

**Seasonal Incomes and Food Insecurity in Rural Costa Rica: Food Consumption
Patterns, Availability and Access**

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**Thesis submitted to the
Faculty of Graduate and Postdoctoral Studies
In partial fulfillment of the requirements
For the Master of Arts in Globalization and International Development**

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Faculty of Social Sciences
University of Ottawa
April 2013**

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Abstract:

This study is based on ethnographic research that was conducted in the villages of Santa María de Rivas and San Gerardo de Rivas in the coffee farming region of Pérez Zeledón, Costa Rica. While these two villages are in close proximity to each other, the economy of San Gerardo is based more on tourism than the economy of Santa María, although both towns still engage in agricultural activities. Within each village, I conducted 15 preliminary interviews, followed by ten follow-up interviews with the main food preparers of the households. From in depth discussions, I found that food consumption patterns of people in both towns were being affected by seasonal variations in incomes due to the cyclical nature of employment in both tourism and agriculture. A number of households from these villages were experiencing periods of food worries throughout the year that were linked to the seasonality of tourism as well as agriculture, and in particular coffee production. Seasonal availability of particular food items also shaped consumption patterns; however, perceptions of food insecurity in this context appear to be primarily related to problems of access.

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CHAPTER ONE - INTRODUCTION

As human health and well-being are taking on new importance among policy makers, practitioners, and development scholars, increasing attention is being given to issues of food security and changing dietary patterns. According to the Food and Agriculture Organization (FAO), there were approximately 870 million people globally who were undernourished between 2010-2012 (2012:8). However, this figure was calculated by using the dietary energy supply per capita - an indicator that is used to measure the availability of food at a national level (Smith, Obeid and Jensen. 2000). Therefore, if one were to take into account the other dimensions of food insecurity, namely access, sufficiency and stability, this number would be considerably larger.

In comparison with other regions of the world, Latin America has a low child malnutrition rate as well as a high dietary energy surplus, indicating that nutritional sufficiency and food availability are satisfactory at a regional level (Smith et al. 2000:204). Nevertheless, the poverty rate of Latin America is comparable to that of Southeast Asia, suggesting that issues of food insecurity in the region are most likely related to food access and hence, livelihoods at a household level (ibid.).

Not surprisingly, access to nutritionally sufficient food is closely related to income.

Other factors that may affect consumption patterns and food security include general knowledge of healthy eating habits (Worsely 2002), manifestations of globalization (Bermudez and Tucker 2003), and increased tourism (Leatherman and Goodman 2005).

Seasonality may also affect consumption patterns due to fluctuating agricultural incomes as well as less availability of certain food items, leading to what is commonly known as the 'lean season' (Handa and Mlay 2006).

Global factors are increasingly affecting local contexts. In rural areas relying on export agriculture, incomes can often be erratic (Sick 2008). For example, the international coffee market is known for fluctuating prices, often hitting extreme lows due to large external forces such as market liberalization and increased production (Bacon 2005:497). Consequently, factors influencing large global commodity markets,

such as coffee, can have a serious affect on small-scale producers around the world relying on this crop as a main source of income.

Similarly, the demand and supply of tourism can also affect how much work is available over the years. Moreover, seasonality of tourism can have an impact on employment opportunities, making the low season a particularly difficult time to obtain sufficient food (Himmelgreen, Romero Daza, Brenes Cambronero and Amador 2006). While tourism can lead to a diversification of food products and a growth in food markets, this primarily benefits those who have a steady income, while those who do not will suffer (Leatherman and Goodman 2005). Additionally, tourism may lead to a decrease in local subsistence activities towards wage labor and hence less availability of local produce as well as increased consumption of commercialized food products such as snack foods and soda (ibid.).

Food security has been a prominent issue in development work for many decades. Yet most national or regional statistics on food consumption patterns or food security do not necessarily take into consideration local level trends – or household variations within specific localities, which can give insight into individual realities. For example, while many studies have been done on measuring and understanding food security, at the time that I was preparing to conduct my study in 2011 there was little work on the particular causes and consequences of seasonal food security in rural, coffee farming regions. Several years ago, Stephanie Jolly noted that: “little local-level data is available on the dietary consumption patterns and nutritional sufficiency of Costa Rican farmers” (2006:55).

Since then, there has been a growing interest in understanding the vulnerabilities faced by agricultural families living in coffee farming regions (Caswell, Mendez and Bacon 2012:4). In fact, Morris explains that this emerging area of research has largely come about as a part of other studies that focused on the effects of coffee certification schemes (459). For example, in their examination of the impacts that certifications (organic and fair trade) have on coffee farming households, Mendez et al. (2010a) found that seasonal food shortages emerged as a reoccurring theme in their data and recommended that further studies be conducted to examine this issue (Mendez et al. 2010a:247). In the last two years, (since I conducted my study) several

interesting studies on seasonal food insecurity amongst coffee farmers have been conducted in Central America and have recently been published (See e.g. Caswell, Mendez and Bacon 2012; Morris, Mendez and Olson 2013)

My study adds to this new body of work, which aims to contribute to a better understanding of food consumption patterns and the seasonality of food security among rural households, specifically in coffee farming regions. In addition, this thesis outlines the difficulties of measuring food insecurity and the value of certain methods. The methodological approach that my study uses demonstrates that subjective or qualitative measures can be useful in assessing food security and factors that contribute to hunger in a household. In this study of two villages in rural Costa Rica, I use the dimensions of food availability, access and stability to understand patterns of consumption and perceptions of food insecurity at a local level.

In Costa Rica, general rates of undernourishment are low. Yet in 2011, approximately one quarter of the population was under the poverty line with rates highest in rural areas (29.3% vs. 22% in urban areas) (World Bank). These are the groups that are most likely to face the most severe food insecurity. I chose to conduct my research in the region of Pérez Zeledón because it is a predominantly rural area that is heavily involved in the erratic coffee export market. Furthermore, the area near Mt. Chirripó (the largest mountain in Costa Rica) is increasingly involved in tourism. This provides a unique context where rural livelihoods depend on both agriculture and tourism, raising important questions about food security and the seasonality of incomes.

This study examines rural dietary patterns at the household level in relation to livelihoods, assets and availability. The purpose is to provide insight on food consumption patterns among households in a rural setting to further our understanding of specific food consumption patterns and incidences of household food insecurity. This small-scale, qualitative study provides a more in-depth and detailed understanding of food insecurity and factors influencing food consumption patterns, which is not usually captured in large-scale studies or by quantitative indicators. This type of data may be useful to policy makers and planners for furthering their

understanding of the complexities of food insecurity and improving food systems in rural areas.

As agriculture becomes less viable, and new opportunities such as tourism emerge, how are local consumption patterns of households in Pérez Zeledón being affected? Do fluctuating incomes from farming or tourism affect what people are eating? Or do people have fallback strategies to ensure food security? Does tourism change consumption patterns by bringing in more foods that appeal to tourists? From where do people in rural communities obtain their foods? What kind of food is available locally? Do individuals need to travel to obtain food?

Outline of Thesis

This thesis examines food consumption patterns and the factors affecting consumption patterns in San Gerardo and Santa María, Costa Rica. It explores the general dietary patterns of select households in these two towns and discusses different mechanisms that people use to obtain food such as local markets and exchanges. My analysis of local food supply and demand revolves around three dimensions commonly seen in the food security literature: availability, access and stability. By looking at these dimensions, we will see that local food systems and factors such as the seasonality of food and the stability of particular incomes generally affect the dietary patterns of these two villages.

Chapter two discusses food security and the dimensions of availability, access, utilization and stability. It also explores an emerging area of interest among researchers: seasonal food insecurity and coffee farmers. While this issue is only beginning to become a focus of research, it is clearly a problem that has been occurring in many coffee-farming regions across Central America. I then discuss some of the difficulties of measuring food insecurity and a number of the methods that have been used to date. I find that both quantitative and qualitative indicators have advantages and disadvantages, yet they produce varying results.

Chapter three gives a summary of the methodology of the study. It outlines the overall research design and the various methods used for collecting data, as well as some of the limitations that were encountered during field research. Furthermore, it

provides a systematic overview of the study sample, the participants and the interviews. Many contextual issues come to the forefront, which demonstrate how the research process evolved over time as well as some of the challenges and opportunities that came about.

Chapter four outlines the broader socio-economic context of incomes and food security in Costa Rica, focusing on the volatility of the coffee market and the contribution of tourism to the economy, as these are major forces in the study sites. I find that while coffee is still a principal crop in some regions of the country its economic importance has diminished over time. In contrast, tourism has become one of the main drivers of the country's economy and overall development strategy. In this chapter, I also explore the few studies that have been conducted on food insecurity in Costa Rica and present the two study sites where the research for this thesis was conducted.

Chapter five presents the economies of San Gerardo and Santa María and the primary livelihoods of my initial research sample. This provides an overview of the type of economic activities that the people of these two villages are engaged in as well as the types of assets that were common in Santa María and San Gerardo. While both villages are heavily reliant on agriculture, tourism does play an important role in the livelihoods of those living in San Gerardo. I then explore the general consumption patterns of people living in this region by looking at foods that are commonly eaten, foods that are rarely eaten, seasonal foods and foods that are associated with special occasions. A comparison of the two towns shows that while people generally eat similar food items, there are some differences worth noting.

Chapter six explores where people purchase their food and general household food production. This includes a discussion on regional grocery stores, local markets and informal vendors, demonstrating that there are numerous local and regional mechanisms for purchasing food as well as local entrepreneurs trying to fill food availability gaps. Furthermore, I provide an in-depth look at household food production and some of the difficulties of producing cash crops as well as the benefits of producing subsistence crops. I find that a number of households are producing a

large variety of different food items for household consumption and that those who are not face constraints in terms of land, money for inputs or simply time/effort.

Chapter seven looks at access to food in San Gerardo and Santa María by examining modes of transportation and monthly household food expenditures. I demonstrate that although many people travel to the regional city centre to purchase food, there are some households who primarily shop locally. Furthermore, there is a huge variation in the amount of money spent on food per month, which may be in some ways related to incomes. This chapter also discusses access to food via family/friend networks, for example through balanced reciprocity and informal exchanges. These types of mechanisms for sharing or giving food appear to be very important sources of nourishment and contribute significantly to general consumption patterns.

Chapter eight looks at seasonal availability of foods and issues of access and livelihoods. This chapter examines how livelihoods relate to perceptions of food worries, revealing that those worrying about food are most likely to come from households where incomes are more erratic or unstable (such as day laborers and farmers). In this chapter, I also explore the seasonality of particular income-generating activities (coffee farming and tourism) as well as the seasonal availability of food in the area. I find that work in farming and tourism can cause very similar seasonal issues in relation to food access. Chapter eight also discusses coping mechanisms that were identified throughout the research, such as access to store credit and informal household enterprises.

Chapter nine provides conclusions of this thesis. Overall, this paper presents the perceptions of people living in Santa María and San Gerardo and the factors that they feel are affecting what they can or cannot consume. As villages that, to a certain extent, rely on the land for both sustenance and incomes, harvests, weather and seasons play an important role in what is available and accessible. Furthermore, while some seasonal food insecurity issues appear to exist, the people of these villages are also vulnerable to some of the larger systems at play such as a volatile coffee market and the demand and supply of tourism.

CHAPTER TWO - UNDERSTANDING FOOD SECURITY

Dimensions of Food Security

The concept of food security encompasses dimensions of poverty and vulnerability, which shape individuals' food consumption. The FAO defines food security as existing "when all people, at all times, have physical, social and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (1996). This definition takes into consideration the various factors that affect access to food – physical, social and economic obstacles – as well as the fact that food needs to meet the dietary needs of a population to ensure that it is not just enough to avoid hunger, but rather nutritiously sufficient for a healthy lifestyle.

Food security may be analyzed at different levels. The unit of analysis could be global, national, community, household or individual food security. Global food security is concerned with world access and production of food, or in other words: "the ability of the world's food producers to meet the statistically calculated caloric needs of the Earth's six billion residents" (now seven billion) (McKeown 2006:21). National food security is the same as global food security but on a national level, calculated by the number of residents of each individual nation. Household and individual food securities assess "the experiences of hunger and less severe of compromises in the quantity and quality of diets" (ibid.) Analysis at this level also examines access to food via home-production, income or other modes of acquiring food, such as social networks or government or NGO food programs.

Food security is often analyzed in terms of dimensions that relate to a person's ability to obtain nutritionally sufficient food. These dimensions have varied from author to author and over time. The difference is usually one of terminology and essentially the discussion revolves around the same ideas. In this case, I will use the FAO recognized definition of the dimensions of food security since it is the international standard. The FAO recognizes the four dimensions of food security as being: availability, access, utilization and stability (FAO 2008:1). Each of the three dimensions of availability, access and utilization are a condition of each other. Availability is at the top of the echelon with access below it and utilization below

access. In this way, you cannot have access without availability and you cannot have utilization without both access and availability. Stability is a crosscutting theme and is required throughout all dimensions to ensure food security.

Availability refers to the supply side of food security, in other words, food being physically available. This is most often conceived at a national or global level but can also be seen at a local level. As explained by the FAO availability is affected by “level of food production, stock levels and net trade” (2008:1). Therefore, both markets as well as food production often determine food availability. In turn, these macro-level issues affect the supply of food in markets as well as the prices. Food insecurity may occur due to insufficient availability when there are food shortages, for example, when food production is affected by seasonal variations or environmental changes (Lovendal and Knowles 2007:68). When food shortages occur food is either not available or the prices of food rise. Availability can however be confusing since it may refer to food availability at the household production level as well as at a national level. Swindale and King explain that while it is most commonly applied to the supply of food at a national or even a regional level, the term has also begun to be used at a household level (1996:9)ⁱ. Nevertheless, it is the dimension of access that is usually used to understand household food security. Therefore, availability of food and access to food at a household level are closely related. In sum, with regards to food security, availability refers to the supply of food that exists for a particular population and the factors that may affect this supply.

The fact that food is available does not mean that people have access to it. Access is closely related to household-level resources and refers to whether or not a defined population has the ability to obtain sufficient food (Lovendal and Knowles 2007:64). Households access food through three mechanisms: “markets, subsistence production and transfers from public programs or other households” (Baiphethi and Jacobs 2009:460). Essentially, if these mechanisms exist or function properly then these constitute the availability dimension, which is a prerequisite of access. A person is unable to access food if something hinders their ability to obtain food via these mechanisms - such as insufficient money to buy or grow food or perhaps the inability to travel to a location where they are distributing food aid. This concept is commonly conceptualized using Amartya Sen’s idea of food entitlements; “an individual’s

entitlement is rooted in his/hers endowment – the initial resource bundle – which is transformed via production and trade into food or commodities which can be exchanged for food” (Maxwell and Smith 1992:10). In this way, access to food security is achieved by having the resources or abilities necessary to provide oneself with an adequate quantity of food via markets, household production or transfers/public programs. For example, a person may have limited access to food when that person does not have money to buy food or is physically incapable of exchanging their work for money in order to buy food. In his essay, *Poverty and Famines*, Sen emphasizes the importance of the access dimension of food security: “starvation is the characteristic of some people not *having* enough food to eat. It is not the characteristic of there *being* not enough food to eat. While the latter can be a cause of the former, it is but one of many *possible* causes (Sen 1983:1). Therefore, the first, but not the only, condition of food security is that food is available and the second is that people are able to access this food.

The third condition of food security is utilization also known as sufficiency. Utilization refers to “the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food” (FAO 2008:1). In this sense, utilization includes what Smith et al. (2000:202) call nutrition security: when an individual has access to a diet that is adequate in nutritional value. Food security will not produce a healthy, active life unless nutrition security is achieved and nutrition security is not possible without food security (Maxwell and Smith 1992; see also Beaudry 1996). Therefore, food needs first to be available, then households must have the resources and abilities to gain access to this food and finally, individuals need to receive sufficient nutrients from the food to live a healthy life.

The last aspect of stability is explained by the FAO as “stability of the other three dimensions over time” (2008:1). The idea of stability brings in the consideration of time as a factor in assessing food security; just because one may be food secure today does not mean that this is always the case. Factors that affect stability may include “adverse weather conditions, political instability, or economic factors (unemployment,

rising food prices)” (FAO 2008:1). The time aspect of food security may be conceived in terms of chronic versus transitory food insecurity. Chronic food insecurity is a continuous risk of not having sufficient food while transitory food insecurity is temporary or seasonal food insecurity (Maxwell and Smith 1992:15). The stability dimension of food security is also sometimes referred to as vulnerability; “even if households are not currently undernourished, they may be at risk or vulnerable to future deprivation” (Migotto, Davis, Carletto and Beegle 2007:17). The stability dimension of food security takes into account the fact that households may be vulnerable to food insecurity depending on potential economic, political, social or climatic shocks. Furthermore, time must be considered in this definition since cyclical food insecurity may depend on seasons and/or harvests. Therefore, in the same way that people move in and out of poverty, one might move in and out of being food secure.

Coffee Production and Seasonal Food Insecurity

Approximately 100 million people rely on the coffee production industry in some way (including those harvesting and processing coffee as well as those working in the coffee industry) (Caswell et al. 2012). It is an important livelihood for millions of people around the world and one with its own fair share of vulnerabilities. Some of the risks facing people living in coffee farming regions include: “1) depletion of natural resources from which the population makes its living; 2) environmental degradation; 3) shocks such as natural disasters and conflict; and 4) seasonal changes in food production and food prices” (Caswell et al. 2012:4). All of which can exacerbate issues of poverty and food insecurity.

The International Centre for Tropical Agriculture (ICTA) conducted a study, which examined food insecurity in coffee farming regions of Mexico, Guatemala and Nicaragua (2007). This study found that an average of 83% of surveyed households experienced at least one month of food shortages throughout the year (ICTA 2007). This is not only a significant amount of households but also a trend that was consistent across three different countries, demonstrating that this is a major issue amongst coffee producers. Caswell et al. note that this study spawned much of the research that

followed and brought the relationship between food security and the coffee industry to the forefront (Caswell et al. 2012:5).

Since the time of my study, a number of interesting studies have been published on food insecurity issues among coffee farmers in Latin America. For example, a recently published study, conducted by Morris et al. in 2008, explored food insecurity of 29 households in an El Salvadorian coffee community, which was part of an organic coffee cooperative (2013). The purpose of the study was to examine how food crops aided the achievement of food security and what additional coping strategies were being used (2013:413). The authors found that 97% of the households that were interviewed had experienced some form of food insecurity within the last year (2013:466). They also found that some of the strategies used to achieve food security included “diversifying income and sourcing food from food plots, home gardens and diverse coffee agroecosystems” (2013:466). Respondents reported that the most common causes of food insecurity (in order of most commonly cited to least commonly cited) were: shortage of work, finishing of stored staples (such as beans and maize), high price of basic goods, issues related to health and coffee prices (2013:468). Furthermore, in regards to the seasonality of food insecurity, the two main periods were between June and September as well as December and February (Morris et al. 2013:468). The authors conclude that given the variety of causes of food insecurity amongst such a small sample, the issues of food security for coffee farmers is extremely complex and further research is needed (Morris et al 2013:476).

In order to address the issue of food insecurity in coffee farming regions, all-inclusive and responsive interventions need to be developed. Some of the interventions proposed to date include diversifying livelihoods, supporting farmers to increase their food production, engaging the coffee industry to promote awareness, developing comprehensive interventions and encouraging more research in this area (Caswell et al. 2012:11-12). These are only a handful of potential responses and with a greater focus on research in this area, further approaches to mitigating this issue can be developed.

Overall, food insecurity and poverty is a problem for many rural, smallholder farmers around the world, given limited access to markets, the high cost of inputs,

reliance on global prices and the fact that it is (at times of the year) extremely labor intensive (to name a few). The studies outlined above demonstrate that coffee farmers are often subject to food insecurity due to seasonal income/production fluctuations. Yet more research is needed to really understand the complexities of these issues and identify additional solutions.

Measuring Food Insecurity

It is extremely difficult to create and validate measurements of food security, however it is also increasingly important in order to assess severity, implement interventions and ensure successful results. There is a general consensus that after the publication of *Poverty and Famines* by Amartya Sen, there was a shift from using measurements of availability to those of access (Webb et al. 2006, Migotto et al 2007). Prior to this, the focus was on the availability dimension of food insecurity and measuring this through global and national food supplies (Coates, Swindale, Bilinsky 2007). Nevertheless, although theoretical discussions have become more focused on understanding the access dimension of food security, there has not been a parallel understanding on how it can be measured (Webb et al. 2006:1405S). Consequently, recent studies on measuring food security tend to focus on this aspect and researchers are continuing to explore different methods of evaluation.

A few of the ways in which food insecurity has been measured include: per capita dietary supply of food energy (from aggregate data on food supply); food intake indicators (amount of actual food consumed using household surveys); anthropometric measures (such as malnutrition or morbidity); and indirect indicators of access (wealth status, total consumption, expenditures or income) (Migotto et al. 2007:16). These different methods for measuring food security focus on the different dimensions outlined above: availability, nutritional utilization and access. Nevertheless, as Webb et al. explain many of these food security measurements rely on weak, proxy measures of food insecurity and this has led to a shift away from quantitative/objective indicators towards more qualitative/subjective indicators (2006:1406S). While subjective indicators are criticized for cross-cultural inconsistencies, potential response biases and their lack of common points of reference, they can also be advantageous due to the low cost of subjective data, their ability to demonstrate psychological dimensions, and

their capacity to capture seasonality (Headey and Ecker 2012:13). In general, the shift towards subjective indicators is an attempt to hear about food insecurity from the mouths of those who are experiencing it.

One such subjective measurement is the Household Food Insecurity and Access Scale (HFIAS), which was created by the FANTAⁱⁱ project (Headey and Ecker 2012:13). This survey is an attempt to measure the access dimension of food security and consists of nine questions, which progressively increase in severity. Each question is asked with reference to the previous four weeks and if an affirmative response is received then it is followed up with a frequency of occurrence question (Coates et al. 2007:5). The answers to these questions yield an overall score that attempts to capture the extent of food insecurity, from psychological to physical feelings (ibid.).

The Radimer/Cornell scale for food security was developed through research that aimed to capture how people truly experience hunger (Frongillio, Rauscheback, Olson, Kendall and Colmares 1996:1). This measurement of food security is a series of questions that classify a household's food insecurity into household food insecure, adult food insecure and child hunger. These levels of food insecurity move progressively towards a worsening situation, starting with household food insecurity and moving towards child hunger. In this way, it categorizes the severity of the problem. The research done to develop this scale was very influential in the development of other qualitative measurements of food insecurity (FIVMS 2002).

As mentioned previously, subjective indicators may have the ability to capture food security issues related to seasonality. However, in order for this to be the case, the questions would have to be asked within a 12-month period to capture all periods of the year. The HFIAS asks each question, using the past four weeks as a frame of reference. Therefore, if used at the wrong time of the year, this survey may classify everyone as food secure even though they may be experiencing a transitory or seasonal type of food security during a different time of the year. Nevertheless, the FANTA guide for using the HFIAS advises to conduct the survey directly after the worst of the lean season in order to get the full scale of who is food insecure (Coates et al. 2007:2). However, it must be noted that this is not the best time to implement the survey if the purpose is to differentiate between those who are severely food insecure most of the

year and those who are only food insecure during the lean months (ibid.). Yet, even if the survey were conducted during the lean months, it would still not give an indication of seasonal fluctuations of food security unless it is asked within a one-year period.

In a study done by Migotto et al. (2007), the authors attempt to validate self-assessment (subjective) indicators against standard quantitative indicators; although they acknowledge that the supposedly standard (or benchmark) indicators may be problematic in themselves. The study focuses on a common food security survey question as the qualitative indicator. This question, the *consumption adequacy question* (CAQ), asks whether respondents feel that their food consumption is more than adequate, just adequate or less than adequate. The answers to this question were then compared with the results of the quantitative indicators (total expenditure, household calorie consumption, dietary diversity and anthropometry). The authors find that “overall, calorie consumption, dietary diversity and anthropometry are at best weakly correlated to subjective perceptions of food consumption” and thus, “subjective’ and ‘objective’ indicators do not classify the same households as food (in)secure” (Migotto et al. 2007:30).

Therefore, using any one of the quantitative indicators does not produce the same results as the qualitative indicator (CAQ). In terms of anthropometric measures, this is not surprising given that these indicators take into consideration individual health care practices and other environmental influences (Migotto et al. 2007:30). However, the CAQ and the dietary diversity measurement were more correlated, which corresponds to the general notion that food consumption is closely associated with wealth (ibid.). As households earn more income, they are more likely to buy a larger variety of foods. In conclusion the authors note, “while subjective food adequacy indicators may provide insight on the vulnerability and/or relative dimensions of food insecurity, the CAQ is too blunt and ambiguous indicator for directly mapping food insecurity” (Migotto et al. 2007: 31). This study provides important insight into measuring food insecurity. First of the all, not only are quantitative and qualitative indicators problematic in themselves, they also produce varying results which does not help to validate either. Furthermore, qualitative indicators can provide understanding

of issues related to vulnerability and seasonality, however, they may be too vague to really measure or map food insecurity.

In summation, while many measurements of food security exist, their general validity is often criticized. Objective measures of food security generally rely on proxy indicators that measure determinants, which are closely related to the dimensions of food security without directly addressing the issue. Subjective measurements attempt to measure food security by going to the source of the issue, the actual feeling of hunger, however they lack a clear reference point amongst respondents. Overall, this leads us to the conclusion, that like poverty, the phenomenon of “being hungry” or without sufficient food is difficult to measure. This in no way denies the fact that measurements are needed in order to clearly identify those in need and provide timely and effective interventions. Nevertheless, while much work has been done, it appears that much more is still needed.

CHAPTER THREE - RESEARCH DESIGN AND METHODOLOGY

In order to understand the food consumption patterns and local diets of households in rural Costa Rica, I conducted exploratory research in Santa María and San Gerardoⁱⁱⁱ. This study was initially modeled after Himmelgreen's study (2006) (see chapter 4) as a comparison between two Costa Rican villages – one with an agricultural economy and the other relying more on tourism. Nevertheless, during my research the scope of the study changed. While I still provide some comparison of the two villages, due to the fact that they were more similar than I had first assumed, the study became somewhat less of a comparison and more of an overview of the area. In this way, I took an inductive approach in that I have examined what sorts of patterns and hypotheses arose from specific observations and information that were encountered during my field research.

As with Himmelgreen's study, my initial aim was to examine whether tourism may contribute to food security issues in San Gerardo (due to higher prices) and whether there were significant differences between the two towns due to their primary economic livelihoods (tourism versus agriculture). Thus, data collection stemmed from a number of comparative questions about production and consumption in the two villages. What do people eat in San Gerardo and Santa María and what factors influence their consumption patterns? How do people's livelihoods affect their consumption? How do people obtain food; what types of formal and informal mechanism exist? And, do people feel that they have to worry about food? If so, does this happen during a particular time of the year?

To answer these questions, I conducted a six-week study in these two communities, consisting of three weeks in each village. Due to problems of measuring food security^{iv} discussed in Chapter two, rather than employ formal food security measurement instruments such as the HFIAS or the Radimer/Cornell Hunger and Food Insecurity scale, I employed a mix of research methods. This included a 24-hour food recall, a food frequency questionnaire, preliminary structured interviews, follow-up semi-structured interviews and participant observation that aimed to elicit more discussion on causes of food insecurity. Thus, instead of attempting to measure the severity of food insecurity or the number of people who may experience it, I attempted

to assess and understand local consumption patterns and perceptions that people have in regards to “food worries”. I did this by looking at particular dimensions of food security: availability (physical availability of food), access (monetary access/ability to obtain food) and stability (the seasonality of food production and season-based employment).

The purpose of the study was to see what types of food are common in this area of Costa Rica, what affects consumption patterns, whether people are worrying about not having enough food and if so, what might be causing this preoccupation. I collected data on food sources in the region, methods of obtaining food and the factors that affect people’s ability to obtain food.

Study Sample

I randomly selected 15 households in each community to conduct the preliminary interviews. I did this by going to every 4th house in Santa María (approximately 65 households) and every 7th house in San Gerardo (approximately 105 households). Based on socio-economic status and age, I then selected ten households from the original sample for the follow-up semi-structured interviews. I made this choice by looking at type and degree of employment/income within the house as well as overall assets (land, vehicles and livestock).

Originally, I had hoped to compare the following age groups in each village: 18-25, 26-35, 36-45, 46-55 and 56 and up. While it was difficult to get the same exact age samples in both towns, I did get at least one person from each age group with the exception of 18-25, since those under 25 often still lived with their parents or had moved to the city. My selections were also affected by happenings outside of my control. For example, one woman, who would have balanced out my 26-35 age groups in both towns, went into labor the week when I was doing my interviews and therefore was unavailable for a follow up interview. In addition, the preliminary interviews did not necessarily give me the ages that I needed. For example, in Santa María I interviewed one woman who was within the 19-25 age group but in San Gerardo I never interviewed anyone who fell within this age group. Since I selected my age groups based on my interviews in Santa María, there was no way to guarantee that I would come across the same range of ages in San Gerardo. Nevertheless, in the end I

was able to get enough data to do some analysis by age group, however more often than not, there was no concrete pattern related to age.

Interviewees

I interviewed almost exclusively women since I wanted to conduct interviews with the person in the household who prepares the food. I chose to interview the main cook of the household because I wanted the opinion of the person in the household who dealt with food on a daily basis. This was done on the premise that this person would know where the food came from, how it was obtained and what it was used for. In regards to gender, the only exception where it was a man who prepared the food for the household was the case of an older, widower who lived alone.

I attempted to collect household data but from a single source: the main food preparer. In this way, this data is at the individual level but it attempts to take into consideration what kind of foods are being eaten in the household when household members are eating at home. For this reason, it may not take into consideration food that is being eaten (unknown by the food preparer) by other members of the household when they are not eating at home. This methodological choice was based on the assumption that the person who cooks the food for the household, eats the same things as those in the household. In general, this seemed to be the case and when it was otherwise, people would often point out to me that while they did not eat a particular item, other members of the household did. It is quite possible, however that there were times when this fact was not pointed out to me and would then not be properly reflected in the data. Nevertheless, the trends found in the food frequency questionnaire seem quite consistent throughout the interviews so I would venture to say that it is generally an accurate reflection of consumption patterns.

Preliminary Interviews

The interview consisted of two parts on two separate occasions. The first time that I visited the house, I asked if they would like to participate in the interview process and if so then I performed the preliminary structured interview of approximately 20 minutes. This preliminary interview aimed to get a general sense of who lived in the household, what economic activities were performed, how much land and livestock they owned, whether or not they bought or produced the majority of their food and

what basic items were consumed on a daily basis. The preliminary interview was a starting point for engaging households in a dialogue about consumption patterns and provided me with the basis for choosing which households I would return to for follow-up interviews.

In order to get an idea of things that were generally consumed, the last part of the preliminary interview consisted of a 24-hour food recall. While 24-hour food recalls are often used for measuring food insecurity, I did not collect portion sizes, which made it inadequate for that purpose. I did, however add a component that required the interviewee to identify where each food item had been obtained. This gave me an idea of local market mechanisms and general purchasing tendencies among the population. I also used this information to create my list of foods for the food frequency questionnaire, which was a part of the follow-up interview.

Follow-up Interviews

The semi-structured follow-up interviews, which were anywhere from 25 minutes to one and a half hours, consisted of a set of predetermined questions about food choices and factors influencing food choices. For these interviews, I chose ten households from among the original sample in each village. This interview began with a food frequency questionnaire to gauge when the last time a particular food item had been eaten and under what circumstances that item is usually consumed. In order to create a list of foods that are consumed for the food frequency questionnaire I used information obtained from the 24-hour recall data collected in the first interviews, discussion with my host family as well as scholarly literature. This questionnaire consisted of 46 food and drink items. For each item I would ask the interviewee when was the last time they had eaten or drunk the item and how often they would eat or drink the item on average. This questionnaire, which was in the form of a chart, also had three additional columns, which could be checked off depending on whether the food or drink was something that the interviewee consumed every day, consumed on special occasions, or consumed based on the season. The reason I also asked people how often they consumed a particular item, and not just how long since the last time they had consumed it, was because many people had a hard time accurately remembering when they had last eaten something. This had positive and negative side

effects. It was interesting to have two points of reference for frequency, however sometimes I only got one or the other. For comparison's sake, this made it little more difficult to analyze. Nevertheless, I was able to identify general trends in consumption, which will be discussed in chapter five.

After the food frequency questionnaire I moved on to questions about dietary habits – number and types of meals consumed, perceptions/beliefs about food and food preparation as well as questions about food consumption and social settings/special occasions. These questions, along with the food frequency questionnaire, helped to show what kind of foods and meals people were eating and when, as well as, how they might classify common foods (daily foods, special occasion foods, seasonal foods). The following section of the interview moved into questions on access and availability, such as issues of food production, food purchasing and other mechanisms for obtaining food. The last part of the interview examined whether or not households worried about not having enough food to eat and what factors were causing this worry.

To get a sense of food insecurity or “food worries”, I used a modified version of the first question in the HFIAS, which is “in the past four weeks, did you worry that your household would not have enough food?” I changed four weeks to one year in the hopes of getting an idea of the seasonality that might be related to the primary livelihoods of the two villages (tourism and agriculture)^v. If someone answered yes to this question I went on to ask about when they worried, why they worried, how serious the situation was and how many times this happened per year. I also asked whether the respondent would have help from family, friends or the government during these hard times. If the interviewee responded no, then I would ask the same initial question but within a five year period and if their response was still negative then I would move on to the final section of the interview guide.

Participant Observation

I interviewed most participants within their households in hopes that they felt comfortable in a familiar environment. This also allowed me to observe the household, including assets, kitchens and food products. Furthermore, while staying with two different families, I had various opportunities to participate in and observe social events involving food. For example, I attended a baby shower, numerous birthdays, a

graduation party, a community dinner and a market comprised of producers from various nearby villages. I also kept track of everything that I was fed while I was staying with the families, in order to help create my food frequency questionnaire and get a good grasp of common meals and eating tendencies.

Furthermore, while staying in Santa María I lived with the family who owned and ran the local store. While staying with this family, we spent every day in the local store; even lunch and dinners were cooked there. This meant that I got to chat with locals informally on a daily basis and it provided me with a significant opportunity for participant observation.

During my one and a half month stay in these two communities (three weeks in each), I worked to become accepted as a trusted presence by conversing with locals and helping out in any collective efforts that presented themselves. I also used this time to document particularities such as food prices, food availability, food production and food in particular social situations.

Additional Limitations

In addition to the limitations mentioned above in the methodology section as well as the limitations that you will find outlined throughout this study, one overall limitation was my lack of experience in conducting field research. While I had previously shadowed my thesis supervisor during a field research trip to Costa Rica, I had never conducted my own interviews until this study. This meant that after each interview I became more experienced and more aware of how to prompt the interviewees and obtain more information. I also became more comfortable with the material and became aware of times when I was leading questions towards a particular answer.

This is something that I did not realize until I had returned to Canada and began listening to my interviews. Not only were my last interviews longer but also they were more fluid and I was obviously much more comfortable with the material. Unfortunately, this creates a significant limitation in my overall data since I conducted interviews first in Santa María and then in San Gerardo. In this way, it appears that the data from San Gerardo may be a bit more extensive. This could also be the consequence of particular personalities or the differing context; perhaps the more talkative

interviewees were found in San Gerardo or perhaps they were more accustomed to foreigners thanks to the tourism industry. Either way, I collected the same basic data from both towns and while there seemed to be more in depth data from San Gerardo, there was still enough from Santa María to make a strong comparison.

Furthermore, this might balance out in a few ways. Firstly, I conducted an additional interview in Santa María with the employee at the nutrition centre, who gave me a good overview of the town as a whole. Secondly, I came across two locally produced university reports on Santa María's history and culture, which significantly contributed to my knowledge of the town. I believe that these experiences helped to further enrich the study overall and balance any unintended bias that may of occurred as I slowly became a more experienced field researcher.

CHAPTER FOUR: OVERVIEW OF COSTA RICA AND PEREZ ZELEDON STUDY SITES

Costa Rica

Costa Rica is located in Central America, with Nicaragua bordering it on the North and Panama on the South. In 2011, the total population of the country was 4.7 million and the annual GDP was \$40.87 billion in US dollars (World Bank DataBank 2011). The country boasts a GNI per capita of \$7,640, and has a Human Development Index rating of .77, which falls under the High Human Development category and is ranked 62 out of 186 countries^{vi} (Human Development Report 2013). Furthermore, it is the second highest score in Central America after Panama (.78), with the other Central American countries falling much farther down on the rankings (Human Development Report). The average life expectancy is 79 years (2011) and the mean years of schooling is 8.4 (2010) (World Bank DataBank).

Nevertheless, in Costa Rica over 1 million people (24.8% of the population in 2011) live under the national poverty line and this number has been steadily growing since 2007 - when it had dropped to a ten year low of 19% (World Bank DataBank). The occurrence of poverty is slightly higher in rural areas, with 29.3% of this rural population living below the national poverty line (World Bank DataBank 2011). Therefore, although Costa Rica ranks high in terms of human development, there is still a clear issue of poverty and it appears to be increasing. This issue may have something to do with income inequality given that the income share held by the highest 10% is 39.5% while the income share held by the lowest 20% is just 3.85% (World Bank DataBank 2009). The people of Costa Rica have a high life expectancy, access to clean water in almost all rural areas and excellent school enrollment rates, nevertheless poverty and income inequality continue to be high.

Coffee production has long since been a principal driver of the Costa Rican economy. In fact, while coffee production began in the early nineteenth century, by 1890 it was contributing to 91% of export earnings within the country (Mitchell and Pentzer 2008). By the early twentieth century, both coffee and bananas became the primary exports of the Costa Rican economy. Nevertheless, such a narrow economic focus, however profitable, left the country vulnerable to international markets (Sick 2008:7). Conventional coffee markets are notorious for fluctuating prices, which fall

periodically, often due to increased production or excess supply (Bacon 2005:498). This is known as the booms and busts of the coffee market and has been affecting the coffee industry since the middle of the nineteenth century. For example, in the early 2000's coffee prices fell dramatically, largely due to market liberalization and the dissolution of the International Coffee Agreement (ICA) both of which contributed to an increase in coffee production (Bacon 2005:498). In this way, just like an increase in coffee production decreases prices, a fall in coffee production due to climatic conditions for example, would cause a rise in coffee prices.

Most coffee producers were and still are small to medium scale coffee farmers. Mitchell and Pentzer note that by the 20th century there were three economic classes in Costa Rica: "the large landowners who also processed coffee; the small- and medium-size landowners who grew but did not process their own coffee; and the landless or very land poor farmers who were also wage laborers" (2008:45). Naturally, some of these economic divisions still seem to exist in Costa Rica since those with land work for themselves and those with the ability to process coffee receive the greatest returns.

Costa Rica's economy is heavily dependent on tourism and particularly ecotourism. It has been considered a tourist destination since the 1980's, with more than one million tourists entering the country annually (Koens, Dieperink and Miranda 2009:1225). In fact, according to the *Instituto Costarricense de Turismo* (ICT) a record of 2,343,213 tourists visited Costa Rica in 2012, just over half of which came from North America (ICT). Ecotourism in particular has been promoted as a central part of the country's development strategy (Koens et al. 2009:1226). Ecotourism is defined by *The International Ecotourism Society* (TIES) as "responsible travel to natural areas that conserves the environment and improves the well-being of local people" (TIES website). The concept promotes the preservation and appreciation of natural habitats as well as local cultures in order to attract tourists. A focus on ecotourism and the environment is appropriate given that Costa Rica is considered one of the most bio-diverse areas on the planet with more than 1.5 million different animal and plant species (Mitchell and Pentzer 2008:6). Ecotourism provides a way to foster economic development through the promotion of tourism while simultaneously protecting the diversity of flora and fauna and the conservation of local cultures.

As early as 1993, tourism was earning more in Costa Rica than coffee or bananas and since then it has continued to grow (Honey 2008:163). By that time, the country's economy had become much more diversified with 53.3% of export earnings made up of manufactured goods and nontraditional agricultural exports (such as pineapple and other tropical fruits) (Mitchell and Pentzer 2008:125). Due to the unpredictability of the international coffee market, many parts of the country have moved away from this traditional export. With an increased diversification of agricultural goods, industrialization and a growing tourism economy, coffee has become less and less important as a source of export earnings (Biesanz et al. 1999:42). In 2012, coffee made up just 3.3% of export earnings, approximately 417 million dollars (INEC), while tourism brought in 2.2 billion dollars of foreign exchange in the same year (ICT). Yet while coffee may not be a big part of the national economy, it is still a key source of income in some regions and an essential part of the Costa Rican culture.

Food Security in Costa Rica

Despite relatively high UNDP rankings and other measures of well being, food insecurity has been shown to exist in both rural and urban settings of Costa Rica. For example, Himmelgreen et al. (2006) examined food insecurity and nutrition in 145 households in two rural communities of Monteverde, Costa Rica. The two communities were different in so far as one had an agricultural economy and the other had an economy that relied more on tourism. Nevertheless, both communities – San Rafael (agriculture) and Santa Elena (tourism) – had high levels of food insecurity, 67% and 78% respectively (Himmelgreen et al. 2006). It is clear from this study that food insecurity does exist in rural Costa Rica.

In order to measure food insecurity, Himmelgreen et al. used the Radimer/Cornell Hunger and Food Insecurity scale. One noteworthy result that emerged from this study was the fact that although many people indicated that tourism had benefited the local economy they also attributed the high cost of food to tourism (Himmelgreen et al. 2006). The cost of food was high for tourist season and often stayed that way throughout the year, and given the limited amount of competition, the prices were even higher than found in other nearby regions (Himmelgreen et al. 2006). Other qualitative findings included the discussion of eating according to price; the

necessity to eat what was cheapest, as well as rice and beans as a qualitative indicator of severe food insecurity: no rice and beans meant trouble (Himmelgreen et al. 2006:309). Also interesting was the fact that fruits and vegetables are considered quite expensive. Not having transportation to visit the closest town where more affordable food may be purchased was also noted as a significant barrier to achieving food security (Himmelgreen et al. 2006:309). Finally, a government-run student lunch program was also mentioned as an important mechanism for avoiding malnutrition in children (Himmelgreen et al. 2006:310).

Food insecurity has also been shown to exist in urban Costa Rica. A study done by Gonzalez et al. in two urban communities in the province of Cartago interviewed 213 women using a 13 question yes or no survey. They defined food security using the standard FAO definition. This study found that 40.4% of the household were mildly food insecure, 25.8% were moderately food insecure and 17.4 % were severely food insecure, while only 16.4% were food secure. Most of the reasons cited for food insecurity were income related while another cause was “low level of education of the head of household” (Gonzalez et al. 2007:589).

Cantón de Pérez Zeledón

San Isidro del General (also known as San Isidro) is the capital of the district of Pérez Zeledón. According to the national census, the population of San Isidro was 46,017 in 2011 and the population of the district was 135,429 (INEC). San Isidro lies approximately 130 kilometers from San Jose, Costa Rica’s capital, and can be reached by passing over the *Cerro de muerte* (mountain of death) and descending into the valley of *El General*. The variable climate of the region makes it possible to produce a great variety of agricultural goods (Arias Ramirez and Sanchez Hernandez 2010). While sugarcane and coffee have been traditionally cultivated in the region, recently there has been a shift towards the cultivation of pineapple, particularly in the lower, flatter areas of the region (Arias Ramirez and Sanchez Hernandez 2010:171). Nevertheless, pineapple production in the area is on a large commercial scale. Therefore, while it has generated employment opportunities, it has not fostered the same sort of entrepreneurial and small-scale production that is traditional and typical for the region (ibid.).

Due to various factors associated with the production, distribution and consumption of coffee, the previously mentioned “booms and busts” of the coffee market have created vulnerability among coffee farmers in Costa Rica and Pérez Zeledón in particular (Sick 2008). This has led to many households in this region having to alter their production, explore alternative markets (organic and fair trade) and diversify their livelihoods (ibid.). This area, similar to other areas of Costa Rica, has also experienced in/out migration with a large number of residents having immigrated to the United States (Sick 2008 and Arias Ramirez and Sanchez Hernandez 2010). Tourism still plays a relatively minor role in the economy of the district, with the main tourist attraction being the Chirripó National park. People visit the area to see the cloud forests and climb Mt. Chirripó, the highest mountain in Costa Rica and the second highest mountain in Central America.

The Study Sites

Both study sites are near the base of Mt Chirripó in the Talamanca Mountain Range. San Gerardo is located approximately 20 kilometers from San Isidro and is 1350 meters above sea level. Santa María is near San Gerardo and lies at about 1500 meters above sea level. In 1975, the Costa Rican government established the *Parque Nacional Chirripó* (PNCH) with the main purposes being to conserve and protect the natural resources that are found in this area (Furst et al. 2004:105). The primary entrance to the park is located in San Gerardo and leads to the main route up the mountain.

Santa María de Rivas

As you arrive in Santa María you see houses perched on the hillsides and a river that runs right through the middle of town. The hillsides have characteristic patches of dark green, shiny coffee plants, as well as sugar cane and *milpas* (cornfields). Interspersed among the coffee fields there are banana trees, orange trees, avocado trees and other fruit bearing trees. Any area that is not occupied by some type of crop has been cleared for grazing cattle or perhaps for future cultivation. There are small patches of forest left, but the bulk of the hillsides are just thick, short grass. The deforestation is probably one of the first things that a visitor might notice.

The town itself is located in a long and narrow valley. There is a *pulperia* (convenience store), a *salon* (a community hall used for events), an Evangelical church,

a community kitchen, a health clinic, a school, a Catholic church, a nutrition centre and a football field. Here and there you might also see small, make-shift greenhouses as well as cows roaming the streets freely.

According to Cordero-Barquero, in 2007 there were approximately 237 inhabitants in Santa María and 63 houses (2007). The demographic composition of the town was approximately 107 people under the age of 17 (43%), 86 people between the ages of 18-45 (35%), 33 people between the ages of 46 and 65 (14%) and 18 people who were 65 or up (8%) (ibid.). Therefore, the population was relatively young with about 78% of people being under the age of 45.

The first people to move to Santa María came from the *Canton* (district) *de Dota* in the late 1930's, which is similar to most villages in the area. (Cordero-Barquero 2007). After the first few families established themselves, word began to spread and an increasing number of people came looking for the economic opportunities that owning your own land could provide. At that time one could arrive in Santa María and claim land, the consensus being that a single person got 30 hectares of land and a married couple would get 60 hectares (Cordero-Barquero 2007). Once all the land had been claimed, proper legal ownership was established. Today, there is no available land in Santa María and to obtain land one would have to either purchase it for a relatively high price or inherit it from a family member. In general, a typical plot of land is a lot smaller than it used to be, given that over the years families would split up their land into equal sizes for all their children. In some cases, this is up to 13 kids or more, thus significantly diminishing the size of an average plot of land.

When settlers first arrived in Santa María the forest was thick and untouched, thus burning was used to clear area for roads as well as areas for building and agriculture (Cordero-Barquero 2007), this method of clearing land by forest fires was also used in San Gerardo (Stoll 2006). The newly cleared land was then used for raising cattle and planting beans, corn, potatoes, plantains, sugar cane, coffee, vegetables and fruit (Cordero-Barquero 2007). There were also those who built *trapiches*. A *trapiche* is a mill for extracting the juice of the sugar cane, which is then made into *tapa de dulce*. *Tapa de dulce* is a block of solidified raw sugar that comes in a cylinder form. During my

study, I found that many of the products that were produced initially are still being produced today, over 80 years later.

Overall, these first settlers were self-sufficient since the climate was perfect for growing a variety of fruits and vegetables, cattle supplied meat and other milk derivatives, the *trapiches* provided *tapa de dulce* (as a sugar substitute), and with time people also acquired pigs and chickens and therefore had eggs and lard for cooking (Cordero-Barquero 2007). While all of these things still exist in Santa María, it is to a lesser extent. I found that people are no longer completely self-sufficient and a number of families buy everything that they eat. Furthermore, while cattle and coffee production are the two main sources of income, tourism related to hiking Mt. Chirripó has slowly begun to become an important livelihood.

In 1992, the Integral Development Association of Santa María came up with the idea of opening another entry point to Chirripó National Park, with the hopes that it would bring additional income to the people of the village (Cordero-Barquero 2007). As intended, this has brought some additional income to the people of the village. For example, there are those who now work as porters, guides or cooks. Nevertheless, given that there is only one business in Santa María, the local *pulperia*, the full effect of the tourism industry has not been felt by the local economy. Travelers dine, buy supplies and stay the night in San Gerardo and are dropped off at the entrance to Santa María on the day of their climb. In this way, a large portion of the economic activity produced by tourism still stays in San Gerardo.

San Gerardo de Rivas

The village of San Gerardo is located at the base of Mt Chirripó, and is the last village on the main road up the mountainside. It is approximately three kilometers between Santa María and San Gerardo and to drive between the two towns takes about five minutes. Once you have entered San Gerardo, you drive a half of a kilometer, past the parks office, before you turn right over a bridge and into the main part of town. As you drive up the steep hill to the center of town, you pass numerous hotels (7 hotels, each with their own restaurant, and 1 café) and restaurants. There is also a large soccer field, a *salon* (community hall), two *puplerias* (convenience stores), an elementary school, a Catholic church, a small alcoholics anonymous building,

The residents of San Gerardo primarily make their livings from agriculture and tourism. According to a study done by Stoll in 2006, the town covers approximately 303 hectares of land but only 45 hectares (15%) is utilized for agricultural purposes of which 25 hectares (56%) are used for growing coffee (Stoll 2006). Stoll breaks down the remaining 85% of the land as follows: “48% for pasture, 15% fragments of primary forest and 22% include secondary forest, plantations and fallow land” (2006). This means that although only 15% of the land in San Gerardo is used for agriculture, over half of that is used for coffee. A long-time resident and the owner of the first local store in San Gerardo, founded in 1960, confirmed my perception that dairy cattle, coffee and tomatoes were the prominent sources of agricultural income. He stated that the people of San Gerardo live off four things: cattle, coffee, tomatoes and tourism. In general, San Gerardo appeared to produce more garden vegetables than Santa María and other nearby towns. There were noticeably more greenhouses in San Gerardo than Santa María. Oren Marciano conducted a study comparing ecotourism in San Gerardo and San Jose (another nearby village). In this study, Marciano notes that while the production of garden produce in San Gerardo is an important economic activity, it was almost non-existent in San Jose (2010:22). The main reason cited for not planting these types of vegetables in this other village, just kilometers away from San Gerardo, was that people were unaware that they could grow garden vegetables in the area (2010:91). In contrast, in San Gerardo tomatoes are produced commercially by a number of farmers, along with peppers, avocados, cilantro and red beans, all to be sold in the regional markets in San Isidro (Howitt 2012:37). While some of this vegetable production was visible in Santa María it was to a smaller extent and more often for household consumption. Yet it appeared to be both an important income and an tradition in San Gerardo.

Like Santa María, the initial settlers of San Gerardo came from the Dota district around 60 to 80 years ago (Marciano 2010). Given that the towns are close geographically, their pasts are quite similar. For example, upon arrival, the first settlers were met with thick, pristine forests and they lived primarily off subsistence agriculture, mainly beans and corn (ibid.). Nevertheless, these abundant forests also provided the residents with other food sources, primarily from hunting (ibid.).

Today the economy of San Gerardo is heavily dependent on tourism. Tourism associated with Chirripó National Park has spawned numerous businesses such as the restaurants and hotels mentioned above as well as a hot springs, manicured gardens, a trout farm and a convenience store that caters specifically to those climbing the mountain. According to Marciano, approximately 48.3% of the households in San Gerardo receive at least a quarter of their income from tourism (2010:27). In addition to this, it has brought a large North American expatriate community, which has meant that many local residents have sold all or part of their land to foreigners.

Overall, some of the impacts that have been reported due to the arrival of tourism in San Gerardo include increased regrowth of the forest, more and higher paying jobs and less locally produced food due to less agriculture (more reliance on buying food elsewhere) (Marciano 2010). Nevertheless, the consensus is that more positive impacts have been accrued by the village than negative (ibid). Tourism has become an integral part of the local economy of San Gerardo and while some people have given up agriculture to pursue tourism related income generating activities, many seem to partake in both.

CHAPTER FIVE - LOCAL ECONOMIES AND CONSUMPTION PATTERNS

Employment and Assets of the Study Sample

There are some similarities and distinctions between the two towns with respect to the types and diversification of local livelihoods and common household assets. Table 1 below gives a general sense of the two towns by presenting the livelihoods of the respondents from the preliminary interviews.

Table 1 – Household Livelihood Strategies (numbers are rounded)*

	Santa María (N=15)	San Gerardo (N=15)	Total (N=30)
Produce coffee to sell	6 (40%)	3 (20%)	9 (30%)
Produce tomatoes to sell	1 (7%)	2 (13%)	
Work in agriculture	12 (80%)	11 (73%)	23 (76%)
Work in tourism	5 (33%)	10 (67%)	14 (47%)
Work in tourism and agriculture	4(27%)	6 (40%)	9/30
Have a salary income or own a business	1 (7%)	5 (33%)	6/30

Author's Interview Data 2012 – Preliminary Interviews

*Households are characterized as working in a particular sector if they have one or more people working in that sector.

**Work in agriculture: includes farmers, full-time paid agricultural workers and day laborers

***Work in tourism: this includes anyone who gets any income from tourism; porters, tourism related business owners and those who work for a tourist business

As seen in Table 1, twice as many of the sampled households in Santa María produced coffee than in San Gerardo. Overall, only 30% of households produced coffee in the initial sample. Average land holdings also differed with 40% of households in Santa María owning more than one hectare, while it was 27% in San Gerardo (see table 2). This difference may help to explain why there was more coffee production in Santa María than in San Gerardo. In fact, of the six households in Santa María that produced coffee, five of them owned more than one hectare of land. In San Gerardo, of the three households that produced coffee, two of them owned more than one hectare of land. In this way, almost all households who produced coffee had more than one hectare of

land. Therefore, coffee production does seem to be in some way related to the quantity of land that a household owns. In both towns, the only households that produced coffee but had less than one hectare of land were supported by pensions, lived on small lots and produced a bit of coffee for an extra income.

From these small samples and observation of the two towns, it would appear that Santa María has more coffee being grown as well as more households with larger land holdings. Nevertheless, the margin is quite small so this could be the reflection of my samples. Furthermore, it is not surprising that there would be some correlation between having a significant piece of land and also growing coffee, or other agricultural products.

When taking into account all economic activities in each household, including older children still living at home, 12 out of 15 households (80%) in Santa María had some income coming from agriculture. In San Gerardo, it was 11 out of 15 households (73%). It is clear that agriculture, to a varying extent, continues to play a significant role in the household economic strategies of the two villages. Of the three households in Santa María who did not participate in agricultural activities, one worked in tourism and had a salary income and the other two were unemployed. In contrast, all of the households in San Gerardo who did not work in agriculture were working in tourism. In this way, it can be seen that although both towns seem to be quite engaged in agricultural activities, in San Gerardo those who do not work in agriculture, work in tourism.

It is to be expected that San Gerardo would have more tourism related livelihoods given its location relative to the main Park entrance and its longer history with park-related tourism. Consequently, it is not surprising that 60% of households in San Gerardo and only 33% of households in Santa María had one or more people working in tourism.

A number of households in both communities relied on income from agricultural activities as well as tourism, 27% and 33% in Santa María and San Gerardo, respectively. This means that in Santa María of the five households working in tourism, four of them also worked in agriculture. Therefore, in Santa María, almost all those working in tourism are also working in agriculture. This may suggest that tourist-

related economic activities are used primarily as an additional income in this village. On the other hand, of the ten households working in tourism in San Gerardo only five were also working in agriculture. In this way, it appears to be more common in San Gerardo for work in tourism to be the only type of income generating activity in a household.

Only one household that I interviewed in Santa María had a salary income. In San Gerardo, on the other hand, there were five households that either had a salary income or owned a formal business. Consequently, there clearly seems to be more opportunity for a salary income or a business in San Gerardo than in Santa María, especially since Santa María only had one formal business.

Before I performed this field research, I hypothesized that Santa María was a village that relied primarily on agriculture and San Gerardo was a village that relied primarily on tourism. Nevertheless, after analyzing this data, spending time in both villages and talking with people on a day-to-day basis, it is clearly more complicated than that. Santa María is a village that relies primarily on agriculture although people are beginning to work a bit more in tourism. While San Gerardo relies more on tourism than Santa María, it still also relies on a significant amount of agriculture. In this way, both communities are reliant on coffee farming and the agricultural economy in a significant way. However, while tourism from the national park has brought many opportunities to the town of San Gerardo, participation in the tourism industry by the people of Santa María has been limited.

In terms of assets, during the preliminary interviews I also asked whether people had livestock and vehicles. Details of these findings are outlined in the following table.

Table 2 - Households Owning Vehicles, Livestock and Land

	# of HHs owning a vehicle (N=15)	# of HHs owning livestock (N=15)	# of HHS owning >one hectare of land (N=15)
Santa María	7 (47%)	7 (47%)	6 (40%)
San Gerardo	6 (40%)	8 (53%)	4 (27%)

Author's Interview Data 2012 – Preliminary Interviews

Slightly more people had cars in Santa María (47%) than in San Gerardo (40%). However, given that there are three buses a day that go from San Gerardo to San Isidro and only one bus a week that travels from Santa María to San Isidro, those living in Santa María would have more of a need for a vehicle.

The number of households with livestock was quite similar in both towns as well. Of the seven households in Santa María that had livestock, three used the animals for consumption while four used them for income. In San Gerardo, of the eight households with livestock, five used them primarily for consumption and three for income. In both towns, the livestock consisted mostly of chickens, especially when just for consumption - both for eggs and for meat. It was quite common for people to have a few chickens running around the house to supply them with fresh eggs. A few households had dairy cows that were primarily for income; however, they also provided fresh milk for the household. Therefore, approximately half of the households in both towns had some livestock and this varied from three chickens running around the house laying eggs from time-to-time to 300 chickens for an informal egg selling business.

General Food Consumption Patterns in Santa María and San Gerardo

The food frequency questionnaire provided me with a good sense of the foods and drinks that were generally eaten by the people living in San Gerardo and Santa María. I have outlined the results of this questionnaire in Table 3. I will use this data to show, in general, which items were consumed very frequently, which items were rarely consumed and why this might be the case.

Table 3 - Consumption Frequency of Select Foods in Santa María and San Gerardo

Frequency	Santa María	San Gerardo
Foods eaten every day by almost every respondent *	Beans, rice, coffee, onion	Beans, rice, coffee, onion, cilantro
Foods eaten every day or at least 2-3 times per week by at least 50% of respondents	Milk, bread, tortillas, egg, tomato, cilantro	Milk, bread, tortillas, egg, tomato, lettuce, fruit, bananas
Other commonly eaten foods**	Pasta, potatoes, salad, garlic, peppers and fruit	Pasta, potatoes, salad, garlic, peppers and cheese

Foods referred to as seasonal	Avocado, mangos, plantains	Avocado, mangos, plantains
Food/drinks that are never or rarely eaten, by at least 50% of respondents	Ice Cream, hamburgers, beer, pop, chips, candy, yucca, French fries, lettuce and mortadela	Ice Cream, hamburgers, beer, pop, chips
Special occasion foods (in both towns)	Jell-O, ice cream, meat, candy, pop, French fries, chips, hamburgers, pizza, nachos, <i>picadillo</i> ^{vii} , <i>arroz con pollo</i> ^{viii} and <i>olla de carne</i> ^{ix}	

Author's Interview Data 2012 – Follow-up Interviews

*Almost every respondent is categorized: at least 8/10 people (per village) but up to 10/10 in most cases.

**Other commonly eaten foods were eaten at least 1-2 times per week by at least 6/10 people (per village)

Interview data on consumption patterns were collected and analyzed in terms of the type and frequency of consumption. While there are many similarities in the two towns in terms of consumption, there are a few differences worth noting.

As seen in Table 3, fruit was consumed frequently in both towns; however, it was eaten a bit more frequently in San Gerardo. Overall, it was eaten every day by at least 45% of all respondents (in both villages combined). In Santa María 30% of people said that they ate fruit everyday and the other 70% had eaten fruit within the last week. In San Gerardo 60% of people said they ate fruit every day and 30% had eaten it in the last week.

One specific fruit item that clearly varied between the two towns was banana. In Santa María, only one interviewee said that they ate banana everyday while the others said that either they had eaten it within the last week or it depended on whether or not they were available (usually whether or not they were growing in the back yard at that time). However, in San Gerardo half of the respondents said that they ate bananas everyday and three had eaten a banana within the last day. For some reason bananas did seem to be consumed more in San Gerardo than in Santa María. One woman from San Gerardo did mention that bananas were eaten a lot there; “I brought a pineapple from San Isidro because there aren’t pineapples here, nor mangoes. I bring mangoes from Pie de Valle where my mother lives. In hot areas, there are mango trees everywhere! But here what we eat a lot of is bananas” (Personal Interview #18, June

23, 2012). This is interesting because it is something that I would hear quite often. There are certain fruits and vegetables that just don't grow in the climate of the mountains, so they are almost always bought. Nevertheless, there are certain food items that can only be grown in the mountains, such as beans, so this had a definite effect on what people would be consuming and how often. Generally, fruit was reported to be eaten more frequently in San Gerardo. While there was no clear indication why this would be the case it could be that more fruit was grown in San Gerardo or that perhaps it was more easily available due to tourist demand.

Interestingly enough, cilantro and lettuce were also more commonly eaten in San Gerardo than in Santa María. In San Gerardo 80% of respondents ate cilantro every day, while in Santa María it was only 50%. As for lettuce, in San Gerardo 50% of respondents ate it at least 2 times per week, while in Santa María 60% of people stated that they never or rarely ate lettuce. While it is impossible to draw concrete conclusions from this data, it is important to note that the items more commonly eaten in San Gerardo are primarily fresh products such as cilantro, lettuce and fruit. Overall, production of garden vegetables, and especially the use of greenhouses, was more common in San Gerardo than in Santa María. This is relevant because as we will see in a later chapter, the households in San Gerardo did seem to be producing a larger variety of foods for consumption.

There were also numerous foods/drinks that the majority of people said they never ate. In both San Gerardo and Santa María, the foods/drinks that most respondents said they either never consumed or rarely consumed included: ice cream (12/20), hamburgers (10/20), beer (15/20), pop (10/20) and chips (13/20). For many of those who said that they did not consume these items very often, they also mentioned that they were foods/drinks that were usually consumed on special occasions. Furthermore, while at least half of the respondents said that they never consumed these items, the remainder consumed them to varying degrees. While most of respondents indicated they had eaten these foods within the range of a month or even a year ago, there were some exceptions. For example, four respondents in San Gerardo said that they drank pop, or it was consumed within the household, at least once a week. In Santa María, four respondents had also drunk pop within the past

week. This means that while just over half of the respondents said that they never drank pop, or only on special occasions, the other half seemed to be drinking it almost once a week. While there did not seem to be a correlation with general socio-economic status and drinking pop, there may have been some correlation with age. Of the eight respondents who had consumed pop in the last week, four were under the age of 45. Of the four respondents that were over the age of 45, two said that it was their sons (between the ages of 13-28) who would drink it and the other two had been away at the beach or in San Isidro (i.e. special occasion) and that was why they had consumed it. However, for those who said they never drank pop, there was not a clear pattern as they were of all ages and socio-economic groups. There were a few other items that were said to never be eaten, these include candy, yucca, French fries, lettuce, and mortadela, all of which at least half of the respondents in Santa María said that they did not consume. In San Gerardo however, these items were eaten to varying degrees. Once again, there is a spectrum of answers in both towns.

Overall, there is a clear pattern. The rarely eaten food/drinks are those that, from a nutritional standpoint, are more frivolous unhealthy food items; those that are high in sugar and fat. (The exceptions are lettuce and yucca in Santa María, which could just be more difficult to obtain). This overall pattern could be for various reasons: a) people are aware that these items are unhealthy and therefore they choose not to consume them, b) they are aware that these foods are unhealthy so they did not want to disclose to me that they were eating them, or c) these foods are more expensive and/or harder to obtain so they are eaten less.

Special Occasion Foods

As mentioned before, some foods were said to be more commonly eaten on special occasions. Foods that were cited as special occasion foods include: Jell-O, ice cream, meat, candy, pop, French fries, chips, hamburgers, pizza, nachos, *picadillo*, *arroz con pollo* and *olla de carne*. Not surprisingly, a number of the foods that are sometimes considered 'special occasion foods' are also foods that were stated to be less commonly eaten in the food frequency questionnaire.

Two important and traditional dishes of Costa Rica that were mentioned as special occasion foods are *arroz con pollo* and *olla de carne*. My interviews in San

Gerardo fell just after Father's day and at least two of the interviewees mentioned that the last time they had eaten *arroz con pollo* was for this celebration. Alma from San Gerardo also told me that *arroz con pollo* "is one of those things that you don't make all the time, it's more for parties and birthdays, when people come from other places" (Personal Interview #20, June 26, 2012). Like *arroz con pollo*, *olla de carne* is often made for large groups of people: "you throw in a bit and it always makes a lot, so it is for when someone comes or various people come because it makes a large quantity" (Personal Interview #16, June 20, 2012). In addition to the fact that it can serve many people, Alma as well as Daniela, both from San Gerardo, mentioned that *olla de carne* was often eaten when someone in the family had gone to San Isidro, because they would bring back meat. While meat was available in both towns, it was much cheaper if you could purchase it in San Isidro.

Another special occasion food or food that was often eaten in the city was hamburgers. Sara from San Gerardo told me that she made hamburgers one day a year; just for the day of the child^x, while Lucia also from San Gerardo told me that she made hamburgers sometimes when she had children visiting. This may indicate that hamburgers were more often eaten among younger people. In fact, of those who I interviewed that were in the 56 years old and up category (four people) all of them said either they never ate hamburgers or it had been years. Among respondents between the ages of 18 and 35 (six people), four had eaten them within the last month, one had eaten a hamburger in the last year and the other said she never ate hamburgers. Although these are small samples of each of the towns, given that hamburgers were also mentioned as food that kids like, it may indicate that it is something more commonly seen with younger generations. Hamburgers were also something that was often mentioned as being a city food. One family said they would bring back hamburgers every 15 days when they went shopping in San Isidro and just the young sons (ages 13, 28 and 28) would eat them. That family was a bit out of the norm, however, since they also had a deep fryer and the sons would eat French fries quite often. Like hamburgers, French fries were often associated with the city. When I asked Daniela when was the last time that she had eaten French fries she replied "one week ago when I went to San Isidro, I mean I don't really make them here, they are really just

fast foods that you find there so..." (Personal Interview #11, June 22, 2012). Therefore, while some of the more unhealthy and globalized foods, such as French fries and hamburgers, are associated with the city since they are mainly found there, one can see that they have somewhat been adopted by residents in these towns. Generally, people did not eat these items on a regular basis and it appeared that most people primarily ate the traditional fare of rice, beans and a protein. However, fruits and vegetables were being consumed also, and this seemed to largely depend on whether or not a household was producing them or whether there were friends or family that would share these items or sell them for a low price. Importantly, the people from San Gerardo did appear to eat a greater variety of foods more frequently. This could be because San Isidro and the main grocery stores are more accessible from San Gerardo, or perhaps because (as we will see in the coming chapter) the respondents in San Gerardo produced more for household consumption.

CHAPTER SIX - AVAILABILITY OF FOOD: MARKETS, VENDORS AND HOUSEHOLD PRODUCTION

In Santa María and San Gerardo, food was available for purchase at the local *pulperías* (convenience stores), from mobile food vendors, from local markets and occasionally from neighbors or friends. However, how much food a household would purchase depended on how much food they produced for household consumption. While many households told me that they bought 100% of the food they consumed, others explained that they bought up to 50% of what they ate and grew the other half. Yet even though there was food available locally, most people shopped for food in San Isidro because that was where one could get the best price and the most variety at any time of the year.

Markets in San Isidro

In San Isidro there were five places that were specifically mentioned for grocery shopping. The most common was the *Supermercado COOPEAGRI*, a grocery store owned by the canton's largest coffee cooperative. The second was *Maxi Pali*, somewhat of a discount grocery store. The third was the *Feria del Agricultor*, the farmer's market, however this was only open on Fridays, which may have been one of the reasons the only bus from Santa María travelled to town on Fridays. The fourth that was mentioned in San Isidro for shopping was the central market and the fifth was the *Cinco Menos*, another discount store.

COOPEAGRI is a local favorite since most people sell their coffee harvest to the cooperative and coffee farmers have an associate number, which they use when shopping there. At the end of each year, they receive a dividend on their purchases. *Maxi Pali* is seen as a cheaper grocery store in San Isidro, it is a bit smaller and has less frills; everything is still in cardboard boxes on the shelves and the produce section is much smaller. COOPEAGRI is bigger than *Maxi Pali* and has a lot more variety. When I compared some basic prices between the two grocery stores (e.g. beans, rice, fruit, vegetables and oil), I found that there was not a lot of difference in prices. Sometimes COOPEAGRI would have an item that was cheaper and sometimes *Maxi Pali* would have an item that was a bit cheaper but from what I could tell, the differences were

negligible. However, I got the impression that people perceived *Maxi Pali* as a discounted grocery store, even though this was not apparent from a basic price check.

As for the *Feria del agricultor*, the prices varied immensely between stalls. This farmer's market had at least 50 different stalls that sold mainly produce. Nevertheless, a few stalls also sold breads, jewelry, and other trinkets. Many producers sold the same fruits or vegetables yet the prices did not seem to be standardized. In fact, I was informally told that the market is no longer as beneficial to local producers of Pérez Zeledón as it used to be. This is because producers from Heredia bring down their products, which they sell for a lower price than local produce. Hence, local farmers can no longer get as good of a price as they used to for their agricultural goods since they are competing with farmers from Heredia. Nevertheless, this market did have better prices for produce than both *Maxi Pali* and COOPEAGRI so while it might not be good for producers; it was definitely good for consumers.

The Central Market is located in the centre of San Isidro, located next to the bus station. It is a relatively small, indoor market with various entrances and many stalls for selling fruit, vegetables, meat, fish, bulk nuts and candies. The market also includes a handful of restaurants and a couple of shoe stores.

Though *Cinco Menos* specializes in a variety of sundry items including backpacks and school supplies, it does sell some food items, such as beans, which are often less expensive than elsewhere. For example, Alma told me that she bought most of her groceries at COOPEAGRI but the one thing that she would buy from *Cinco Menos* was beans. She said that beans from COOPEAGRI were expensive so she would buy almost everything there and then walk up the hill to buy beans from *Cinco Menos*; "Yes so I go there (to *Cinco Menos*) and I buy beans, and from doing that, I save ... well with what I would spend in COOPEAGRI I could buy 5 kilos, but 5 kilos is not enough so I go and buy 15 kilos with what I would have bought 5 for, so it is a lot more" (Personal Interview #20, June 26, 2012).

Overall, there were numerous grocery stores in San Isidro and they always appeared to be well stocked. Furthermore, a conscientious shopper given enough time could move between different markets to get the best prices for particular goods. I was told many times that it was cheaper to shop in San Isidro than it was to shop locally.

However, one would need both time (1.5 hours one-way by bus and 45 minutes by car) and money (4\$ each way or vehicle maintenance and gas) to shop in the city.

Local Stores, Informal Food Vendors and Markets

There was one *pulperia* in Santa María and the two *pulperias* in San Gerardo. Generally, the *pulperias* would carry essentials such as rice, beans, sugar, flour, milk, eggs, meat and some fresh produce, among other things. Nevertheless, the availability of fresh fruits and vegetables in the *pulperias* was quite limited and would fluctuate depending on when the stores were stocked. These stores, however, also carried almost as much *comida chatarra* (junk food) as they did other foods; including but not limited to, chips, pop, candy, and ice-cream. Generally, food items in the local stores were more expensive than in San Isidro. Nevertheless, unlike Himmelgreen's study, which found that food sold in the tourist town was more expensive all year long, the prices of food in the local stores in San Gerardo and Santa María were very comparable. However, the stores in San Gerardo did carry a variety of goods that were geared towards tourists who were there to climb the mountain, such as granola bars and oatmeal. The local store in Santa María did not carry these types of items.

In Santa María and San Gerardo, two local informal businesses sold food door to door. The first was Antonio from Santa María. He would go to San Isidro once a week and load up his truck with fruits and vegetables, including things that were not commonly grown locally, such as pineapples, papayas, potatoes, apples, pears etc. He would then drive up and down all the streets of Santa María, San Gerardo and perhaps some other villages, selling fruits and vegetables. He would come on Fridays and many people seemed to depend on him as a convenient source of fresh fruit and vegetables. For example, one lady from Santa María told me that the last time she had eaten fruit was the past Saturday and that it was usually on Saturdays that she ate fruit. Later she explained to me that this was because Adrian came on Fridays. Eight out of the 20 people that I interviewed in both towns mentioned that they would commonly buy food items from him.

The other local, mobile business was a woman who would drive around on her ATV selling eggs. She was known as the *huevara* - the egg lady. She would drive throughout Santa María, San Gerardo and a nearby community of Los Angeles selling

her eggs to usual customers, as well as stopping anywhere she might be flagged down. Even though not everyone chose to buy eggs from her, all knew her. Every Wednesday you would see her driving up and down the roads of the three towns and she did appear to be quite successful.

Finally, another place to purchase food was through a relatively new, open-air farmers' market in San Gerardo. Called *La Feria del Union*, local producers would gather in the town centre after mass on Sundays to sell their products. From what I could gather though, there were few outside buyers. Instead, it seemed that producers would just buy from one another. So although money was transferred between producers, in one way it was almost like an exchange. Karla explained this to me by saying "what one has, one brings and I don't know... *arracache*, I bring it there and someone who doesn't have any, buys it from me and I buy from someone else, so it is nice" (Personal Interview #12, June 25, 2012). The impression that I got after talking to people was that those who would go to the Sunday market were primarily those who had something to sell. Then things would be bought, but mainly from one another amongst the producers and the prices were very reasonable.

Neighbors, Friends and Family Members

Another source for purchasing food was from neighbors, friends or family members. This was especially notable in San Gerardo. In San Gerardo, Manuela told me that from time to time she would buy cilantro or tomatoes from neighbors. Sara reiterated this idea; "yes sometimes, there is a neighbor who has tomatoes so when he has some, he sells them to me...but at a very low price [...] or if he has fresh beans or another vegetable" (Personal Interview #13, June 21, 2012). If a neighbor might have a surplus of something that they are not going to bring down to the market in San Isidro to sell, they would be apt to sell what they could not consume in order to avoid wasting. Furthermore, as Sara mentioned, food bought from family members or even neighbors is often at a very low price. And while sometimes food may be sold, other times it would just be given. Reciprocity and food giving was also quite common and will be discussed in the following chapter.

Whether extra food was sold or given seemed to depend on the item. Things like plantains, bananas or chayotes are so common; they are more likely to be given as gifts.

Foods that were sold by neighbors or family members were items such as tomatoes, green beans, lettuce, peppers, *arracache*, meat, milk and eggs, all of which can get a good price in market. Interestingly, the selling of almost all of these foods amongst neighbors and family members was brought up in San Gerardo. Most of the respondents from Santa María stated that they did not buy food from neighbors. This might be because San Gerardo is a bit of a bigger town and there are more people growing food, both for household consumption as well as for profit. For example, San Gerardo had numerous tomato farmers while Santa María did not, showing that San Gerardo may also be more into the business of growing garden produce commercially and using greenhouses.^{xi}

Household Food Production

Availability of food at a household level (table 4) varied between houses as well as between towns. Nevertheless, it appears that over half of the entire sample of 20 households (60%) produced at least 9 items for household consumption.

Table 4 - Foods Produced for Sale and Consumption per Household ^{xii}

Santa María			San Gerardo		
Interview # - Main Income	Produced for Consumption (total # of items)	Produced for Sale	Interview# - Main Income	Produced for Consumption (total # of items)	Produced for Sale
#1 - Day Laborer	N/A	N/A	#11 - Teacher	Cilantro (1)	N/A
#2 - Day Laborer	A few eggs (1)	N/A	#16 - Business Owner	Bananas, oranges (2)	N/A
#4 - Teacher	Bananas (1)	N/A	#13 - Porter	Cabbage, radish, eggs (3)	N/A
#5- Day Laborer	Hot Peppers (1)	N/A	# 18 - Salary	Corn, cilantro, beans, peppers, plantains, bananas, mandarins, zucchini (9)	Coffee
#6 - Day Laborer	Cilantro, Bananas, Chayote (3)	N/A	#17 - Salary	Avocado, beans, peppers, corn, <i>papa maiz</i> ^{xiii} , plantains,	Coffee

				bananas, chayotes, yucca, mandarins, zucchini (12)	
#10 - Farmer	Corn, beans, green beans, lettuce, chayote, mandarins, oranges, plantains, bananas, radish (11)	Coffee, Corn, Beans	#15 - Farmer	Chayote, corn, beans, milk, plantains, bananas, cilantro, onion, cucumber, chicken, lettuce, zucchini, water apples, (13)	Cilantro, Corn, Beans
#9 - Pension	Cabbage, lettuce, celery, cilantro, oregano, eggs, chicken, carrots, beets, beans, corn, papaya (12)	Coffee	#19 - Business owner	<i>Cubaces</i> ^{xiv} , fresh beans, dry beans, chayote, potatoes, plantains, bananas, milk, corn, zucchini, mandarins, oranges, lemons, guavas (14)	Beans, Milk, Potatoes
#8 - Farmer	Tomatoes, plantains, bananas, oranges, chayote, beans, corn, cilantro, celery, cabbage, green onions, peppers, milk (14)	Coffee, Peppers, Tomatoes	#14 - Farmer	Beans, plantains, bananas, tomatoes, peppers, zucchini, chayotes, corn, avocado, lemons, mandarins, rosemary, mint, water apples, guavas (16)	Tomatoes, Peppers, Avocados
#7 - Farmer	Onion, oranges, beans, broccoli, cilantro, lettuce, celery, plantain, bananas, <i>arracache</i> ^{xv} , chayote, <i>cubaces</i> , corn, eggs, green peppers (15)	Coffee	#12 - Porter	Plantains, zucchini, cilantro, yucca, black beans, red beans, <i>cubaces</i> , lettuce, radish, corn, <i>tacos</i> ^{xvi} , <i>beros</i> ^{xvii} , chayotes, <i>arracache</i> ,	<i>Cubaces</i> , Beans, <i>Arracache</i>

				oranges, mandarins, bananas (17)	
#3 - Farmer	Avocado, yucca, fresh and dried beans, green beans, garlic, peppers, hot peppers, carrots, broccoli, zucchini, chayote, yams, beets, <i>papa maiz</i> , potatoes, lettuce, cilantro, plantains (3 varieties), eggs, lemons, oranges, mandarins, rosemary, corn (2 varieties), coffee (30)	Coffee, Avocado, Oranges, <i>Picadillos</i> , Eggs	#20 - Pension	Mangos, coffee, beans, yucca, chayotes, cilantro, corn, avocados, zucchini, onions, garlic, oranges, lemons, jocotes ^{xviii} , plantains, bananas, cubaces, café, frijoles, yuca, chayotes (21)	Coffee, Beans

Author's Interview Data 2012 – Follow-up Interviews

Numerous people grew food for household consumption in addition to buying food from local markets or grocery stores. As seen in Table 4, production of food for subsistence varied from growing nothing for household consumption up to almost 30 different food items. When comparing the samples from the two towns, it is interesting to see that 50% of households in Santa María and 70% of households in San Gerardo grew over eight items for consumption. This is another indication of how both towns are comparable in agriculture. Nevertheless, this does come as a bit of a surprise given that, as mentioned above, only four houses in San Gerardo had more than one hectare of land while it was six houses in Santa María. A lot of land was not always necessary to grow a few vegetables and fruits. For example, Camila from Santa Maria who is 70 years old and has been married to her husband for 55 years had just a small plot of land (the lot the house was on and another lot adjacent to this) yet they grew quite a few items for consumption. He had a makeshift greenhouse, which was a thick piece of

plastic, approximately five feet squared, and propped up by four large sticks. She was quite proud of the fact that they produced such a large quantity of food; “if everyone planted food like my husband, they wouldn’t have to buy anything” (Personal Interview #9, May 29, 2012). Overall, what this comes down to is the fact that one does not need a lot of land to grow some fruits and vegetables for household consumption.

Furthermore, some people did not own land but they might use a small portion of a family member’s land to grow a bit of food for their household.

Another notable observation is that all of the households that produced at least nine food items for consumption also produced at least one item for income. In Santa María, it was everyone who produced coffee that also produced a good number of food items for household consumption. In San Gerardo, those who produced a good number of foods for consumption also produced other items for sale, including coffee, beans, tomatoes, milk, *arracache*, peppers, potatoes and avocados. In contrast, the households who did not produce anything for income, produced very little for consumption. This does not seem surprising given that those who are already farming for a livelihood would be more likely to plant additional items for consumption. What one produces may relate to the livelihoods of the household. For example, of the five households in Santa María that were not producing very much for consumption, four of them gained their primary income as agricultural day laborers. Agricultural day laborers are usually landless and so they would not have as much space to grow food for either consumption or income. Yet as seen above, a lot of land is not always necessary for growing food so it could also be a factor of not having the time, the money for inputs or the knowledge to grow food successfully for the household. In San Gerardo, there were no agricultural day laborers, but there were two households whose primary income came from work as porters. While both of these households did not own a significant amount of land, one produced much more simply because they had family who would lend them land for growing food. Therefore, having land was important to some extent in regards to producing food. Yet those with salary incomes or with businesses fell into either category: as a household that produces a lot or very little for consumption. This is because some households only depended on their steady salary income or business

profits, while others also farmed in order to receive a more diversified livelihood portfolio. In terms of age there did not appear to be any clear pattern.

When looking at the items that were grown overall, the most common things are: corn (60%), beans (60%), bananas (60%), plantains (55%) and chayotes (55%). A study done by Mendez et al. examined how agrobiodiversity contributed to the livelihoods of households in Central America over a ten-year period (Mendez, Bacon, Olson, Morris and Shatuck 2010b). The authors focused on Nicaragua and El Salvador and looked at only coffee farming households; however, some of their results are pertinent to this study. For example, Mendez et al. outline the most common plant species that the households in their study sample were managing (2010b 366). These included a variety of trees (many used for firewood and none of which showed up in my sample) as well as numerous food items: corn (87%), beans (84%), *musa spp.* - any variety of banana or plantain (10%), cacao (5%), chayote (4%) and *maracuya* or passion fruit (4%) (Mendez et al. 2010b:366). The five most commonly grown foods in my study all show up in the most commonly grown plants amongst coffee farmers in the study done by Mendez et al. (while I classified bananas and plantains as two separate food items, they classified them as one type of plant). This is not necessarily surprising but it does validate the information that was provided to me. It also shows that these crops are some of the primary food crops grown for consumption within the rural areas of Central America and especially in coffee farming regions. Mendez et al. looked at the entire range of agrobiodiversity within their study samples, which included medicinal and ornamental plants as well as trees used for timber or firewood and found that this contributed significantly to household livelihoods. Since I only collected data on food grown for consumption, I did not get a full picture of the agrobiodiversity of my sample households but I would suspect that there would be some additional similarities between Santa María/ San Gerardo and the study sites in Nicaragua and El Salvador.

In both Santa María and San Gerardo, many people had a banana or plantain tree planted in their back yard, even if they did not have a lot of land. Beans were very commonly produced as well, given that they grow very well in the cool climate of the mountains. In regards to beans, many people would grow enough to last them the

entire year, and whatever was surplus would be sold. Alma explained to me that they had almost 400 kilograms of beans that they would have to pick the following week. She also said that they would pick the beans fresh, before they dried, because they would get a better price for them. It was explained to me many times that fresh beans are preferred over dried beans. Fresh beans are picked before the beans have had time to dry up while dried beans are picked after the bean pods have dried up on the vine. In Spanish, fresh beans are called *frijoles verdes* (green beans – although it is not the same as a green bean in English, *vainica* in Spanish) or *frijoles tiernos* (tender beans). After having sold the fresh beans, Alma said that they would buy the dried beans that they needed; “they (fresh beans) are to be taken to the market because we won’t use all the fresh beans so it is better to sell them fresh and then buy dry ones later” (Personal Interview #20, June 26, 2012). For this household, they thought it was better to sell the beans fresh, make a good profit and then use some of that money to buy the dried beans that they would need for daily consumption. As you may recall, this is the same woman who buys everything at COOPEAGRI except beans so that she could get more for less at the discounted *Cinco Menos* up the road. It is clear that she had a particular system for obtaining beans and it interesting to note that even though they grew 400 kilograms of beans, it was more profitable to sell those beans fresh for a good price and then buy the dried beans at a lower price in town. This however, was not the norm since most people who grew beans seemed to grow enough beans to feed themselves for the entire year and then whatever was surplus would be sold.

Although it is not representative in my sample, San Gerardo is known for growing tomatoes on a commercial scale. This is because the cool climate is good for growing tomatoes. Vanessa from Santa María told me that the tomato in colder zones is very delicious: “well here (in Santa María) we don’t grow that many. In San Gerardo, many people produce tomatoes but yes it is of a very good quality. Because the tomato from colder zones is firm, very, very, very firm on the inside and very good, it is more delicious” (Personal Interview #5, May 30, 2012). At least three other people in San Gerardo mentioned that tomatoes were commonly grown in town and one sample household made their living primarily from selling tomatoes. When walking through San Gerardo, you can see tomato fields on the sides of some of the mountains. There are

rows of tomato plants that are often protected from the weather by sheets of thick plastic propped up by makeshift wooden frames.

Valentina's husband who sat in on the interview told me that growing tomatoes, peppers and beans has always been common in San Gerardo; "they have always been here. What is very, very new is lettuce, and also broccoli, and there are many other new vegetables but the tomato, the pepper and the bean have been here for all my life, in this zone." Those who produced tomatoes often seemed to produce peppers as well and almost everyone who produced food for consumption grew beans.

Broccoli did not show up in my sample as a food that was being produced in either town, even though Valentina's husband said it was being produced more now. During the food frequency questionnaire, when I asked Karla when was the last time that she had broccoli she replied that it had been a month and that it was hard to obtain in San Gerardo. She said that broccoli "is an item that doesn't grow here, you have to buy it at the farmers market so it is more difficult to obtain" (Personal Interview #12, June 25, 2012). This affected how often she would eat it, especially since she primarily shopped in San Gerardo and it was not usually for sale in the *pulperia* either.

The types of foods that were grown in these towns varied from year to year and season-to-season. Isabella, who grew many fruits and vegetables for consumption, explained that what her household grew and how much, would vary: "we have always planted a lot, some years we have more and some years we have less. For example, last year there were lots of gourds and this year there isn't" (Personal Interview #3, June 1, 2012). Alma also mentioned that while her avocado tree had only given her seven avocados this year, last year it had produced about 3000 avocados and the year before even more. Nevertheless, she also said that it would flower again in August and maybe then they would get more. Many factors could play into why something would grow better one year than another but an obvious reason would be the weather: "it depends on the weather, if it rains, you plant, if it rains a lot, it burns and doesn't produce very much. But when you plant and it is like summer (dry season), like it is now, it grows very well (Personal Interview #12, June 25, 2012)." Vanessa from Santa María also commented on the weather, explaining that it is more difficult and more expensive to grow food now than it used to be. She stated that because the weather is always

changing and unpredictable, this can often make it hard to grow food. She explained that on top of that it costs a lot for the inputs that are needed, such as fertilizers.

Sara, in San Gerardo said she felt that people used to grow more food and now they do not because of the costs associated with it; “what can I tell you? I would like people to plant more, cultivate more. The problem is that now seeds... you have to buy everything, before there was more that you could get for nothing, and now you have to buy seeds and things to maintain it and all that” (Personal Interview #13, June 21, 2012). She went on to say that her son would like to grow more vegetables in their front yard but he would need seeds and plastic so that he could make a small greenhouse but it costs a lot. Various people mentioned that it is hard to grow food these days and that you need money to be able to obtain all the inputs that are necessary. Importantly, in a recent study on seasonal food insecurity and coffee farmers, the authors identify the cost of farm inputs as one of the challenges for achieving food security since the high price of chemical inputs made it difficult to produce food (Morris et al. 2013:468). This demonstrates that this is an issue that farmers are facing elsewhere, particularly in coffee farming regions, and that lack of money for inputs may contribute to food insecurity.

Another issue that was mentioned as a constraint for growing food was lack of land. The most commonly cited reason for not having a garden or a greenhouse was lack of space. Nevertheless, as we have seen, a lot can be done with a small bit of land. Yet, it also takes a lot of work to grow food successfully. One must invest, at least at first and not everybody has the resources, abilities, time or space to grow food either for consumption or income.

CHAPTER SEVEN - ACCESS TO FOOD: TRANSPORTATION, FOOD EXPENDITURES AND SOCIAL TRANSFERS

Transportation

As discussed previously, most people in both towns usually did the majority of their shopping in San Isidro or at least their larger shopping trips. However, this was more common in San Gerardo than it was in Santa María.

Table 5 – Shopping Tendencies

	San Isidro	Local <i>Pulperias</i>		
		<i>Comemaiz</i> ^{xix} (Santa María)	<i>Las nubes</i> ^{xx} (San Gerardo)	<i>De arieros</i> (San Gerardo)
Santa María (N=10)	6	3	1	
San Gerardo (N = 10)	8		1	1

Author's Interview Data, 2012 – Follow-up Interviews

In Santa María, 60% of respondents said they did the majority of their shopping in San Isidro, while 40% shopped in local stores. In San Gerardo 80% of respondents did the majority of their shopping in San Isidro and 20% shopped locally. This is not surprising given that San Gerardo has a bus that goes to San Isidro three times a day and returns three times a day. Therefore, better public transport means the city centre is much more accessible for the people of San Gerardo. In contrast, Santa María only has one weekly bus to and from San Isidro and on Fridays, leaving at 7am and returning at 3pm. In both cases, the bus takes approximately one and a half hours and costs approximately four\$ CAN each way. Hence a trip to San Isidro is rather time consuming and costly. People from Santa María also walk down to a nearby town to catch the bus that leaves from there to San Isidro. If they are lucky, they might get a ride from a passing car and if they are really lucky it will be on the way back, when they have to climb the 160-meter difference between the two towns, often with numerous shopping bags. All in all, this goes far in explaining why fewer people from Santa María do the majority of their shopping in San Isidro. The city is much more accessible for those who live in San Gerardo.

Nevertheless, busing was not the only way in which people would travel to town. Many people would go by car, usually by the car in their household but sometimes in the car of a nearby family member.

Table 6 - Method of Transport for Travelling to San Isidro

Town	Bus	Car	Bus or Car	Did not go
Santa María (N=10)	3	3	2	2
San Gerardo (N=10)	3	5	1	1

Author's Interview Data 2012 – Follow-up Interviews

It should be noted that although four households in Santa María did *most* of their shopping locally, at least two of those households still traveled to San Isidro occasionally, either to shop or to run errands. While San Gerardo had better bus access, these households actually seemed more apt to go by car. As we saw above, six of the households in San Gerardo had cars and seven of the households in Santa María had cars. Therefore, although more households in Santa María had cars, fewer people were apt to use them even though they had less bus access.

Those who do not own cars use various means to get to San Isidro. For example, Camila, 70 years old who lives in Santa María, told me that she would either take the bus from a nearby town or the bus from Santa María or give a little money for gas to someone who might be going down anyways. She said that sometimes she would just wait on the side of the road until someone was passing by and then ask if they would give her a ride down to San Gerardo, or if they were going to San Isidro whether they might let her tag along for a small fee. In any event, taking the bus or a car were the two primary modes of transportation for those wanting to shop in San Isidro. Yet bus access varied between towns and more people from San Gerardo shopped in the city compared to Santa María.

Approximate Amount Spent on Food Per Month

The average amount of money spent on groceries per person per month was about \$71.21 CAN.^{xxi} This is an approximation and aims to give a basic idea of how much people might be spending on food. There were clearly some limitations in this data. The question that I asked during the interviews was “How much money do you spend on food for household consumption in one month?” Naturally, some people had a

hard time working out how much that might be, while others knew exactly how much they spent since it was always the same. Those who had a pension or a salary income knew quite quickly how much it was. Others just estimated the best they could. Additionally, while some people tried to take into account all the little things that they might buy from neighbors and local stores, it is not clear that all did so. Another limitation in these numbers is that even though I asked specifically about food and household consumption, it became clear that people could not really separate other items, such as laundry detergent, toilet paper or dish soap etc. from their overall food spending. Therefore, it is probable that in most cases these other items were included in expenditure estimates. Nevertheless and with these limitations in mind, it can give us a picture of the amount spent on food or groceries per month in each town as well as a comparison between households.

Since the sample households had anywhere from one to seven people living in them, I calculated average spending per person instead of per household. In calculating average household food expenditure per person, I did not count children three years old and under and I gave children between the ages of three and 14 a value of .5. Everyone 15 and over got a value of 1. In this way, those that were 15 and over were considered adults and those between the ages of 3 and 14 were considered half an adult. Using these numbers, I calculated the equivalent of how many adult consumers were in each household. I then divided the overall amount of money spent on food in that household by the number of “adult consumer equivalents” in order to get an idea of how much money per person was being spent on food.

Table 7 - Approximate Food Expenditures Per Person Per Household

Santa María			San Gerardo		
Household #	\$ per person spent on food in 1 month ^{xxii}	# of adult equivalents	Household #	\$ per person spent on food in a month	# of adult equivalents
Graciela – 1	\$59.4	2	Vanessa – 11	\$64.3	2
Sofia – 2	\$112.8	3.5	Karla – 12	\$35.6	2.5
Isabella – 3	\$65.3	3	Sara – 13	\$45.3	3.5
Alejandra – 4	\$68.9	2.5	Valentina – 14	\$61.6	3.5

Daniela – 5	\$108.9	1	Antonia – 15	\$59.8	4
Yazmin – 6	\$33.1	3	Lucia – 16	\$79.2	2
Ximena – 7	\$65.9	4.5	Laura– 17	\$61	6.5
Martina – 8	\$33.1	6	Juliana – 18	\$110.1	4.5
Camila – 9	\$79.2 (includes electricity and telephone)	2	Manuela – 19	\$92.4	3
Juan Carlos - 10	\$138.6	1	Alma - 20	\$50.9	4
Total	\$765.2		Total	\$660.2	
Average per person	\$76.52		Average per person	\$66.02	

Author's Interview Data – 2012 – Follow-up Interviews

As seen in Table 7, Santa María had a slightly higher average than San Gerardo did. There are a couple reasons why this might be the case. First of all household #5 and household #10 only had 1 person in each of them. Since all the basics have to be bought at a minimum quantity, these numbers may be higher than they otherwise would be if there were more people in the house. The other reason why the average is higher is because of household #2.

Household # 2 is home to an indigenous woman, aged 28, who is married and has four children between the ages of one and nine. This was one of the poorest households in Santa María. The house itself was somewhat makeshift; made of pieces of wood and metal. The floors were rough concrete and they had no electricity, therefore there was no fridge or lights. There was a bed in one room and a tent in another. The land that the house was on was not their own and had originally been lent to her sister-in-law, who now lived down the street. She told me that she had been in Santa María for four years, having moved from an indigenous village just over the mountains. After having explained the study in the preliminary interviews, I handed her the information sheet and she said that she could not read it but her husband could. Her husband worked as a day laborer, doing what she called *champeando*. This is a Costa Rican saying, which pretty much means 'cutting grass with a machete.' Overall, both interviews with Sofia were a bit strained. She seemed uncomfortable by the

questions, many of which she just did not answer. Nevertheless, after the first interview she was quite clear that she wanted me to come back. When I asked her how much she spent per month on food in her household, she said 100,000 *colones* (approximately \$200 CAN) every two weeks. There were only two other households that spent that much per month on food and they were both households that had steady salaries as well as income from agriculture. In this way, it seemed a bit unlikely that Sofia could be spending that much on food per month, let alone making that much from her husband's *champeando*. In any case, while her estimation may be high and not necessarily representative, I have kept it in the overall analysis because that is what she told me.

When examining this table it is also possible to look at the *Canasta Basica de Alimentos* or the market basket of foods. This is used to calculate the monthly per capita cost of a basic basket of foods in Costa Rica (Ministerio de Planificación Nacional y Política Económica (MIDEPLAN) 2012). The market basket was at \$37,087 *colones* per person in rural areas in June 2012, (\$75.50 CAN^{xxiii}) (MIDEPLAN 2012). This basket varies between rural and urban areas, however the rural basket includes 44 food items such as milk, cheese, beef, chicken, beans, vegetables, fruit, tubers, sugar and drinks. This amount is very close to the average estimate that I calculated, meaning that despite discrepancies they were likely somewhat accurate since they are on average so close to the market basket of foods. Yet, as Table 7 shows, there was a huge variation in how much would be spent per person, ranging from approximately \$33 to \$140. This is one of the general issues with averages, since they do not give you an idea of the highest and lowest amounts. The averages in both towns however were pretty similar and seemed to hover around the \$70 mark.

Another thing that this does not take into account is how much food certain households were producing. Some households produced a large portion of what they ate, thus reducing the amount of food a household needed to purchase. Nevertheless, some of the households with the lowest per person expenditures actually produced very little, while others produced a lot.

The two lowest household expenditures in Santa María were in Yazmin and Martina's households. Both of these households depended on agriculture for their main

source of income, with Yazmin's husband working as an agricultural day laborer and Martina's household producing coffee and tomatoes for income. Interestingly, Yazmin's household produced very little for consumption while Martina's household produced a good number of items. This could be due to differences in land ownership since Yazmin only had the lot of land her house was on but either way producing more food for consumption did not seem to be related to how much was spent on food per person. Nevertheless, these two households spent under half as much of the estimated monthly basket of food goods for rural areas.

The two lowest household expenditures in San Gerardo were in Karla and Sara's households. Both of these households received their main income from their husband's work as porters. While Karla produced a number of food items for consumption, Sara's household did not have the space or the money to invest in growing food. Yet in this case, Sara did spend a bit more on food than Karla and this may have been due to the fact that Karla's household was able to produce some extra food. Nevertheless, it is interesting that the four households that spent the least on food all depended on unstable/seasonal incomes such as porters and farmers or farm day laborers.

Informal Modes of Exchange

Within Santa María and San Gerardo, there were different ways in which people obtained food other than through buying from grocery stores, the *pulperias*, mobile vendors or markets. This included generalized reciprocity and balanced reciprocity (although less so) as well as food given as a gift and food traded. The lines between each of these mechanisms are slightly blurred.

Reciprocity is a type of informal exchange that goes back and forth between two or more individuals, it could be of any type of good or service but in this case we are looking specifically at food. Generalized reciprocity is when: "goods are given without any particular calculation of the value of the goods or any particular expectation for a "return" of equal value in any particular time frame" (Eller 2009:169). The idea is that a person shares when they have something to share and the other person does as well, nothing is expected in return immediately, yet it is almost a matter of politeness and expected to return something to 'the giver' in the long run. Usually the two people would have a long-term relationship based on trust and it would be understood, maybe

even unknowingly that it would all even out in the end, at least in a general way (Eller 2009). There is no debt that is owed and the giver is not necessarily expecting something back but it is known that it is a back and forth relationship and the other person would do the same for you.

Balanced reciprocity is when “goods are given with calculation of their value and some expectation of an equal return within some reasonable time” (Eller 2009:169). Balanced reciprocity is also a long-term cultural phenomenon, but it is usually between people who have a more distant relationship (ibid.). It is more of a calculated exchange of goods, with each person being aware of an equal payment to be forthcoming. This would be more like a trade, however what would be returned would not necessarily be verbalized; yet it would be expected.

In Santa María and San Gerardo, there were many informal mechanisms for trading or giving food. Generalized reciprocity seemed to be the most common. For example, one woman explained it to me is this way: “if I have chayotes and my neighbor doesn’t then I give her some and if she has plantains and I don’t have any then she gives me some” (Personal Interview #12, June 25, 2012). There was an implication in this statement that when one person has something to give they will give it, not necessarily expecting anything in return but knowing that if the other person had something to give, they would return the favor. Others explained it in the same way: “if I plant something and another person does as well, I can share what I have and the other person can share with me as well, like a chayote, a pepper, cilantro, tomatoes, plantains, *guineos*, bananas, those items more than anything else” (Personal Interview #13, June 21, 2012). Since this was not entirely clear whether it was a trade or something more informal, I suggested that she meant a type of loan and she elaborated by saying:

No, no, it’s sharing, perhaps they have a lot... a large branch of plantains so they cut a bit for the mother, a bit for the sister, and that’s how they share, last Christmas we grew a big, big pig and then when we slaughtered it for consumption we distributed it among the family (Personal Interview #13, June 21, 2012)

As in the case with generalized reciprocity, goods are given without worrying about any return or how much it might be worth, but knowing that this type of exchange is the norm.

In some cases, it was not explicitly mentioned that there was a return. However, it would seem quite reasonable to assume that there would be a return in some way. For example, one woman from Santa María mentioned that her stepparents grew some vegetables and legumes that they would occasionally share, but just a little and for household consumption. This woman however did not really grow anything on her property so there was no way she was returning the favor in the same way. Nevertheless, the stepparents were older and her husband would buy all of their groceries together, going into town and picking them up for his own household as well as his parents. In this way, while the parents might share some food, the son most definitely took care of them as well.

As for balanced reciprocity, there was only one case where it seemed that the transaction was more of a calculated long-term trade, but still not necessarily an up-front exchange. This information was contributed during an interview where the husband happened to join in on the conversation and all the kids were around also. I had asked him whether they happened to obtain food through exchanges and he explained that sometimes it was a trade but it was often more of a loan: “sometimes a neighbor takes, what do I know? Some small thing ... rice or something like that. Sometimes it is an exchange, sometimes it’s a loan, but the more common is that you do like a loan. For example, we lend him something and when he has something, he lends it to us. But sometimes it is an exchange.” This man used the word *prestar*, which means ‘to lend’, and implies that there is an expected return of some sort. Many of the other interviewees would say *regalar*, which means ‘to give as a present’. That in its self indicates the different ways in which people may perceive a food-sharing situation.

From the perspective of this individual, the transaction was more of a balanced reciprocity situation, given that the idea of a loan in this case was with an expectation of a return, in a reasonable amount of time and there was most likely some calculation of the amount of the good. When he explained this, he gave the example of rice. In this area of Costa Rica, rice is not something that is produced it is something that is bought.

This is because in the mountains where it is cooler, the climate is not good for growing rice. In most other cases, when people are speaking about giving food as a gift of some sort, it is items that they produce themselves. As in the example of a branch of plantains, plantains produce a lot at one time, typically more than a household can consume before they begin to go bad. Thus, it is not surprising that it is something that one would share. Yet when we are talking about an item that is bought (and storable), like rice, there is automatically a money value associated with it. It is a loan, which is similar to balanced reciprocity since both entail an exchange over a longer period, with some calculation of the good and an expectation that it will be returned in an appropriate amount of time. The difference being that a loan is usually more formal and the stipulations are identified at the beginning of the agreement.

A more formal, or actual exchange was mentioned in one case. This interviewee from Santa María happened to sell eggs. She mentioned that she would trade with a neighbor. He would give her green beans; cabbage or lentils and she would give him eggs. She said that it was an exchange and it seemed like a situation where they would trade on the spot, it would not be long term, and there would be no future expectation of any sort. It was simply a classic barter exchange of goods, which allowed both individuals to have a greater variety of foods. While I feel that among those who produced many things this was probably more common, this was one of the only times where it was explicitly described as an exchange. The other time was in San Gerardo where a woman said that from time to time she would also exchange with her neighbor.

As noted above, the other way in which food changed hands in these two villages was by purchasing food. However, when one might buy food and when one might receive food as a gift was not always clear. For example, one lady told me that her mother-in-law had milk cows and when she produced cheese, she would send some over. Yet later in the interview she told me that she would buy cheese, milk and *natilla* from her mother-in-law. And this same lady explained that her mother-in-law would give her chayotes. Since many people seem to have chayote bushes, it would not necessarily be something that you would sell. In contrast, the milk and cheese was a part of the mother-in-law's livelihood so it would not be so surprising that even family would pay for it sometimes. In this way, sometimes these interactions were not always

consistent. One woman from Santa María said “sometimes my brother plants cabbage so sometimes we buy it from him and sometimes he gives it to us” (Personal Interview #5, May 30, 2012). One thing that these two women had in common was that they both had very small lots where they grew almost nothing; cilantro in one case and peppers in the other

In any event, even if one were to be purchasing food from a friend, neighbor or family member, it is likely that it would not cost very much. One woman said exactly this: “people do buy food here really cheap, that is if a neighbor doesn’t just give it to you anyways” (Personal Interview #19, June 26, 2012).

Overall, the most common mechanism of obtaining food through non-monetary means within both towns seems to be generalized reciprocity, with some balanced reciprocity occurring as well. In the same way, occasionally food was just given as a gift and whether or not there was something expected in return was not always clear. In contrast, there were also times when it was a clear trade between two producers, which may occur more when they are goods that have more profitability. Similarly, food was often sold among friends and family but most likely at a very low price. No matter which way the food was obtained, there were local, informal networks within each of the villages that provided people with food and it appeared that giving food to one another was the norm.

CHAPTER EIGHT - LIVELIHOODS, SEASONALITY AND CONSUMPTION STABILITY

Issues of seasonal availability as well as access came up repeatedly in the data. Not surprisingly, the availability of seasonal foods has a very significant impact on consumption patterns. Access on the other hand also has an important impact on what people can or cannot eat. This is closely tied to money and therefore also to crop prices and/or the availability of work. Seasonal employment as well as issues of obtaining sufficient work affect the amount of money that people have which in turns affects what can be bought and the food that is consumed within a household. As we will see throughout this chapter these are two of the primary issues negatively affecting consumption patterns and they are closely interrelated; access to food (stability of work and income) and seasonal availability of food (for household consumption as well as for income).

Livelihoods, Seasonality of Incomes, and Food Worries

While I cannot make any definite conclusions on the level of food insecurity in these two villages, the overall results of the study indicate that there are certain times of the year that are more difficult than others due to seasonal incomes and/or the seasonality of food production. Yet, these results are significant since using simple qualitative measures did point to certain trends about food insecurity in these two villages. As seen in Table 8, 50% of all respondents in Santa María and 40% of those in San Gerardo indicated that they had worried about not having enough food in the last year. Not surprisingly, food worries are closely linked to income and livelihoods. Many of those who responded affirmatively mentioned the seasonality of agriculture or tourism and the instability of an erratic income.

Table 8 - Reported Food Worries of Respondents by Village and Principle Household Income

Town	Santa María	San Gerardo
	Principal Occupation/Income	Principal Occupation/Income
YES – worried in the last year	Day laborer	Porter
	Day laborer	Porter/Farmer
	Farmer (coffee)	Share Cropper
	Farmer (coffee, tomatoes)	Farmer (tomatoes, peppers)
	Farmer (coffee)	

NO – did not worry in the last year	Salary Income	Salary Income
	Pension	Salary Income
	Unknown	Salary Income
	Day laborer	Business Owner
	Farmer	Business Owner
		Pension

Author's Interview Data, 2012

Two important issues come forward in this table. The first is that, in regards to worrying about food, there is a clear division between types of livelihoods (stable vs. unstable incomes) and second, there are a couple of exceptions to this rule.

In general, those who did not worry about having enough food in their household are predominantly those who have a steady income such as a salary, profit from a business or a pension. Alma explained that she did not worry because she had been receiving her pension for the past two years and her two adult sons that still lived with her would contribute groceries to the house. Laura explained that when her kids were younger she and her husband were working various jobs, doing whatever they could to earn a living. However, since Cloud Bridge^{xxiv} had opened up and her husband had gotten salaried work there, they had not had to worry because he now had a steady employment. Juliana also made an interesting comparison when she stated that, unlike her husband who had a steady income; it is more difficult for those who work as day laborers: “yes, there are weeks when he (the hypothetical day laborer) does not have anything. But since I have been married, my husband has always had work and we have never been without food” (Personal Interview #18, June 23, 2012). Unlike Juliana and her husband, day laborers do not necessarily know when the next payday will come or when they may be able to purchase more food. It could be a constant uncertainty and would definitely lead to anxiety about having a sufficient quantity and variety of food. As seen with these three women, the primary reason why they did not worry about having enough food is that they did not have to worry about money (access). They knew this was the case and they were thankful for it. In this way, they also knew that it is harder for those who are without these stable incomes.

The fact that steady incomes lead to more stable consumption patterns is not surprising. For example, Leatherman and Goodman note that this type of trend was similar in the Yucatan where they were studying the impact of tourism on local villages: “adequate cash flows provide households with real access to markets, from which they can buy a diversity of better quality food at less expense and in greater bulk” (2005:835). This was similar to the situation in San Gerardo and Santa María since most foods were available at the grocery stores in San Isidro; however, many imported items were much more expensive and would almost be considered luxury goods. If one had a stable income, they would be more apt to purchase these items since they would know the next paycheck would be around the corner. Similarly, Leatherman and Goodman explain that a stable income also helps to compensate for seasonal availability of certain foods (ibid.)

Those who expressed food worries appear to be those with the more erratic or unstable incomes such as farmers, agricultural day laborers and porters. For example, farmers who produce and sell their products depend on weather conditions and good market prices to gain a sufficient income. As we will see in the following sections, coffee farmers and those who gain work from the coffee harvest, have to depend on the seasonality of the crop given that coffee is harvested from October to March. The rest of the year is spent tending to the crops; therefore, unless the household has an additional income, it may be hard to live off the money from coffee for the whole year. A porter’s livelihood also depends on seasons given that they only have work when visitors are climbing the mountain. While climbers can ascend the mountain any time of the year it is busiest during the dry season and the park is closed for half of May and all of October. As for those who are agricultural day laborers, their work can be even more unstable since they do not have their own land to farm and only receive a small daily income for working on someone else’s land. Overall, this is an issue of access; if people do not have consistent work, and hence enough money to buy the foods that they need or want, then they do not have steady access.

As mentioned above, it can be difficult for a day laborer that does not have a steady and secure income. This difficulty is also due to the fact that a day laborer does not get paid very well. Sofia, the wife of a day laborer, expressed concern about the

amount of money that can be earned from day labor as well as the amount of work that was available. She stated “they don’t pay very well; it is very, very little. Barely enough for a small bag of rice...” (Personal Interview #2, May 30, 2012). Sofia also explained that sometimes her husband works all the time and then she can buy food, but if there is not work then she cannot buy food. It was not a matter of a specific time during the year that was hard for Sofia and her four kids, it seemed to be more of a persistent worry as they did not necessarily know from day to day where the next bit of money or food would be coming from. As one of the only two indigenous families in Santa María, Sofia’s household was visibly poorer than anyone else. During my other interviews and the discussion on food insecurity in general in Santa María, at least two other interviewees pointed to Sofia’s household as one that they would expect to worry about not having enough food. Nevertheless, this did seem to be more of an anomaly than the general rule.

While food worries do seem to be clearly correlated with type of livelihood, there were two households that do not appear to fit this pattern. A farmer and a day laborer (typically insecure forms of livelihood) both indicated that they did not have food worries. This particular farming household owned nine hectares of land and had a very diversified portfolio of goods that they produced. For example, while they farmed coffee, they also had 300 egg-laying hens and therefore sold eggs all year long. In addition to this, they sold avocados, oranges, prepared and packaged *picadillos* and cypress wood. While their income was diversified by the variety of goods that they sold, they also produced a large quantity of food items for household consumption including but (probably not limited to): yucca, fresh and dried beans, green beans, garlic, peppers, hot peppers, carrots, broccoli, zucchini, chayote, yams, beets, *papa maiz*, potatoes, lettuce, cilantro, plantains (3 varieties), eggs, lemons, oranges, mandarins, rosemary, corn (2 varieties) and coffee. The fact that this household produced so many different food items for household consumption could be another reason why they never worried about having enough food.

In contrast, most of the other households whose primary income was from farming, indicated that they had worried about not having enough food in the last year. Typically these households also grew a substantial amount of food items, however, not

one household in the entire sample grew as much as the one noted above. Furthermore, while these other farming households had to some extent diversified their livelihoods (selling tomatoes or beans or working as a porter), Isabella's informal egg selling business appeared to be extremely successful since she sold to two neighboring towns and maintained such a large quantity of chickens. While it may come with some risks, such as for example if her chickens were to fall ill, this business is key to their livelihoods since they have found an agricultural product which is not so subject to seasonality and brings in a steady income all year long.

As for the household that depended only on agricultural day labor for income, it is harder to understand why they might respond negatively to this question, especially since they produced almost nothing for household consumption and only had a small lot of land. A few factors might play into why this household seemed to respond against the norm. First, half way through the interview a neighbor or friend came over and joined in on the interview. This man did not actively participate in responding to the questions however; I do feel that the attitude of the respondent changed once he had entered the room. Admitting that you might worry about food occasionally is hard enough to do for oneself, let alone in front of someone you may consider a peer. I felt that people were able to admit this to me because I was an outsider, I seemed impartial and they did not have to worry about me communicating this information to anyone.

On the other hand, embarrassment might have had nothing to do with a negative response to food worries. The fact is that food security surveys that are perception based (like the HFIAS and my own study) are subjective. It depends entirely on the person's view of what is considered "enough" food and what it means for that person to worry. For example, the respondent of the household noted above, stated in the 24-hour food recall during the preliminary interview that the previous day she had eaten rice, beans, eggs and coffee for breakfast, rice and beans for lunch and tortillas with coffee in the afternoon/evening. This is a *relatively* limited variety of food in comparison to what other respondents had reported. While this respondent may have felt that this was sufficient food for *her* it is quite possible that a different respondent would feel that this was not enough. Indeed, her answer to the food security question suggests that her view may be different than others. When I asked her if she had

worried about not having enough food in the household during the past year she responded: “No, that no. One never has a lot but, thanks to God, always has at least a little” (Personal Interview #6, May 29, 2012). In this way, it is hard to compare responses given that each individual person has a different perception of what it might mean to have enough food or not to have to worry. Nevertheless, I still feel that the overall data are valid given that certain patterns arose from these interviews that are consistent with externally defined dimensions of food security. The following three sections will look more closely at how seasonality impacts food consumption in these two towns and coping mechanisms.

Supplementary Incomes and Food Production as Coping Mechanisms

In order to manage some of the problems that arise due to a shortage of money or food, a few respondents reported that they used particular coping strategies to get by. The strategies mentioned to me included growing food, store credit, the school lunch program and selling homemade items or extra food. This demonstrates how certain activities were engaged in to try to ensure food security within households.

Ximena from Santa María stated that she worried about not having enough food when she or her husband could not find work. Although they grew their own coffee and her husband occasionally worked as a porter, this was not sufficient to meet their food requirements. Unlike other respondent who spoke more about why some months were harder than other months, Ximena explained that there were certain things that she was doing to cope with hard times. For example, she mentioned that at one point she slaughtered up to 20 chickens a week and she would sell them to gain an extra income. Another mechanism that helped Ximena cope with food worries or lack of income was the bursary that the kids got from school, which provided them with lunch. She would also sometimes bake bread and send it down with someone who was heading to San Isidro in the hopes that they could sell it for her and bring her a bit of extra money.

Some of these livelihoods strategies, used here by Ximena to supplement income, are similar to what Sick termed “microenterprises” (2008:114). In Sick’s study on coffee farming households in Pérez Zeledón, the author explains that these informal activities often accompany coffee production and can vary from selling a few baked goods to mending clothes or cutting hair (ibid.). In essence, they are small-scale

informal businesses that can be used as an additional source of income. For example, those who sold food to friends or family could be classified as engaging in this type of 'microenterprise'. While I did not document the many little things that were being sold or made by respondents, I would suspect that many households sell small things informally. For example, while interviewing I noticed that one woman was making beaded key chains in the shape of lizards, which she said she would sell to tourists.

Ximena also stated that she had put in her greenhouse to help increase the variety of foods that they were eating as well as to have more fresh produce and not just eat rice and beans. Even before she had a greenhouse, she had grown some foods for the household: "I haven't always had a greenhouse but I have always planted here, I have almost always had something to help me..." (Personal Interview #7, May 28, 2012). Karla from San Gerardo, a porter's wife, also mentioned that she was producing more variety and more quantity of foods to help with costs. When I asked her why she explained: "for the cost of food and all that, it has gone up so much so one plants more in order to save..." (Personal Interview #12, June 25, 2012). As seen previously, in San Gerardo and Santa María many people were growing a variety of foods. While some people grew a few food items for sale (such as tomatoes and peppers), it was primarily for consumption and surely for the purpose of saving money and buying less. However, for those experiencing difficult times it would not be surprising that this could be used as a supplement to the income that they have and the groceries that they are able to buy.

Ximena also mentioned another coping mechanism that she had used in the past. This was credit from the local store. Ximena explained that they had previously used credit from the local store to buy food but their debt kept growing and she became increasingly preoccupied with the money they owed. Therefore, she now does not use credit for buying food and she feels that she is better off going to San Isidro for grocery shopping, where prices are lower. In a small town like Santa María, with only one local store, having debt is understandably very worrisome since it is the only place to shop if you need something and everyone knows everyone else very well. Similarly, in San Gerardo, Antonia's husband explained to me that during difficult times, they

would also request store credit and then they would pay it back in December or January, likely once they had gained some money from the coffee harvest.

Similarly to this study, Morris et al. also discuss some of the strategies used by El Salvadorian coffee farmers to ensure food security (2013). The authors explain “food security was pursued through a variety of strategies, including diversifying incomes and sourcing food from food plots, homegardens and diverse coffee agroecosystems” (Morris et al. 2013:466). Much like the strategies identified in this study, people in San Gerardo and Santa María were also diversifying incomes by pursuing “microenterprises” as well as sourcing food from their home greenhouses or gardens. Furthermore Morris et al. explain that some of the ways in which farmers responded to periods of food insecurity was by “borrowing money from family or friends, eating less, changing their diet, borrowing food, selling chickens, seeking other work and using any money saved from the coffee sale or other incomes sources” (Morris et al. 2013:468). My results in regards to coping mechanisms for mitigating issues of food insecurity seem to confirm some of the strategies found by Morris et al. in El Salvador.

Generally, many households had additional mechanisms for gaining income, which were often not explicitly mentioned to me during interviews. The money from these activities would be quite small and sporadic and hence not necessarily seen as a part of their livelihood but rather as an occasional side job. Furthermore, in many cases these supplementary incomes or activities (growing food) were especially important during the times of the year when there was less money and less food. As seen in the following section, the seasonality of incomes in both tourism and farming (particularly coffee farming) are linked to both the availability of work/money and hence, access to food.

Seasonal Employment: Coffee Farming and Tourism

The coffee season in Santa María and San Gerardo brings a substantial income to the populations of these two towns. It is not just coffee farmers that benefit from the harvest, but also day laborers and anyone else who would like to earn a little bit of cash, including women and children. Sadie, who worked at the *Centro de Educación y Nutrición* (CEN), explained that during the coffee harvest many of the kids are not in school because they are out picking coffee. Similarly, it is an important source of work

for women of the area, who traditionally work as housewives or *amas de casa*. Howitt notes that other than tourism, in San Gerardo harvesting coffee was the main source of work for women, which was likely dependent on the source of income or size of landholding of the household/husband (Howitt 2012:40). In general, everyone has a bit more money during this time of year, which is usually between November and March in Santa María and San Gerardo, but varies throughout the country (Cordero- Barquero 2007).

Coincidentally the coffee harvest is at the end of the rainy season, around Christmas so the money goes a long way to contributing to this holiday. For example, Ximena said that she spends more money on food during the coffee harvest because they have more income. In contrast, Vanessa explained that the winter [rainy season] is more difficult: “in the winter there isn’t very much work and there isn’t very much money” (Personal Interview #5, May 30, 2012). Very simply put, during the summer there is the coffee harvest and this brings work and money to the people of these towns but in the winter it is the rainy season and there is less money as well as less paid work. For example, Alma mentioned that in May/June, when I was there, people were not buying the jewelry she was selling because they did not have money. She said there was plenty of work tending to the fields but no money and that July and August would be bad also. She stated that in October, the coffee harvest begins and then “there is money because even if you just pick a little bit of coffee, they pay better even if it’s a bean here and bean there...” (Personal Interview #20, June 26, 2012). The coffee season is when everyone has more money because even if one does not grow coffee, there is always plenty of work picking coffee.

While the coffee season is when coffee farmers get the majority of their incomes for the year, for some people this is simply used as an additional income. This would depend on whether a person depends primarily on coffee as a livelihood or if that person has a more diversified livelihood. In the latter case, the extra money from the coffee season would be used to buy things they wouldn’t usually buy throughout the rest of the year. For instance, Juliana mentioned she spends more money in December because they harvest their coffee and can then buy more food or clothes or other things that they don’t buy throughout the year. As we sat at her kitchen table she explained:

“Before, this kitchen was cement and by harvesting coffee last year we were able to put in ceramic tiles with the money that we earned” (Personal Interview #18, June 23, 2012). In this case, Juliana’s household has the steady income from her husband’s salary job and therefore can use any extra income from the coffee harvest for things that they need around the house.

Nevertheless, for those who may depend entirely on the coffee harvest for their yearly income, it can be quite difficult to make that money last. Juan Carlos, who received the majority of his income from coffee farming said that there were times when he worried about not having enough food because he did not have any money. He explained that this occurred mainly in July, August and September because “there is a lot of rain, it costs a lot to produce, and the money from coffee has run out. Those are the hardest months” (Personal Interview #10, May 28, 2012). For Juan Carlos, it is specifically the months leading up to the next coffee harvest that are the hardest for him and he explained that this happens every year at the same time. Nevertheless, he said that he always had rice and beans and from time to time he would get help from his adult children.

For those who rely strictly on their coffee harvest for income, it is not surprising that they may have more worries about food during *los meses flacos* or “the lean months” leading up to the next coffee harvest. As noted in Chapter two, this is a phenomenon that has been documented with coffee farmers in other countries. In both of these towns, and particularly Santa María, people depend on the coffee harvest as an additional or primary income. Everyone has more money during this time of the year as it is a central part of the local economies. It was between May and June when I conducted my interviews; hence, it was explained to me that opposed to October-February when there is money from coffee *and* tourism, at the time of the interviews, there was not much money or paid work.

Just like depending on the seasonality of the coffee harvest, depending on the seasonality of work as a porter can also have considerable impacts on income. For example, two of the interviewees that worried about food came from households in San Gerardo that depended largely on porter incomes. These two women also worried about not having enough food during months when tourism was low. Karla explained

to me that she worried about not having enough food in May and October when the National Park and the trails up the mountain close. In October, they close because of rain and in May because they use that time for maintaining the paths. She explained that these two months are more difficult because they have less income, so they have to save a little bit during the year to get them through these harder times. Since this household did produce a bit of food for household consumption, this helped them to get through these periods. Furthermore, they did not appear to have any other income, so if they did not save they would not have any money during this time to buy food. She did say, however that they usually had at least rice and beans.

Likewise, Sara, whose husband was also a porter, said she worried about not having enough food during September and October. She said that during this time there was not any work so there was not very much money for buying food or other items. She said this occurred twice a year and that during these times they just barely had enough to get by. While she did not identify May in particular as a difficult month, it is likely that, as with Karla's household, the two times of year that she is referring to are around October and May. Unlike Karla, Sara's household appears to have more serious food worries. She explained it to me in this way "One is always just barely getting by but sometimes there are periods that are more difficult" (Personal Interview #13, June 21, 2012). She said that she did not always have rice and beans but she would make do with whatever she had in the house.

In her study, Howitt also mentions the instability of a porter income as one of the challenges of this type of work in San Gerardo (2012). She explains that this type of instability due to seasonal employment was more commonly made around statements about agriculture, however "if porters did not save money during the high season, they may not have enough money in the low season" (2012:62). This leads to the unpredictability of work as a porter as well as this reoccurring dependence on seasons. Furthermore, this seasonality is compounded by the fact that tourism varies from year to year in San Gerardo and hence those relying on tourism may also be affected by a decline in the number of tourists visiting the village (Howitt 2012:65). For example, Howitt explains that a hotel owner noted that during the 2008 economic crisis, the number of foreign tourists visiting the area was way down (2012:65). In this way, the

seasonality and variability of tourism at a local or even global level can have an effect on the vulnerability of those dependent on these types of livelihoods.

Agriculture, coffee in particular, as well as tourism are both dependent on seasons or harvests. In this way, income gained from these types of employment (with the exception of salaried jobs) is less stable because it is only generated during a particular time of the year but needs to last the entire year. Furthermore, the most difficult time of the year would likely be the months leading up to the next harvest, or high season for tourism, since the money from the previous harvest/high season would be running out. These results are consistent with what Morris et al. (2013) found in regards to causes of food insecurity amongst coffee farmers in El Salvador. For example, they explain that one of the primary reasons cited for periods of food shortages was that “there was no work in the community and therefore no income” (Morris et al. 2013:468). These findings are consistent with my discussion here. One of the reasons why coffee farming and tourism seemed to be limiting seasonal access to food was due to the fact that there was less work and therefore less money to buy the food items that households needed.

Unfortunately, in San Gerardo and Santa María the high season for tourism and the coffee harvest, as well as the harvest of many other agricultural goods, are all more or less during the same time of the year. Therefore whether you are a farmer, a day laborer or a porter (all of which are unstable sources of employment that depend on seasons) the rainy season or low season is a difficult time of the year, especially for those who do not have any other sources of income.

Seasonal Availability of Food

During my interviews regarding consumption patterns, one answer that I heard time and time again was *cuando hay*. This translates loosely as “when there is/are” and was often the response I heard during the food frequency questionnaire. I would ask someone if they ate a certain food item and they would respond *cuando hay* meaning more or less that they would eat that item when there was some. It seemed to be used in two different circumstances: either referring to availability or access. It either meant when something was available because it was the season for that item (seasonal availability) or when there was enough money to purchase that item (access). For

example, in terms of availability, bananas and plantains often received this response because they are short-cycle crops that you can harvest many times a year. Therefore, when someone has a large bunch of bananas from their banana tree they might eat bananas everyday because they are available. When I would ask an interviewee how often they ate bananas, the common answer was *cada día cuando hay* ('every day when we have them') or *cuatro veces a la semana cuando hay* ('four times a week when we have them'). It depended on when they happened to have some and this would depend on the seasonality of any given item. Foods such as avocados or mangos would get the same sort of answer; *cada dia ahora porque hay cosecha* (every day now that it is avocado/mango season).

In regards to access, *cuando hay* was also used to mean 'when there is money' or 'when I have money to buy it'. For example, when I asked Antonia if she ate yucca she responded "it doesn't grow as well here as it does in the warmer climate but when there is money we buy some below [meaning in San Isidro]" (Personal Interview #15, June 21, 2012). In this case, eating a particular food depended on having money or entitlements (in other words the means to access) and not just the availability of a seasonal food.

Finally, sometimes *cuando hay* also just meant "when I happen to buy them". It did not always refer to money or seasons; occasionally it was just a general statement to say that if one happened to buy a certain item when in San Isidro, then they were likely to eat it. Nevertheless, the most common explanation when someone said *cuando hay* was in reference to the seasonality of a food or the time of harvest^{xxv}.

Seasonality not only affects availability in terms of supply, but also affects access in terms of effects on prices. Vanessa explained to me that during the mango season, mangos are cheap – even free: "Well, now that it is mango season, if you want to eat fresh mangos all you have to do is go somewhere down below and there are tons. In Guadalupe, there are lots of mango trees and all you have to do is grab them and eat them all at once" (Personal Interview #5, May 30, 2012). This is very true; mangos are something that one would rarely buy in San Gerardo or Santa María. During mango season, they are so plentiful that they are rotting on the side of the road. I experienced this first hand one day when I was returning from San Isidro with the couple that I was

staying with in San Gerardo, Yammi and Francisco. As we passed through Guadalupe, we saw a friend of theirs who was up on a ledge above the road poking at a mango tree with a long fork-shaped stick. He was knocking down the mangos so the kids below could collect them. We stopped and Francisco asked if he could grab some and the man of course consented. Therefore, Francisco got out of the car and started collecting the mangos that were falling from the tree until he had a big bag full of them.

Generally, the seasonality of food affected how much local food was available for consumption. Most food crops are planted during the early rainy seasons. Thus, during the rainy season when most crops are still maturing, fewer local agricultural produce is available and it can be more difficult and expensive to get the foods that one would like to consume. For example, Martina from Santa María, whose household farmed coffee along with tomatoes and peppers, said that she worried about food during the rainy months. I asked her when exactly she had worried about not having enough food and she responded: “It’s that there are months that are more difficult when there isn’t harvest. Now [May-June] there is harvest but also in the summer there is coffee so one can buy more” (Personal Interview #8, May 28, 2012). In this case, when she says ‘harvest’ she is talking about harvesting other crops. In May-June there is still some food growing, however as the rainy season progresses, there is less food available, as well as less paid work. In this way when there is no food available for sale or consumption, feeding one’s family can be more difficult. When asked how many times she had worried about not having enough food in the past year, Martina elaborated on the severity of this preoccupation: “the truth is that we are never without food, there is always beans... and there is always milk.... Yes, there is always something” (Personal Interview #8, May 28, 2012). While they were never entirely without food, certain times of year could be bit more difficult and this would depend on the seasonality of both coffee and local food harvests.

Graciela, whose husband is a day laborer, explained that she also worried about food during the rainy season because there was not very much food around during this time of the year. She said that this always happened once a year around the same time and although she and her husband always had rice and beans, they did have to go without certain other things. Antonia and her husband, both farmers from San Gerardo,

also pointed to a particular time of year and similar concerns in regards to food production. They explained that there were three months that were harder than the rest of the year: May, June and July. Antonia's husband explained that this was because "there is less food since there is less production both for selling and consuming" (Personal Interview #15, June 21, 2012). They worry about food during this time because they are not producing or harvesting food for income nor for household consumption. The nature of farming and harvests inherently brings seasonal worries concerning food and work. As was mentioned previously, it is not just a matter of access, in terms of money, that causes people to worry about food but also availability of food for consumption. It is the fact that, in some cases, food production serves a dual purpose of access to food via income, as well as availability of food for consumption. The inherent seasonality of farming thus compounds the effects of worrying about food.

In regards to food worries due to local food availability, Leatherman and Goodman explain that this is not so much an issue for those with steady incomes: "households with steady employment can purchase a variety of foods year round, while other households are more dependent on the local harvest and temporary wage jobs" (2005:841). This is comparable to the discussion outlined above since those that worried about not having enough food, due to seasonal availability and local production, were from households that primarily depended on unstable work. Therefore, those with a steady income can buy a diversity of foods from the grocery store in San Isidro, while those with unstable employment are more likely to depend on local harvests.

The severity of food insecurity in these two villages is unknown and people were clearly not starving to death. Nevertheless, -- and not surprisingly -- those with less stable incomes are more likely to worry about the quantity and variety of food that they have at particular times of the year. Furthermore, it appears that some level of seasonal or periodic food insecurity does exist in these two villages. People were not so much experiencing feelings of hunger as they were preoccupied with where the next meal would come from or what they had the ability to purchase. Even though I was unable to use a standard method for measuring food insecurity, the discussions that I

had with participants leads me to believe that some degree of food insecurity is occurring in San Gerardo and Santa María during certain times of the year. A more in-depth study would be needed to be sure of this conclusion.

CHAPTER NINE: CONCLUSION

Ensuring food security requires that food is available and that all people have consistent access to the right amount and variety of food to live their lives to the best of their abilities. Severity of food insecurity can vary significantly, from not being able to buy a diversity of foods to going days without eating. The occurrence of food insecurity can vary from being temporary or transitory to chronic food insecurity. Furthermore, one can be food insecure in different ways; it may be an issue of availability (supply of food), access (money to buy food) or sufficiency (nutritional adequacy).

Due to varying dimensions and levels of food insecurity, the causes and consequences of this issue are complex and multifaceted. Furthermore, it depends on the local socio-economic context and in many ways it can be a different experience for each individual. In this study, it was interesting to see how respondents might have a different understanding of the question that I asked about whether or not a household had worried about having enough food in the last year. Generally, people appeared to be forthcoming with their answers; however, it is clear that the question may mean different things to different people. Asking someone about having 'enough' food can be problematic since it is completely subjective how one might interpret 'enough'. Nevertheless, it can give insight into how people really feel about their food security situation.

Measuring food security has been a challenge in terms of finding direct ways to quantify hunger in a way that encompasses all levels and dimensions. Quantitative measures are often proxy indicators that do not directly assess food insecurity but rather measure issues closely related to experiences of hunger. Yet, they are useful for mapping food insecurity on a large scale. Qualitative indicators are subjective and can vary from person to person without any real point of reference to ensure consistency, as seen above. Nevertheless, they can provide more insight into why people experience food insecurity and how seasonality affects food consumption. For the purpose of this study, a subjective question framed within a one-year period provided the right entry point for discussing issues of seasonality. Furthermore, the follow-up questions helped to identify when food worries had occurred and why households had worried. A quantitative method could not have captured the same type of details and discussions

as the method used in this study and a standard subjective survey, such as the HFIAS, would not have identified the seasonality of the issue.

Due to the general high level of health and human development in Costa Rica, food insecurity is not an area of focus of the country. However, the few studies that have investigated this issue have shown that high levels of food insecurity exist both in rural areas (Himmelgreen et al. 2006) as well as in urban centers (Gonzalez et al. 2008). Furthermore, the poverty rate is rising with approximately one in three people in rural areas living below the national poverty line, indicating that issues related to access and food insecurity most likely require more attention than they are currently receiving. Furthermore, the underlying factors contributing to these problems need to be better understood in order to improve the conditions of the most vulnerable populations.

In Costa Rica and around the world, relying on export agriculture for income, particularly in rural areas, can be difficult since one is vulnerable to the fluctuations of an international market and external factors beyond their control. Similarly, tourism on a global scale is affected by the world economy and people's ability and desire to travel. It is clear from this study that these larger global forces affect villagers' incomes. The 2008 world economic crisis appeared to affect the quantity of tourists visiting San Gerardo and hence the livelihoods of those depending on tourism in this village. This shows the impact that a large, global phenomenon can have on just one small, rural community. In this way, much like the coffee market, or the market for any agricultural good for that matter, tourism is also a globally-linked economic enterprise that can vary from year to year and have a significant impact on individuals around the world.

Accordingly, those living in Santa María and San Gerardo who work in coffee or in tourism are constantly vulnerable to these global forces beyond their control. Nevertheless, in addition to market variations in prices or demand, people living in these two villages are also vulnerable to seasonal fluctuations of incomes as well as food availability. This has led to some households feeling that they do not have a sufficient quantity of food during all times of the year, indicating that there is most likely some level of household food insecurity that is occurring.

The economies of Santa María and San Gerardo both depend on incomes from agriculture to more or less the same extent. Agricultural households gain their incomes from farming or working as agricultural day laborers on someone else's land. Coffee is an important crop in both villages but it appears to be a bit more prominent as a source of livelihood in Santa María, where there are fewer options for tourism. Nevertheless, the coffee season brings much work and money to the people of both villages as men, women and children engage in picking coffee. In contrast, tourism provides more work to those living in San Gerardo, both in terms of day labor (porters, guides and cooks up the mountain) as well as salary incomes and entrepreneurial opportunities (hotels, restaurants and businesses).

Overall, some types of employment appear to be more stable, for example those that pay all throughout the year on a consistent basis (salaries and pensions) or those that provide greater returns during high season (business owners). Other employment types are more erratic and unstable such as farming due to fluctuating prices and the seasonality of harvests as well as agricultural day labor jobs, which are inconsistent and do not pay very well. In addition, work in tourism is also seasonal and the low season can cause difficulties for those depending on tourists for their incomes, particularly those providing wage labour. Unfortunately, unstable employment can create problems in terms of access to food since limited income can mean the inability to buy the foods that a household needs or wants.

In terms of availability of food, there are many places and mechanisms from which people in both villages obtain food. People buy food in San Isidro from the many grocery stores, or shop locally from the *pulperias*, the mobile vendors, the local *feria* or even from neighbors, friends and family. In addition to this, a number of households in both towns, approximately 60% of my secondary sample, produced at least nine items for household consumption. Since many households produced more than enough quantity of certain items and therefore often had a surplus, family and friend sharing networks and reciprocity also existed. In sum, there was generally a good quantity of food available. However, the seasonality of food production did affect some people's ability to consume a greater variety of foods since certain items were only available at certain times (such as mangos). This was particularly relevant for those with unstable

incomes since they were more dependent on local harvests, which seems to confirm the results found by Leatherman and Goodman (2005). In this way, consumption patterns are directly affected by seasonal patterns of harvests. When a certain item is in season, it is plentiful and it would be an important part of a person's diet. Nevertheless, when that item is not in season, it would generally not be consumed as frequently, if at all.

While there were limitations to my study, my results do seem to confirm recent research that presents seasonal food insecurity as a common issue amongst coffee farmers in Central America (Morris et al. 2013 and Caswell et al. 2012). Nevertheless, my study goes beyond this. Unlike other studies, which focused only on interviewing coffee farmers, in this study I examined livelihood diversity and found that many different types of rural employment can cause seasonal issues in regards to food. In fact, the two main sources of income in San Gerardo and Santa María – coffee and tourism – are both seasonal as well as sensitive to global forces beyond the control of locals. In general, farming livelihoods can be unstable and erratic since most global commodities are vulnerable to booms and busts. Furthermore, farmers have to compete with regional prices since even within the country certain agricultural goods can be produced for varying prices. In addition to this, farming is fundamentally seasonal, revolving around harvests, and can therefore create cyclical issues as well. In this way, incomes from agriculture can be erratic and people are vulnerable to many different levels of risk. As we have seen, tourism is also vulnerable to global forces as well as seasonal fluctuations and can cause income insecurity and hence, problems of food access. Unfortunately, the villages of Santa María and San Gerardo depend on both tourism and agriculture, compounding these issues.

In general, it is clear that neither Santa María nor San Gerardo have people that are starving to death. There may be those who are less stable economically and who may struggle more, but the relative well-being of the community is apparent. Yet seasonality of incomes plays a big role in food consumption patterns and experiences of food insecurity. Reasons mentioned for why people sometimes worried about not having enough food included the fact that money from the coffee season does not last, there is less food in the rainy season, there is not enough work, there is not enough money or one is not paid enough for work. These reasons again can be summed up as

two of the dimensions of food security: access and availability. In regards to access, the primary issue that was identified was not having enough money due to the lack of work during the rainy season, or the low season, as well as the lack of incomes from crops when there was no harvest. While the majority of people grew a number of food items, most things still had to be purchased such as rice, sugar, tortillas etc. Plots of land were small and inputs were expensive thus income was key to having access to food. In terms of availability, the main concern was that there was less availability of particular food items during a particular season (also usually the rainy season when household food production was limited).

Overall, the aspect of time played into both dimensions, as certain incomes and food items are seasonal. For many coffee farmers, July, August and September are difficult months since this is when income from the previous coffee harvest is beginning to run out. As we have seen, this type of seasonal shortage of food is common in coffee farming communities yet the issue is complex and needs to be further understood (Morris et al. 2013). In general, May to October constitute the rainy months and a time of year when there may be less work and less income. For those households relying on porter incomes and therefore tourism, May and October were difficult due to the closing of the mountain trails. The fact that summer (December – May) is high season for tourists and overlaps with the harvest season for coffee (November – March) exacerbates the issue of seasonality since most incomes are being gained during the summer months and everyone struggles a bit more during the winter.

As can be seen, the vulnerability of the residents of Santa María and San Gerardo depend on many competing factors. Not only do seasonal fluctuations in incomes and food production affect general consumption patterns of households, but also global forces such as the volatile coffee market and the demand of tourism services make the economies of these two villages extremely precarious. Given the past of the coffee market, it is likely that the price of coffee will fall, yet again, to an unimaginable low at some point in the future. What will this mean for the people of these two villages, who already live year-to-year depending on seasonal production and employment? Tourism, which is seen as a development strategy in Costa Rica and other parts of the world, is also vulnerable to the global demand for travel and general

economic prosperity. Furthermore, while it has brought new employment opportunities and entrepreneurial endeavors, it is plagued by issues of seasonality which we have also seen as an inherent part of both farming and subsistence agriculture.

All things considered, the people of San Gerardo and Santa María appear to get by, and although some people may face some harder months during the year, they generally live the good life - the *pura vida*. There is a diversity of employment opportunities, even if they are not always stable, and people that produce food for household consumption enjoy the fresh fruits, vegetables and legumes that they pick from their own back yards. Additionally, if people continue to diversify their incomes and invest in producing food locally they will likely find ways to mitigate the vulnerabilities that currently exist. Yet it is important to note that despite high human development, there were households in my sample who reported food worries. This indicates that food security indicators at a national or even regional level do not tell the whole story. Household level studies like this one help to shed light on the diversity of experiences found within specific locales. Notwithstanding, this research as well as the new found focus on seasonality and food insecurity will require more time and effort to truly understand how these issues affect people's abilities to live their lives and what can be done to alleviate these hardships.

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PERSONAL COMMUNICATIONS

Interview #1. (2012, May 28). Interview with author, Santa María de Rivas, Costa Rica.

Interview #2. (2012, May 30). Interview with author, Santa María de Rivas, Costa Rica.

Interview #3. (2012, June 1). Interview with author, Santa María de Rivas, Costa Rica.

Interview #4. (2012, June 1). Interview with author, Santa María de Rivas, Costa Rica.

Interview #5. (2012, May 30). Interview with author, Santa María de Rivas, Costa Rica.

Interview #6. (2012, May 29). Interview with author, Santa María de Rivas, Costa Rica.

Interview #7. (2012, May 28). Interview with author, Santa María de Rivas, Costa Rica.

Interview #8. (2012, May 28). Interview with author, Santa María de Rivas, Costa Rica.

Interview #9. (2012, May 29). Interview with author, Santa María de Rivas, Costa Rica.

Interview #10. (2012, May 28). Interview with author, Santa María de Rivas, Costa Rica.

Interview #11. (2012, June 22). Interview with author, San Gerardo de Rivas, Costa Rica.

Interview #12. (2012, May 25). Interview with author, San Gerardo de Rivas, Costa Rica.

Interview #13. (2012, June 21). Interview with author, San Gerardo de Rivas, Costa Rica.

Interview #14. (2012, June 20). Interview with author, San Gerardo de Rivas, Costa Rica.

Interview #15. (2012, June 21). Interview with author, San Gerardo de Rivas, Costa Rica.

Interview #16. (2012, June 20). Interview with author, San Gerardo de Rivas, Costa Rica.

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Interview #18. (2012, June 23). Interview with author, San Gerardo de Rivas, Costa Rica.

Interview #19. (2012, June 26). Interview with author, San Gerardo de Rivas, Costa Rica.

Interview #20. (2012, June 26). Interview with author, San Gerardo de Rivas, Costa Rica.

Endnotes

ⁱ While people may rely on the availability of food at a household level (often linked to production), they need to have access to the land, irrigation, fertilizer etc. necessary to be able to produce food for household consumption. Therefore, access and availability are closely interrelated at the household level. In fact, this differs from national food production in that one has to first have access to the agricultural inputs necessary for food to be available at this level.

ⁱⁱ FANTA stands for Food and Nutrition Technical Assistance and is a project that is funded by USAID.

ⁱⁱⁱ I have made Santa María a pseudonym for one of the villages since certain characteristics of interviewees outlined throughout this thesis may give away anonymity. Nevertheless, due to the fact that San Gerardo is at the base of Mt. Chirripó and this factors into my analysis, it would be more difficult to disguise its location.

^{iv} In February of 2011, three months before I went to conduct my own field research, I participated in a field study of socio-economic change in Pérez Zeledón. During this trip, we had attempted to use the HFIAS but found it problematic to administer in this context. It was too long and repetitive, culturally inappropriate and many interviewees appeared bored and unresponsive.

^v In a recent publication exploring seasonal food insecurity amongst coffee farmers (Morris et al. 2013), I found that the authors also used a similar, one-question method for understanding seasonal fluctuations. The question used by these authors was “Is there a period of the year when you have difficulty meeting the basic food needs of your family?” (Morris et al. 2013:466).

^{vi} The categories for the HDI are very high human development, high human development, medium-high human development and low human development. The HDI is a composite indice that measures human development based on 3 dimensions: access to knowledge, a healthy and long life and a decent standard of living

^{vii} *Picadillo* comes from the verb *picar*, which means to grind or to chop very finely. Therefore a *picadillo* is usually a vegetable that is chopped very finely and cooked with spices. For example, a *picadillo de papa* is potato chopped very finely and cooked up most likely with onion, garlic, cilantro and other spices. However, there is also a *picadillo de papaya* which is an unripe or green papaya that has been chopped very fine and cooked with the appropriate spices, almost as though it were a vegetable.

^{viii} *Arroz con pollo* translates to chicken with rice. It is a dish that consists of rice with small pieces of chicken, green beans, carrots and peppers and seasoned with onion, garlic and other spices.

^{ix} *Olla de carne* is a broth-based soup that is made with large chunks of beef, beans and a variety of vegetables often including potato, plantain and squash. It is usually served with a side of rice.

^x Day of the Child is to honor children around the world and it is celebrated on different dates in different countries. In Costa Rica it is celebrated on September 9th.

^{xi} Or perhaps this trend is due to the fact that my data from San Gerardo was a little more complete, as outlined in my limitations section.

^{xii} It should be noted that this chart most likely does not encompass every single thing that was grown by each household, since people often would forget to mention certain

items. I did my best to prompt their memories by asking about particularly common fruits and vegetables, however, it is likely that some were missed. In addition, this would not take into account fruits or vegetables that were seasonal during a different time of the year, since people seemed to be more concentrated on what they were presently producing.

^{xiii} *Papa Maiz* translates to corn potato. It is a tuber vegetable, which is quite similar to the potato.

^{xiv} *Cubaces* are large beans that are golden brown in color. They were considered both typical and traditional of the region.

^{xv} *Arracache*, also known as *arracacha*, is a tuber originally from the Andes. It is popular in Costa Rica as well as South America.

^{xvi} *Tacacos* are small, oval-shaped vegetables that grow on a vine and are commonly cooked up as a part of an *olla de carne*.

^{xvii} *Beros* come from a small green plant that produces dark green leaves that are eaten fresh or cooked.

^{xviii} *Jocote*, also known as a wild plum or a purple mombin, is a small fruit grown in the American tropics.

^{xix} *Comemaiz* is a very common bird in Costa Rica whose name loosely translates to corn-eater.

^{xx} Translates to the store of the clouds.

^{xxi} Calculated using the exchange rate provided by xe.com, December 7, 2012

^{xxii} Amounts calculated using xe.com on December 7, 2012.

^{xxiii} Amount calculated using xe.com on April 1, 2013.

^{xxiv} Cloud Bridge is a nature reserve in San Gerardo.

^{xxv} In some ways this is very similar to how it is in Canada. I only eat corn on the cob during the summer and fall months when it is corn season and they are available in the market. While this affects my corn consumption patterns, the difference is that corn does not grow in my back yard. My neighbor is not growing an excess of corn that needs to be given away or it will go bad. I am not affected to the same extent by the corn season as someone in Santa María or San Gerardo is affected by the mango season.