and gender relations?
- 3) What is the relationship between farmers who grow ecological coffee and agrarian organizations in Puerto Rico?

In order to answer these questions, I undertook qualitative case study research. My analysis for this thesis is based on data collected between June and July 2015. The data is derived from semi-structured interviews, participant observation, and texts produced on the island about coffee. I employed these methods because I wanted to be able to contextualize farmers' accounts of their lives by situating them within local texts and my own observations. I chose qualitative methods such as interviews and participant observation because they are well-suited for collecting data on perceptions; according to della Porta (2014), interviews are particularly useful for gaining insight into how people understand their surroundings, or particular events. This allowed for assessment of factors that are not necessarily quantifiable, such as attainment of food sovereignty, farmer satisfaction and the quality of relationships between individual farmers and agrarian organizations.

3.1 Puerto Rico as a Study Site

Puerto Rico has a long history of coffee production, which can be traced back to the early colonial period when coffee was first introduced to the island as a plantation crop (Mintz, 2010b). Puerto Rico is an island in the Caribbean, situated between Hispaniola and the

Virgin Islands (see Figure 1) with a population of 3,598,357, of which 93% was urbanized, as of 2015 (CIA World Factbook, 2015). It is primarily mountainous with a tropical climate that varies little throughout the year (Gould et al., 2012), which are ideal conditions for growing coffee. The land mass of Puerto Rico covers 8,870 square kilometers, of which approximately 22% is used for agriculture, while an estimated 63% remains forested and the remaining land is used for all other purposes (CIA World Factbook, 2015). Most of Puerto Rico's population is concentrated in the San Juan metropolitan area, where most infrastructural investment occurs (Yuhas, 2015). The humid highlands of Puerto Rico (shown in dark green on Figure 2) are known for their history of growing coffee as these areas are particularly well suited for growing coffee and continue to produce coffee today (Monclova Vazquez, 2014).

When I arrived in June of 2015, the island was in the midst of an economic downturn, experiencing an unemployment rate of 26% and negative growth for the past decade. Puerto Rico is \$72 billion in debt, and recently defaulted on a \$58 million bond payment (Beyer, 2015). Additionally, conditions of severe drought affected the heavily populated eastern coast. Running water was unavailable several days out of the week, while the sales tax rose from 7% to 11.5% on July 1, 2015. Many everyday consumer goods became unaffordable to the majority of the population. These conditions contributed to high numbers of Puerto Ricans migrating to the mainland United States (Parish Flannery, 2015; Vicens, 2015), leaving behind unsold properties, as the economy collapsed (Yuhas, 2015). I witnessed this firsthand; throughout my time on the island there was a noticeable increase in signs indicating properties that were put up for sale, and in properties that appeared to have been abandoned as they were boarded up or had "for sale" signs.



Figure 1: Location of Puerto Rico (Source: worldatlas.com, 2015)

3.2 Selection of Research Areas

I collected data on farms located in 8 provinces: Aibonito, Ciales, Mayagüez, Castañer, Orocovis, Jayuya, Utuado and San German (Figure 2). In addition to this, I collected data in the capital city of San Juan at farmer's markets such as La Cooperativa Organica Madre Tierra Mercado Agrícola, Mercado Agrícola Natural Viejo San Juan, and El Departamento de La Comida, an ecological co-op and eatery which provides agroecological farmers with a means to sell their products at their store in the capital for a commission of 30%. Most research sites were selected based on their commitment to agroecological farming practices and were a result of a snowball recruitment strategy. I initially contacted Organización Boricúa via email and exchanged correspondence with one of their members, which led me to being introduced to other members and ecological farmers. I also visited four ecological farmer's markets and one farmer's market that was open to conventional farmers, which is where I recruited conventional farmers to partake in the study. I attempted to arrange interviews with farmers at the ecological farmer's

markets but they proved difficult to schedule due to my limited time in Puerto Rico. Additionally, I made contact with the director of El Departamento de la Comida, a co-op and sustainable food hub, for ecological produce, who agreed to be interviewed.

The rural areas of Adjuntas, Yauco, and Utuado, have until recently been Puerto Rico's most prominent family-owned coffee growing regions (Monclova Vazquez, 2014). According to the USDA, in 2014 the combined coffee sales from the three rural areas made up 40% of Puerto Rico's coffee sales while 39% of all coffee farms in Puerto Rico are located in the three areas. I had initially planned to collect data in these three rural areas for the above reasons as well as their close proximity to each other, which would have allowed me to gain a deeper understanding of that particular region. However, once I began my research, I quickly realized that family-owned and agroecological farms are currently not concentrated in a particular area. Additionally, the coffee-growing region of Yauco, as well as about 85% of larger coffee plantations throughout Puerto Rico, have been bought and consolidated under the control of Coca-Cola or its subsidiary called PRCR, LLC that mixes beans from other countries (predominantly Mexico) into the coffee they produce but continues to sell the coffee using multiple, trusted brand names (Denis, 2015; Ferrer, 2015). In the end my research areas were much more dispersed than I had initially anticipated, giving a broader picture of agroecological coffee production on the island, as well as the increasing corporatization of coffee in Puerto Rico. For example, the region of Jayuya also has a rich and continuing history of coffee production. I found that farmers from other regions saw Jayuya as a model for growing agroecological coffee, and spoke very highly of the area. Jayuya could be considered the heartland of ecological coffee in Puerto Rico.

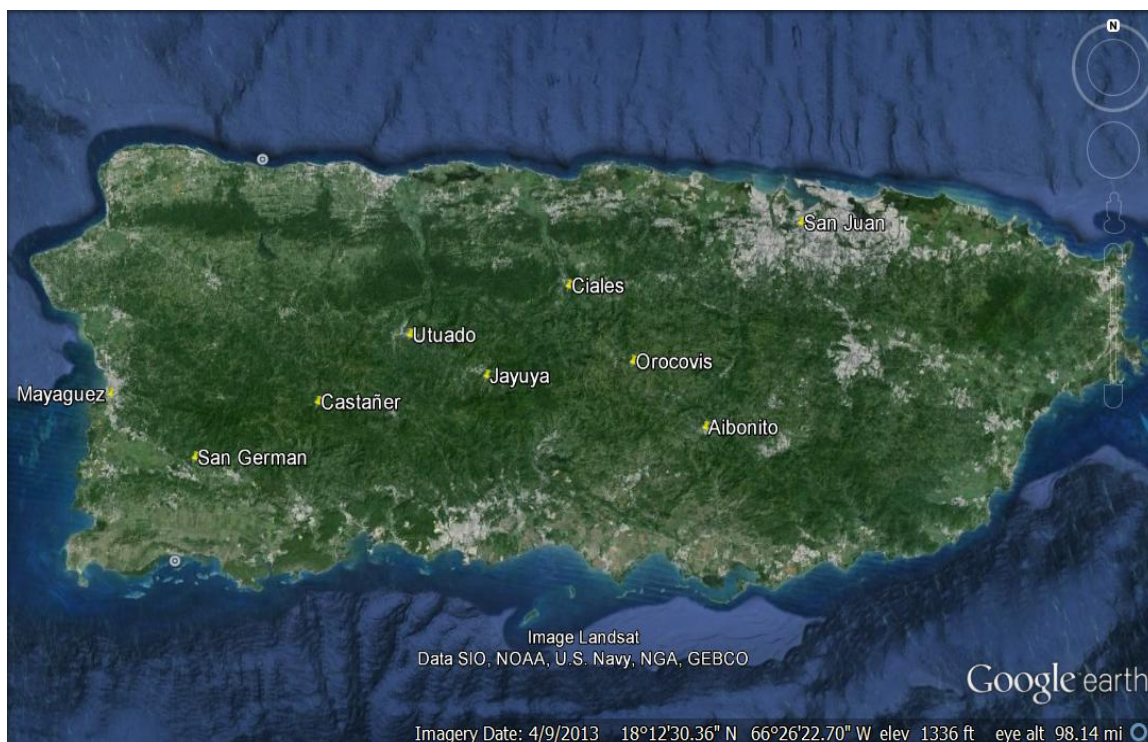


Figure 2: Map of Puerto Rico showing study locations (Source: Google Earth, 2015)

3.3 Data Collection and Research Activities

I had planned to conduct individual interviews with a set of 15 guiding questions as well as to conduct focus groups on gender dynamics with a set of 8 questions. However, since agroecological coffee farmers were more dispersed throughout the island than I had anticipated it became evident that it would not be possible for research participants to commute to a focus group. I then incorporated 7 out of the 8 questions (leaving out one as it seemed redundant) from the focus group set into the semi-structured individual interviews for a total of 22 questions (see Appendix C and Appendix D). The first set of questions had a focus on perceptions, livelihoods, and the role of agroecological coffee while the second set focused on gender dynamics. In all, my interviews totaled $n = 18$, including 4 prominent conventional farmers, all of whom were assigned pseudonyms for the protection of their privacy. Table 1 outlines some of the general characteristics of the research participants. There were a number of individuals I did not get to interview

because I simply ran out of time in Puerto Rico. I interviewed 6 women, of whom were 4 agroecological farmers, 1 was a conventional farmer and another was the director of an agroecological co-op. A total of 12 men were interviewed, 9 of them agroecological farmers and 3 conventional farmers. The representation of genders in the sample reflects the willingness of farmers to be interviewed. I had hoped to interview more women; however, when approached several declined to participate, most often stating that they were too busy. This was also impacted by the length of time I was able to spend in Puerto Rico and the schedules of individual farmers. However, I do not view the relatively low number of female interviewees as counter to my interest in gender, as gendered dynamics in agriculture affect all participants, all of whom are gendered subjects. Interviewees ranged in age from 30-70, most over 50 years old, with 6 under the age of 50. I noticed that there were younger agroecological farmers in Puerto Rico; however, they did not own their own farms, and tended to work as volunteers in exchange for agroecological knowledge. None were interviewed because their work at multiple sites with irregular schedules meant we were unable to coordinate interview times. Interviews typically lasted 2-3 hours and were audio recorded, followed by farm tours which varied in length of time. All interviews with the exception of two were conducted in Spanish (one was in Spanglish and the other in English). I visited with more than half of the interviewees more than once as I was invited to share food with people and join in on social events.

Coffee farmers in PR were influenced by a wide range of life experiences. For example, while Ricardo and Lola both inherited land, they followed very different paths as farmers. Ricardo inherited his farm from his father, who also grew and roasted coffee, and said that he looks forward to leaving the farm to his son (he did not specify if he had other children). The 72-acre farm produced conventional coffee. It contained equipment for specific roles in processing the coffee fruit, from a pulp extractor that removes the pulp from the bean to a bagging machine that packages roasted beans. He emphasized his family's Spanish heritage and articulated great pride in producing coffee because his father would tell him that coffee was the reason why they were successful. Ricardo had the largest farm out of all the participants I interviewed, which was highly lucrative,

likely due in part to extensive marketing campaigns. As a conventional farmer, Ricardo produced only coffee and articulated the importance of keeping Puerto Rico's "coffee culture" alive. He was interested in promoting his specific brand of coffee as a speciality coffee both internationally and locally.

Lola, an agroecological farmer, was focused solely on Puerto Rican markets and stated that ideally, she would produce food that was then consumed by her immediate community. Lola inherited her land from her mother, an urban woman who began farming later in life after watching a documentary on climate change. Lola returned to Puerto Rico after completing her college degree abroad, when her mother was diagnosed with cancer and learned about agroecological farming from her mother. Lola owned 12 acres, two of which she actively cultivated with her husband. From those two acres they produced the majority of their food, which she said accounted for 5% of what they grew; they sold the rest. Lola actively sought out opportunities to sell her produce, but also articulated that she felt that capitalism and American imperialism were to blame for problems with food sovereignty in Puerto Rico, emphasizing that independence from the United States was important to achieving food sovereignty. She was also interested in pursuing alternative economic relations, including trading her produce for free-range meat, and was hoping to develop an educational program on her farm where people could learn, eat and stay in exchange for working.

Participant observation was a useful method for me to witness the norms and everyday practices of farmers and social movements. During my research I became immersed in a network of ecological coffee growers, small scale farmers and local organizations, which helped me to gain an understanding of what constrains and motivates them. The agroecological farmers I met were generally members of Organización Boricúa, although some farmers simply knew each other through doing similar work. It was difficult to get farmers to commit to an interview as they were very busy, and I had to be persistent. I also found some interviewees through attending farmers' markets while conventional farmers were located through internet searches. One conventional farmer was referred to

me by another farmer. I participated in community social events (including a baby shower), accompanied farmers as they transported their goods to various markets and buyers, attended agroecology workshops, and took part in agroecological farming activities including several work-sharing “brigades,” seed exchanges, and assisting with packing grains. These activities were daily occurrences which were interspersed with interviews. While this approach was useful to gain insights into how ecological coffee growers form networks of support and sociality, discussed in more detail in Chapter 5, it was limited in that my presence likely changed the outcomes of all situations. While it was not apparent to me, people may have behaved differently with a researcher present and my relationships to participants may have influenced their responses to me.

I recognize that my approach to this research was and continues to be mediated by my own life experiences. As a Puerto Rican born on the island but raised in mainland United States, I was situated in the research as sometimes an insider and sometimes an outsider, for example by virtue of speaking the language and sharing an accent (marking me as an insider), or by being a researcher at a university outside of the United States (marking me as transnational). Thus, it was necessary for me to incorporate reflexivity into my research, which I practiced through keeping a field journal. In doing this research I had to consider my own social location, mobility and privileged position as a researcher as factors that may have influenced the research outcomes.

Table 1: Characteristics of Research Participants

Pseudonym	Self-Identified Gender	Age Range	Location	Role	Acres Cultivated*	Agrarian Organization Affiliations**
Angel	Man	60-65	Orocovis	Ecological Farmer	6	OB, CMT
Astrid	Woman	60-65	Jayuya	Conventional Farmer	48	N/A
Delia	Woman	30-35	San Juan	Co-Op Director	0	DC, ES
Edna	Woman	55-60	Jayuya	Ecological Farmer	5	OB, NSSM, CMT, DC, ES
Esteban	Man	50-55	Jayuya	Ecological Farmer	63	OB, NSSM, CMT, DC, ES
Gabriel	Man	40-45	Utuaado	Ecological Farmer	10	OB, CMT
Harry	Man	30-35	Orocovis	Ecological Farmer	2	OB, NSSM, CMT, DC
Javier	Man	40-45	Utuaado	Ecological Farmer	15	None
Johan	Man	55-60	Ciales	Conventional Farmer	12	N/A
Jose	Man	60-65	Orocovis	Ecological Farmer	4	OB
Julio	Man	65-70	Orocovis	Ecological Farmer	23	OB, NSSM, CMT, DC, ES
Lola	Woman	30-35	Aibonito	Ecological farmer	2	OB, NSSM, CMT, DC, ES
Mario	Man	50-55	Mayagüez	Conventional Farmer	60	N/A
Ramon	Man	65-70	Ciales	Ecological Farmer	10	CMT
Raquel	Woman	30-35	Jayuya	Ecological Farmer	2	OB, NSSM, CMT, DC, ES
Ricardo	Man	55-60	Castañer	Conventional Farmer	72	N/A
Sebastian	Man	50-55	San German	Ecological Farmer	18	OB, NSSM, CMT, DC, ES
Wanda	Woman	50-55	Utuaado	Ecological Farmer	2	OB, NSSM, CMT, DC, ES

*Values in this column represent land that was actively cultivated.

**OB-Organizacion Boricua, CMT-Cooperativa Madre Tierra, DC-Departamento de la Comida, ES-Efecto Sombrilla, NSSM-Nada Santo Sobre Monsanto.

3.4 Epistemology

To explore the relationship between ecological coffee production and food sovereignty, I draw on a postcolonial intersectional approach informed by feminist political ecology. Postcolonialism informs feminist political ecology in that much work in feminist political ecology occurs in countries that have formerly been colonies, where an analysis of race and colonization is essential (Mollett and Faria, 2013). Postcolonial scholars have sought to illuminate how the former colonizer and colony are still tied into relations of dependence (Kitchin and Thrift, 2009). This dynamic informs my understanding of Puerto Rico's current geopolitical position as Puerto Rico remains politically tied to its most recent colonizer, the United States. From its origins in the late 1970s, postcolonial theory was concerned with recognizing the violence inherent in colonizers' totalizing power to create knowledge about subjugated peoples (Rao, 2013). Homi Bhabha (1994) complicated this notion by arguing that power is possessed by the colonized as well as the colonizer. Postcolonialism now refers to far more than the period after formal decolonization, encompassing an anti-colonial stance that seeks to understand the continued effects of colonization (Rao, 2013).

Gayatri Spivak has been credited with opening up the space in which postcolonial feminism could emerge with her 1988 essay, "Can the Subaltern Speak?" (Rao, 2013). In this essay, Spivak takes up postcolonial concerns and asks how they apply to subaltern women, specifically those in the "Third World" (Spivak, 1988). By drawing inspiration from postcolonial and postcolonial feminist theory in my research I tasked myself with thinking through relations of power and navigating them in order to minimize harm. I specifically considered Bhabha's (1994) notion that power is dialectical and exercised by those in subjugated positions to recognize that the farmers I interacted with have certain powers, but also recognized my own privileged position as a university researcher. In the field this meant appreciating that farmers who participated in the research were placing themselves into potentially vulnerable positions of critique, where the manner in which they cultivate crops and in many ways, their very livelihoods were under scrutiny. I emphasized conducting individual interviews so that participants would have the

opportunity to express their views without fear of repercussions from their communities or peers and so that those whose voices were not amplified in social spaces, for any reason could speak. The implications for my research include that I must continue to think carefully about how the data I present about Puerto Rico will be used and what control I can give to farmers who participated in this study over the knowledge that they shared with me. So far I have tried to accomplish this by incorporating farmers' feedback into the writing and analysis of my thesis. Farmers were sent every section of the text that their words, ideas or actions appeared in, so that they could inform me of any information that they wanted removed and correct any inconsistencies. This was a way for me to get feedback from interviewees to ensure that they felt accurately represented. This did not mean that interviewees were able to drastically change the content of my analysis, as I also feel that it is important to be able to maintain my autonomy as a researcher. Instead, this measure was put in place to catch glaring inaccuracies by the people who were generous enough to share their experiences with me.

My analysis is informed by an intersectional framework which views the gendered aspects of space, place, and economies within agricultural communities in Puerto Rico not as separate entities but as co-constitutive social forces which (re)inscribe meaning onto each other (Mollett and Faria, 2013). Some of interview questions were designed to gather information about the role of women in farming and participants' views on women farmers, in order to situate gender roles within the larger economic and social realities in Puerto Rico. These questions also elucidated attitudes and expectations towards men who farm. As a follow-up question I asked interviewees to discuss their views on the relationship between agriculture, colonization and race. Postcolonial intersectional analysis is more effective than a solely gender-based approach to understanding power relations because it incorporates the complexity of living gendered lives into the analysis, preventing the homogenization of all women or all men into single, unifying, ahistoric categories (CRIAOW, 2006; Mollett and Faria, 2013). This approach also recognizes that men can be marginalized based on factors outside of gender, such as race or class

(Valentine, 2007). I have therefore sought to situate Puerto Rican ecological coffee producers of all genders in relation to multiple interacting privileges and oppressions.

3.5 Transcription and Analysis

The most significant source of data for this project are the semi-structured individual interviews, conducted with agroecological farmers, conventional farmers and members of farming movements. As Balsiger and Lambelet (2014) note, primary data is essential for generating specific understandings of groups, movements and communities. I contextualized the interview data by engaging in participant observation in order to get a sense of the social terrain of coffee farmers. I complemented the primary data I collected in the field with textual analysis of documents produced by agrarian organizations (such as Organización Boricúa and a magazine produced by several farmers titled Agrotemas) in Puerto Rico, especially those pertaining to ecological coffee production in order to understand what underpins these movements historically. I transcribed the majority of interviews upon my return from Puerto Rico. Due to my limited time on the island and intensive immersion into farming networks, there was little time for me to transcribe while in the field. Interview data also required translation from Spanish into English; I have a native fluency in both languages and completed the translations myself. Each interview was uploaded to a password-protected file folder. Every word from interviews was transcribed in Spanish to ensure accurate translation into English and to preserve the integrity of interviewees' comments. I translated to English selected portions and excerpts I wished to quote as this is the language for the thesis. To analyze the interviews, I used NVivo as a tool to link and examine data relationships (Richards, 1999). For all interviews, including the ones with conventional farmers, I coded for the themes related to food sovereignty, gendered roles in agriculture and systemic challenges -including political and economic barriers- to agroecological farming.

I studied locally-produced documents such as Organización Boricúa's newsletter and website, Agrotemas, various websites, posters and flyers produced for conferences, workshops and brigades (labor exchanges between farmers) on the same themes as the

interviews. I actively looked for such documents in all locations as I conducted my study. As these texts were designed to communicate a positive message about agroecological coffee and farmer's movements more generally, I wanted to see what the relationships were between how farmers and organizations write about themselves to the public and the ways in which they speak about themselves and their livelihoods in a more private and anonymous setting. Additionally, I was interested in examining how gender was presented in texts, if it was at all, in order to further assess the gendered roles that exist in agroecological farming. I engaged in a similar process with my notes from participant observation; in this case I was interested in analyzing how details from my observations brought into focus the role of agroecological coffee in farmers' livelihoods, gender dynamics and specificities to communities that to insiders may seem too banal to acknowledge. This process was completed primarily to increase my own understanding, so that I could better interpret interviews and my focus has primarily been the words of interview participants.

Chapter 4

4 Ecological Coffee Production as Food Sovereignty: Challenges and Constraints

This chapter discusses farmers' perceptions of the challenges and constraints they face in contributing to Puerto Rico's food system, and compares the views of agroecological and conventional farmers in this regard. Following a brief introduction that lays out a number of challenges raised by farmers, I focus on two substantive themes that were strongly prevalent in the interviews: 1) government interventions in agriculture and farmers' responses to them; and 2) the economic collapse in Puerto Rico and its implications for farmers. After presenting the range of viewpoints expressed in the interviews I look for patterns in the views of conventional and agroecological farmers on these two themes.

4.1 Economic and Political Context

Agroecological coffee farmers in Puerto Rico identified numerous challenges to their work, including dire economic conditions, lack of government support, climate change, increasing corporate competition, and the continued practice of relying on food imports from the United States. All of these reportedly constrained the abilities of agroecological farmers to meet their own livelihood needs and work towards food sovereignty. Food sovereignty was articulated by agroecological farmers as both an aspiration for Puerto Rico that they hoped to achieve through their practices and a framework for how they understood the political and economic conditions on the island. They generally defined food sovereignty in terms of political sovereignty and felt that one is not possible without the other. They also argued that food sovereignty would have to be achieved through working collectively with other farmers and their communities.

Currently, the issue that garners the most attention in the international press is Puerto Rico's debt crisis. On December 1st, 2015 Puerto Rico's governor declared the island's more than \$70 billion debt "unpayable," yet given its unique political status, it is unable to declare bankruptcy, unlike the 50 states of the United States (Dayen, 2015). At the

time of data collection, when Puerto Rico's economy had already been declared collapsed by many economists and experts on the Caribbean (Dayen, 2015), many agroecological farmers in this study expressed that they were equally or more concerned about the impacts of climate change and the long term effects of using chemical inputs, which they felt directly impacts their ability to produce food as well as to pursue alternatives to Puerto Rico's current economic system – a system that they see as untenable. Most of these challenges affect all farmers on the island, regardless of their chosen cultivation method; however, the extent to which they affect farmers and the amount of support a farmer can expect to help deal with these challenges varies widely according to what product(s) a farmer produces and how.

To interpret the empirical perspectives that follow, it is important to remember that agriculture in Puerto Rico is regulated by the United States Department of Agriculture (USDA) and El Departamento de Agricultura – Puerto Rico's own Department of Agriculture – and is subject to all United States laws and regulations (El Departamento de Agricultura, 2016). Under this system, industrialized farming and the use of pesticides by all farmers are subsidized and mono-cropping is encouraged through crop-specific subsidies which require the subsidized crop to be the only crop in the field (El Departamento de Agricultura, 2016). Agroecological farmers that were interviewed strongly felt that agroecological growing methods and farms are largely ignored, or outright “persecuted” by the Puerto Rican government and the USDA, based on comments made by visiting government agronomists and a lack of subsidies that could benefit their farming practices. Furthermore, they indicated that seeking support for agroecological farming through established government channels, such as asking questions of El Departamento de Agricultura and asking for financial support or tailored subsidies, requires navigating a complex and inefficient bureaucracy.

Regarding import dependence, interviewees stated that it was significantly easier and simpler for the average Puerto Rican to rely on food stamps that can be used only at major supermarkets than to buy direct from farmers, further entrenching a reliance on

imported food. In terms of corporate control, several interviewees stated that they have noticed that many Puerto Ricans believe that they can buy local and sustainable coffee produced by small scale farmers at the supermarket; however, more often than not, small scale coffee farms are being bought by corporations which keep the original farm and brand name, giving the impression that consumers are supporting a local, small scale farmer.

Large coffee plantations are still in operation throughout the island and are increasing in scale but not in number as coffee production is becoming consolidated under the control of larger corporations. In particular, Coca Cola was flagged by both conventional and agroecological farmers as producing up to 85% of Puerto Rico's coffee, a figure that is corroborated by other sources (Denis, 2015; Ferrer, 2015) and widely discussed in literature produced by agrarian organizations. This coffee is sold under previously well-established brand names and average consumers are unaware of the change in ownership. Taken together, these challenges represent a daunting set of circumstances for small-scale farmers in Puerto Rico generally and agroecological farmers pursuing a vision of food sovereignty in particular. The following sections explore two of these themes in greater detail: government interventions and economic crisis.

4.2 Government Interventions

Agroecological farming practices stand in stark contrast to the growing methods that were utilized when Puerto Rico was first colonized. As discussed in Chapter 2, during its Spanish colonial period, Puerto Rico was developed as a plantation economy; however, after the United States took possession of the island, they envisioned modern, industrial development for Puerto Rico and over time attempted to de-emphasize agriculture (Garcia-Colon, 2006). Attempts at industrializing Puerto Rico generally failed but did succeed in urbanizing some of the population; yet, without government support for agriculture, food production on the island was insufficient to support its newly urban population, contributing to the import dependence and lack of food security on the island (Garcia-Colon, 2006).

Interviewees noted that during the 1970s and 1980s, the government of Puerto Rico heavily incentivized farmers to use herbicides and pesticides and to produce coffee as a monoculture. Agroecological farmers do not participate in such programs because chemical inputs and mono-cropping are incompatible with their choice of farming method; however, the government still subsidizes the use of fertilizers, herbicides and pesticides. Currently, the government of Puerto Rico offers a variety of agricultural subsidies including a wage subsidy, an “agriculture bonus” for workers, the Technical Precision Agriculture Program, and several different subsidies each for the milk, beef, honey, pork and poultry industries as well as a subsidy to encourage new production of passionfruit (El Departamento de Agricultura, 2016). There are also several subsidies aimed directly at coffee production including \$1300 USD for every acre of newly-planted coffee “grown in the sun or partial shade;” full coverage of the cost of herbicides for newly-planted coffee; subsidies on fertilizers, pesticides and herbicides for fields containing exclusively coffee; assistance with buying machinery and assistance with controlling coffee-specific disease (El Departamento de Agricultura, 2016).

Most subsidies offered by El Departamento de Agricultura are product specific, meaning that besides the bonus of up to \$235 per year for each agricultural worker (El Departamento de Agricultura, 2016), all agricultural activities that are incentivized by the government require or encourage the production of a single product or mono-cropping separate fields by farmers. Though the Puerto Rican government has attempted to subsidize the planting of shade trees for coffee (Tulkoff, 2014), it falls very short of the sort of diverse intercropping involved in agroecological farming, and according to its website, El Departamento de Agricultura still encourages the production of coffee grown in full sun through subsidies. In addition, it is mostly animal agriculture that is subsidized, which requires more land and resources than growing crops; crops which are subsidized include passionfruit and coffee, which on their own do not contribute to a diverse food system. One can infer that agriculture in Puerto Rico is seen by the government as a way to bolster the economy through agro-export sales rather than a means to ensure a secure, local food supply that meets both the nutritional needs of

people and the basic need to consume food that is varied and enjoyable. One case in point is Puerto Rico's Créditos Por Inversión program, which incentivizes Inversión Agrícola or Investment in Agriculture. The FAO (2016) describes investment in agriculture as "crucial" to the continued growth and ability of agriculture to meet the nutritional needs of all people. Most often, investment in agriculture emphasizes technological, large-scale "innovation," as well as increased processing to ensure added value to agricultural products (FAO, 2016). However, in their interviews, farmers noted that they felt they did not need more technology as they already have very good growing conditions; instead, they want to be able to hire more agricultural workers and be able to farm using their chosen methods.

In the Puerto Rican context, agroecological farmers object to what they see as unnecessary commodification of food; they want to be able to make a living off of what they produce, but are also critical of the capitalist economic system for making both food and land inaccessible to most Puerto Ricans. The government's Créditos Por Inversión program pours large amounts of money, through matching farmer contributions – up to \$20,000 USD – into individuals and farmers that "invest" in new technologies that encourage "green" farming practices, such as investing in technologies that replace the use of fossil fuels. While this is not necessarily incongruent with the goals of the agroecological farmers I interviewed, at issue is the fact that not only does this incentive reward people who already have large sums of money with more capital, it is also that the money dedicated to this incentive could be better spent, according to agroecological farmers. For agroecological farmers that were interviewed, Puerto Rico's soil and climate are already ideal for growing large amounts of healthy, diverse food and further innovations are not needed, as agroecological farmers have already developed multiple, generally inexpensive techniques for growing food in Puerto Rico. They argue that the only inputs required are some carefully crafted compost, and hiring wage labour, which few agroecological farmers can afford. According to farmers, not only would supporting farmers in hiring more farm laborers lessen the environmental impact of "green" technologies, which generally require more resources to produce, it could also potentially

address the severe lack of jobs which afflicts Puerto Rico's economy. In the case of coffee, which is best harvested by hand-picking, there is a large need for human labour, which would also not be subject to seasonal layoffs in agroecological farms, because there would always be another crop to harvest or tend to and agroecological growing methods tend to require more human labour.

4.3 Labour Shortages and Economic Pressure

With Puerto Rico embroiled in an economic crisis characterized by defaulted loan payments and an unemployment rate of over 12% in 2016 (Walsh, 2016), agroecological farms may represent an important part of overcoming Puerto Rico's economic problems, because they already tend to operate on the margins of the capitalist system which helped to create the crisis. However, ironically given the high unemployment rate, farmers identified labour shortage as a persistent challenge. For these farmers, hiring wage labor is still consistent with the self-sufficiency aspiration in food sovereignty because they do not articulate self-sufficiency as the absence of reciprocal relationships between people, but rather as the absence of dependence on food imports and on technologies that are not sustainable. Additionally, because young people have very poor job prospects, farm labor could be a means through which they are able to stay in Puerto Rico, instead of migrating to the US.

Agricultural work often carries a certain stigma of being sticky and hot and it remains difficult for farmers to recruit and retain enough labor to harvest the coffee that is already grown on the island, let alone if agroecological farms were to increase in numbers (Tulkoff, 2014). There is also the issue that agroecological farmers seek to live entirely off of the produce that they grow, which given their small scale is not always enough to pay workers. Thus, while in theory Puerto Rico could end import dependence through developing its food-growing capacities (Monclova Vázquez, 2014), achieving this goal requires much more than focusing on agriculture. Addressing this labour issue requires engaging with cultural as well as economic influences. Julio pointed out how "streets and buildings are named after baseball players, boxers and celebrities without giving a

thought to how their need to eat is met” (Julio interview, July 2015). Cultivating this recognition would require, as Wanda, an agroecological farmer put it, “changing hearts and minds” so that agriculture, particularly agroecology, is understood as vitally important to sustaining people’s lives and livelihoods. The cultural perception of agricultural work as dirty and backwards (Tulkoff, 2014) would have to shift, along with the everyday eating and shopping habits of many Puerto Ricans. With regard to the latter, farmers expressed frustration that many potential consumers of local, agroecological foods are cut off from accessing their produce because of reliance on food stamps. It is not possible for farmers to accept food stamps in exchange for produce, and recipients of food stamps, which make up a significant portion of the population, are relegated to shop at supermarkets that can process food stamps. After decades of primarily accessing foods in supermarkets and stretching funds through purchasing cheaper, lower quality processed foods, tastes and preferences of consumers have shifted and many younger people, who are facing a serious lack of employment, do not want or cannot afford fresh, local, agroecological produce.

The lack of adequate employment is also exacerbated by the measures taken by the government to address its defaulted loan payments, including a 3.5% rise in the sales tax to 11.5%. Puerto Rico’s economic crisis is compounded by many complex factors, including a complete halt in manufacturing on the island once US manufacturing became no longer tax-exempt in the 1990s (Dayen, 2015). As a consequence, Puerto Rico’s economy has not grown for more than ten years and the government continued to issue bonds to finance its activities (Marans, 2016). More immediate than the abstract issue of the government incurring and being unable to repay unimaginable debt, are the consequences of the measures taken to address the debt, including the sharply-increased sales tax. Ricardo, a well-known coffee roaster, felt that “This new tax is really going to cause a lot of suffering. The government decided to just tax everybody.... And now, at 11.5%, nobody can afford anything.” Puerto Ricans are leaving for the United States in large numbers while about 10% of schools are being shut down and hospitals are cutting services (Walsh, 2016).

Even as Ricardo articulated that most Puerto Ricans would be adversely affected by the economic downturn, his farm remained profitable. Lola noted that while she felt the effects of the downturn, she was still able to make some profit from selling her produce. Rather than calling for an end to social assistance such as food stamps, Lola insisted that the best solution would be a policy requiring that a large percentage of food bought using food stamps be locally produced and fresh. That solution might walk the dangerous line of increasing surveillance and constraints on those who live in poverty, while not placing the same constraints on those who do not receive social assistance. However, there is also little use in agroecological farmers producing foods that few people want to eat. In Puerto Rico's current food system, where about 45% of people live under the official poverty line (Marans, 2016), it is unreasonable to expect that Puerto Ricans suddenly shift their buying practices on their own to include food that grown by agroecological farmers that is not subsidized. Several agroecological farmers felt that an important government intervention could be to find ways to make local, fresh produce more accessible.

It is also important to note that even though agricultural workers are in demand, most coffee pickers receive minimum wage, which in Puerto Rico is \$7.25/hour for seasonal work. Despite using the same currency as the United States, the cost of goods on the island is higher, in part due to conditions imposed by the Jones Act, which bars foreign ships from travelling from one US port to another (Marans, 2016). Since almost all ships come to the mainland United States first, nearly all consumer goods coming to Puerto Rico must be transferred to a US ship which then delivers the goods to Puerto Rico, making costs for many consumer goods "exorbitant" once they arrive on the island (Dayen, 2015). Thus, unless the manner in which agricultural work is provided and reimbursed, it would not eradicate many Puerto Ricans' need for government assistance.

4.4 Differing Views of Farming Practices and Coffee

Conventional farmers, take issue more with what they see as extreme government regulation rather than the types of agricultural subsidies available. Mario, who grows and roasts his own coffee at a larger scale than agroecological farmers, would like to see the

government relax what he sees as unnecessary regulations around coffee because “coffee has so much potential and there is a future in coffee if people in the government make it work. Coffee is our only product that we can really market to the world. People have to drop those food stamps, stop being lazy and get to work.” Ricardo lamented the yearly fees of about \$500 and weeklong process of applying for all the certifications required to roast coffee, including a “Certificate of Good Conduct” and Health and Safety certificates. Ricardo also called for the government of Puerto Rico to deregulate coffee so that Puerto Rico can produce “niche” coffee, all for export “for lots of money,” while Puerto Ricans would drink “cheaper, imported coffee, similar to what they did in Hawaii with Kona coffee.”

Whether conventional or agroecological, most farmers expressed some dissatisfaction with the government’s handling of agricultural issues and of the economy. Several conventional farmers and producers of non-agroecological coffee tended to view the market as the solution to most of Puerto Rico’s problems, including food stamp dependency, relating the conditions of dependency to individual choices and an unwillingness to work. Mario regarded the government as an inefficient body that was more concerned with getting re-elected through providing people with “free food” through food stamps than actually solving issues the island faces. In general, conventional farmers felt that government incentivization of intensifying single-crop coffee production to market abroad would be the best course of action.

In contrast, Julio, an agroecological farmer, argued that agricultural incentives and subsidies were evidence of the “quasi-persecution against agroecological farmers” enacted by the government:

They call what we do a “mish mash” because we have a lot of intercropped varieties of food. I have beans, corn and a lot of other intercropped foods, so every time they send an agronomist to your farm they give you a hard time because they keep telling you that you should be mono-cropping. And a lot of these agronomists have tried to get agroecological farmers to knock down a lot of their plants so they can “be more organized” and plant certain crops in certain sections of their farm. If you want to be subsidized by the government for your farm you have to use a certain amount of pesticide, herbicide and fertilizer, as much as they want, when they want it. –Julio interview, July 2015

A point of agreement by conventional farmers and agroecological farmers is that government subsidies are fairly difficult to attain, in that subsidies are withheld from farmers unless they adhere completely to government guidelines about a given agricultural industry. Agroecological farmers tend to face more “ridicule and surveillance by agronomists,” according to Gabriel, an ecological farmer. He went on to explain that while the government may check the permits of conventional farmers carefully, they inspect nearly every activity of agroecological farmers – which he and other interviewees claim the government always finds lacking.

Conventional and agroecological farmers also tended to share concerns about climate change, in that conventional farmers are especially vulnerable to any shifts in soil and climatic conditions because they produce only one crop, and many agroecological farmers become interested in agroecology out of concern for the environmental consequences of intensive and fossil fuel-reliant agriculture. All the farmers interviewed agreed that coffee is particularly vulnerable to climate change, stating that even small changes to soil, water or temperature can cause huge variations in the taste and aroma of coffee. The quality of the coffee produced is directly and obviously affected by any ecological change and is a major concern for all coffee farmers, as coffee is understood to be not only a crop but, “the heart and soul of Puerto Rican culture” by more than a few participants. Such phrasing may appear to be an overly romanticized notion, but it actually takes into account the fact that as Mario argues, coffee was also used as a “tool of domination” to increase productivity by plantation bosses over workers. Coffee is built into Puerto Rico’s cultural landscape as both a means to survive and a tool of colonization, with a history as complex as its taste. There is much at stake for farmers in terms of coffee alone in regards to climate change, and while agroecological farmers are not vulnerable to losing harvests from entire farms if their coffee crops fail, they do face the pressure and vulnerability of not being sure how their various crops will respond to dramatic changes in climate and factors they cannot control such as fertilizer runoff due to excessive rains, and the droughts that were plaguing the entire island, especially the eastern coast during the summer of 2015. Lola notes that seeds that are saved and

replanted every season allow crops to adjust to small changes over time in a particular area, but when changes are as dramatic as they have been lately, she worries that her crops will not adjust well.

A major divergence between the conventional and agroecological farmers that were interviewed is that conventional farmers seemed to have much more diversity in their opinions about the state of agriculture and what other conventional farmers of coffee were doing. All farmers that participated in this study were eager to share their knowledge with me, but agroecological farmers were already actively sharing information with each other and frequently attended workshops to learn from each other. Julio stated that he is often approached by younger farmers who he teaches agroecological methods by showing them how to work on his farm, even giving them homework assignments. Interviews with agroecological farmers almost always made reference to how the interviewee learned directly from another farmer and/or was teaching newer farmers agroecological methods.

The content of interviews with the conventional coffee growers or roasters suggested that their motives are primarily economic while also indicating their love of coffee and their desire for Puerto Rico's conditions to be improved. They also expressed a desire to be able to sell their coffee for higher prices than they currently are able to get in Puerto Rico, on the open market, wherever they want. Conventional farmers who participated in this research were much more loosely organized than agroecological farmers and viewed their agricultural pursuits as being in competition with other farmers to some extent. They were also seeking the greatest possible profit for the considerable work that they put into cultivating coffee.

Out of all the agroecological farmers interviewed, Esteban owns the largest farm of 63 acres and is the most focused on coffee. His larger farm size is possible because Esteban is trained as an engineer and continues to work as an engineer in a nearby city. He grew up on a small farm that his family eventually sold, and coffee -its cultivation, preparation for drinking and the prepared drink- was a part of his everyday life. He sun dries his

coffee, rather than roasting it and typically sells out, which he noted is because it is a higher quality, agroecological coffee. He feels that agroecological methods have allowed his farm to become more productive, stating “because I grow agroecological, I don’t have to deal with the problems that other farmers do, like diseases. I know my farm will last a long time because it is not polluted.” Esteban estimated that most of his farm income comes from coffee, though he also sells fruits. While his focus is on coffee intercropped with a wide variety of fruit trees, he only cultivates a variety named Puerto Rico Typica, a variety that he stated is only found in Puerto Rico, with unique characteristics in flavor and resistance to common diseases that afflict coffee. For him, coffee is an important part of Puerto Rican culture and Puerto Rico Typica in particular is a pathway to reclaiming Puerto Rican identity and heritage. This view also ties into his support for independence over statehood or continued commonwealth status. Esteban sells Puerto Rico Typica trees to other farmers in order to make the variety more common, as a symbolic and material representation of Puerto Rico’s possibilities for resurgence.

Participants in this study who practice agroecology did not consider themselves to be overly idealistic, nor did they live outside of capitalist imperatives; rather, they made business decisions in line with their politics as much as possible. These farmers were also seeking to make a good living off their produce, but their desire was generally to sell their produce as locally as possible. This was not always feasible, as demand for fresh produce is low in some regions, and the only markets available to agroecological farmers may be in higher-end restaurants in the capital city. Most agroecological farmers interviewed articulated that Puerto Rico needed systemic transformation, rather than a few carefully constructed incentives and subsidies, though they do see some utility to that approach. Agroecological farmers that I interviewed also seemed more in tune with what other farmers were doing and more open to sharing knowledge and skills with others, reflected in their fairly frequent interactions. Roasting coffee requires a license, and as such many agroecological farmers who grow coffee sell to the same person who only buys agroecological coffee, or they may sell their green coffee to an agroecological farmer who does have a roasting permit, which is an example of how agroecological

farmers attempt to work together in order to overcome some of the barriers that they feel they face. While most of the conventional farmers I interviewed owned smaller farms and were critical of the colonial process and of the United States' role in Puerto Rico, they also drew on past knowledge created from larger plantation systems in their farming practices. In some respects, conventional farmers seemed to be very much tied to colonial methods of growing coffee, in that they locate a lot of their current farming practices in what they call "tradition," and while they may not identify with the colonization of Puerto Rico, they do see themselves as part of a plantation lineage. Proponents of agroecology, on the other hand, had an attitude of pulling away from coloniality in almost all aspects, including coffee growing practices, largely because they view themselves as being subjected to colonial relationships, which undermine their control of the land and Puerto Rico's food sovereignty.⁶

4.5 Conclusion

The barriers outlined above combine to create an extremely limited context for agroecological farmers to act. As a result, the ability of farmers to effect changes in the direction of food sovereignty has been quite limited and their goals cannot be achieved without much more widespread change. Yet, an emergent theme in interviews with agroecological farmers was their desire for some form of sovereignty and their continued optimism in the face of what economic conditions that one reporter called "Puerto Rico's Rapture" (Sobrino, 2015). From the beginning of the fieldwork phase of this research to its end, I witnessed several of the complicating factors that constrain all farmers in Puerto Rico. These factors had specific and often amplified effects on agroecological farmers. For example, they felt that the government was both unsupportive of intercropped styles of farming as well as outright hostile towards farming arrangements that did not mirror government standards. Compounding this lack of government support was the fact that

⁶ Agroecological farmers' perspectives on colonialism will be discussed in more detail in Chapter 6.

agroecological farmers perceived societal attitudes towards agricultural work as being undesirable and unappreciated. Many agroecological farmers expressed that it was very difficult for them to recruit workers, and even if they did, they often lacked the ability to pay workers well, or at all. Sometimes arrangements were made to share knowledge in exchange for work, but that was only a temporary situation and does not address the shortages of labor in the long term.

Agroecological farmers also faced the fact that many inhabitants of Puerto Rico feel hopeless and face the crushing reality of the lack of prospects in Puerto Rico as more schools, hospitals and other businesses are closed. Even before the economic collapse, the dependence of many people on food stamps made it difficult for agroecological farmers to sell directly to consumers and because they do not focus on one crop, there is often no mechanism in place for them to sell to conventional buyers like supermarkets. Despite the constraints that they negotiate, agroecological farmers in Puerto Rico continue to produce food that they are proud of and while they often operate far from their ideal, they remain convinced that they must work to change the system, as it has already failed them for quite some time. The next chapter explores farmers' positive visions of how Puerto Rico's food system could include a greater role for agroecology.

Chapter 5

5 Food Sovereignty and Puerto Rican Agrarian Organizations

While the previous chapter discussed the challenges and constraints faced by agroecological farmers in Puerto Rico, this chapter turns towards some of the opportunities and visions for the future that farmers have identified. I begin by introducing the major organizations that comprise Puerto Rico's agrarian social movements and exploring their role in the lives of agroecological farmers. I then move to a discussion of major projects, activities and actions that Puerto Rican agrarian organizations have undertaken in support of food sovereignty goals, as well as the values that key organizations and their members expressed. A brief overview of interactions between gender norms and agrarian organizations follows. Since agrarian organizations seek to create positive social and economic change, the next section discusses the opportunities for food sovereignty that agrarian organization members are currently pursuing or believe are possible. The chapter concludes by discussing interviewees' perspectives on future directions for food sovereignty and agrarian organizations on the island and reflects on the potential limits of food sovereignty in Puerto Rico.

5.1 Puerto Rican Agrarian Organizations

This research encountered a number of agrarian social organizations in Puerto Rico that advocate for, and take actions to support, goals that their members see as supporting the achievement of food sovereignty on the island. These goals include improving the accessibility of high quality food for Puerto Ricans, creating a more self-sufficient, local food system and advocating for the rights of small scale farmers to continue to grow crops ecologically.

Nearly all agroecological farmers interviewed were members of Organización Boricúa, the largest of the organizations studied in this research. Organización Boricúa has a continuing and flexible relationship with La Via Campesina, and shares many of its values, though no participant went into great detail about the relationship, focusing

instead on their local context. Other significant groups include El Departamento de la Comida (The Department of Food), Puerto Rico's only sustainable food hub; El Efecto Sombrilla (The Umbrella Effect) and La Cooperativa Organica Madre Tierra (Mother Earth Organic Collective), a cooperative dedicated to developing and promoting agroecological farming, which holds a market three Sundays out of every month (Cooperativa Madre Tierra web site, n.d.). Some individual farms also take action towards increasing Puerto Rico's capacity to feed its people, such as a farm owned by Lola that is developing part of its land into an educational facility to train students to farm agroecologically and learn about sustainable housing. While some organizations observed in this research engage directly in farming, and indeed most are almost entirely or entirely run by agroecological farmers, others are dedicated more to garnering support for the movement. What they all share is a direct connection to agroecological farmers and a commitment – articulated through print materials, websites and personal interviews – to growing food sovereignty in Puerto Rico.

Most of these groups were composed primarily of farmers or farm workers (who were usually younger and non-land owning), with a small number of urban supporters. Members of agrarian organizations explained that they envision multiple pathways to food sovereignty including education, making locally and sustainably grown food widely available, and of course growing food agroecologically. These groups also make complex negotiations between the needs of individual member-farmers to make a living beyond subsistence while also expressing a strong critique of the capitalist system and their desire to work against it. Thus, while they often articulated that they were anti-capitalist almost all groups focused varying amounts of energy on creating retail spaces that would make agroecologically-grown food available to Puerto Ricans. Members of the groups articulated that while there is a much smaller number of ecological farmers in Puerto Rico than conventional farmers, they were seeking eventual systemic changes through smaller actions. These changes included political sovereignty, government protections of small-scale landowners and the prevention of corporations buying land. Because of this, agrarian organizations on the island tended to have small memberships with big ideas,

with a wide variety of foci and tactics. For instance, the group Nada Santo Sobre Monsanto (Nothing Sainly About Monsanto) organized a March Against Monsanto in 2013 that was effective in blocking the corporation from buying more land than it already owned in the south of Puerto Rico. The march is now an annual event which organizers articulated is “in solidarity with the rest of the world.” Interviewees viewed their own social movements as being part of a global struggle for food security, but focused their efforts on Puerto Rico.

Agrarian groups in Puerto Rico tend to be community-oriented and consensus based; they develop and implement varying projects in pursuit of food sovereignty. For example, beyond holding workshops and community-building events, Organización Boricuá is developing the first agroecological labeling system with the participation of farmers and consumers in Puerto Rico (Organización Boricuá web site, n.d.). Since USDA Organic certification can cost thousands of dollars and not take into account what one participant termed “food justice,” it was not seen by research participants to be a feasible choice for many agroecological farmers on the island (Lola interview, July 2015). As one participant argued, “there is a huge difference between USDA certification and what is sustainable. An island like Puerto Rico that is really small, you really see that difference, because USDA organic is basically mono-cropping. It doesn’t really include personal relationships, or fair trade wages” (Delia interview, July 2015). Organización Boricuá’s mission stresses the importance of integrated and ecological farming to produce food for domestic consumption in order to achieve food sovereignty (Organización Boricuá web site, n.d.). However, by its own admission Organización Boricuá does not work as much on the “consumer side of food sovereignty,” which was articulated by participants as the ability of consumers have multiple choices in their food decisions and access a healthy, local and secure food supply.

El Departamento de la Comida recognizes that “there is a need for people in [Puerto Rico to] do the selling, distributing, packing for local sustainable farmers because supermarkets don’t do that, there’s no type of scaled entity that can work with small or

medium sized farmers” (Delia interview, July 2015). Split into two sides, El Departamento de la Comida features a café that serves only locally sourced, agroecological food, and El Efecto Sombrilla (The Umbrella Effect) operates a not for profit market that caters to both farmers and consumers. Open all but one day of the week, with later hours to accommodate working people, El Departamento de la Comida aims to provide a viable and financially accessible alternative to supermarkets and chain restaurants. While consumers can buy fresh, agroecological produce at El Efecto Sombrilla, they are also able to access information about agroecology through educational initiatives. El Efecto Sombrilla does not buy produce to sell; rather, a volunteer-operated space is provided to farmers for a small fee so that they can sell directly to consumers without having to be present. The organization also assists with the transportation and distribution of agroecological crops by facilitating a weekly pickup day across the entire island and delivering produce wherever farmers need it to go. Farmers pay a small per-service fee to El Efecto Sombrilla so that the organization is not reliant on outside donations, and is able to cover its own overhead costs. One farmer stated that while she usually already has buyers lined up before her harvests, there is added security in being able to sell any surplus crops easily without large overhead costs. While some aspects of Organización Boricúa and El Departamento de la Comida could be problematized for relying on and thus implicitly supporting some aspects of the existing capitalist market economy, I argue that they are two amongst various agrarian groups in Puerto Rico that are working creatively within constraints to address the needs of agroecological farmers while also bringing agroecological food into public consciousness.

5.2 Gender and Agrarian Organizations in Puerto Rico

Agricultural activities have historically been deeply gendered in Puerto Rico, starting with Spanish colonization; men cleared land and harvested crops while women were typically relegated to the home, or activities such as weeding (Mintz, 2010b). One important aspect of contemporary agroecological farming appears to be a more even distribution of farming responsibilities and ownership between men and women. One

example among many that arose among the agroecological farmers interviewed comes from Miguel, the owner of a small-scale agroecological farm. Miguel stated that everyone regardless of gender should do agricultural work that they feel best fits with their capacities, and that he did not believe one gender was better suited to particular tasks, which was a sentiment reflected in all of the interviews with agroecological farmers. It is not clear if there are inherent characteristics in agroecology that encourage more equal gender relations, or if it is because the politics behind agroecology are concerned with questions of rights and liberation. In any case, members of agroecological agrarian organizations stated that there were no aspects of production that were relegated to one gender. As Julio said, “here we have everybody do everything!” Interviews with conventional farmers yielded a variety of answers, where Ricardo stated that not only were women more suited to particular agricultural jobs, those tasks were the only ones that women should do. This included picking coffee, which he stated women were better suited for because “their hands are smaller.” Another conventional farmer named Johan thought that it was possible for women and men to equally share responsibilities, while the other two expressed ambivalence towards the question of gender norms.

Beyond agroecological farming practices, greater gender equality was also evidenced in the workings of agrarian organizations in comparison to larger Puerto Rican society, which has a long tradition of machismo culture and fairly strict gender roles (Mintz, 2010b). Both Organización Boricúa and El Departamento de la Comida feature women in prominent leadership roles as well as in general membership. During interviews, when I asked if there were jobs, tasks or roles that were specific to men and women, many participants who were part of agroecological agrarian organizations seemed puzzled and would state as a matter of fact that people work in the roles that they feel they are best suited for them and that the work that needs to be done is shared. According to research participants, women’s participation in agrarian organizations reflected their participation in agroecological farming: there are few if any organizational norms or attitudes that would limit women taking on leadership roles. Movements are likely not without their problems, though no participant articulated feelings of exclusion or sexism within

agrarian organizations. However, some remnants of gendered discourse remain. For instance, there is a fairly constant invocation of “Mother Earth” in some of the agrarian organizations in Puerto Rico, which can be considered essentialist in its gendering of the earth as a nurturing, fertile woman while also centering women as inherently important to agriculture and agrarian organizations through reproduction. However, there is little evidence that discourses of this type practically constrain women’s participation in agrarian organizations, though they may inform perceptions of women in the movement.

Across genders, participating agroecological farmers and members of agrarian organizations stated that not only do they think greater gender equality is important in farming, they also report that it is generally the reality in agroecological farming. Delia, a co-op director, who was educated in the United States and knew very little about farming before her parents started an agroecological farm, stated: “we have a really diverse group of farmers. I have 20-year-old farmers, I have 80-year-old farmers, I have women and men.” Another example is how agrarian organizations visually represent themselves. Both Nada Santo Sobre Monsanto and Organización Boricuá use the image of women farmers on their website homepages (See Figures 3 and 4), with Organización Boricuá incorporating two women farmers into their logo (Nada Santo Sobre Monsanto, 2016; Organización Boricuá, n.d.). These images on their own do not guarantee or designate that gender equality is important to either organization, and images of women’s bodies are commonly used for marketing strategies by many organizations and companies without a commitment to increasing gender equality. However, these images do not depict women as rewards for participating in these organizations, instead, they depict women working and holding tools, in active positions, located amidst crops. Paired with their stated goals and interests and my interactions with members of both groups, this imagery indicates that both organizations are attempting to communicate visually that their membership is open to, and largely based on the participation of women. What is unclear and remains unanswered about agrarian social movements in Puerto Rico, is how women feel qualitatively about other aspects of their involvement in agroecological farming and agrarian organizations. This study did not collect data on sexual harassment

or assault in agrarian organizations on the island, nor how access to capital, and therefore land may be gendered for agroecological farmers. As such, it is difficult to establish a fulsome picture of gender equality within agroecological agrarian organizations in Puerto Rico; however, the consensus amongst agroecological farmer research participants that men and women experience greater levels of inclusion in all aspects of agroecological farming is still noteworthy.



**Nada Santo
Sobre Monsanto**

Figure 3: Image from the website of Nada Santo Sobre Monsanto. (Source: <http://www.nadasantosobremonsanto.com/>, 2016)



Figure 4: Logo of Organización Boricúa. (Source: <http://organizacionboricua.blogspot.ca/p/quienes-somos.html>, n.d.)

5.3 Opportunities for Food Sovereignty

A surprising finding of this research was that most of the agroecological farmers and social movement members who were interviewed perceived the current conditions of economic hardship as a potential opportunity. Despite the difficult conditions of their lives, they were generally optimistic about their futures and the future of agroecological farming in Puerto Rico. Employing the language of health, many participants saw the economic collapse in Puerto Rico as evidence that the current system was not working – therefore creating space for alternatives. For instance, participants cited the unhealthiness of the foods people can get from supermarkets as well as the unhealthiness of crops that are chemically dependent as evidence of and a catalyst for the need to shift towards “healthy” ways of farming and eating. Delia, whose work has focused on supporting farmers rather than farming herself, thought the priorities for adjusting Puerto Rico’s farming system should include: “Smaller scale [farms], more community involved, and be healthier.”

Edna owned a five acre farm with her husband, and spoke at length about the changes in her life that occurred because of her involvement in agroecological farming. First and foremost, she stated that she feels happier and more fulfilled growing food, she has also

been able to establish connections with other farmers through membership in Organizacion Boricua, where she facilitates many workshops. Before purchasing their farm, Edna and her husband both worked as teachers, but wanted to be able to grow their own food, as both had grown up on farms that were sold. Edna's husband continues to teach, while she is the principal operator of the farm, which produces many different crops including coffee. Edna stated that she believes ecological farming has allowed her to grow a stronger connection to the land. She also believes that full political independence is necessary to achieve food sovereignty – and that this outcome is possible.

The economic collapse on the island was conceptualized by research participants as the natural outcome of an unviable system. They also described it as an opportunity to galvanize support for agrarian organizations by demonstrating a sustainable option that people are already “yearning for in their lives” (Lola interview, July 2015). Economic collapse was seen by agroecological farmers as something so significant that it might finally allow people outside of agrarian organizations to acknowledge that their lives are “disconnected” from land, nutritious foods and their communities (Edna interview, July 2015). This was because these farmers believe they will continue to be prosperous even during an economic collapse; if conditions worsen, Puerto Ricans will have fewer opportunities, which may make ecological farming more visible and appealing. Collapse may turn out to provide the politicizing force that decades of dependency has eroded.

Participants also noted that the involvement of young people in agrarian organizations has potential to counter the trend of young people on the island facing such constrained opportunities that they leave for the mainland United States in mass numbers. By offering a way to stay on the island that is not dependent on aid from the United States, that may offer a dignified and rewarding existence, agroecological farming and agrarian organizations were seen to provide a pathway toward a better food system arising from Puerto Rico's flailing economy.

Establishing diverse and local food systems was emphasized by agroecological farmers as a way to respond to high transportation costs, which would also allow for more savings by the local consumer, and for locally grown food to have prices that are more comparable to the cheaper imported foods. As Lola stated, “I would love it if in 15 years, everything I grow could be sold locally [...] I want it to feed my immediate community. That’s my vision for this farm.” Agroecological farmers identified larger structures, such as colonization (which most described as continuing), the government and the world economic system as the source of Puerto Rico’s economic troubles. As such, they located the solution in small-scale farming and personal relationships. For these participants, food sovereignty is “the sort of thing that needs to happen from the ground up and it is happening from the ground up” (Delia interview, July 2015). According to Edna, an ecological farmer “I have seen the new shift towards reconnecting, towards re-growing, towards re-peasantization. I think it’s positive. [...] And I am looking forward to even more positive changes to the system, slowly but surely.” This “new shift” refers to the growing number of agroecological farmers, who collaborate and see themselves as actively working towards a better food future for Puerto Ricans. This statement provides one example of agroecological farmers and members of agrarian organizations embracing change and looking towards the future.

In the future, almost all participants foresaw some kind of growth in their activities; however, they were also quick to qualify what they meant by growth, profitability and marketing, repurposing those terms to fit with their own visions of agrarian change. Lola noted that her farm has a “commercial identity,” however, the goal she had in mind is different from the one generally associated with conventional farming. She and her husband were attempting to create relationships of trust amongst themselves and their customers through sustained contact over time, in contrast to the anonymous commercial marketing that occurs in grocery stores. Furthermore, although she and her husband were looking to reach more people in their local community she explained they were not seeking to “get too big.” Most participants cited growth as desirable only as much as it ensured that their “efforts are to the maximum amount” (Javier interview, July 2015).

The theme of trying to avoid farms becoming “too big” was raised by nearly all agroecological farmers, as they expressed a sense that farming is sustainable only at a small or medium scale – a claim supported by some scholars (Altieri and Toledo, 2011).

Greater equity and access to land – and therefore relationships to the environment and community – were also framed by participants as fundamentally important to increasing food security. Gabriel’s vision for growth in Puerto Rico’s agricultural system would be “instead of having so few people own all the land, have more people own smaller lands.” For members of Organización Boricuá and La Cooperativa Organica Madre Tierra growth meant providing the resources so that more people can become engaged in agroecological farming, whether they produce agroecological food themselves or support the farmers who do. For El Departamento de la Comida it meant supporting other groups like themselves to emerge, building a network instead of competing with each other. Thus, growth was conceptualized in terms of more people becoming part of the movement, in the number of small and medium scale farms increasing, and in more information about ecological farming being made widely available, rather than in terms of an increase in farm size, production or profits in a way that concentrates land, resources or knowledge in a few hands.

5.4 Future Directions and Possible Limitations of Agrarian Organizations in Puerto Rico

Participants’ statements about the future growth of agrarian organizations and agroecological farming tended to be couched in a language of creating a degree of longevity while opening up of the meaning of private property. Part of the vision that participants articulated for agriculture in Puerto Rico was to strengthen communities through their connections to food. An agroecological farmer named Javier called for agriculture that is “more community based in that even if you don’t own a farm you are able to work; somehow you start involving yourself in the community instead of thinking that it’s just private property and something to sell.” Lola hoped to achieve this goal through practicing permaculture and establishing an educational facility on her farm. She

spoke at length about how she wanted people to come and learn, and that if people want to stay “forever” that she’d be “happy.” However, she also saw community as fluid and changing in terms of people coming to learn and then moving on to hopefully engage in some aspect of food sovereignty. As such, farms and marketplaces were conceptualized both as spaces of continuity and foundations of community where people could build lasting connections, as well as spaces of mobility.

Participants in this research did not indicate what the limits of sharing resources and spaces could be. For instance, while agroecological farmers and members of agrarian organizations consistently stressed the loosening up of values surrounding private property, it was not clear if individual farmers who were interviewed would be willing to give up title to their land or what would happen if more organizations like El Departamento de la Comida reached a saturation point on the island, creating a situation where they could compete with each other. It seems that farmers sustained themselves through difficult times in part by holding onto a slightly utopian vision for the future. With the obstacles that farmers were facing, a certain amount of infallible optimism may have been required. When asked how agriculture has changed over her lifetime Lola prefaced her answer with “I’m an optimist” and Delia focused on the inner transformation that occurred for her when she became involved in agrarian organizations. Participants also offered narratives of how “things are changing, little by little” (Esteban interview, July 2015), invoking the idea that through their efforts, they are constantly effecting change. Thus, the futures that participants in this research desired may be possible, through slowly introducing more and more people to what they see as a transformative movement for both people and communities. Questions of private property and competition may complicate some of these articulated ideals, but they need not derail the whole movement if farmers and activists are successful in changing the lives and minds of Puerto Ricans.

Participants in this research perceived even the smallest changes as steps in the direction of food sovereignty. Through her organization, Delia encouraged people to “grow

whatever little bit of food they can” even if it is only in their kitchen. Her emphasis was on introducing people to the process of growing food so that they could appreciate it and connect with it, thus creating support for agroecological farmers. Other necessary steps towards change that farmers articulated included developing people’s understandings of the science behind agroecology to help legitimize it; creating more literature, especially books focused on helping people to transition their farms off of chemical inputs; and addressing some “myths” about the viability and health of the current industrial agricultural system. Involving people of different ages and backgrounds was also seen as essential to the growth of agroecology and food sovereignty on the island.

Literature on agrarian organizations has not focused on the Puerto Rican context and as such this research offers a glimpse into agrarian social movements on the island. Many of my findings are consistent with existing research on agrarian organizations but offers the unique specificities that arise in the Puerto Rican context. For instance, as the literature suggests for other locations, agrarian organizations in Puerto Rico are largely responsible for increasing non-farmer recognition of the efficacy and productivity of small-scale farms that make use of peasant methods (Altieri et al., 2011). Additionally, most agrarian organizations in Puerto Rico have dedicated some component of their activism to educating the public about the benefits of agroecology. As is generally found in other countries Latin American and Caribbean countries, agrarian organizations in Puerto Rico have adopted food sovereignty as their overarching framework for food and agricultural system transformation, which is likely a result of their connection to La Via Campesina (Patel, 2009, Desmarais, 2008). While Edelman et al. (2014) have critiqued how the concept of food sovereignty can be taken up uncritically, most members of agrarian organizations in Puerto Rico showed signs of negotiating between ideal agricultural systems and their lived realities. In this case coffee, which is not a food crop, was articulated by farmers as contributing to their goals of food sovereignty by providing an income that helped them to grow foods that can help reduce import dependence – a pragmatic position that perhaps diverges from conceptions of food sovereignty that pay less attention to cash crops. Agrarian organizations in Puerto Rico generally agree that

the best way to produce such crops is through agroecological methods, which is consistent with how the literature characterizes most agrarian organizations (Altieri and Toledo, 2011). Similarly, agrarian organizations in Puerto Rico advocate for agroecological farming practices and note that in their context of limited farmland and resources, agroecological approaches allow for maximum productivity of better quality food that does less harm to the environment.

5.5 Conclusion

One significant difference between Puerto Rican agrarian organizations and their counterparts in other countries is that due to the nature of farmer's lives on the island, Puerto Rican agrarian organizations are more dispersed and less organized around a particular local community. What this means is that while some agrarian organizations have become increasingly centralized (Desmarais, 2008), because of the island's small size, large population and increasing urbanization, many agroecological farmers in Puerto Rico are not in close proximity to each other. As such, agrarian organizations in Puerto Rico tend to have an island-wide membership, which expands the notion of community, as members of agrarian organizations in Puerto Rico are close-knit. Another interesting departure from the literature for Puerto Rican agrarian organizations is that some of the tensions that arise between community needs and desires and those of the farmer (Agarwal, 2014) are ameliorated through the use of the food hub El Departamento de la Comida, in that any surplus crops that local communities do not want can be sold elsewhere.

However, it is also true that farmers' dependence on transporting their produce to other parts of Puerto Rico may go against more idealized conceptions of how agrarian organizations should function. In this regard, some farmers stated they would like to reach a point where they are able to provide food exclusively to their nearest community, mirroring a shift in food sovereignty discourse toward greater emphasis on local self-sufficiency (Agarwal, 2014). Van der Ploeg (2014) argues that through agrarian organizations, farmers have led the way in challenging and critiquing the primacy of

capitalism. Puerto Rican agrarian organizations are embroiled in a complex and often confusing relationship with the United States, and have noted that they face a particularly difficult challenge as a territory in moving towards a less profit-oriented system. However, like agrarian organizations elsewhere, they seek transformation of their food systems rather than reform (McMichael, 2008b).

Chapter 6

6 Conclusion

This chapter addresses each of my research questions in more depth in order to articulate my major research findings. I will then discuss the contributions made by this research and propose future areas of exploration; finally, I will share my concluding thoughts on coffee's role in food sovereignty in Puerto Rico.

6.1 Overview

Puerto Rico is facing barriers to achieving food sovereignty on the island, which exacerbate the challenges that already existed on the island, including navigating its political relationship –deemed colonial and imperialist by research participants- with the United States. As newer challenges arise including climate change and cuts to social spending in response to Puerto Rico defaulting on payments to its over \$70 billion USD debt, older problems of food import dependency, high consumer good costs and a high proportion of the population reliant on food stamps remain salient issues to Puerto Ricans. This research investigated whether the growth of ecological coffee can play a role in achieving food sovereignty in Puerto Rico, focusing on farmers' perceptions of whether and how ecological coffee production affects their livelihoods, agro-food systems, gender relations and relationships to agrarian organizations. In doing so, this study sought to investigate one of the key questions facing food sovereignty scholars and practitioners: whether historically export-oriented crops such as coffee can play a useful role in promoting food sovereignty (Edelman et al., 2014). In order to address these questions, this study was designed with three overarching research questions in mind:

- 1) Can ecological coffee production contribute to the pursuit of food sovereignty in Puerto Rico, and if so, how?
- 2) How do farmers perceive the effects of growing ecological coffee on their livelihoods, agro-food systems, and gender relations?

3) What is the relationship between farmers who grow ecological coffee and agrarian organizations in Puerto Rico?

My time spent in Puerto Rico was spent almost exclusively with farmers who opened up to me about their methods for growing coffee, their love of the land and for that particular crop. Farmers who had previously held other careers related to me their stories of change after they became farmers, usually for the better and many others shared with me knowledge that has been passed down for generations on the same farm. Agroecology in Puerto Rico can be a difficult undertaking, as many farmers recounted how the Department of Agriculture (Departamento de Agricultura), with its visiting agronomists would actively attempt to discourage farmers from agroecological growing practices and indirectly create barriers for agroecological farmers through the creation of subsidies that encourage or require the use of pesticides, herbicides and mono-cropping. Other challenges identified by research participants (discussed in more detail in Chapter 4) include derisive attitudes towards agriculture and agricultural labor; the structural inability of farmers to accept food stamps as payment directly; and apparent consumer preference for processed foods. Additionally, there is the fact that austerity measures such as closing schools and hospitals has direct impacts on quality of life, especially in the rural areas where farmers live (Yuhás, 2015). I will now discuss each of the research questions in turn.

6.2 Research Question 1: Can agroecological coffee production contribute to the pursuit of food sovereignty in Puerto Rico, and if so, how?

All the agroecological farmers who participated in this research actively used the term and interpreted food sovereignty generally as an end goal that had to be achieved through agroecology, in order to reclaim their food system as full participants who get a say in how their food is produced and where it comes from. These perspectives are congruent with the existing food sovereignty literature, although Puerto Rican agroecological farmers seem more open to including crops like coffee in strategies to achieve food

sovereignty because of its cultural value. Achieving food sovereignty in Puerto Rico will likely be a long, slow process; yet simultaneously, because the growing season is year round and the climate is usually hot with frequent rains, the ability to produce the vast majority of food that Puerto Ricans consume is within reach (Monclova Vázquez, 2014). Several participants noted that one of the most important barriers to food sovereignty in Puerto Rico is a lack of political sovereignty: Puerto Ricans are subject to governance by the United States without being able to influence how the US government operates, even at the most basic level through voting. In this regard, many of the participating agroecological farmers articulated that colonialism, from Puerto Rico's first contact with Spain through to its continuing relationship with the United States, deeply affects food sovereignty on the island. Some agroecological farmers described how they see large industrial farming as "an extension of the plantation system" and reject it on the grounds that they believe it exploits people and the environment, while also not addressing the underlying problems of food sovereignty in Puerto Rico (Edna interview, July 2015). Agroecological farmers discussed that the issues of food stamp dependence, import dependence, lack of a market for local agroecological produce as well as insufficient amounts of food being produced on the island would be best addressed through increased government support for agroecological farming, including providing incentives for people to become involved in agroecological farming, where many small-scale farmers would all produce a plethora of crops with the main goal of providing for their immediate community. Coffee's role in Puerto Rico's food sovereignty is complex. Historically, coffee was one of Puerto Rico's most valuable products for export, yet now Puerto Ricans consume much more coffee than they produce on the island (Tulkoff, 2014). Furthermore, coffee has little nutritional value when compared to other crops and was historically produced on large plantations that exploited Puerto Rican workers to the benefit of elites (Mintz, 2010b).

Agroecological farmers in this study did perceive agroecological coffee to be an important part of achieving food sovereignty in Puerto Rico because coffee is understood to be part of Puerto Rican culture and being able to grow and consume it locally is seen

as a powerful way to take ownership of their culture for Puerto Ricans. Coffee was understood by many conventional and agroecological farmers interviewed to be not only a crop but, an integral part of Puerto Rican culture and history. It has a fraught history which places the crop at the center of colonial exploitation and domination. Coffee was used by plantation owners to increase the productivity of plantation workers, yet it was argued by participants that “the energy provided by coffee is how Puerto Rican Jíbaros survived plantation labor” (Julio interview, July 2015). Coffee is also a taste that people remember from their early childhoods, and a constant presence in their built environments. Coffee is woven into Puerto Rico’s cultural landscape as both a means to survive and a tool of colonization, it is imbued with experiences of hard work and pleasure. As such, agroecological farmers viewed locally produced coffee grown by smaller scale farmers to be an important way for Puerto Ricans to continue their relationship with coffee in a way that breaks with the plantation tradition. Esteban, felt that a powerful way to reclaim coffee was to cultivate a strain of coffee called Puerto Rico Typica, which is a variety that only exists in Puerto Rico because it has adapted to Puerto Rico and took on unique characteristics after its introduction to the island centuries ago. This is in many ways a metaphor for Puerto Rico itself, where indigeneity and cultural origins are sometimes difficult to determine. What remains is a people and a culture –and also a coffee strain- that have not always existed on the island but are now inseparable from it.

However, agroecological farmers believed that coffee on its own was insufficient to promote the project of food sovereignty and no single crop was articulated as being more important to achieving food sovereignty than another by agroecological farmers. Instead, creating diversity and resilience within the food system was seen as being key. It is important to note that no agroecological farmers regarded the production of agroecological coffee to be detrimental to their food system; rather, for agroecological farmers it was important that coffee be produced in alternative ways to resist what they saw as “harmful encroachment by large multinational corporations” in Puerto Rico’s established coffee plantations (Lola interview, July 2016).

Conventional farmers specifically indicated that coffee could be especially important for developing Puerto Rico's international trade. They saw the reclamation of coffee as being important not for local consumption, but to create a high-quality product that could be marketed worldwide for high profits. This is a very different model than the one agroecological farmers envision. While it does have some potential to assist conventional farmers in accessing international markets, which would create some economic opportunities, it also risks making Puerto Rican farmers vulnerable to international market prices and fluctuations. Additionally, a lack of local coffee options would increase domestic demand for imported coffee, increasing Puerto Rico's dependency on imports. This strategy also does not take into account other types of food and how they would be produced. Indeed, agroecological farmers are skeptical of strategies that involve only one crop or are reliant almost entirely on the market to reap any benefits, though they do seek to increase the market for their produce in Puerto Rico. They argue that the strength of producing food agroecologically is that farmers are not as vulnerable to shifts in the markets or to disease and drought. This is because they generally grow multiple food crops and strains of each species (with the exception of Esteban's focus on Puerto Rico Typica, which is more of a political decision on his part), and build in resilience through diversity and avoid being dependant on one single crop. However, they are also quick to state that the threats they are most concerned about have more to do with changing perceptions so that the government will support agroecological farming. They are also concerned about being able to recruit and retain enough labor to be able to produce the amount of food required to change the current food system.

The convergence of different social, political, historical and economic factors has created conditions that severely limit the potential for agroecological farming to achieve food sovereignty in Puerto Rico without comprehensive transformations to the island's governance and policies. However, a striking theme in interviews with agroecological farmers was an attitude of resisting what they see as the colonial rule of the United States and a tendency to propose or enact various solutions to the myriad of issues they face, despite facing circumstances that often seemed insurmountable. Furthermore, they were

also hopeful that the challenges faced by Puerto Rico could be the catalyst that makes Puerto Ricans realize that they need dramatic and systemic changes to their food systems. I would argue that producing agroecological coffee can be a step in the direction of food sovereignty to the extent that it allows Puerto Ricans to take charge of what they deem to be an important part of their culture. Producing agroecological coffee can also be a part of resisting the corporatization of coffee, increasing the control of an important crop in the hands of Puerto Rican farmers.

6.3 Research Question 2: How do farmers perceive the effects of growing ecological coffee on their livelihoods, agro-food systems, and gender relations?

The economic conditions in Puerto Rico are particularly difficult for young people attempting to enter into the job market for the first time; most young professionals with degrees leave the island rather than face Puerto Rico's bleak job market (Yuhás, 2015; Newkirk, 2016). Young people are not the only ones to leave; Puerto Ricans are leaving the island for the United States in unprecedented numbers, spurred on by a lack of opportunity in Puerto Rico and their status as American citizens (Newkirk, 2016). However, the agroecological farmers that I interviewed told a different story. While they were very much aware of the difficulties that non-farmers faced in finding employment, and also felt the rising costs of Puerto Rico's flailing economy, agroecological farmers saw economic collapse as an opportunity to start implementing widespread changes that could initiate Puerto Rico's more food-secure future. These sentiments were especially prevalent amongst younger farmers in their early 30s who were able to stay. In this regard, it is important to acknowledge that land ownership is a privilege which may have cushioned the blow of Puerto Rico's economic collapse. The optimism of the farmers I interviewed may very well be tempered had I been able to interview Puerto Ricans who left the island, some of whom may have been agroecological farmers. While these farmers were occupying fairly privileged positions of land ownership, they were not operating large plantations, with most farms averaging around 6 acres. This number excludes Esteban and Julio who cultivated much more land than Harry, Lola, Raquel and

Wanda who each farmed on 2 acres of land. This is important to note because agroecological farmers generally manage to have higher yields on a relatively small piece of land, which speaks to the potential of agroecology to change the food system without requiring people to hold large areas of land (Altieri & Toledo, 2011). Even though land ownership is not currently a possibility for all Puerto Ricans, the farmers that were interviewed felt that if they were able to employ workers that they could be even more productive and grow more food, while also helping to address the lack of jobs on the island. The farmers who participated in this research were continuing to look for opportunities to grow more food and provide more ways of accessing it on the island while so many of their counterparts were leaving.

The question remains, what is it about agroecological farming that helped farmers feel optimistic in the worst debt crisis of Puerto Rico's history and where does coffee fit into all of this? First, I will discuss how farmers articulated the effects of agroecology generally on their lives and communities. The agroecological farmers that I interviewed were a diverse group, in terms of age and gender. Julio, who was 70 climbed up and down his farm –which to the inexperienced eye looked more like a dense jungle with no discernable path- on the side of the mountain without having to catch his breath. Lola, in her early 30s was raising her son on her farm. At workshops, people in their early 20s mingled with people in their 60s and participants reiterated to me again and again that the “cooperative nature” of agroecological farming has connected them to “communities in deep and tangible ways” (Wanda interview, 2016). These connections are based in a shared interest for growing food sustainably and attempting to create a better food system and as such, people are associating with a wider range of people and building community with people who do not necessarily share the same social locations. Agroecological farming does not erase difference; however, it seems to create a space where more people can find or make a place for themselves.

Agroecological farmers that had left a different career to become farmers articulated that they now enjoyed a higher quality of life than they did before becoming involved in

farming. This change was articulated as a holistic one, where their connections to people, the land, the food that they ate and larger political ties increased over time, through the practices of farming agroecologically. There might be several reasons for this, first and foremost is that, as participants noted, there is a fairly intensive learning curve when beginning to grow food agroecologically and most often, new farmers will join an agrarian organization to gain knowledge, and as a result stronger connections to other farmers are made. This particular factor will be explored in more detail later, when I discuss agrarian organizations on the island. The point is that agroecological farming in particular, seems to create conditions where people state that they enjoy greater independence, while simultaneously making more connections. In addition, farmers spoke about being aware of how all people are connected through relationships of dependence. For example, farmers see the need for people in their communities to have healthier, higher quality food and they are also aware of how they are reliant on other people to purchase food from them. These relationships of dependence also apply to labor; agroecological farmers often assist each other with larger projects and favors are traded in kind, but without any formal agreements. However, becoming aware of these relationships of dependence and coming to rely on these connections was not understood by participants to be a negative aspect of farming, but rather was something that they considered to improve the quality of their lives immensely, opening up new opportunities to connect with people rather than compete with them.

There is also a need amongst agroecological farmers to figure out how to secure more long-term farm labor, within the constraints of a fairly ineffective farm labor subsidy system and their own inability to pay competitive wages. Some farmers, like Julio address this through a skill trade, where they provide knowledge to people who want to learn about agroecological farming and as these people receive hands-on training, farmers are able to meet some of their labor needs. This strategy is not likely to secure long term labour, as interested people may try to move on to operating their own farms as they increase their skills. This has led Lola to think about how she can create conditions that harness the temporary nature of these types of knowledge exchanges. Lola is looking to

create something akin to a school or job training center, where people can come from “all over” and while receiving room and board, learn about agroecology and stay for “as long as they want.” However, while these strategies do illustrate the potential for labor relationships to form that are not reliant on the exchange of money, only being “paid” with knowledge is not necessarily something that is appealing to jobless Puerto Ricans who may have other responsibilities and dependents. Yet, for agroecological farmers, these relationships and thinking through creative ways to get work done are exciting avenues for shifting Puerto Rico’s food system into something more sustainable in the long term.

Growing coffee agroecologically has different effects, depending on the farmer. For some, coffee is a crop that they produce for personal consumption only, while others focus more on producing coffee for sale. In terms of livelihood, participants felt that growing their own coffee, whether for personal consumption or for sale allowed them to control for flavor and quality more actively. This meant that they were able to enjoy the crop more and if they were producing coffee for sale, it meant that they could market their coffee as a specialty coffee at some of the farmers’ markets discussed earlier, which has positive effects on their income. In the latter case, it can make a significant difference to farmers, in that while they may not always have a market for highly perishable food items, coffee will last longer and there is almost always a demand for it on the island. Furthermore, as many participants were noticing that large coffee plantations were being bought up, mostly by Coca-Cola, coffee produced on agroecological farms can be part of holistically shifting the way that Puerto Ricans access food; in this case, it means purchasing coffee from another Puerto Rican, which supports the local economy. This would require much more extensive outreach to make Puerto Ricans aware of the situation than currently exists on the island and would be part of the larger project of attempting to alter Puerto Ricans’ relationships with food. Additionally, this is only possible if Puerto Ricans value locally produced non-corporate coffee more than coffee produced by a corporation and if the price of agroecological coffee is acceptable to Puerto Ricans with strained finances.

While aspects of growing coffee can be highly gendered, especially in a historical context, most agroecological farmers felt that gender had little bearing on how they produced coffee. Edna, who was in her early 50s at the time of her interview, had a slightly different experience, especially in her early days of taking over being the principle operator from her husband in her late 30s. Firstly, she indicated that in her 20s when they first bought the farm, buying it herself would not have been possible without her husband's salary and she felt that many women would have been in the same situation in Puerto Rico in the 1980s. Second, Edna encountered people who told her that she should not be the principal operator of her farm, or that did not take her seriously as a farm owner, because she is a woman which made it difficult for her to sell her produce and to make the connections amongst other farmers which foster learning. She articulated that there was a sense that "women shouldn't do those things."

Yet, over time and as more and more young people become interested in agroecological farming, including fairly equal numbers of young women, Edna noticed attitudes within the agroecological farming community shift. I also found that agroecological farmers consistently stated that men and women should be able to perform all farming duties as they desire and no participant articulated that women should not be principle operators. In contrast, while not every conventional farmer seemed equally invested in more traditional gender roles as some of their peers, there were two conventional farmers who articulated that women should be relegated to picking coffee and not much more. It is important to note with that example that even though the sample size of conventional farmers was smaller (n=4), and the larger sample of agroecological farmers (n=18) were mostly men (n=14), there were zero instances where agroecological farmers stated that women and men should have different agricultural responsibilities. This sample is not generalizable to Puerto Rico, but these differences are important to note, as they may indicate that more research should be conducted on gender and agroecology.

I want to return to Edna's assertion that she would not have had access to the money or knowledge to farm on her own. In these regards, agrarian organizations have the practice

of holding workshops and skill sharing without limiting who can attend, which has also allowed there to be space for women. Additionally, agroecological growing methods actually allow people to learn about more than one crop, expanding the skillsets of people of all genders. It may not be a perfect equalizer; however, participants stated that growing ecological coffee does have tangible benefits, in that it gives their coffee a bit of an edge, they argue in quality and taste over mass-produced coffees, it provides alternatives to industrially-farmed coffees for consumers and it at least does not further entrench gendered divisions of labor.

6.4 Research Question 3: What is the relationship between farmers who grow ecological coffee and agrarian organizations in Puerto Rico?

Certain aspects of agriculture are heavily subsidized in Puerto Rico, the vast majority of which entrench the conventional farming practices of clearing land to grow one crop in one field with the aid of additional inputs (El Departamento de Agricultura, 2016). After decades of conventional farming, a new vision for agriculture has been taken up by agrarian organizations on the island. Members of agrarian organizations envision multiple pathways to food sovereignty including education, making locally and sustainably grown food widely available, and of course growing food agroecologically. The earlier example of Nada Santo Sobre Monsanto's March Against Monsanto is an important example of protest, since as corporate holdings of coffee plantations increase, the ability of agrarian organizations to mobilize at a grassroots level in Puerto Rico may play a role in determining the future of coffee production on the island, though this remains to be seen. What farmers did articulate about agrarian organizations was that they were spaces of community and of potential.

Agrarian organizations in Puerto Rico seem to be able to harness the individual optimism of farmers to create some of the changes that farmers are so hopeful for. However, their potential is limited by the ability of members to balance their lives as farmers and other responsibilities with organizing on a larger scale. Since the largest agrarian organizations

in Puerto Rico are linked to agroecology such as Organización Boricúa or El Departamento de la Comida. For instance, at the time of data collection, Organización Boricúa was consulting stakeholders and designing an ecological certification process for small scale farmers that is specifically designed for agroecological production and would not entail the same high costs associated with USDA organic certification. Being able to access more affordable certification and the ability to have consumers be able to determine what makes ecological coffee different is extremely beneficial to coffee producers, especially when they are competing with large-scale conventional plantations which often masquerade as small-scale coffee producers. Additionally, because small-scale farmers tend to not produce the same amount of coffee as large-scale plantations, they have different needs when selling their coffee. El Departamento de la Comida does not have quotas that farmers must meet, rather farmers are able to bring what they produce in to the food hub in the quantities that they have at the time. Farmers are able to access a wider market when they work with El Departamento de la Comida, and consumers are able to buy directly from farmers, without the farmers having to commit to time away from their farms in the market.

Members of agrarian organizations tended to have very similar levels of knowledge and despite interviews being individually recorded privately, many members of agrarian organizations had similar opinions and sources of knowledge. Though, it is unclear how nonconforming opinions are regarded and dealt with in agrarian organizations, which could also lead to forms of social exclusion or isolation. However, members of agrarian organizations expressed to me confidentially that the role of agrarian organizations in their lives has been generally positive, bolstering their sense of community and connection to the larger political project of food sovereignty. It seemed like agrarian organizations played a fairly essential role in creating connections between agroecological farmers that would be much more difficult to establish without agrarian organizations, as agroecological farmers are widely distributed across the island. Since agrarian organizations are also able to assist in making ecological coffee more widely available to consumers and can help farmers to communicate what differentiates their

product from other coffees, farmers who produce ecological coffee do seem to benefit from agrarian organizations.

6.5 Reflections on the Research Process

This research is limited first and foremost by the time that I was able to spend in Puerto Rico. While one month was by no means an inadequate amount of time, one difficulty that arose in this research with some frequency was scheduling conflicts with farmers. The sample I was able to gather (n=18) was not representative of all agroecological or conventional farmers in Puerto Rico, though it does offer a wealth of information on individual farmer perspectives and small group patterns that emerged and as such does offer a uniquely situated perspective on food sovereignty. The small number of interviews also allowed me to engage more meaningfully through spending more time with participants while in Puerto Rico and with the interview data during analysis. However, time restrictions did limit my ability to recruit and interview more women-identified farmers, which indicates that not only are insights on gender relations within agrarian organizations and agroecological farming limited in this research, they would also be fruitful areas for further research.

Another limit of this research was the geographic dispersal of agroecological farmers in Puerto Rico, since they were spread out over the island, I necessarily had to broaden my scope to the entire island of Puerto Rico, which limits the kind of in-depth, very context-specific knowledge I was able to generate. Simultaneously, the opportunity to investigate the lives of farmers in every major region in Puerto Rico has allowed me to collect information that gives a more general idea of agroecology and food sovereignty movements on the island. The reality of the geographic dispersal of farmers meant that I had to travel longer and farther for interviews and to attend events, which also impacted the number of interviews I was able to obtain.

Another limit that cannot really be mitigated but must be reflected upon is the fact that interviewees had their own motivations for becoming involved in this study, and have

their own investments, such as perhaps wanting to ensure a positive image of agroecology or agrarian organizations in Puerto Rico, which may have influenced their answers to my questions. Rather than a cause for dismissing the interview data, it is a reminder that all knowledge is partial and situated (Haraway, 1991) and is a reminder to reflect on the contexts which informed my fieldwork. A strength of my fieldwork is that I was able to communicate with participants in the language of their choice (either in Puerto Rican Spanish or English), with relative fluency and was able to understand the meanings behind uniquely Puerto Rican phrasing. At the same time, it is not only my identity as a diasporic Puerto Rican but also my dedication to paying attention to the particularities of participants' lives that lends to my confidence in the data I was able to collect.

I was fortunate to be able to connect with Organización Boricuá, which opened up many opportunities to recruit participants and observe this social movement in action. At the same time, because most of the connections I initially made were through Organización Boricuá, the time I was able to spend recruiting participants outside of the organization were more limited than I had initially hoped. There is a small chance that Organización Boricuá is slightly overrepresented in this study, yet it is also important to note that as the largest agrarian social organization on the island, its presence is ubiquitous, especially within agroecology circles and as such there is little in Puerto Rico's agrarian organizations that Organización Boricuá has not touched. Thus, being able to connect with Organización Boricuá is also a strength of this research.

6.6 Contributions and Recommendations for Further Research

This study is fairly unique in that Puerto Rico is often not a site of academic inquiry into food sovereignty. However, its political status, current economic crisis and the way that agriculture is regulated in Puerto Rico can offer unique insights that can provide more context for food sovereignty. Additionally, this study has allowed me to think through what crops should be included in strategies for food sovereignty. In the Puerto Rican context, coffee carries such high cultural importance, that Puerto Rican farmers argued

that growing coffee was very important to challenging Puerto Rico's import dependence and in reclaiming a part of Puerto Rican culture. In the context of Puerto Rico, cultural sovereignty or the ability to identify with and be part of creating Puerto Rican culture – which includes producing coffee that plays a part in allowing the producer and consumer to lead lives they feel good about- often seems more attainable (though it is still constrained) than political sovereignty. As Desmarais (2007) has stated about the importance of cultural autonomy and culturally appropriate foods and ways of growing foods, this has implications for other studies in food sovereignty, as it is clear that the cultural importance of crops should be taken into account alongside other important factors such nutritional value when assessing their value in achieving food sovereignty.

Simultaneously, farmers that I interviewed would likely not consider cultural sovereignty to be enough. They articulated that until Puerto Rico's relationship to the United States completely changed, their ability to achieve any form of sovereignty would be highly constrained. Though there are multiple visions for what a different relationship to the United States would be, most common among agroecological farmers was the notion that Puerto Rico should be an independent nation if it can ever be truly self-determining with its food system. However, while it is not uncommon for Puerto Ricans to express support for full independence, the majority of support in terms of voting goes to either the pro-statist or pro-commonwealth parties, mostly because independence is not always viewed as a stable option (Dayen, 2015). Yet for the farmers interviewed for this project, the options of whether to maintain the status quo, or to enter more fully into the United States would simply entrench the systems that they critique and attempt to work against. Much like the postcolonial theorists who have broadened the term to encompass anti-colonial struggles long after official decolonization (Rao, 2013), participants articulated that Puerto Rico and the United States are in a continuous colonial relationship, and they are attempting to speak back and articulate their own power to shape Puerto Rico's future (Babha, 1994). These views represent the shared sentiment amongst agroecological farmers that systemic political change must occur to achieve true food sovereignty. At the same time, farmers viewed attempting to achieve food sovereignty as a driver of systemic

change in Puerto Rico. In many ways systemic political change and food sovereignty seem to be in a co-constitutive relationship rather than a causal one. It became apparent that as feminist political ecologists argue (Mollett and Faria, 2013), gender, the production of crops and food sovereignty are linked in complex ways, which require an engagement with the possibilities and limitations of political sovereignty. Farmers seemed eager to gain independence and viewed the incremental growth of agroecological farming as being a part of how Puerto Rico's independence might be attained.

Agarwal has noted that food sovereignty is most often conceptualized as the sustainable production of food contributing to food stability at the local scale, which is a shift from initial understandings that placed the nation at the center (2014). However, in the Puerto Rican context, food sovereignty seems to be articulated as a nationalist project, and as has already been noted, national sovereignty is viewed by agroecological farmers as a condition that would make food sovereignty easier to achieve on the island. This is an important divergence, as it points to the importance of the political status of geographic entities attempting to achieve food sovereignty. My findings confirm that agrarian organizations appear to be a central part of attaining food sovereignty, where movements are the means through which political and economic systems are critiqued, how resistance is organized and how new kinds of systems are envisioned (Desmarais, 2007; McMichael, 2008b; Van der Ploeg, 2014). The agrarian social movements on the island have allowed Puerto Rican agroecological farmers to connect across space, share knowledge, share the burdens of farm work and to create political communities, where food sovereignty is workshopped in their interactions.

In conducting this research and analyzing the data, several other areas of future research emerged. In particular, research that explores the political side of the issue of food sovereignty more fully seems to be in order. For instance, as the economic situation progresses in Puerto Rico, what land reforms might encourage the type of small scale, but high yield farming that agroecology brings and what kinds of subsidies or incentives could support the growth of agroecological farming? Another future area of inquiry that I

have already mentioned would be to focus on gender relations in agrarian organizations and agroecological farming; in particular studying the incidences of and responses to gender-based violence in agrarian organizations, alongside studies of how gender functions, is constituted and is regulated in such movements could provide insight into how to achieve agrarian reform without entrenching other inequalities. Studying the short and long term outcomes of the economic collapse on agroecological farmers in Puerto Rico may be conducive to designing responses to such crises in the future that revolve not around banks and loans, but explores the potential of creating stability through food sovereignty, which has potential to be applicable beyond the island.

6.7 Final Remarks

Throughout my time in Puerto Rico, I sampled coffee whenever I could, and with every farmer interaction I came to see that coffee is not only a ubiquitous part of Puerto Rico, it is also a unique component of food sovereignty on the island. For farmers who produce ecological coffee in Puerto Rico, coffee has never been simply a cash crop. Coffee is important to food sovereignty in Puerto Rico because it is important to Puerto Ricans. An essential part of the concept of sovereignty is self-determination, and Puerto Rican farmers are saying that for them, growing their own coffee, and being part of cultural production through producing coffee in a manner that is in line with their politics is essential to food sovereignty.

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Appendices

Appendix A: Ethics Approval Notice 2015



Research Ethics

Western University Health Science Research Ethics Board NMREB Delegated Initial Approval Notice

Principal Investigator: Dr. Carol Hunsberger
Department & Institution: Social Science\Geography, Western University

NMREB File Number: 106604
Study Title: Coffee Agroecology and Agrarian Livelihoods in Puerto Rico
Sponsor:

NMREB Initial Approval Date: June 01, 2015
NMREB Expiry Date: June 01, 2016

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	Research instrument: interview and focus group questions, Spanish and English	2015/05/12
Recruitment Items	Participant recruitment script: Spanish	2015/05/12
Revised Letter of Information & Consent	Spanish letter of information / consent	2015/05/06
Revised Western University Protocol		2015/05/07
Revised Letter of Information & Consent	Revised information letter / consent form	2015/05/06

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Officer, on behalf of Riley Hinson, NMREB Chair or delegated board member

Ethics Officer to Contact for Further Information

<input type="checkbox"/> Erika Basile ebasile@uwo.ca	<input checked="" type="checkbox"/> Grace Kelly grace.kelly@uwo.ca	<input type="checkbox"/> Mina Mekhail mmekhail@uwo.ca	<input type="checkbox"/> Vikki Tran vikki.tran@uwo.ca
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This is an official document. Please retain the original in your files.

Appendix B: Ethics Re-Approval Notice 2016



**Western
Research**

Research Ethics

**Western University Non-Medical Research Ethics Board
NMREB Annual Continuing Ethics Approval Notice**

Date: June 01, 2016

Principal Investigator: Dr. Carol Hunsberger

Department & Institution: Social Science\Geography, Western University

NMREB File Number: 106604

Study Title: Coffee Agroecology and Agrarian Livelihoods in Puerto Rico

NMREB Renewal Due Date & NMREB Expiry Date:

Renewal Due -2017/05/31

Expiry Date -2017/06/01

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed the Continuing Ethics Review (CER) form and is re-issuing approval for the above noted study.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), Part 4 of the Natural Health Product Regulations, the Ontario Freedom of Information and Protection of Privacy Act (FIPPA, 1990), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Officer, on behalf of Dr. Riley Hinson, NMREB Chair

Ethics Officer: Erika Basile ___ Katelyn Harris ___ Nicole Kaniki ___ Grace Kelly Vikki Tran ___ Karen Gopaul ___

Appendix C: Interview Guide - Spanish

Preguntas Para la Entrevista Individual

1. ¿Cuánto tiempo ha estado cultivando esta tierra? ¿Cuánto tiempo ha estado cultivando café agroecológico? ¿Es usted crece otros cultivos?
2. ¿Es dueño de la tierra donde cultiva el café agroecológico?
3. ¿Cuáles son algunos de los métodos que se utilizan para cultivar café agroecológico? ¿Por ejemplo, usted siembra otros cultivos con el café? ¿Hay herramientas que se utilizan? ¿Se riega?
4. ¿Usted cría animales? ¿Cuáles? ¿Cómo los cría?
5. ¿Cuántas personas necesita para ayudarlo en su granja o con el cultivo del café agroecológico?
6. ¿Qué es lo que haces con sus productos agrícolas?
7. ¿Es la agricultura su principal medio de vida? ¿Qué otras actividades de subsistencia hace?
8. ¿Cuáles son sus metas para su granja?
9. ¿Ha cultivado el café o otros cultivos utilizando métodos no agroecológicos? ¿Si es así, hay alguna manera de cultivar café o otros cultivos que te gustan más? ¿Por qué?
10. ¿Pertenece a alguna organización de agricultura?
11. ¿Cuáles son los principales retos que tiene la gente con la agricultura en esta comunidad?
12. ¿Por qué decidió cultivar café agroecológico?
13. ¿Es su vida o su finca afectada porque cultiva café agroecológico?
14. ¿El cultivo de café agroecológico lo/la ayudado a alcanzar sus metas? ¿Por qué o por qué no?
15. ¿Cómo ha la agricultura (o el sistema alimentario) en Puerto Rico cambiado en su vida? ¿Qué te gustaría cambiar al respecto? ¿Qué piensa usted que sería necesario para hacer ese cambio?

Preguntas Para el Grupo de Enfoque

1. ¿Por qué usted cultiva café agroecológico?
2. ¿Qué métodos agroecológicos se utilizan para el cultivo de café?
3. ¿Son estos métodos eficaces para el cultivo de café?
4. ¿Cómo encaja el cultivo del café con otras actividades agrícolas?
5. ¿Cuáles son sus objetivos en términos de la agricultura?
6. ¿Hay trabajo de hombres y trabajo de mujeres en la agricultura por aquí? Al decidir quién trabaja en la granja y fuera de la finca?
7. ¿Los hombres y las mujeres tienen diferentes puestos de trabajo en el cultivo del café?
8. ¿Cree usted que el cultivo del café agroecológico le ha impactado a usted o su comunidad?

Appendix D: Interview Guide - English

Individual Interview Questions

1. How long have you been farming this land? How long have you been growing agroecological coffee? Do you grow any other crops?
2. Do you own the land that you farm/grow agroecological coffee on?
3. What are some of the methods that you use to grow agroecological coffee? For example, do you plant other crops with the coffee? Are there any tools that you use? Is it watered?
4. Do you raise animals? Which ones? How do you raise them?
5. How many people do you need to help you on your farm/with growing agroecological coffee?
6. What do you do with your farm produce?
7. Is farming your main source of livelihood? What other livelihood activities do you do?
8. What are your goals for your farm?
9. Have you grown coffee/other crops using non-agroecological methods? If so, is there a way of growing coffee/other crops that you prefer? Why?
10. Do you belong to any farming organizations?
11. What are the main challenges people face with farming in this community?
12. Why did you decide to grow agroecological coffee?
13. Would you say that your life or your farm have been affected because you grow agroecological coffee?
14. Has growing agroecological coffee helped you to reach your goals? Why or why not?
15. How has agriculture (or the food system) changed in Puerto Rico in your lifetime? What would you like to change about it? What do you think it would take to make that change?

Focus Group Questions

1. Why do you grow agroecological coffee?
2. What agroecological methods do you use for growing coffee?
3. Are these methods effective for growing coffee?
4. How does growing coffee fit in with other farming activities?
5. What are your goals in terms of farming?
6. Are there men's work and women's work in farming around here? In deciding who works on-farm and off-farm?
7. Do men and women play different roles in growing coffee?
8. Do you think growing agroecological coffee has impacted you or your community?

Appendix E: Letter of Information - Spanish



Título del Proyecto: Agroecología de Café y Medios de Vida Agrarios en Puerto Rico

Investigadora Principal: Dra. Carol Hunsberger,

Carta de Información

07 de Mayo, 2015

Usted está invitado a participar en un estudio que se está llevando a cabo por Ileana Díaz, una estudiante de maestría en el Departamento de Geografía de la Universidad de Western Ontario. Este estudio es supervisado por la Dra. Carol Hunsberger del mismo departamento. Esta carta le proporcionará información para tomar una decisión informada acerca de su participación en el estudio. También puede hacerme preguntas en cualquier momento. Estoy interesada en saber lo que los agricultores piensan sobre el café agroecológico y formas agroecológicas de cultivar el café en Puerto Rico. También me gustaría saber si los agricultores piensan que cultivar café agroecológico es beneficioso para los agricultores y cómo están involucradas las mujeres en el cultivo del café agroecológico. Una investigación de este tipo es importante porque hay poca investigación sobre la producción de café agroecológico en Puerto Rico y cómo esto afecta las vidas de los agricultores.

Se le pide participar en este estudio porque usted tiene experiencia en el cultivo de café agroecológico y/o está bien informado sobre la producción de café agroecológico y sus efectos sobre los medios de vida de los agricultores. Usted puede participar en este estudio si usted tiene más de 18 años y tiene experiencia en el cultivo de café agroecológico y/o amplios conocimientos en métodos agroecológicos de cultivo de café. Si usted es menor de 18 años, no es elegible para participar en este estudio.

Si usted lo solicita, se le enviará un informe que resume mis resultados de la investigación. Voy a presentar mi investigación de tesis a otros eruditos en conferencias. Después que mi tesis este marcada, puede ser publicada para que la gente lea. Si quiero usar la información que me han dado para otro uso (además de lo que ya declaré), me pondré en contacto con usted para recibir su permiso.

Si usted acepta participar voluntariamente en esta investigación, la participación incluirá una entrevista uno-a-uno de 30-60 minutos donde voy a hacerle preguntas sobre el café agroecológico. También puede optar por participar en un grupo focal de 60-90 minutos, donde usted y otros agricultores tendrán una conversación basada en preguntas que le voy a hacer sobre el café agroecológico. Tomaré unas grabaciones de audio de ambas entrevistas uno-a-uno y el grupo focal. Las grabaciones de grupos focales y entrevistas se escribirán en notas para mi tesis. Si usted solicita estas notas se le pueden enviar, también usted puede dejarme saber si quiere que yo omita algo. La entrevista sucederá en un momento y lugar que funcione mejor para usted. El grupo de enfoque consistirá en aproximadamente 5-15 individuos que son agricultores y/o tienen conocimiento sobre el café agroecológico.

Voy a pedir su permiso en caso que yo quiera tomar fotos de su granja para ayudarme cuando revise las notas de la entrevista. Si quiero usar una foto de su granja para mi tesis o por cualquier otra razón, me pondré en contacto con usted para pedirle permiso antes de usarla.



El único impacto negativo que podría ocurrir al participar en esta investigación es que usted puede compartir puntos de vista en el grupo de enfoque que otros agricultores no comparten. Esto podría afectar su relación con otros agricultores. Los beneficios de la participación del usuario puede ser que ayude a crear conocimientos sobre la producción de café agroecológico en Puerto Rico. No recibirá pagó o regalos por su participación en esta investigación.

Su participación en esta investigación debe ser completamente voluntaria. No habrá consecuencias si decide no participar. Si usted no desea ser audio grabado no debe participar en este estudio. Si usted decide participar, usted tiene el derecho de negarse a contestar cualquier pregunta que no desee contestar. Usted puede dejar de ser parte de la investigación cuando quiera sin consecuencias y sin tener que explicar por qué. Si usted decide dejar el estudio, sólo voy a utilizar la información que usted ha proporcionado si me da el permiso por escrito para hacerlo; de lo contrario, los datos serán destruidos y no se utilizarán. Una vez que mi tesis sea presentada, no seré capaz de eliminar su entrevista del estudio.

Para la protección de su anonimato, le daré un seudónimo (nombre falso), que voy a utilizar en mi tesis y se utilizará este mismo seudónimo al escribir las notas de la entrevista. Si usted prefiere que se use su nombre real, por favor hágamelo saber. Su privacidad se garantizará manteniendo archivos de audio y transcripciones en un archivo protegido por contraseña en un ordenador personal que sólo yo (Ileana Díaz) puedo acceder. Todas las notas mecanografiadas de las entrevistas serán almacenados en el mismo equipo en un archivo protegido por contraseña. Privacidad no se puede garantizar mediante la participación en un grupo de enfoque ya que va a participar en una conversación con otras personas.

Usted puede ponerse en contacto conmigo para obtener más información por teléfono: _____
 o por correo electrónico: _____. La Dra. Carol Hunsberger, puede ser contactada por
 teléfono: _____ o por correo electrónico: _____. Usted puede
 verificar la aprobación ética de este estudio, o plantear cualquier preocupación que pueda tener,
 poniéndose en contacto con la Oficina de Ética de la Investigación en la Universidad de Western
 Ontario por teléfono: _____ o por correo electrónico: _____.

Gracias por su consideración,

Ileana Diaz

Por favor, mantenga una copia de esta carta para referencia futura.



Título del Proyecto: Agroecología de Café y Medios de Vida Agrarios en Puerto Rico

Investigadora Principal: Dra. Carol Hunsberger

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Declaración de Consentimiento

Su firma indica que usted entiende las condiciones de participación en este estudio, que ha tenido la oportunidad de tener sus preguntas contestadas por la investigadora, y que da su consentimiento para participar en este proyecto de investigación.

Yo, _____ leído la carta anterior y estoy de acuerdo en participar en el proyecto de investigación.

Firma (participante)

Fecha

Firma (investigadora)

Fecha



¿Quiere recibir notas mecanografiadas de su entrevista(s) para revisar?

En caso afirmativo, por favor escriba su información de contacto en la siguiente sección. Si no, usted puede dejar esta sección en blanco. También puede ponerse en contacto con Ileana Díaz si usted cambia de opinión y quiere revisar las notas de la entrevista(s).

Yo, _____ **quiero recibir las notas escritas de mi participación en este estudio.**

Prefiero ser contactado por: _____
(teléfono, en persona , correo electrónico, etc.)

Se me puede contactar en: _____

(proporcionar su teléfono, dirección, correo electrónico, etc.)

¿Usted desea recibir un informe que resume los resultados del estudio?

En caso afirmativo, por favor proporcione su información de contacto en la siguiente sección. Si no, usted puede dejar esta sección en blanco. También puede ponerse en contacto con Ileana Díaz si usted cambia de opinión y desea recibir un informe que resume los resultados del estudio.

Yo, _____ **quiero recibir un informe que resume los resultados del estudio.**

Prefiero ser contactado por: _____
(teléfono, en persona , correo electrónico, etc.)

Se me puede contactar en: _____

(proporcionar su teléfono, dirección, correo electrónico, etc.)

Appendix F: Letter of Information - English



Project Title: Coffee Agroecology and Agrarian Livelihoods in Puerto Rico

Principal Investigator: Dr. Carol Hunsberger,

Letter of Information

May 6, 2015

You are invited to participate in a study that is being conducted by Ileana Diaz, a master's student in the Department of Geography at the University of Western Ontario. This study is supervised by Dr. Carol Hunsberger of the same department. This letter will provide you with information to make an informed decision about your participation in the study. You may also ask me questions at any time. I am interested in finding out what farmers think about agroecological coffee and agroecological ways of growing coffee in Puerto Rico. I also want to know if farmers think growing agroecological coffee is beneficial for farmers and how women are involved in growing agroecological coffee. Research of this type is important because there is little research on agroecological coffee production in Puerto Rico and how it impacts farmers' lives.

You are being asked to participate in this study because you have experience growing agroecological coffee and/or are knowledgeable about the production of agroecological coffee and its effects on farmer livelihoods. You can participate in this study if you are over the age of 18 and have experience growing agroecological coffee and/or extensive knowledge on agroecological methods of growing coffee. If you are under 18, you are not eligible to participate in this study.

If you request one, a report summarizing my research findings will be sent to you. I may present my thesis research to other scholars at conferences, and my thesis may become available for others to read or be published after it is marked. If I wish to use the information you have provided for another use (besides what I already stated), I will contact you in writing for your permission.

If you consent to voluntarily participate in this research, your participation will include a one-on-one 30-60 minute interview where I will ask you questions about agroecological coffee. You may also choose to participate in one 60-90 minute focus group, where you and other farmers will have a conversation based on questions I ask you on agroecological coffee. I will take audio recordings of both the one-on-one interviews and the focus group. The interview and focus group recordings will be typed into notes. These notes can be sent to you, if you want to see them and you can let me know if you want me to leave anything out. The interview will be scheduled at a time and place that works best for you. The focus group will occur at a time and place that is convenient for the most participants. The focus group will consist of approximately 5-15 individuals who are also farmers and/or knowledgeable on agroecological coffee.

I may ask for permission to take photos of your farm, to assist me when I look over the interview notes later. If I want to use a picture of your farm for my thesis or for any other reason, I will contact you to ask for permission before I use it.



The only perceived negative impact that *may* occur if you participate in this research is that you may share views in the focus group that other farmers do not like, which may impact your relationship with other farmers. The potential benefits of your participation include helping to create knowledge on agroecological coffee production in Puerto Rico. You will not be paid or receive any gifts for your participation in this research.

Your participation in this research must be completely voluntary. It is your decision to participate and there will be no consequences if you decide not to participate. If you do not wish to be audio-recorded you should not participate in this study. If you decide to participate, you have the right to refuse to answer any questions you do not wish to answer. You may stop being part of the research whenever you want, without any consequences and without having to explain why. If you decide to leave the study, I will only use information you have provided if you give me written permission to do so; otherwise, the data will be destroyed and not used. Once my thesis is submitted, I will be unable to remove your input from the study.

In terms of protecting your anonymity, I will assign you a pseudonym (fake name) to be used in my thesis and will use the same pseudonym when I type up the notes from your interview. However, if you prefer that your real name be used, please let me know. Your privacy will be protected as much as possible by storing original data (audio-files and transcripts) in a password-protected file on a personal computer that only I (Ileana Diaz) can access. Any typed notes from interviews will be stored on the same computer in a password-protected file. Anonymity and confidentiality cannot be guaranteed by the researcher through participation in a focus group because you will be part of a group that will have a conversation together about questions I ask.

You may contact me for more information at _____ or at _____. My supervisor, Carol Hunsberger, can be contacted at: _____ or at _____. You may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Office of Research Ethics at the University of Western Ontario at _____ or at _____.

Thank you for your consideration,

Ileana Diaz

Please keep a copy of this letter for future reference.



Project Title: Coffee Agroecology and Agrarian Livelihoods in Puerto Rico

Principal Investigator: Dr. Carol Hunsberger, _____

Declaration of Consent

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered by the researcher, and that you consent to participate in this research project.

I, _____ have read the above letter and agree to participate in the research project.

Signature (participant)

Date

Signature (Researcher)

Date



Do you wish to receive typed notes from your interview(s) to look over?

If yes, please provide your contact information in the following section. If no, you may leave this section blank. You can also contact Ileana Diaz if you change your mind and want to look over the notes from your interview(s).

I _____ want to receive and look over the typed notes from my participation in this study:

I prefer to be contacted by: _____
(ex: telephone, in person, email, etc.)

I can be reached at: _____

(provide phone number, address, email, etc.)

Do you wish to receive a report summarizing the study's findings?

If yes, please provide your contact information in the following section. If no, you may leave this section blank. You can also contact Ileana Diaz if you change your mind and want to receive a report summarizing the study's findings.

I, _____ want to receive a report summarizing the study's findings

I prefer to be contacted by: _____
(ex: telephone, in person, email, etc.)

I can be reached at: _____

(provide phone number, address, email, etc.)

Appendix G: Recruitment Script - Spanish

Título del Proyecto: Agroecología de Café y Medios de Vida Agrarios en Puerto Rico

Investigadora Principal: Dra. Carol Hunsberger, Departamento de Geografía de la Universidad de Western Ontario

Guión Para Reclutamiento En Persona y Por Teléfono

Hola, ¿puedo hablar con { insertar el nombre del participante potencial aquí } por favor.

Si el/ o la participante potencial no está en el hogar, pregunta si hay un mejor momento para llamar. No deje un mensaje, ya que puede ser un asunto confidencial por lo que llama

Si el/ o la participante potencial está en casa, continuar con la conversación

Hola, { insertar el nombre del participante potencial aquí } es Ileana Díaz llamando desde el Departamento de Geografía de la Universidad de Western Ontario.

Estoy contactándolo hoy para preguntar si usted está interesado en formar parte de un estudio de investigación que estoy realizando. El estudio está siendo realizado por mí misma, una estudiante de maestría en Geografía y voy a analizar lo que agricultores piensan sobre el café agroecológico y formas agroecológicas de cultivar el café en Puerto Rico. También me gustaría saber si agricultores piensan que el cultivo de café agroecológico es beneficioso para los agricultores y cómo están involucradas las mujeres en el cultivo de café agroecológico. La participación en el estudio puede incluir una entrevista de 30-60 minutos y/ o un grupo focal de 60-90 minutos. ¿Estaría interesado en saber más acerca de este estudio?

Si no, les damos las gracias por su tiempo y una despedida

En caso afirmativo, continuar explicándole a ellos los detalles del estudio sobre la base de la carta de información o, si está reclutando en persona darle la carta de información para ver y leer de una vez con ellos

{Para decir por el teléfono} Ahora voy a leer le la carta de información por teléfono {Claramente leer la carta de información para el participante a través del teléfono}

¿Tienes alguna pregunta?

{Responder a cualquier pregunta que puedan tener}

¿Está usted de acuerdo para participar en este estudio?

En caso afirmativo, y por teléfono, fijar una hora para la entrevista y informar que el formulario de consentimiento a la entrevista para que firmen va estar disponible. Pregunte cuáles son los tiempos y los lugares más convenientes para un grupo de enfoque, si están interesados y informa que va a ponerse en contacto con el lugar y la hora del grupo de discusión. Si en persona, ofrecer el formulario de consentimiento y firmar y acordar en una hora para la entrevista.

Si no, darles las gracias por su tiempo y la despedida

Appendix H: Recruitment Script - English

Project Title: Coffee Agroecology and Agrarian Livelihoods in Puerto Rico

Principal Investigator: Dr. Carol Hunsberger, Department of Geography, University of Western Ontario

Script for Telephone and in Person Recruitment

Hello, may I please speak with {insert the name of the potential participant here}.

If the potential participant is not home ask if there is a better time to call. Do not leave a message as it may be a confidential matter you are calling about that may not be apparent to you

If they are home, continue with the conversation

Hi, {insert the name of the potential participant here} this is Ileana Diaz calling from the Department of Geography at the University of Western Ontario.

I am contacting you today to ask if you are interested in being part of a research study that I am conducting. The study is being conducted by myself, an MA student in Geography and will look at what farmers think about agroecological coffee and agroecological ways of growing coffee in Puerto Rico. I also want to know if farmers think growing agroecological coffee is beneficial for farmers and how women are involved in growing agroecological coffee. Participation in the study can include one 30-60 minute interview and/or one 60-90 minute focus group. Would you be interested in hearing more about this study?

If no, thank them for their time and say good-bye

If yes, continue to explain the study details to them based on the letter of information or, if you are recruiting in person give them the letter of information to look at and read it over with them

{If on the telephone say} I am now going to read you the letter of information over the phone {Clearly read the letter of information the participant over the phone}

Do you have any questions?

{Answer any questions they may have}

Do you agree to participate in this study?

If yes, and on the telephone, arrange a time for the interview and inform them that you will bring the consent form to the interview for them to sign. Ask what are the most convenient times and locations for a focus group, if they are interested and inform them that you will contact them with the place and time of the focus group. If in person, provide the consent form to sign and arrange a time for the interview.

If no, thank them for their time and say good-bye

Curriculum Vitae

ILEANA I. DIAZ

EDUCATION

- Present **M.A., Geography**
Collaborative Program in Migration and Ethnic Relations
 University of Western Ontario, CAN
 Thesis title: “Coffee Agroecology, Food Sovereignty, and Agrarian Livelihoods in Puerto Rico”
- 2012 **M.A., Anthropology**, Northern Illinois University, USA
 Thesis title: “Effects of Anthropogenic Habitat Disturbance on the Distribution of the Diurnal Primate Community in Pando, Northwestern Bolivia”
- 2010 **B.A., Anthropology**, University of Central Florida, USA

LANGUAGES

Spanish (native fluency), English (native fluency)

RESEARCH INTERESTS

Political ecology, food studies, social movements, anthropogenic impacts on the environment, critical race studies, human-animal relations, feminist geographies, diaspora. Regions: Caribbean, Latin America.

HONORS, AWARDS & DISTINCTIONS

- 2015 **Best Student Paper** (Masters Category), Canadian Association of Geographers - Ontario Division Annual Meeting
- 2015 **Women’s Caucus Essay Award**, University of Western Ontario
- 2012 **Outstanding Graduate Teaching Assistant of the Year** (1 of 1), Northern Illinois University
- 2012 **NIU Graduate Teaching Assistant Award** (1 of 4), Northern Illinois University
- 2011 **Outstanding Student Contribution to International Education Award**
 Northern Illinois University

FELLOWSHIPS, SCHOLARSHIPS, GRANTS

- 2014 **Western Graduate Research Scholarship**, University of Western Ontario (for two years)
- 2011 **Jeffrey Lunsford Fellowship**
- 2011 **Center for Latino and Latin American Studies Graduate Research Grant**
 Northern Illinois University
- 2010 **NIU Full Tuition Scholarship**, Northern Illinois University (for two years)
- 2010 **OUR/SGA Research Scholarship**, University of Central Florida

RESEARCH EXPERIENCE (SELECTED)

- 2015 Project: **Master of Arts Research Project (Geography)**
Principal Investigator
 Puerto Rico, Caribbean
- 2011 Project: **Master of Arts Research Project (Anthropology)**
Principal Investigator
 Bolivia, Amazon
- 2010 Project: **“Perceived Versus Actual Risks of Primate Crop Raiding in St. Kitts”**
Research Assistant
 St. Kitts and Nevis, Caribbean
- 2010 Project: **“Nocturnal Census of Chiroptera Species in Nicaragua”**
Research Assistant
 Ometepe, Nicaragua
- 2009 Project: **“The Ethnoprimateology of Limón, Costa Rica”**
Principal Investigator
 Limon, Costa Rica

CONFERENCE PRESENTATIONS (SELECTED)

- 2016 **Diaz, I.I.** Café del Campo: Exploring the Relationship Between Agroecological Coffee Production and Food Sovereignty in Puerto Rico. Presented at the 2016 American Association of Geographers Meeting, San Francisco, CA. March 28-April 2.
- 2015 **Diaz, I.I.** The Cultural Politics of Song: Music as Resistance. Presented at the 2015 Canadian Association of Geographers - Ontario Division Annual Meeting (CAGONT), Ottawa, CA. October 23-24.
- 2011 **Diaz, I.I.** Population Densities and Habitat Use of the Diurnal Primate Community in Pando, Northwestern Bolivia. Presented at the 8th Annual Midwest Primate Interest Group Meeting, Kent, OH. October 14-15, 2011.
- 2011 **Diaz, I.I.** Lessons from Nicaragua: Field Primatology and Ethical Considerations. Presented at the 9th Annual Sigma Xi Graduate Student Competition, Dekalb, IL. April 2, 2011.
- 2010 **Diaz, I.I.** The Ethnoprimateology of Limón, Costa Rica: A Survey in Conservation. Presented at the 79th American Association of Physical Anthropologists Meeting, Albuquerque, NM. April 14-17, 2010. Published abstract: *American Journal of Physical Anthropology* 141(s50):94-95.

TEACHING EXPERIENCE

Instructor:

2012 **Co-Instructor.** DANTA: Association for Conservation of the Tropics Field School, Costa Rica. Primate Behavior and Conservation.

Other Teaching:

(**Northern Illinois University, *University of Western Ontario)

2016 **Teaching Assistant.** History of Business, Commerce and Capitalism

2016 **Teaching Assistant.** Geography of China*

2015 **Teaching Assistant.** Geography of Latin America and the Caribbean*

2015 **Teaching Assistant.** World Cities*

2014 **Teaching Assistant.** Environment and Development Challenges*

2012 **Teaching Assistant.** Primatology**

2012 **Teaching Assistant.** Physical Anthropology**

2011 **Teaching Assistant.** Human Origins**

2011 **Teaching Assistant.** Human Diversity and Variation**

2010 **Teaching Assistant.** Cultural Anthropology**

PROFESSIONAL SOCIETIES

American Association of Geographers

Canadian Association of Geographers

CAGONT - Canadian Association of Geographers Ontario Division