

**FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES  
SEDE ECUADOR  
PROGRAMA DE ESTUDIOS SOCIOAMBIENTALES  
CONVOCATORIA 2010-2012**

**TESIS PARA OBTENER EL TÍTULO DE MAESTRÍA EN ESTUDIOS  
SOCIOAMBIENTALES**

**THE NUTRITION TRANSITION IN ECUADOR: AN ETHNOGRAPHIC  
APPROACH TO DIET AND DIABETES**

**ANNE MARIE DIROCCO**

**MARCH 2013**



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**MARCH 2013**

## **DEDICATORY**

This thesis is dedicated to the billions of people around the world who suffer from chronic diseases.

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## ABSTRACT

Modernization and urbanization have led to startling changes in dietary and lifestyle habits across the globe. One interpretation of this process of changing food habits is called the nutrition transition, which describes how modern diets high in sugars, salts, fats and processed foods are leading to unprecedented rates of non-communicable diseases like overweight, obesity, diabetes and heart disease; the nutrition transition also has serious implications for the environment.

The nutrition transition in Ecuador is a pertinent dilemma considering that over the past ten years, non-communicable diseases have been top killers in the country. While attempts to address the issue in Ecuador have been disproportionately quantitative in design, this investigation presents an ethnographic approach, taking into careful consideration urban-rural dynamics, socioeconomic factors, generation, and gender. Interviews and observations were carried out in one rural family and one urban family who have members suffering from diabetes, a non-communicable disease. Additionally, current programs and policies that are responding to the nutrition transition in Ecuador are reviewed.

While nutrition transition theory links urban areas with higher incidences of non-communicable diseases, this investigation shows that The Rural Family is also being adversely affected by the nutrition transition. In addition, those with a lower socioeconomic status were less likely to attain proper nutrition than those from a higher socioeconomic status; likewise, those from a lower socioeconomic status who suffered from diabetes were less likely to follow a medical treatment plan than those from a higher socioeconomic status.

It was found that the industrialization of the food system has come to play an increasingly stronger role in each subsequent generation, the eldest generation living through many of the changes in food preparation and in food consumption associated with the nutrition transition. In both families, it was found that women are more likely to be in charge of cooking responsibilities, while men are partly or entirely responsible for food shopping responsibilities. Alimentary traditions and family recipes were found to be significant in one family and insignificant in the other. Moreover, all of these factors influence nutrition transitions.



It is now more apparent that Ecuador must develop stronger participatory responses to combat increases in non-communicable diseases; it must also better enforce existing policies and practices that favor prevention in order to properly manage the current nutrition transition.

## INTRODUCTION

*It could plausibly be argued that changes of diet are more important than changes of dynasty or even of religion (Orwell, 1937: 82).*

One of the greatest injustices of our modern era has been our chronic, global failure to appropriately meet past and present nutritional needs. “Today, when we produce more food than ever before, more than one in ten people on Earth are hungry. The hunger of 800 million happens at the same time as another historical first: that they are outnumbered by the one billion people on this planet who are overweight” (Patel, 2007: 1). Overweight and obesity, denominated “non-communicable” or more informally, “chronic” diseases, are particularly problematic because they are strong triggers for other serious and increasingly common non-communicable diseases such as diabetes, heart disorder and hypertension.

One interpretation of the global rise in chronic diseases is that urbanized and urbanizing societies are undergoing a “nutrition transition” (Popkin, 2003: 582). The nutrition transition can be described as one in which dietary and lifestyle habits are changed according to three historic shifts. The first is a demographic shift from high rates of fertility and mortality to low rates of fertility and mortality; the second is an epidemiological shift from a high incidence of communicable diseases such as tuberculosis, hepatitis, yellow fever, measles, and influenza to a high incidence of non-communicable diseases like cancer, overweight, obesity, hypertension, heart disease and diabetes; the third stage is typified by healthier diet-related behavior, which is evidenced by an effort and desire to prevent the onset of non-communicable diseases (Popkin, 2003: 582-84).

Induced by a range of factors including urbanization, industrialization, a rise in purchasing power and advances in technology and marketing, the second stage of the nutrition transition is marked by an increased consumption of meats, fats, sugars, salts, and processed foods, all of which facilitate the onset of non-communicable diseases. According to the World Health Organization, chronic diseases currently account for 63% of all deaths worldwide; “out of the 36 million people who died from chronic disease in

2008, nine million were under 60 and ninety per cent of these premature deaths occurred in low- and middle-income countries” (WHO, 2012).

The nutrition transition is linked to areas that are highly urbanized or are growing urbanized. Those residing in urban sectors, Popkin (1999) argues, acquire diets and lifestyles that contrast with those residing in rural sectors. This is mainly linked to diets high in sweets and fats, processed food, meals away from home, and reduced energy expenditure owing to a departure from agriculture and a shift towards service and manufacturing industries (Popkin, 1999). Current statistics reveal that world population has become less rural and more urban. As of 2010, 50.5 per cent or 3.5 billion people on Earth now live in cities. To put this in perspective, in 1950 there were 86 cities in the world with a population of more than one million, today there are 388, and by 2025 there are projected to be 506 (Davis, 2006: 1; UN DESA, 2010). These figures demonstrate the likelihood of mounting nutrition transitions and subsequent social, economic, and environmental strains.

In Ecuador, where urbanization rates have been on the rise since the 1950s, the nutrition transition is a reality. In 1950, 70% of the Ecuadorian population was rural and 30% urban, whereas in 2010, almost 70% of the population was urban and 30% rural (UN DESA, Population Division, 2010). The nutrition transition can also be witnessed demographically by reviewing fertility and mortality rates in Ecuador. The 1960 average of 6.7 children per woman dropped to an average of 2.5 children per woman in the 2010, while the total mortality rate was approximately 16% in 1960 compared to a much lower 5% in 2010 (World Bank, 2011). These demographic transitions reflect the first stage of the nutrition transition.

It is important to take a more critical look at the idea that nutrition transitions are more common in urban areas than they are rural areas, a concept on which Popkin (1999) basis his nutrition transition theory. In my research, I found that the rural family is also experiencing a nutrition transition, which challenges Popkin’s theory. These findings inform that it is necessary for nutrition transition theory to reconsider the idea that rural areas are less affected by nutrition transitions. This reconsideration must take place by conducting thorough fieldwork in rural areas. Moreover, it is important for readers to understand that the nutrition transition is not restricted to a specific, urban demographic

prototype. More appropriately, the nutrition transition can transpire in any setting experiencing the changes in diet and inactivity discussed above, urban and rural alike.

The second stage of the nutrition transition, which is signaled by a rise in non-communicable diseases, is also very visible in Ecuador. Over the past ten years, deaths due to non-communicable diseases in Ecuador have dominated the top of the list. As shown in Table I, ischemic heart disease, cerebrovascular disease, diabetes mellitus, and hypertension have all occupied second or third place on the list, calling to attention a transition to non-communicable diseases in Ecuador.

**Table 1.** The Ten Principal Causes of Death in Ecuador

2000	2005	2010
1. Non-classified	Non-classified	Non-classified
2. Heart disease	Heart disease	Hypertensive heart disease
3. Cerebrovascular disease	Cerebrovascular disease	Diabetes mellitus
4. Diabetes mellitus	Hypertensive heart disease	Influenza and pneumonia
5. Hypertensive heart disease	Diabetes mellitus	Heart disease
6. External Causes	Pneumonia	Traffic accidents
7. Pneumonia	Ischemic heart disease	Cerebrovascular disease
8. Ischemic heart disease	Homicide	Homicide
9. Perinatal conditions	Traffic accidents	External Causes
10. Homicide	Perinatal conditions	Ischemic heart disease

Source: INEC (2011b)

In 2010, INEC (Instituto Nacional de Estadística y Censos) reported that two of the principal causes of death in Ecuador were diseases related to hypertension and diabetes mellitus (which includes type 1 and type 2 diabetes), respectively (INEC, 2011b). For every 100,000 habitants in Ecuador, the incidence of diabetes rose from 80 in 1994 to 488 in 2010. For the same number of inhabitants, hypertension rose from 63 in 1994 to 652 in 2010. The coastal region records the highest rates for both diseases, women being more affected than men (MSP, 2011a: 15).

Obesity is another growing problem in Ecuador, and is often a precondition for ischemic heart disease, cerebrovascular disease, diabetes and hypertension. Obesity is determined when ones body max index (BMI) - a person’s weight in kilograms divided by the square of his/her height in meters- is greater than or equal to 30 (WHO, 2012). Obesity’s historical tendency in Ecuador was not recorded statistically until the 1980’s;

its significance has likewise been under-informed. The most recent studies of obesity in Ecuador were conducted between 2001 and 2006 (Yépez et al., 2008: 39-40). In 2005 it was estimated that in Ecuador, 40% of men and 50% of women were overweight while 6% of men and 16% of women were obese (Bernstein, 2008: 71). In one study conducted in 2000, obesity was found to affect 13% of the urban Ecuadorian population interviewed versus 6% of the rural Ecuadorian population interviewed (Yépez et al., 2007: 79).

### **Diabetes Defined**

After extensively researching the topic of nutrition transitions and non-communicable diseases in Ecuador, type 2 diabetes stood out a serious health threat, as it was second only to hypertensive heart disease as the principal cause of death in 2010 (INEC, 2011b). I therefore chose to conduct my fieldwork with families who have members suffering from diabetes. As such, it is necessary to detail what diabetes is, how it occurs, and what types exist.

Let us begin with the keyword: insulin. Diabetes is caused by a deficiency or absence of insulin. Insulin is a hormone that is normally produced by the pancreas. A vital metabolic function, insulin transports glucose from the blood into the cells of the body to be used as energy. In the absence of insulin, glucose levels in the bloodstream skyrocket and because there is no glucose for the cells to convert into energy, the cells begin burning fat as its fuel source (WHO, 2011a). The burning of fat, instead of glucose, produces ketones in the body, which are toxic in high amounts and can lead to a coma or even death. A combination of poor blood circulation and ketones can cause nerve and blood vessel damage, and weaken the whole body. Furthermore, diabetics are at higher risk for heart disease and stroke, limb and foot amputations, impaired vision and kidney failure (WHO, 2011a). Symptoms of diabetes include excessive urination, thirst, constant hunger, weight loss, vision changes and fatigue. Since symptoms may be less severe with type 2 diabetes, late detection may occur. Differentiating between type 1 and type 2 diabetes will help explain why detection may vary.

Type 1 diabetes, previously known as insulin-dependent, or childhood-onset diabetes, occurs when insulin production of the pancreas is deficient. It can be controlled by daily insulin injections and neither the cause of it nor a cure for it is known.

Type 2 diabetes, previously known as non-insulin dependent, or adult-onset diabetes, is characterized by the body's inability to correctly use insulin. Because type 2 diabetes is likely triggered by excess weight and inactivity, it can be treated, but not cured, by proper diet, exercise and weight management; in some cases it may require insulin injections. Common symptoms for type 2 diabetes can include any of the type 1 symptoms along with "frequent infections, blurred vision, cuts or bruises that are slow to heal, tingling or numbness in the hands or feet, and recurring skin, gum or bladder infections" (ADA, 2012). Of the 346 million people who suffer from diabetes worldwide, type 2 diabetes accounts for 90% of these cases and is sadly becoming more common in children, which is why it is no longer correct to deem it adult-onset diabetes. More dramatically yet, diabetes is on target to double between 2005 and 2030 (WHO, 2011). The next section will discuss some of the key reasons for the sharp rise in diabetes, and non-communicable diseases in general.

### **Factors That Influence Non-communicable Diseases**

Advertisements promoting nutritionally deficient products, the changing role of women in the household and the workforce, inactive lifestyle habits, an over-reliance on technology, user-unfriendly urban design, and poorly balanced diets are just some of the many factors perpetuating non-communicable diseases. Let us look at how these factors are instigating nutrition transitions.

In many parts of the world, individuals are increasingly adopting eating habits that resemble a hyper-industrialized and hyper-processed culinary approach, one contaminated by cheap and highly advertised foods. "The efficiency and regimentation of this culinary approach reinforces notions that American-style fast food is generally superior to indigenous cuisine since it is 'scientifically designed' " (Matejowsky, 2009: 32). "Glocal" marketing strategies help bring local acceptance of global food trends by insistently advertising "what, how, where, and how much to eat" (Hawkes, 2006: 14). These marketing strategies shape new beliefs, encourage preferences for "novel" foods, and often lead to a rejection of more "traditional" foods. Vivid examples of acculturation in Ecuador abound. One might easily note the profusion of KFC restaurants in Quito or

the preference for Coca-Cola and other sugared drink products in corner stores, restaurants, and on families' picnic tables in public parks.

It is undeniable that the nutrition transition implies formidable challenges that are contributable to hyper-industrialized approaches to food production and consumption. Along with an adoption of a more modern diet and lifestyle comes an alteration in the role that women play in food preparation and ultimately, in food culture. O'Sullivan et al. relate how "older women take pride in their ability to provide a meal from scratch using ingredients at hand, believing homemade food to be the basis of good health and an important aspect of caring for their family"; the authors add that older Canadian women are the most earnest advocates for the continuation of traditional food practices (O'Sullivan et. al, 2008: 65). The authors explain how younger women's experiences are changing due to increased participation in the labor force, which has led to the promotion of convenient foods and modern appliances that require less time and effort in food preparation. This often means substituting homemade foods for already prepared foods (O'Sullivan et. al, 2008: 65-78).

In her book, *Quito casa adentro narrado por mujeres*, María Cuvi offers local testimony to women's transitioning role in food practices. One older woman explains the deterioration of mealtime and table manners. "*Ahora ya no hay cómo... porque viene la madre al almuerzo y sale corriendo, y eso cuando puede llegar a la casa al mediodía*" (Salgado, Mireya, cited in Cuvi, M., 2009: 33).

Cuvi and O'Sullivan et al. reveal the importance that older women place on preserving the meaning of their food practices and passing them down to future generations in hopes of maintaining a sense of identity and culture. "It is women who keep and reshape traditional culture in today's complex world through the food they prepare" (O'Sullivan, 2008: 81). These testimonies prove the difficulty of safeguarding such traditions in the face of the accelerated pace of the nutrition transition.

Another aspect contributing to the nutrition transition is the sedentary lifestyle that many urban dwellers adopt. Urban Studies has been instrumental in highlighting how urban design often results in increased commute time, reduced green space available for inhabitant use, and little regard for patterns of walkability, all of which may contribute to rising obesity rates (Sheppard, 2006: 307).

The overall dependency on technology in our globalized world cannot be overlooked: computers, televisions, video games, cars, escalators, and elevators, among others, all play a role in our daily lives and may encourage more idle societies. One recent study showed that internationally, children are exposed to high volumes of food advertising on television. While advertising varies country to country, the marketing of unhealthy products is one objective common to all of these advertisements. Perhaps even more disconcerting is the fact that these advertisements are deliberately broadcast when the highest numbers of children are watching television and they necessarily defy nutritional recommendations (Kelly et al., 2012: 1745). The possibility of exposure to such advertisements is cause for concern in Ecuador, considering that 97% of Ecuadorians have televisions (Yépez, 2007: 81).

While television can act as a counter-nutritional education force, the poorly balanced Ecuadorian diet is also reason to criticize Ecuador's ability, or lack thereof, to inform the general public about good nutrition. This poor balance can be described as one in which there is a general over-emphasis of starches like rice, potatoes, plantains, yucca, and fats like margarines and butters and an under-emphasis of proteins, vitamins and minerals provided by meats, dairy products, legumes, fruits and vegetables (Yépez, 2007: 81-82). While an under-emphasis of proteins in the general Ecuadorian population may exist, in nutrition transition theory, overall meat consumption is known to rise as fertility rates drop, as will be discussed later. In any case, whether it is protein or starch that one over or underestimates, a balanced diet is a pinnacle of nutrition. The under or overemphasis of *any* food group can lead to disturbances in biological health and interestingly, also environmental health.

### **How Changing Food Habits Endanger the Environment**

The nutrition transition is now ubiquitous in Ecuador and evokes warranted health concerns. The burden that this transition places on the environment poses serious challenges.

One of the most profound responses to Malthusian fears wrought by exponential population growth was the technological advancement of the Green Revolution in the mid-1970s, which sought to eradicate world food scarcity (Smith, 1998: 207-219).



Sophisticated machinery came to replace manpower while fertilizers<sup>1</sup> and chemicals came to interrupt natural water and solar input cycles. The Green Revolution not only created a more industrialized agricultural system, but also a more globalized food system characterized by surpluses in higher-income countries and greater imports by lower-income countries. An influx of subsidized food imports, mainly from the United States and Europe, has displaced many small-scale farmers around the world, creating waves of domestic and international migration from rural to urban areas.

The dominance of industrialized farming and the death of small-scale farming have led to a reshaping of social and economic structures, have necessarily influenced the way in which our food habits and choices are governed, and have instigated some of the gravest environmental repercussions of our time. From urgent issues of deforestation and climate change, to symbolic strains on cities' metabolisms, unchecked and unbalanced food production and consumption adds a burgeoning barrier to Earth's survivability.

It has been documented that at least 22 times as much fossil fuel is needed to produce a given amount of protein from industrially raised cattle than a given amount of protein from cereals and legumes (Lappé, 1982: 74). This is a figure that drops even more jaws once we look at how cattle raising degrades biodiversity. In terms of the nutrition transition, the theory states that as salaries rise, meat often becomes the protagonist on one's plate, a trend that is contributing to deforestation.

The "hamburger connection" links meat consumption to deforestation, one of the most rampant and ongoing causes of climate change today. Between 1990 and 2000, Brazil cleared 17.2 million hectares of Amazon forest, an area twice the size of Portugal; Between 1997 and 2003, the volume of cattle carcass exported by Brazil increased fivefold (Kaimowitz et al., 2004: 2-3). An article in *The Guardian* evidences the "hamburger connection" in Ecuador by showing that yearly per capita meat consumption has more than doubled nationally, from 17.9 kilograms in 1961 to 45 kilograms in 2002 (Brown, 2009). Lush, irreplaceable Amazonian ecosystems are being slashed and

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<sup>1</sup> It is worth noting that between 1939 and 2000, the global use of synthetic nitrogen fertilizer increased from 3 million tons to 85 million tons. Without the extra food that the application of artificial fertilizer allowed for, 40% of the world's population would not exist (Dumanoski, 2009: 25).

substituted with cattle farms in order to meet domestic and world meat demand, a demand perpetuated by “the special cultural relevance now associated with national and multinational fast food brands as indicators of social status, material affluence, and modern taste” (Matejowsky, 2009: 32).

Meat has historically been regarded as a “superior” food and holds a great symbolic significance for many societies and religions. “Meat has traditionally transmitted an aura of health, wealth and prosperity”, but is being sizzled into a state of deliberation, explained by the fact that “for many people rejection of meat intrinsically symbolizes rejection of the ethic of unrestrained exploitation of the natural environment” (Fiddes, 1990: 241-51). For many, the production and consumption of meat is now a symbol of various health and environmental affronts (Fiddes, 1990: 241-51). More than ever, it is important to consider the relationships and interrelatedness of human and environmental health, as one necessarily influences the other. The next concept, “obe-city” is one that explores this relationship.

Human metabolism is inextricably linked to the social metabolism of its environment. This is the concept of “obe-city”, which Marvin and Medd (2006) describe as occurring when fats and oils disposed of by restaurants and processing plants congest pipelines and contaminate water in cities; these same fats and oils analogously obstruct human arteries and lead to alarming ailments. The Water Environment Federation (WEF) website describes how “fats, oils and grease aren’t just bad for your arteries and waistline; they are bad for sewers, too. These substances can clog sewer pipes, leading to overflows and backups that can create health hazards, damage home interiors and threaten the environment” (WEF, 1999). The climbing consumption of fats and oils, which is a clear signal of a nutrition transition, causes complications in the metabolism of society as a whole and remains a hurdle for both public health and city planning.

In light of the surging nutrition transition in Ecuador, it is imperative to address the idiosyncrasies of this transition in the country, understand dietary behaviors that exacerbate the transition, and determine what populations are at risk of acquiring non-communicable diseases that accompany the transition. Informing about the implications of the nutrition transition will sensitize citizens and draw attention to the need for fostering health-conscious communities. Moreover, it is essential to commit more

resources and dedicate more investigative efforts to qualitative approaches to the nutrition transition. In this perspective, the questions that give rise to this thesis are: How has the nutrition transition historically taken shape in families who have members suffering from diabetes and how are these members now dealing with this disease? What policies/programs in Ecuador are responding to the rise of the nutrition transition? In the face of such a complex problem, the following hypotheses arose within four main categories:

#### *Urban-Rural Dynamic*

- While nutrition transition is generally more linked to populations in urban areas than rural areas, the nutrition transition in Ecuador presents equally serious challenges to urban and rural communities alike.

#### *Socioeconomic Status and Health*

- Families with a lower socioeconomic profile will tend to have greater inadequacies for gaining education about and attaining balanced nutrition, while families with a higher socioeconomic profile will tend to have greater adequacies for gaining education about and attaining balanced nutrition
- Those from a lower socioeconomic status and who suffer from diabetes are less likely to receive proper diagnoses and treatment, while those from a higher socioeconomic status and who suffer from diabetes are more likely to receive proper diagnoses and treatment

#### *Food Industrialization and Generation*

- Due to a present food system that continues to grow more industrialized, younger generations are generally more affected by the implications of this industrialized food system such as eating processed foods and eating meals away from home. While older generations were generally less affected by these implications in their youth, they tend to experience these implications as time progresses.

#### *Food and Gender*

- Women, more than men, are responsible for food organization such as shopping and cooking, and for maintaining food-related activities and traditions such as holiday/special gatherings and family recipes

## **General Objective**

- Analyze how diabetes, understood as a consequence of the nutrition transition, is affecting Ecuadorians, and explain how the country is responding to the increasing presence of this disease

## **Specific Objectives**

- In the context of the nutrition transition theory and other relevant theories, relate and analyze the experiences of three generations of two families who have members suffering from diabetes
- Detail what policies and programs are addressing the nutrition transition in Ecuador, particularly the presence of non-communicable diseases
- Determine the extent to which urban and rural geographies influence the nutrition transition
- Establish how socioeconomic status influences ones access to nutrition information and medical care, and ones overall nutrition
- Characterize how a greater industrialized food system affects food-related experiences in different generations
- Determine the role that women play in maintaining food traditions and ensuring nutrition for their children

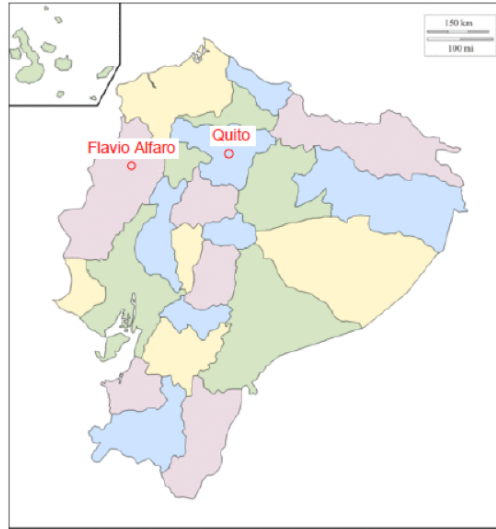
## **Methodology**

Like most other chronic diseases, diabetes is *preventable*, yet the past decade has been one debilitated by chronic diseases in Ecuador and around the world. As indicated, non-communicable diseases are primarily attributable to an unsuitable diet and inactivity. My deepest interest, therefore, was to unearth how those who are suffering from diabetes, along with their families, have been adjusting their lives to the many complexities involved in diabetes management.

In order to accurately answer the question of the present investigation, which was to determine how families with diabetes or those suffering from diabetes are experiencing the nutrition transition, I approached the problem using a qualitative methodology, a path

seldom explored. This qualitative approach included the use of ethnographic elements. Ethnographic research is a powerful method because it encourages one to “use resources, skills, and privileges available to make accessible - to penetrate the borders and break through the confines in defense of - the voices and experiences of subjects whose stories are otherwise restrained and out of reach” (Madison, 2005: 5-6). Engaging in dialogue with the Other is a way to transmit alternative knowledge to the general public and to emancipate misleading notions about preconceived social “norms”. An ethnographic analysis of the nutrition transition is an enlightening approach as it uncovers the often overlooked, yet everyday food habits practiced by the actors themselves. I conducted observations and semi-directed interviews at the very homes of various family members, affording a rich interpretation of the nutrition transition.

As fairly little qualitative research on nutrition transitions has been realized in Ecuador, my aim was to transmit a more authentic interpretation of the perceptions of those dealing with diabetes. I observed, interviewed, and shared time with three generations in two families, one from the capital city of Quito located in the Sierra and one from a small, rural town called Flavio Alfaro, located on the Coast. In total, I interviewed five members from each family, for a total of ten interviews. Each interview lasted an average of two to three hours. All of the visits in Quito were done during the day, and seven visits were completed in total. To interview The Rural Family, I took two separate trips to Flavio Alfaro, totaling four days; I also conducted an interview for The Rural Family in Quito, where one member now lives. Additionally, I made a point to actively participate in at least one significant food-related event. In The Urban Family, this consisted of helping prepare a traditional dish called *fanesca* and in The Rural Family, this consisted of helping prepare a variety of typical dishes that were sold at one member’s food stand. Below is a map of the two areas where I conducted research.



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Source: Modified from zonu.com (2012)

I began interviews and observations in March 2012 and concluded in September 2012. While three generations were interviewed in The Rural Family, because of an unforeseen family conflict, I was unable to obtain a personal interview with the oldest generation of The Urban Family; instead, I interviewed another family member regarding this generation.

It should be noted that both families have been affected by diabetes, but not every family member interviewed suffers from diabetes. For instance, in The Urban Family, although only one member from the second generation suffers from diabetes, every family member was in some way affected by the drastic changes that ensued after its detection. In The Rural Family, one member from the second generation and one member from the third generation suffer from diabetes, yet it is a disease that has become all too familiar for the entire family. By diligently recounting their narratives, it is possible to display a first-hand account of how these families are living the nutrition transition through the presence of diabetes.

It is interesting to note that my thesis has naturally culminated in a study of women. All ten members interviewed, less one member from The Urban Family, were women. Occasionally however, a member's husband would be present and provide insight into a question.

In the book, *Ethnography: Principles in Practice*, authors Hammersley and Atkinson (1983) set forth guidelines for designing, performing, and interpreting ethnographic fieldwork. The authors sustain that, when conducting ethnographic research on food, three major dimensions should be taken into consideration: time, people, and context. Within each dimension, appropriate categories must be delineated. The following table shows the dimensions and categories that I took into consideration when completing my observations and interviews:

	Category I	Category II	Category III
<b>Time</b>	<ul style="list-style-type: none"> <li>• Breakfast</li> <li>• Lunch</li> <li>• Dinner</li> <li>• Snacks</li> </ul>	<ul style="list-style-type: none"> <li>• Weekdays</li> <li>• Weekends</li> </ul>	<ul style="list-style-type: none"> <li>• Holidays</li> <li>• Special occasions</li> </ul>
<b>People</b>	Age	Socioeconomic status	Gender
<b>Context</b>	Diet at home	Diet at work/school	Diet at special celebrations

All of these dimensions served as useful input when creating my interview sheet and while subsequently conducting interviews and observations. I recorded how meals were prepared and organized during weekdays, weekends, holidays, and celebrations. I was careful to attentively observe the home, interior and exterior, of each family member. I took note of the conditions in which they live, the space that their homes or apartments occupied, and focused detailed attention to the composition of the kitchen, where ingredients are transformed into food.

With each observation and semi-directed interview, I was given a finely tuned idea about what limitations, relationships, and paradigms influence and impel the state of their nutrition. The interview sheet used was adapted from Annie Hubert's (2004) qualitative food research questionnaire. Keeping in mind the rural-urban dynamic, socioeconomic status, generation, and gender, the main categories included in the questionnaire were: organization of food shopping and cooking; food and shopping before and after appearance of diabetes; changes/difficulties/novelties related to diabetes;

consumption habits on weekdays, weekends, at work, outside the home, during holidays, and during special events; learning how to cook; healthcare services; exercise/physical activity; opinions of nutrition.

Both families graciously opened their doors to me, engaged me in their stories, and allowed me to help prepare and savor the flavors of their cuisine. The two families interviewed not only live in distinct geographical locations, but also have distinct socioeconomic backgrounds. For the protection of the members of each family interviewed, no real names will be used, and I have assigned pseudonyms to each member to allow for flow and authenticity. I have also deemed the family from Quito, The Urban Family and the family from Flavio Alfaro, The Rural Family.

All of the interviews in The Urban Family and The Rural Family were done in Spanish with the exception of Jacqueline, the eldest daughter from The Urban Family, as she preferred to speak in English. I took notes and also recorded each interview, then transcribed both the written and recorded information obtained. Direct quotes and names of many typical dishes have been kept in Spanish to allow for accuracy and original meaning. Apart from the interviews and observations done with the families, I also conducted a thorough examination of primary and secondary resources related to the nutrition transition, including academic articles from multiple databases, governmental and non-governmental websites and working papers, and various national and international agency websites and materials.

The present document has been organized into five subsequent chapters. Chapter I includes a review of current and theoretical literature related to the nutrition transition; Chapter II describes how Ecuador is responding to the nutrition transition; Chapter III will recount interviews done with The Urban Family; Chapter IV will recount interviews done with The Rural Family; Chapter V analyzes and concludes the interviews, wrapping up with final considerations and recommendations. As there may be many unfamiliar food terms, a food glossary has been included in Annex II.



## CHAPTER I ACADEMIC INSIGHTS INTO THE NUTRITION TRANSITION

### **State of the Art**

The State of the Art of the nutrition transition currently finds itself in an era of groundbreaking nutrition consciousness juxtaposed with never before seen chronic disease health crises. The following section will review relevant academic literature addressing the nutrition transition.

Dr. Barry M. Popkin has been one of the most prolific voices of the nutrition transition. He began his research in the 1970's and eventually developed the Nutrition Transition Theory (Carolina Population Center, 2012). Currently a professor of nutrition at the University of North Carolina-Chapel Hill, his work has been published in over 400 journals and books. He is author of the book, *The World is Fat* (2009), editor of the book, *The Nutrition Transition: Diet and Disease in the Developing World* (2002), and Director of the Nutrition Transition Research Program at the Carolina Population Center. He has worked in a diversity of countries, including Brazil, China, Japan, Mexico, Russia and the United States. The research conducted by Popkin has been and continues to be predominately quantitative, as expressed on their website: "Our research program is based on a major focus on in-depth longitudinal surveys that rely on snapshots of populations living under natural conditions" (Carolina Population Center, 2012). The research that exists on the nutrition transition in Latin America has similarly followed a quantitative approach.

There have been a number of studies done on the nutrition transition in Latin America. The dual burden of obesity and undernutrition is the most striking trend common to many Latin American countries undergoing the nutrition transition.

O'Donnel and Carmuega (1998) review the nutrition transition in Argentina, focusing primarily on the effect it has on children. Similar to the situations in Peru and Venezuela, the authors emphasize that obesity and undernutrition are occurring at the same time. The authors express their dissatisfaction for both a scarcity of research on the subject, as well as delays in public health and nutrition interventions in the country.

Another informative study done in Argentina by Oyenhart et al. (2005) compared the state of the nutrition transition in children residing in three cities with different urban-environmental complexities. The city with the greatest urban complexity, La Plata, showed the greatest presence of undernutrition, overweight, and obesity in the children measured; Brandsen, the city with an intermediate urban complexity, showed less presence of undernutrition than La Plata, but an equally pronounced presence of overweight and obesity; General Alvear, the city with the least urban complexity, showed the fewest levels of undernutrition, overweight, and obesity of all the cities. The authors pointed out that their research supports Popkin's (1999) observation that the nutrition transition generally affects areas with greater urbanization.

In México, Ortiz-Hernández et al. (2006) researched changes in several factors related to the nutrition transition, focusing on demographic and socioeconomic changes, food availability, and food expenses from 1980-2000. Using official statistics from various censuses and surveys, they underlined that increased urbanization and increased tertiary-sector jobs have been analogous to a greater availability of high fat and protein foods, a more diverse diet, and greater opportunity to consume food prepared outside the home. At the same time, there have been increases in both the sale of equipment designated for physical activity and areas designated for recreational activities. The authors suggest that a reduction in primary jobs, which are generally the most labor-intensive, could create a more sedentary México.

In Peru, Lanata de las Casas et al. (2007) emphasize the coexistence of overweight and undernutrition in mothers and children in both rural and urban areas throughout the country. Concerned by this situation, information was collected as part of a demographic and family health survey and the subsequent document was elaborated in order to stimulate policies that would foment nutrition initiatives in the country.

In Venezuela, Herrera (2010) acknowledges that, similar to the situation in Peru, the country is experiencing a nutrition transition that is complicated by the coexistence of undernutrition and over-nutrition, at times even in the same family. In the face of this growing burden, Herrera calls for the application of responses that are based on documenting individual and population intervention strategies by using the American Dietetic Association (ADA) Nutrition Care Process (NCP). Documenting these strategies,

Herrera argues, will allow for more accurate nutrition responses and the ability to advance more scientific research on this subject.

Unlike the other Latin American countries just reviewed, Chile is dealing mostly with obesity, not undernutrition. The nutrition transition occurred rather rapidly at the beginning of the 1980's in Chile; while undernutrition was almost completely eradicated by the end of the 1980's, the predominant nutritional concern for all age groups in Chile is now obesity. The programs and policies established by the health promotion policy initiative called Vida Chile, mainly in the form of campaigns by social and educational groups, have led to important steps to combat obesity, though the authors lamented it was not enough to meet the 2010 obesity reduction goals (Vio del Rio and Brevis, 1998; Vio del Rio and Salinas, 2006).

In Ecuador, a two-part article published in 1995 by Miguel Pasquel, Marina Moreno and Adriana Carvajal has been one of the latest attempts to characterize the nutrition transition. In numbers, the article assesses agricultural production, consumer purchasing power, population growth and prevalence of non-communicable diseases, among other variables. The authors admonish the absence of sound responses and preventative action regarding the high rise in non-communicable diseases in Ecuador at the time (Pasquel et al., 1995a,b). More than a decade later, Rodrigo Yépez, Manuel Baldeón and Pablo López revisited the growing dilemma of non-communicable diseases in Ecuador with a vigorous characterization of the problem of overweight and obesity in Ecuador. Their work highlights the first quantitative studies done on the subject in the country, reviewing its relationship to other non-communicable diseases and offering individual and collective nutritional advice to readers (Yépez et al., 2008).

While the nutrition transition generally highlights the presence of non-communicable diseases like diabetes, obesity and overweight, Ecuador struggles to battle both overweight and underweight, like many other Latin American countries. I spoke with a member of the OPS who questions the theory of the nutrition transition because he believes that it fails to tackle the double burden of undernutrition and overweight, two related problems that are occurring simultaneously in Ecuador:

*Ponemos en duda la transición nutricional porque todavía hay desnutrición severa y hay bastante sobrepeso y obesidad. Tú puedes tener una persona obesa y anémica porque no consume balanceadamente. Entonces no hay ninguna*

*transición, sino que están los dos problemas pesando a la vez. Ni siquiera estamos transitando. Ni siquiera nos vamos por el camino que se va a acabar la desnutrición en el Ecuador. Hay casi un millón de niños con desnutrición aguda en este país. Lo más que puede llegar la tasa de la reducción anual de la desnutrición crónica en el país es 1% por año. Y es alrededor de 25%. Entonces para erradicarlo sería por lo menos 26 años. El enfoque que estamos dando es inclinado a las intervenciones de malnutrición, lo cual engloba todas las carencias nutricionales (Ismael Soriano, 2012, interview).*

Though Ecuador is on target to halving its 1990 children underweight rate by 2015, its high rates of stunting, Vitamin A deficiency, and iron deficiency pose added challenges for its population (World Bank, 2011).

Soriano challenges the theory of the nutrition transition because of its inability to draw relationships between undernutrition and overweight. Research done in Brazil, Guatemala, and India, among other countries, showed that underweight infants and stunted children were at greater risk for acquiring diabetes and heart disease than properly nourished children (Victoria, et. al, 2008). Another study completed in Brazil, China, Russia and South Africa showed significant association between stunting and overweight status in children (Popkin, et. al, 1996). The two research examples cited above suggest that important links between undernutrition and overweight have been studied, though nutrition transition theory does a poor job of relating these findings. It is therefore important that nutrition transition theory make the link between undernutrition and overweight more apparent, as it is seldom discussed in serious depth, but does pose a serious challenge for many Latin American countries. Moreover, it is essential to identify relationships among different nutritional realities in each country and region. As every country has a unique set of circumstances, every country accordingly experiences a unique nutrition transition.

Considering that much of the current literature interprets the problems associated with the nutrition transition using quantitative approaches that show how much urbanization or caloric intake has risen in a particular area, it is necessary to detail other factors influencing the nutrition transition. The following researchers, along with their ideas, are emphatically focused on procuring a more progressive portrait of nutrition.

Geoffrey Cannon, editor of the *Journal of the World Public Health Nutrition Association* and Claus Leitzmann, retired German professor and staunch advocate of veganism and vegetarianism together laid the foundation for the New Nutrition Science Project. It is a concept poised at the intersection of biological, sociological, and environmental sciences. Furthermore, it contends that nutrition science has historically overemphasized a biological approach and hence requires a new framework that includes social and environmental sciences in order to respond to the complexity of 21<sup>st</sup> century nutrition (Cannon and Leitzmann, 2005). The New Nutrition Science Project is an effort to integrate, in a more systemic manner, the diversity of disciplines that are relevant to, but have traditionally been left on the back burner of nutrition science agendas.

Nutrition therefore now needs a new conceptual framework, as a biological and also an environmental and social science, able to analyse and assess all relevant determinants of well-being and disease, and to take effective action. The new nutrition science will follow ethical and ecological principles, respect history, tradition and culture, affirm human rights, and be committed to the creation and maintenance of policies and programmes designed to preserve and protect the human, living and physical world all together (Cannon and Leitzmann, 2005: 674).

The project thus focuses on merging social, environmental, and biological in order to adequately manage the variegated crises that are already provoking a transformation in nutrition science. The authors stress the difficulty of challenging the classical approach to nutrition, which compartmentalizes subjects and inhibits their convergence. This means that nutrition has historically been taught within the confines of the biological sciences, with little emphasis on social and environmental studies. With great optimism, we are reminded that from the 1970s onward, the most revolutionary books on nutrition have succeeded due to their ability to combine social, environmental, and biological aspects, recognizing that “biology is not enough” (Cannon and Leitzmann, 2005:683).

Jane Dixon, a senior fellow at Australian National University, whose work is inspired by sociology and public health, and Philip McMichael, a sociology professor at Cornell whose forte is international food systems, have made known the relations that shape food and nutrition policies. These policies are subsequent blueprints for food aid, food trade, and food production and consumption methods. The historical power structures and relationships that have thus far defined what nutrition is and how is has

been applied are known as food regimes (Dixon, 2009; McMichael, 2009). Food regimes will be discussed in greater detail below.

Sherwood et al. see the problem of obesity as one that can be linked to poor public policies, namely policies that favor agricultural modernization and the risks that come with it, including exposure to toxins, social fragmentation and environmental strife. “Individuals do not act alone in their food choices. Food preferences, eating habits and (in)activities are largely complex co-constructions, involving individuals operating in the contexts of evolving cultures, social networks and political-biological environments” (Sherwood et al., 2011: 8). The article further examines the avant-garde counter-movements surging across Ecuador such as the *Canastas Comunitarias*, which allow local producers and consumers to support one another, as potential alternative courses of political action and organically grown health strategies (Sherwood et al., 2011).

The state of the art offers valuable information about current topics in nutrition transition research, and can help indicate and orient future research efforts.

### **Theoretical Framework**

The nutrition transition is about more than changes in diet; it is also about changes in policies that govern production and consumption. It is about food’s power to convey meaning, symbolism and relationships. Since food, eating, and its every aspect are in constant contestation, the nutrition transition will be analyzed from several theoretical positions.

This section will address theories from political, economical, sociological, environmental, and anthropological dimensions in order to gain a broader and more accurate understanding of the nutrition transition. I have included a breadth of different theoretical disciplines related to the nutrition transition in order to demonstrate how far it reaches and how much it relates to a range of other relevant subject material.

It is first worth reviewing the nutrition transition, which is a process that occurs according to three definitive stages as described below:

In Stage 1, famine begins to recede as income rises. In Stage 2, changes in diet and activity pattern lead to the emergence of new, degenerative diseases and increased disability. In Stage 3, behavioral change begins to reverse the negative tendencies and make possible a process of ‘successful ageing’ (Popkin, 2003: 582).

The change from Stage 1 to Stage 2, in which non-communicable diseases appear due to fat and calorie dense diets, is when the gravest implications will be witnessed. Stage 3 assumes a departure from non-communicable diseases and an improvement in diet. Determining which stage communities and family members are experiencing, and why, are inquiries that must be explored and understood in more depth.

In his book, *The World Until Yesterday: What Can We Learn From Traditional Societies?*, Jared Diamond chronicles the transition from communicable to non-communicable disease, and makes particular reference to changes undergone by many traditional societies (Diamond, 2012). He describes how European and American influences have led to diets marked by a high consumption of processed foods and a sedentary lifestyle. Diamond explains that the transition from communicable to non-communicable can be categorized according to four sets of “natural experiments” : when countries quickly and often suddenly become wealthy and consequently adopt a Western lifestyle and diet, such as oil-producing countries; when individuals with more traditional lifestyles immigrate to Westernized countries and adopt their lifestyle; when populations in emerging countries like China gradually become more industrialized; when traditional rural communities experience changes in diet without migrating due to structural changes, such as the Pima Indians of the US (Diamond, 2012: 413). These lifestyle changes have created, for example, one of the highest prevalence’s of diabetes in the world among certain populations of Papua New Guinea, a disease which was absent under traditional living conditions (Diamond, 2012).

While the categories set forth by Diamond (2012) are quite broad, it is noted that lifestyle changes are occurring in both urban and rural sectors. Using the example of Papua New Guinea, Diamond (2012) sustains that the displacement of traditional dieting and an active lifestyle could just as likely occur in a village as it could a city. This is an important contribution to nutrition transition theory as it shows the complexity of urban-rural dynamics. It also proves that each region and each country will have a singular experience with the nutrition transition, and so more specific cases must be studied and understood.

### *Ephemeral Food Regimes*

It is essential to broaden our perspective and introduce other theories that can inform and influence nutrition transition theory. The idea of food regimes is one that analyzes the history of food transitions from the vantage points of globalization and political-economy:

The ‘food regime’ concept historicised the global food system: problematising linear representations of agricultural modernisation, underlining the pivotal role of food in global political-economy, and conceptualising key historical contradictions in particular food regimes that produce crisis, transformation and transition (McMichael, 2009:140).

It could well be argued that food regime transitions are the very catalysts of nutrition transitions, and this section will review relevant literature that bolsters this position.

Jane Dixon’s (2009) meticulous interpretation of the nutrition transition through a food regime analysis keenly and critically addresses the role of technical rationality in scientifically marketing foods and creating a worldwide food-trade network, a socio-technical process deemed nutritionalisation. “Nutritionalisation involves three sub-processes: the enumeration, enrichment and promotion of both single foods and national food supplies in terms of a nutrient values profile (amounts and types of energy, protein, fats etc.)” (Dixon, 2009: 321). The governing of the food system according to these sub-processes is made possible by marketing and policy strategies of agro-businesses, governments and science and technology alike, processes called food regimes. Dixon’s is a compelling and comprehensive argument that challenges popular and ostensibly accurate notions of nutrition by contextualizing the evolution of three food regimes.

The first regime, deemed the *imperial calorie*, developed in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. It explains the rise of the calorie and its particular ability to quantify human energy as the superior measurement of nutrition. The work of leading mid-19<sup>th</sup> century German chemist, Justus von Liebig, was instrumental in promoting animal protein as the most fundamental nutritional component (Carpenter, 1994). Liebig believed that the single most significant source of energy for muscles was provided by protein (Carpenter, 1994). This set the stage for the US and Europe’s mass introduction of animal meats and dairy products into the world food system (Dixon, 2009: 324). The second food regime, also known as the *protective vitamin*, cites the early 1900’s practice



of enriching previously processed food items such as white flour and margarine with vitamins, thereby paradoxically presenting them as “protective” foods. The vitamin enrichment process empowered the chemical industry and led to the endorsement of FAO food aid programs that actually promoted the dumping of “enriched” food items in certain countries; this was a guised and very *unprotective* practice as it led to interferences in both trade and production for recipient regions (Dixon, 2009: 325-26).

The enduring result of the second food regime can be summarized below:

Food aid subsidised wages, encouraging selective Third World industrialisation, and securing loyalty against communism and to imperial markets. ‘Development states’ internalised the model of national agro-industrialisation, adopting Green Revolution technologies, and instituting land reform to dampen peasant unrest and extend market relations into the countryside (McMichael, 2009: 141).

The Green Revolution is a phenomenon that has intensified the nutrition transition as it has increased the production of and made culturally common and readily available to the world certain cash crops like corn and wheat. Consequently, it has decreased the production of and made more scarce certain traditional, local crops. Verónica Andino (2009) describes how Ecuador’s food reality in the 1970’s reflects this trend, in which a rising middle class marked this decade, both in terms of rising levels of income and rising population. This fortified Ecuadorian middle class changed the demand structure of the country by developing a preference for “superior” foods like livestock and food elaborated using imported materials, like bread made from imported wheat. Rice has also become a staple crop of lower class sectors of the Ecuadorian society, in turn displacing once more popular traditional crops like *habas* and *guineos*.

The history of wheat in Ecuador is one that Nicolás Cuvi has earnestly explored. It is noted that in the 20<sup>th</sup> and 21<sup>st</sup> centuries, the tightly owned wheat mills in the Ecuadorian Sierra were not functioning at full capacity and consumer demands were not being met. The outcome was a conflict between the importers who heralded imported wheat and Ecuadorian producers and millers in the Sierra who pleaded for protection against these imports. It was a struggle that would ensue for years to come, disfavoring national wheat, displacing wheat farmers particularly in the Sierra, and ultimately generating a national milling industry dominated by foreign wheat (Cuvi, 2009: 171-86). “El pan que comemos entonces no lo sembramos en los Andes, donde hay una tierra rica

y fértil para ello [...] pero el paisaje Serrano que estuvo pintado con el color del trigo por años, comenzó a declinar ante la ‘ayuda alimentaria’ y un Estado no proteccionista” (Cuvi, 2009: 205-06). The same applications of non-protectionism have led to a conspicuous nutrition transition in Ecuador.

The politics of wheat in Ecuador is just one example illuminating the impact that Green Revolution technology has had on and continues to have on the food industry, and on dietary preferences and perceptions in Ecuadorian communities. Moreover, wheat is a key ingredient for the second food regime and processed, white flour is often deemed an empty calorie.

It is due to the second food regime’s success in proliferating processed foods high in fats, oils and sugars that Stage 2 of the nutrition transition—the stage in which diet-related diseases such as Type II diabetes, heart disease and obesity appear— is also termed Degenerative Diseases. The prominence of these processed foods is what Dixon calls the era of the ‘empty calorie’ and describes the rise of the empty calorie as follows:

The socio-technical system responsible for the transition from the protein to vitamins to empty calories, and a subsequent nutrition crisis, was based on an interconnected web of firms, governments and pan-national organisations located in the US and ‘old’ Europe [...] This particular crisis in nutrition is causing tensions between national governments and the processed food and food services sectors (Dixon, 2009: 327).

These growing tensions are largely due to an acute “awareness of diet-related health inequalities and the environmental externalities generated by a nutritionalised food system [...] The crisis has escalated in the last quarter century due to interactions between unhealthy diets and disrupted agro-ecologies” (Dixon, 2009: 322). It is urgent to make apparent the connection between ecological health and human health. A drastic change in the rhythm and style of daily life has created a cohort of consumers that are disconnected from and often misinformed about that which maintains life.

Both Dixon (2009) and McMichael (2009) mention a possible emerging third food regime of antioxidant-rich foods, namely exotic fruits and vegetables being grown in developing countries and exported to the dominant developed countries. This evolving regime is strikingly in sync with Stage 3 of the nutrition transition, also known as “successful ageing”, in which consumers become more conscience about maintaining a healthier diet rich in plants. However, the “trading” from east to west and south to north

implies that exporting countries will not have the opportunity to write their own food destinies, a scenario seething with similarities to the first and second food regimes.

Food regime analysis provides ample eyebrow-raising evidence of the tribulations associated with the application of classical theories of nutrition. These conventionally reductionist theories are functionalized and legitimized by an exclusive network of nutrition relations that tend to omit social and ecological welfare from the equation, components which cannot be underestimated if a progressive and modern approach to nutrition expects to advance.

### ***Sociological Considerations***

Sociology is a useful field to consider, especially since my fieldwork involves analyzing members of two families from different socioeconomic levels. Sociology offers a unique look at the factors that influence individual behavior, and the shifting and often conflictive patterns that these behaviors lead to in societies.

As one of the foremost developers of the science of sociology, one of Émile Durkheim's most momentous contributions to the field was the creation and application of the concept of social facts. Social facts do not manifest themselves through the will or interest of the individual, but rather through the collective, social interest of society (Durkheim, 1982). This means that it is not the individual that determines the role and function of society, but rather it is society that determines the role and function of the individual. Religion, law, education, and the monetary system are all social facts that exist independently from the individual; at the same time they are externally imposed upon the individual in a coercive fashion (Durkheim, 1982).

The nutrition transition could be interpreted as a social fact because it is manifested in the interior of society through the coercion of external forces, as previously reviewed in food regime analysis. In this case, the most ostensible external forces are the agri-food industries dedicated to massive food production, multinationals and communications media dedicated to ensuring the sale and *acculturation* of these products, and finally governments that create policies that allow these products to reach local communities. On the other hand there are consumers, the receivers of messages and products delivered to them. Nutrition transitions are, therefore, social and environmental conflicts defined by

the power, legitimacy, and complicity of economic and political spheres at the expense of social and environmental health.

Socioeconomic constraints and chronic diseases relate in a way that must be understood. Pedraza (2009) develops the link between obesity and poverty in Latin America through his theory of *Obesidad en la pobreza*. Although my investigation focuses on type 2 diabetes, the theory of *Obesidad en la pobreza* also applies, as the two diseases often go hand-in-hand, and often result from the same lifestyle habits. Moreover, I was also able to observe, though I did not measure, that many of the members interviewed suffered from overweight. This theory essentially explains why and how poverty can result in obesity:

*Las tendencias de aumento y de las diferencias sociales en la obesidad, hacen que las minorías y aquellos estratos de la población con menor nivel educativo y socioeconómico puedan ser los más afectados. En los pobres la obesidad se asocia, entre otros, a episodios de desnutrición en la edad temprana, incluso durante la vida intrauterina, a factores alimentarios, socioculturales y de género. La relación entre la obesidad y la condición socioeconómica es muy variable y compleja, ya que la asociación es diferente en contextos socioeconómicos distintos (Pedraza, 2009: 103).*

A host of factors including exercise, diet, psychological factors, genetics and sociocultural factors influence the relationship between obesity and poverty. The author analyzes the complexity of obesity and socioeconomic status and ultimately calls for Latin American countries to prioritize obesity in poverty on their agendas, as well as make more readily available nutrition information about the determinants and consequences of obesity.

### ***Anthropological Perspectives on Food***

Nutritional Anthropology has covered various aspects of eating habits, including biological, cultural and social aspects. “Food marks social differences, boundaries, bonds, and contradictions. Eating is an endlessly evolving enactment of gender, family, and community relationships” (Counihan and Esterik, 1997: 3). Anthropology has allowed for a wide-range of interpretations with a much more detailed look at food distribution and consumption habits taking places within societies, families and households.

In his work, *Distinction*, Pierre Bourdieu takes on a structuralist approach to food. He examines the French social structure, contending that consumer behavior and taste

preference can be understood by observing the dominant class, the middle class, and the working class. The economic and social disparities among these classes create two specific taste distinctions: the taste for freedom and the taste for necessity.

Thus it is possible to deduce popular tastes for the foods that are simultaneously most 'filling' and most economical from the necessity of reproducing labour power at the lowest cost which is forced on the proletariat as its very definition. The idea of taste, typically bourgeois, since it presupposes absolute freedom of choice, is so closely associated with the idea of freedom that many people find it hard to grasp the paradoxes of the taste of necessity (Bourdieu, 2000: 177-178).

The taste stratification allows for a better understanding of the structural restrictions and liberties that are imposed upon classes, and often obligate certain food behavior, hence creating distinctive notions of taste, and it could be argued, nutrition. Beyond a taste distinction, Bourdieu demonstrates power inequality by pointing out that bourgeois has the purchasing power to consume the possibilities granted to them through their liberty, while the monetary constraints of the proletariat limit them to a consumption of necessities.

Mary Weismantel is a food anthropologist who has written extensively on Andean communities. In her work with the Ecuadorian community of Zumbahua, she had this provocative account to share about transitioning food habits in one indigenous community:

The transformation of indigenous practice occurs not only when the schoolchild is taught to salute the Ecuadorian flag, but also when his mother hesitates over what foods to serve her family, fearful that there is something inadequate in a meal of 'just' homegrown foods. Even women who have little interaction with white outsiders, separated from them by the language barrier, learn the lessons of cultural and social inferiority...Potatoes and mutton fade before the images of white rice and chicken, bread and Coca-Cola (Weismantel, 1988: 22).

Perceptions of food preparation and consumption in Zumbahua are becoming influenced and in many cases displaced by manufactured meanings of food, similar to how Kelly et al. (2012) described the pervasiveness of advertisement campaigns that defy nutrition recommendations, yet, as we can see, necessarily influence consumer choices and nutrition outcomes. This is interesting to reflect on as it shows how the hype exposed by the omnipresent, modern food industry can induce a restructuring and reorganization of social, nutritional, and even family values.

Gender is a theme that crosscuts anthropological studies and food studies in particular, and the role that gender plays in nutrition transitions is paramount. “Control of food across history and cultures has often been a key source of power for women...Women’s ability to prepare and serve food gives them direct influence over others, both material and magical” (Counihan and Esterik, 1997: 3). This power that women exert over others is termed the Gatekeeper theory, which explains how “women control the flows of goods, specifically food, into the household” (McIntosh and Zey, 1998: 128). Women are also seen as influencing family food habits within the household. However, the issue of control comes into question, for is it one thing to be responsible for food, but another thing to be in control of it (McIntosh and Zey, 1998: 126). In their study, it is discovered that men’s food preferences generally take precedence over women’s food preferences, and it is men who ultimately have authority over what food is served (McIntosh and Zey, 1998: 131). Men can also control flows of food by rejecting or accepting certain dishing while women often maintain control by refusing to cook certain dishes.

With the introduction of ready-to-eat foods and new cooking technologies that lightened women’s workload from the 19<sup>th</sup> century onwards, housework was viewed as mundane and the women performing it as lazy and inefficient. When women entered the workforce they simultaneously gained more gatekeeping control with greater socioeconomic status, yet lost control over what their children ate (McIntosh and Zey, 1998: 131). This implies that the role of women is fundamental in nutrition transitions, as their presence and absence greatly affect the next generation’s regard for and relationship with food.

From sociology to anthropology, and in between, all of the theories postulated in this section have articulated definitive interpretations of the changes and challenges related to the nutrition transition.

## CHAPTER II RESPONSES TO THE NUTRITION TRANSITION IN ECUADOR

As the far-reaching costs of nutrition transitions are manifest through the affirmation of numerous global and local facts and figures, it is essential to take a look at what measures Ecuador is taking in order to confront the problem, both at the public and private level. A central question of my thesis project, it is key to assess the quality of these responses.

Ecuador's low-rated capacity to address and respond to non-communicable diseases, which requires funding, reporting systems and prevention plans as described in Table 2, prove the need for active, integrated solutions.

**Table 2:** Ecuador's capacity to address and respond to non-communicable diseases (NCDs)

Has a Unit/ Branch/ Department in Ministry of Health with responsibility for NCDs	Yes
<i>There is funding available for:</i>	
NCD treatment and control	Yes
NCD prevention and health promotion	Yes
NCD surveillance, monitoring and evaluation	No
<i>National health reporting system includes:</i>	
NCD cause-specific mortality	Yes
NCD morbidity	No
NCD risk factors	No
Has a national, population-based cancer registry	No
<i>Has an integrated or topic-specific policy / programme / action plan which is currently operational for:</i>	
Cardiovascular diseases	No
Cancer	No
Chronic respiratory diseases	No
Diabetes	No
Alcohol	Yes
Unhealthy diet / Overweight / Obesity	No
Physical inactivity	No
Tobacco	Yes

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Source: Taken from WHO- NCD *Country Profiles* (2011b)

Fortunately, Ecuador has shown recent improvements in responses to non-communicable diseases. The 2008 Ecuadorian constitution is arguably one of the most progressive

constitutions ever created in terms of the environment, as it is the first in the world to grant rights to nature. It also bans genetically modified foods from entering the country unless it is in national interest, in which case the President and National Assembly would have to approve their entrance<sup>2</sup> (Constitución del Ecuador, 2008: Art. 401). While Ecuador can be criticized for languidly transforming many of these ideals into practices, the introduction of these ideals into legislation can be celebrated, as can the various sections that are conducive to health reforms.

There are several sections of the 2008 Ecuadorian constitution that directly or indirectly address nutrition. One category is *Derechos del Buen Vivir*. The *Buen Vivir*, also known as *Sumak Kawsay*, is a concept grounded in reevaluating age-old indigenous traditions and values in a modern day context, a process integral to the proposal of alternative lifestyles. The concept has received growing recognition and application in Latin America. What follows is one aspect of the *buen vivir* found in Ecuador's constitution:

*Las personas y colectividades tienen derecho al acceso seguro y permanente a alimentos sanos, suficientes y nutritivos; preferentemente producidos a nivel local y en correspondencia con sus diversas identidades y tradiciones culturales. El Estado ecuatoriano promoverá la soberanía alimentaria.* (Constitución del Ecuador, 2008: Art. 13).

This article underscores how the *buen vivir* is rooted in preserving and safeguarding the traditional cuisines that ultimately identify Ecuador. Promoting food sovereignty may be a very effective way to avoid some of the disturbances caused by nutrition transitions.

The avant-garde attention given to food sovereignty is another strength of Ecuador's Constitution. In its simplest form, food sovereignty is an effort to ensure that each community define its own, unique rights in regard to food production and consumption, free from external forces. In Ecuador, this includes the will to "*prevenir y proteger a la población del consumo de alimentos contaminados o que pongan en riesgo su salud o que la ciencia tenga incertidumbre sobre sus efectos.*" (Constitución del Ecuador, 2008: Art. 281, No. 13). There are a number of foods that are putting Ecuadorian health at risk. Studies conducted in 2005 and 2006 of over 500,000 students

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<sup>2</sup> Rafael Correa has recently expressed plans to reform the 2008 constitution in order to allow for the investigation and use of transgenic organisms, a step that is stirring substantial debate (Cuvi, 2013).



in over 1,200 schools in Guayaquil, Quito, and Cuenca found that four of every ten school snacks exceeded the recommended amounts of fats, which is 30% (Yépez et al., 2008). Most of this fat came from an abundant use of oils, especially palm oil (Yépez et al., 2008). One can be encouraged to see this issue on the agenda of the Constitution, though this idea must be put into practice by regulating foods that contribute to chronic diseases.

Another significant section of the Constitution elaborates on rights to health. “*Los servicios de salud serán seguros, de calidad y calidez...Los servicios públicos estatales de salud serán universales y gratuitos en todos los niveles de atención*” (Constitución del Ecuador 2008: Art. 362). Free and universal healthcare of high quality is a necessary attribute for Ecuador’s citizens.

It is Ecuador’s plan to “*formular políticas públicas que garanticen la promoción, prevención, curación, rehabilitación y atención integral en salud y fomentar prácticas saludables en los ámbitos familiar, laboral y comunitario*” (Constitución del Ecuador 2008: Art. 363, No. 1). If more preventative nutrition interventions based on diet-enhancement were realized, less focus on treating chronic diseases would be needed. Improving and promoting more solid preventative methods is a tall task considering that millions of dollars have been and are to be made in chronic disease treatment, especially pharmaceuticals.

Most explicitly, on two occasions the constitution states that it will particularly safeguard children, adolescents and adults from chronic diseases by guaranteeing them “*Protección, cuidado y asistencia especial cuando sufran enfermedades crónicas o degenerativas.*” (Constitución del Ecuador 2008: Art. 38, No. 8; Constitución del Ecuador 2008: Art. 46, No. 9). While these are the only articles in the constitution to refer to the term “chronic diseases”, wider concerns for chronic disease management have resulted in the elaboration and adoption of two very recent strategies authored by the Ministerio de Salud Pública.

The first strategy, entitled *Plan estratégico nacional para la prevención y control de las enfermedades crónicas no transmisibles-ECNT*, is a 58-page document published a little over a year ago under the aegis of the Pan American Health Organization (MSP, 2011). This strategy offers detailed descriptions and definitions of chronic diseases,

including cancer, diabetes, hypertension and many more. It also characterizes how these chronic diseases are affecting the world at large and specifically how they have been burgeoning in Ecuador over the past ten years. The elements and objectives of the strategic plan are solid and include important elements such as capacity-building, education, research, communication, and community participation. An extensive grid outlines what activities must be initiated in order to fulfill each objective and what departments will be responsible for ultimately executing these activities. Most of these objectives are scheduled for completion before 2013. While this strategy is an overdue step in the right direction, “*no es un plan Institucional ni operativo...es una herramienta de organización técnica*” (MSP, 2011: 11). Plainly put, this document is in no way binding, nor are its objectives and actions automatic. It will therefore remain a roadmap that one can only hope the *Ministerio* eagerly explores.

The other recent and well-designed document is *Normas y protocolos para la atención de las enfermedades crónicas no transmisibles: diabetes tipo 1, diabetes tipo 2, dislipidemias, hipertensión arterial* (MSP, 2011). It is a step-by-step guide that doctors can use for a more integral treatment process with patients. It is definitely a takeoff point from which to begin establishing best practices.

Ecuador’s Ministerio de Salud Pública is also currently dedicated to seven main research programs. Four of these address the threat of non-communicable diseases. The first is a proposed national health and nutrition survey, a survey that the Ministerio admits is long overdue. The latest national health and nutrition survey was completed in 1986 (MSP, 2012). A second significant program entails updating the composition table of Ecuadorian foods. The last table of its kind was elaborated in 1959. This is an exciting effort that would allow local and regional food knowledge to flourish. A third, pivotal program is one that focuses specifically on obesity in the poor, in infants, and in schoolchildren (MSP, 2012). The fourth promising research effort focuses on capacitating particularly vulnerable, low-income mothers about the benefits of fruit and vegetable consumption and the importance of a diversified diet in an effort to fight malnutrition.

SECIAN, La Sociedad Ecuatoriana de Ciencias de la Alimentación y Nutrición, is an active organization engaged in disseminating information about healthy dietary and lifestyle practices. One of its largest campaigns is the distribution of nutrition guides for

children and adolescents in schools throughout Quito (SECIAN, 2012). This effort will help inform younger generations, empowering them to take responsibility for their own nutrition.

The OPS (Pan American Health Organization) is an international public health organization. It functions as part of the United Nations and serves as the regional office of the World Health Organization. In Ecuador there are currently six major projects being carried out. One of these projects, *Promoción de la salud y prevención de enfermedades no transmisibles*, is fully dedicated to the topic of non-communicable diseases (OPS, 2012). The main goal of this program is to create more equitable, quality healthcare. An emphasis is placed on prevention, proper treatment and control of NCDs, and community participation. They are also supporting the *Plan Nacional de Promoción de la Salud*, which has formed a gender and intercultural-based approach (OPS, 2012). Through the use of conceptual frameworks, guides, and protocols, they are helping to bolster healthy communities. *Salud familiar y comunitaria* is another one of the six focus areas. The main objective of the program is to educate children and mothers about eating and nutrition (OPS, 2012). All of these programs help vitalize the constitution's focus on health prevention. This is an integral part of solving the problem of non-communicable diseases as promotion and prevention are much more cost-effective than treatment.

Authorities and organizations at the top of the political pyramid play but one part in program planning. Other alternative efforts that respond to nutrition transitions in more hands-on and grassroots ways are growing in scale and scope.

CONQUITO: Agencia Metropolitana de Promoción Económica has developed a project called Agricultura Urbana Participativa (AGRUPAR). The principal goal of this initiative is to provide assistance and training to stimulate local, organic food production (CONQUITO, 2012). CONQUITO has been successful in reaching out to the most marginalized communities in and around Quito and has already touched thousands of lives. Hundreds of family gardens and dozens of school gardens have been cultivated, while thousands of citizens have received training in organic garden production (CONQUITO, 2012). This effort is an invaluable addition to the fight against chronic disease, as it emphasizes the cultivation, consumption and support of fresh, local produce.

The international non-profit organization, Slow Food, is extending its reach in Ecuador. Slow Food's objective is to offer an Eco-gastronomic reality based on embracing local food culture and adopting a more qualitative, hedonistic experience with food. The organization strives to liberate producers and consumers from the rapid and mechanized way of life promoted by fast food companies. Slow Food's philosophy was founded on three premises: good, clean, and fair. The combination of these premises translates into seasonal diets in harmony with local agricultural conditions, a safe working environment and proper remuneration for producers, and affordable prices for consumers (Slow Food International, 2012).

In Ecuador, there are 880 members across 10 provinces connected with Slow Food associations. In Pichincha, the association Allpa Mikuna has so far preserved 2,000 plant varieties and created a score of seed banks, while one university in Guayaquil has redesigned its menus and started organic gardening with student participation (Slow Food Ecuador, 2012). Slow Food continues to inspire homegrown production and consumption efforts, creating time and space for countries and communities to define their own food destinies.

Another fresh and solidary grassroots initiative, which held its inaugural agroecological event just this past April, is called *¡Quericoes comer de mi tierra!: Campaña Nacional por el Consumo Responsable* (Quericoes, 2012). Led by COPISA, Conferencia Plurinacional de Soberanía Alimentaria, the mission is to bring to light and respond to concerns created by our conventional food system, such as growing incidences of non-communicable diseases, increased consumption of processed and imported foods, and consumption outside instead of inside the home. These efforts favor Ecuadorian producers and their indigenous products, while encouraging a diversity of participants including social organizations, farmers, academia, and community members to recognize and embrace the gastronomy of their native land.

The 2012 *Calendario de Circuito de Ferias Agroecológicas de Pichincha* contains quotes from producers and supporters. The following struck me as a very simple, yet so little understood, perspective of man's relationship to the Earth and the food that is produced from it:

*Cuerpo sano en tierra sana*

*¡Los alimentos deben proporcionar Salud! Nuestra comida debe ser nuestra mejor medicina, es decir, debe hacer innecesarios los medicamentos. La calidad de nuestros alimentos nace de la calidad de la tierra cultivada... ¡La Tierra no produce comida chatarra! (Masuran, 2012).*

The last sentence zealously states that the Earth does not produce junk food! Yet, one would be hard-pressed to find a place on Earth untouched by junk food...or chronic diseases.

Reassuringly, the above efforts demonstrate that proactive plans to combat adverse health affects are being operationalized in Ecuador. While these efforts reviewed have reached a great deal of people, chronic diseases are still rising steadily and their consequences are being felt dramatically. NGO's, IGO's, governments and academia all play pivotal roles in ensuring that national and international food policies and strategies enable, not disable, people from attaining optimal health.



### **CHAPTER III THE URBAN FAMILY**

All members of The Urban Family currently live in the highlands of Ecuador. While the family's roots can be traced to the towns of Ibarra and Riobamba, the majority of the family members currently live in the capital city of Quito. An array of hospitals, schools and transportation systems give Quito a modern edge.

Despite the inequalities and problems faced by any large, American city, Quito is bustling with a little over two million habitants. It is the political and cultural hub of Ecuador and a variety of economic activities offer an array of opportunities to its inhabitants. Public and private administration and commerce, along with health, education, and social service industry activities compose the largest economic sectors (DMQ, 2001).

A brief review of income levels and socioeconomic stratifications in Ecuador is useful in indicating the reality faced by the families I interviewed. For both families, the relationship between socioeconomic status and dietary habits is overwhelming. As the anecdotes from the interviewees themselves will disclose, the elements affecting nutrition transitions are profuse.

In order to make greater sense of how socioeconomic factors affect the services and opportunities available to the families interviewed, factors which are ultimately part and parcel to the construction of their nutrition reality, I referred to FLACSO's income categories and INEC's socioeconomic stratification categories. The socioeconomic circumstances of The Urban Family are favorable. All members marked the second and third income categories, which range from \$1,001 to more than \$3,000. The rubric was taken from the FLACSO programs application sheet, which consists of five income categories (FLACSO, 2012).

According to the latest 2011 socioeconomic stratification survey performed by INEC in Ecuador, all members of The Urban Family would be placed in categories A and B, which are effectively the two highest socioeconomic classes (INEC, 2011a). While the census done by INEC does not touch on eating patterns or food consumption habits, it does paint a more complete picture of the present tense in Ecuador. INEC determined these socioeconomic categories using the following dimensions: housing, education,

economics, consumer goods, technology, and consumption habits. Each dimension was given a set of points; according to the average points earned for each dimension, five socioeconomic groups were formed. From highest to lowest, the five socioeconomic groups were given the following classification: A, B, C+, C- and D (INEC, 2011a). (Please see Annex I for full description of each category). Close to ten thousand homes in five different coastal and highland cities in Ecuador were visited, making this a representative and reliable study for understanding the current socioeconomic circumstances in Ecuador. Again, these descriptions are useful in contextualizing the many aspects that affect the lives of the family members interviewed.

As we now turn to the analysis of the interviews I conducted, it should be reiterated that, despite my continuous efforts for a period of almost seven months to obtain an interview with the oldest generation in The Urban Family, Josefina, I was unable to do so due to unforeseeable family conflicts that evolved at the time. However, I did sit down with Josefina's 59-year-old daughter, Katherine, whose enthusiastic memory of her mother is extremely keen to the interview topics. Josefina's son, Julio, who has diabetes, represents the second generation. I also interviewed Julio's wife, who pertains to the second generation as well. Jacqueline and Cristina, daughters of Julio and Adriana and granddaughters of Josefina, represent the youngest generation, or as I sometimes refer to them, the third generation. I will tell their stories in chronological order, beginning with Josefina. I will also give a unique account of the day I spent cooking the very traditional dish, *fanesca* with Adriana and her daughter, Cristina, continuing the use of a recipe that is three generations old.

### **Josefina (First Generation)**

Born in Ibarra in 1921, Josefina grew up with her twelve siblings in an *hacienda* outside of Ibarra. Once she married, she moved to a twenty-room, colonial-style Spanish *hacienda* that sits along the Tahuando River, which her husband inherited. This is where Julio and Katherine grew up, along with their six other siblings, and it is where Josefina currently spends most of her days.

During most of the 1940's, Josefina lived in Otavalo where her husband had to help manage the family's textile factory. She and her husband then lived in Quito during



the 1950's in order to accompany their children during their university studies. She then returned to the *hacienda* along the Tahuando River in the late 1950's, and continues to live there today. Since her husband is no longer living, she spends most of her days at the *hacienda* and spends nights at her daughter's house, which is nearby in Ibarra.

While her husband finished secondary school, Josefina finished primary school because there was not secondary education available to girls at that time in Ibarra. Instead, girls were trained for two years in *manualidades* which included sewing, embroidery, cooking, and childrearing. "*Por eso eran tan hábiles. Toda era hecha en casa. Toda la confitería que actualmente comemos era hecha en casa, desde el pan. Mi mamá hacía pan cada semana* (Katherine, 2012, interview).

Though Josefina now leaves most of the shopping and cooking duties to her employee and daughter, she still bakes with a passion. "*Ella sabe hacer las recetas de dulce cerrada los ojos*" (Katherine, 2012, interview). To this day her garden is filled with *babaco* and *tomate de árbol* and other fruits and herbs which she regularly uses in her cooking. Among her favorite confections are *biscochos*, *manjar de leche*, *galletas*, *bocadillos de tomate y guayaba*, *bolitos de manjar de leche*, *dulce de tres leches*, among others. Because her baking abilities are well-known among friends and family, the sale of these sweets allows her an extra income apart from her retirement fund.

Katherine remembers that her mother and father grew wheat, corn, barley, beans, peas, lettuce, carrots, radishes, and fruit. They raised cows, chickens, rabbits, guinea pigs, ducks, turkeys and pigs. They ate fresh chicken eggs and even made their own fresh cheese and butter. All the produce and meat was used for domestic consumption and when there was over-production, it was sold at markets. Though he mostly hunted for sport, her father often hunted venison for consumption. We can see that much of what Josefina ate and served her family was fresh from her farm. Other foods like rice, flour, sugar and coffee were bought at the market.

After Katherine, Julio and many of their other siblings decided to pursue university-level studies, their parents sold parts of their land, and no longer cultivated as much, nor as often. Josefina's husband took a job as a public employee in Ibarra and left most of his farming duties behind. Josefina thus began frequenting the market for their alimentary needs. In my interview with Julio, he explained that Josefina went almost

every day to the market by bus. The vendors in the market were very fond of her, referring to her as *comadre*. This was Josefina's routine until only a few years ago when her daughter took over the shopping and cooking duties for her. Now, half of the shopping is done at *Supermaxi*, the largest supermarket chain in Ecuador, which appeared in Ibarra a little over ten years ago; the other half of the shopping is done at the market.

Katherine describes Josefina's kitchen as an immense room with all the necessary amenities. Pans were mostly iron and bronze and they cooked with wood and coal. Her family had employees to help in the kitchen, though Josefina always assisted and gave them cooking instructions. For more traditional family dishes like *fanesca* and *champús*, Josefina followed her grandmother's hand-written recipe book that was handed down to her.

I asked Katherine to describe a typical breakfast, lunch and dinner that Josefina prepared on the weekdays and weekends. First of all, breakfast was the most informal meal because school started very early. Older children fixed something for themselves, the employee attended Josefina's husband, and Josefina attended the youngest children. Breakfast was quite small portions and included a cheese sandwich on homemade bread, or simply bread with homemade *guayaba* jam, either with a glass of milk or a glass of freshly made juice. "*No era nada organizada porque para mis papás el desayuno no era la comida importante. Era un rechazo comer en la mañana*" (Katherine, 2012, interview).

Katherine remembers that lunch was a much more elaborate affair, consisting of three courses. At least fourteen people, including her parents, siblings, aunts, uncles, grandparents and other family members ate together each day. The first course consisted of either a grain-based soup with potato and cabbage or *caldo de carne, pollo* or *queso*. On the weekdays, the main dish consisted of either beef or pork meat, the preparation of which varied from being roasted, grilled, cooked *al jugo* or fried with butter, but never oil. White rice was always an accompaniment and the other accompaniment varied among potatoes, *menestra de granos* or a salad, which was often lettuce, tomato and avocado. They drank seasonal fruit juice and distilled water. Every meal was finished with not just one desert, but often many. Desert choices ranged from cakes, ice cream, *manjares*, *bizcochos* and *bocadillos*.

Dinner was different for adults and children. Adults ate a freshly prepared main dish of beef or pork with rice and either potatoes, *menestra*, or salad. It was served with hot chocolate or coffee. Children were given a *colada de avena*, *maicena* or *camote*. These *coladas* were made with *panela* and milk and were flavored with cinnamon and clove. Because there were no blenders at the time, they manually crushed the ingredients in order to make a shake-like consistency.

On weekends, breakfasts were the same as weekday breakfasts, but Saturday and Sunday lunches were an extravaganza, often consisting of four to five courses. Fried *buñuelos* or *empanadas* were often the appetizer, followed by soup. Fried or oven-roasted chicken was typically the main dish. Occasionally fish would be eaten on the weekends, though it was difficult to obtain fresh fish in Ibarra during this time. Finally, desert dishes and coffee were served. Katherine mentioned that the portions at lunch were large, a portion of meat often exceeding 250 grams. She also remembers a large variety of potatoes like *papa yema de huevo* and *papa violeta*, which she ate very frequently in her youth, even in the form of deserts, but that she believes have slowly begun to disappear.

Katherine then described what Josefina's daily eating habits were like when she was growing up. She stated that her mother ate five substantial meals a day, with similar ingredients to what she described above. Breakfast was simple and served very early at 7:00 a.m. Lunch was also served earlier in the day, between 11:00 a.m. and 12:00 p.m. and consisted of four courses: an appetizer, a soup, a main dish and a desert. In the mid-afternoon they would have *colada* with bread or cookies. Around 7:00 p.m. they would eat soup and another freshly made main dish. Then around 10:30 p.m. they would have a three-course dinner with soup, a main dish and a desert. The meals were always prepared fresh, the same dish was never repeated the same day, and leftovers were never eaten. Katherine explained that once the domestic service at the *hacienda* started to decrease when she was a child, three instead of five meals a day became the norm. Almost all of the food was provided from the farm itself and very few things were bought outside.

I asked her about consumption habits during holidays and birthdays. She named Holy Week, Christmas and *Carnaval*, the three most significant times of the year when traditional food was cooked and family was *always* together. During holy week her mother prepared the family's traditional *fanescas* recipe, a recipe that Josefina's

grandmother used, and the same recipe that Katherine uses today. Five different plates were served on Easter Sunday. The first was a potato puree with vinaigrette followed by *consomé de pollo*, then *fanesca*. Desert was an array of dishes including figs and cheese, baked apples, *arroz de leche*, and *dulce de guanábana*. She said that most of the adults would eat two to three servings of *fanesca*. Later it was brought down to three plates and now they serve only two plates: *fanesca* and one desert.

During *Carnaval* they cooked *chigüiles*, which are made from cornmeal and wrapped in banana leaves. They drank *rosero*, which is a *naranjilla*-based drink made with *mote*, pineapple and *babaco*. “*Antes hacían esencias de azahares y agua acaramelada en la casa para el rosero*” (Katherine, 2012, interview). Katherine remembered her father and uncle making these essences in small tubes and smiled thinking about how nice the house smelled during the extraction process.

The Day of the Dead was enjoyed with a fermented drink called *champús*, typical of the Imbabura province. It is made with cornstarch, *babaco*, pineapple, honey and fresh herbs. Because *champús* takes about a month to prepare, Katherine indicated that her generation no longer prepares it as many now prefer to make *colada morada*.

Christmas dinner was another very traditional meal of turkey with olive sauce and prune sauce, *tamales*, salad, and *pristiños* and *buñuelos* for desert, while New Years Eve was always spent at a country club with her family, which was really the only time during the year that meals were eaten outside the home.

Birthdays were and continue to be a special occasion celebrated by preparing the favorite dish of the celebrated guest. Stressed was the fact that there was always a homemade cake, and everyone was always together.

Josefina rarely ate outside of the home until her husband’s passing, about twenty years ago; now she eats out at least once a week. In Ibarra, her daughter will take her out on the weekends and when she comes to Quito she loves to eat fast food at food courts. One of her favorite restaurants is T.G.I. Friday’s, where her nephew takes her every time she is in Quito, complementing her traditional diet with faster, more processed food, a relatively recent yet impactful transition.

Katherine then recalled how certain foods and methods of preparation have also transitioned over time. Until she was 50 years old, Josefina never used a refrigerator. Red

meat was smoked and would last for a week without refrigeration. Chicken was killed and eaten the same day, so it was never conserved. Water was filtered through pumice stones and butter was conserved in this water, not in a refrigerator. The transition from butter to oil and margarine was one that Josefina resisted.

*La mantequilla era pura de vaca. La manteca era de pura grasa de chanco. Todas las recetas de ella están en base de mantequilla. Mi mamá piensa que el aceite es horrible. El único que usa es el de oliva y solo para hacer mayonesa. La margarina le horroriza y dice que es totalmente de mal sabor. Ahora ella solo compra mantequilla Floralp. Y nada de huevos industrializados. Ahora ella tiene alguien que le va a dejar los huevos de campo (Katherine, 2012, interview).*

The process of making coffee also differed from today. Raw coffee beans were bought and then toasted and manually ground at home. The coffee was then drip brewed. Once her husband passed away, Josefina's employee began serving her instant coffee. Her children also bought her a microwave, although Josefina complains of the food's inferior taste. All of these transitions are marked turning points in Josefina's alimentary habits, and suggest what Kelly et al. (2012) and Yépez (2007) describe as an over-dependence on technology.

Coca-Cola also became a sensation for Josefina and her family and eventually came to replace fresh fruit juice and water at mealtimes. Katherine remembers that Coca-Cola was initially a treat only for the wealthy because it was very expensive when it first appeared. When she was eight, she tried Coca-Cola for the first time from a wealthy aunt. About eight years later, Cola sales began booming and Josefina bought Coca-Cola for them only on the weekends because she preferred fresh fruit juice. However, once the family-sized Coca-Cola bottles hit the market, her family increased consumption to at least two glasses per person per day and they began replacing fresh juices, water, and *Güitig* with Coca-Cola.

*Mi mamá era campeona de Coca-Cola. Hasta ahora se puede alimentar de Coca-Cola. Es admirable la salud que tiene porque se alimenta de una forma muy mala. No le gustan las legumbres ni los vegetales. A ella le gustan los dulces, las galletas, las colas. Ahora ella compra chocolates, galletas, caramelos, todo lo que es enfundado para comer. Comida chatarra come feliz. Le encanta los MilkyWays. Y como todo el mundo sabe que le gusta, todo el mundo le regala estas golosinas. Siempre fue de mal comer. Decía que las verduras eran flores y que las flores pertenecen en florero, no en plato. Mi papá en cambio le gustó los granos y las ensaladas y nos hizo comer todo eso (Katherine, 2012, interview).*

I asked her if the appearance of Julio's diabetes had in any way affected Josefina's eating or cooking habits.

*Absolutamente nada. Es totalmente inconsciente respecto de la salud. Cuando el Julio le cuenta que hizo exámenes y no puede comer dulces, ella niega y no comprende la situación. Dice que si el azúcar era el problema de las enfermedades, ella sería un estuche de enfermedades porque solo se ha alimentado de azúcar y está perfectamente saludable. ¡Ella perdió la dentadura cuando tenía 25 años por exceso de dulce! La mamá de ella era experta en dulces y dicen que era una persona gordísima. Todos mis hermanos y yo tenemos sobrepeso menos mi mamá. Ella es esbelta (Katherine, 2012, interview).*

I asked Katherine how her mother has maintained her slim figure over the years considering her insatiable sweet tooth. “*Ella caminaba a todo lado, nunca ha utilizado carro y la casa es bien grande entonces siempre estaba corriendo de un lado a otro. Se iba al mercado, a la peluquería o cualquier sitio caminando. Todo el día estaba haciendo algo y nunca le veía sentada*” (Katherine, 2012, interview). She now travels mostly by car with her daughter who lives in Ibarra, signaling yet another lifestyle change for Josefina.

I asked Katherine what Josefina would consider a healthy meal, and she said that her mother does not accept the idea of healthy or nutritious diets, and contests that everything is an exaggeration. She believes that because her mother has neither smoked nor drunk alcohol, and has always been active, she can eat what she wants and still stay fit.

The dietary habits and traditions that Josefina maintained during her lifetime are in some cases celebrated and in other cases admonished by her children. On the other hand, her children have also come to influence her current eating habits, especially outside of the home. We will now turn to the second generation and learn how they are handling the nutrition transition.

### **Adriana (Second Generation)**

I interviewed Adriana in depth since she is the principal cook at her and Julio's home, and since her traditions have greatly influenced the diets and habits of The Urban Family. I did not do an in-depth interview of every member's significant other, but because Adriana is the protagonist in the kitchen, her story is vital to portray.

Julio and Adriana live in a middle class neighborhood called *La Florida* in the northwest of Quito. Their house is reminiscent of a 70's style construction. It is large with three bedrooms, a living room, an eight-person dining room, a family room, a large kitchen, two and a half bathrooms, and a separate room with a washer and dryer. They have a computer, internet connection and two cars. Adriana's mother, Malena, lives in a small, attached house, which has a separate kitchen, bedroom and bathroom. Their house is well kept, hygienic and very organized. A small, purely decorative garden separates the main house from Malena's house. There is a maid who cooks and cleans for Malena and occasionally helps Adriana. The kitchen is spacious, receives a luxurious amount of natural light from the ceiling windows, and contains a six-person-dining table and a television.

Other main kitchen amenities include a refrigerator and a separate freezer, two large ovens and one small toaster oven, two microwaves, and a grill built into one countertop, which Adriana uses mostly for barbecues at her house on weekends or special occasions, like birthdays. There is also a dishwasher, a food processor, and a new blender. She has a FlavorWave oven, which is a small, portable oven that removes grease from foods like chicken, pork and empanadas. As we will later see, both Jacqueline and Cristina have a FlavorWave, which they rave about. Adriana wanted me to try the FlavorWave oven, and its unique way of removing grease and creating a nice, crunchy texture. She prepared *empanadas de morocho* and offered me homemade *aji*. They were noticeably less greasy than empanadas that are traditionally fried in a pan.

Adriana is serious and reserved, yet kind and generous, traits that can also characterize her daughters. When I asked her about traditional dishes, she went to the fridge and offered me *jucho*, a fruit cocktail originally from Riobamba made with fresh *capuli*, peaches and spices. *Capuli* is an Andean fruit which looks and tastes like a cherry but is smaller and darker. She can only make *jucho* in the month of April because the *capuli* cherry is sold only in season. *Jucho* and *fanesca* are just two examples that show how Adriana enjoys keeping her alimentary traditions alive.

She lived on her family's farm in Riobamaba until the age of 13, when they moved to Quito. She attended a two-year college in the United States and was an accountant for six years at a bank in Quito. After her first daughter was born, she decided

to become a homemaker, and even renovated her kitchen to make it larger because she always wanted more space.

During her youth in Riobamba, food shopping and eating were distinct. The domestic employee went the market everyday with a basket, bought fresh produce and cooked that same day. They also ate a lot of grains and vegetables straight from their farm. When they moved to Quito, her father kept the farm in Riobamba for some time, bringing much of the meat and vegetables. Other foods such as sugar, bread, rice and pasta were bought in a market called Santa Clara, or in the first Supermaxi, which was then called La Favorita. She explained how her diet transformed while adapting to city life.

*Tuvimos una vida más tranquila. Preferíamos caminar mucho, pero ahora todo es un apuro, una locura. La familia de mi papá tenía fincas y siempre comían fresco, entonces tenían una salud extraordinaria. Nunca comíamos comida calentada. Toda era fresca. Cuando vinimos a Quito, todo eso fue cambiando. Ya no podíamos regresar a almorzar en la casa porque los horarios en la escuela cambiaron (Adriana, 2012, interview).*

Adriana cites changes both in physical activity and eating habits. She relates a time in her life when food was fresher and life more leisurely. She also calls attention to how this lifestyle was not and is not conducive to her busy life in Quito. These changes she describes are harbingers of nutrition transitions, but the fact that Adriana and her family have recognized their presence and have made proper alimentary modifications is one of the reasons that they are so aptly managing Julio's degenerative disease.

While Adriana does most of the cooking, Julio does most of the food shopping. Adriana, who loved the kitchen since the early age of eight, learned how to cook by assisting her mother and their domestic employee. Most of the food in their household is bought every fifteen days at Supermaxi. Fresh fruit and vegetables, which are bought weekly, are almost always purchased at a local market close to their home.

I asked her what shopping was like before the appearance of Julio's diabetes. She said that preference was given to high starch and refined carbohydrates like rice, potatoes, and noodles. Salad was not eaten frequently, but they have since substituted refined and high starch carbohydrates for unrefined and fibrous carbohydrates like legumes, cereals, vegetables and also fruit. Before it was typical for a meal to contain two or three high starch or refined carbohydrates and almost no legumes or vegetables, which are high in



dietary fiber. Now they have better balanced their meals to include one protein, one high starch or refined carbohydrate and a variety of fruits and vegetables.

*Siempre hemos ido por los carbohidratos por la herencia de que yo vengo. Hasta ahora mi mamá come mucho carbohidrato y ella no insiste en su mentalidad de que hay que comer una legumbre todos los días, y era así cuando crecí. Pero ahora ya no hago papa y arroz, sino papa o arroz (Adriana, 2012, interview).*

She revealed that they used to buy Coca-Cola and now they rarely drink colas of any kind, only water or fruit juice made with fresh fruit, always artificially sweetened for Julio. Adriana will sporadically enjoy a beer, but Julio rarely does. He also enjoyed an occasional rum with Coca-Cola; since his diabetes was detected, Adriana emphasized that Julio has had no problem completely eliminating certain foods from his diet.

Their daughter, Jacqueline, who opportunely is a nutritionist, has told Julio that he can have a maximum of two glasses of wine or beer with one meal, once a week. Adriana said that while this usually does not happen, he may consume alcohol on a Sunday or on a special occasion. She recounted how Jacqueline always questioned their eating habits, telling them where they needed to improve. She helped them change from frying to baking and grilling foods, and now frying happens very seldom. Furthermore, Jacqueline's new mentality and new way of life helped them to change their habits more naturally. This shows how serious they have taken Julio's disease and how influential Jacqueline has been during the process. This scenario also bears witness to Stage 3 of the nutrition transition, in which one modifies diet in order to prevent degenerative diseases. While Julio's disease is irreversible, together the family adopted a new alimentary lifestyle that is likely to keep them safe from certain chronic diseases.

I asked Adriana what novelties and difficulties presented themselves after Julio's diagnosis. She said that because she was not accustomed to eating so strictly, she was making two separate meals at first. She was also worried about the portions and food she was serving Julio. Afterwards, she realized that Julio is so disciplined and conscience that she has not had to worry that he might eat something he should not. "*La vida sigue normal solo que hemos incrementado las legumbres y verduras*" (Adriana, 2012, interview).

One area in which Adriana and Julio could still use some improving is physical activity. Adriana described how she used to run and play basketball and volleyball in her

youth, and while she likes to walk and play sports, she no longer practices them because she says she does not have time. Currently, she exerts most physical activity while caring for her granddaughter during the week.

To understand what foods define Adriana's diet, a typical weekday and a typical weekend diet were discussed. Weekday breakfast usually consists of toasted whole grain bread with cheese, fresh fruit juice, coffee, or tea with 2% milk. It is also common for her to have fruit and yogurt. Midmorning she eats a piece of fruit. Lunch, which is the largest meal in Ecuador, consists of protein, usually chicken or beef, one high starch or refined carbohydrate which is almost always rice, potatoes or noodles, and a salad. Fruit juiced or water is usually drunk at lunch. Beer is almost never consumed during the week, but on weekends she will have a few. She only has soup if she eats at her mother's house, as Julio does not care for soup; her mother, on the other hand, cannot eat lunch without soup. In the mid-afternoon she will normally eat another piece of fruit. Dinner, which is usually smaller than lunch in Ecuador, is often in the form of a salad with chicken, beef or tuna, a piece of whole grain bread, and tea or coffee. She affirmed that she does not eat large portions at night.

Consumption habits on the weekends are a bit different than those during the week, especially Sundays, as Julio does not work. Breakfast includes poached or scrambled eggs with whole grain bread, cheese, jam, fresh fruit juice, and coffee or tea with milk. Sometimes she makes French toast or pancakes. When her daughters come for breakfast, she likes to make them fruit milkshakes and eggs with bacon. Lunch is also special on Sundays. She likes to grill seafood, beef, or chicken. Since they eat such a large lunch on Sundays, they almost never eat dinner, but may just have a coffee or tea with whole grain bread or crackers.

I asked her about desert and she said that she does not have a sweet tooth, but prefers salty foods. Moreover, since Julio's sugar intake is so restricted, she makes sweets only on special occasions. When her daughters were still living at home, they had Oreos and a variety of snacks, but not much anymore. She said that when her daughters come to the house they say that there is nothing to eat, so she keeps lollipops and some packaged cookies for guests, but only the minimum.

Adriana and Julio might eat out in restaurants once or twice a month, and they will usually eat typical food. Two or three times a month Adriana will eat international food with her friends. Julio later explained that because of his diabetes, he prefers to eat at home, and so he rarely frequents restaurants, though Adriana would enjoy going out more.

Holidays and birthdays are special and organized events for The Urban Family. Birthdays are always celebrated on a Sunday at Adriana and Julio's house. Adriana will always prepare two types of meat for the celebrated guest. She will make an appetizer, soup, rice, potatoes, salad, and a dessert. They will also have wine, beer, rum and vodka. The birthday tradition in The Urban Family is one that is celebrated by home-cooked food and togetherness.

There are four holidays when Adriana will cook traditional dishes. *Fanesca* is prepared during Easter and *Colada Morada* is prepared in November for the Day of the Dead. Christmas and New Year's Eve menus are similar. They include turkey and ham, and the very typical *tamales*. Rice, potatoes, salad and special sauces accompany Christmas dinner. Adriana and Julio spend New Year's Eve with their immediate family, but the tradition is to put all the dishes on display on the table "*para que no nos falte la comida para todo el año. Es una comida abundante, ponemos dulces y vino incluso*" (Adriana, 2012, interview). This act of symbolism elucidates the strong connection among family, food and security.

While many of the dishes prepared by Adriana are her mother's recipes, she also has many cookbooks, watches cooking shows on television, and browses the Internet for recipes. She emphasized that she enjoys learning new recipes because she loves to cook.

Like the rest of The Urban Family, she described a healthy diet as a balanced diet, which would be a meal containing a meat, a starch, a salad, and fresh fruit. Her ideal meal is grilled meat with potatoes, a meal she often eats on the weekends.

It is apparent that the nutritional information available to The Urban Family, thanks largely to daughter Jacqueline, has allowed them to genuinely grasp the implications of living with diabetes and to comply with the requirements necessary for its management. This guidance was of upmost importance for Julio.

### **Julio (Second Generation)**

Sixty-one-year-old Julio was born in the rural town of Otavalo and moved to Ibarra at the age of three, where he lived until he was 17. He then moved to Quito in order to pursue and undergraduate career in agronomy. For the last five years he has been running his own business in the north of Quito, but previously had a farm from which he produced and sold strawberries. While he has suffered from type 2 diabetes over the past five years, he emphasized that his mother, Josefina, is perfectly healthy at age 91, though his late father had some problems with hypertension. I interviewed Julio at his business, where he works Monday through Saturday. He also eats his lunch in his office, which he brings from home each day and microwaves.

Julio is a serious and humble man. He was very open and interested in my work, and even more interested in and knowledgeable about diabetes in general. In his household he does most of the shopping and Adriana does most of the cooking, although often with his assistance. He added that he sometimes cooks basic things, but that her cooking is better. He is able to cook chicken in the FlavorWave, for example, because it is a quick and easy preparation process. He also mentioned that he buys small, microwavable plastic bags from Supermaxi, and he puts carrots, broccoli or green beans in a bag and a few minutes later he has a salad.

Though most of the shopping is done at Supermaxi, Julio does enjoy browsing the fresh fruits at local markets. *“Me gusta buscar y mirar sobre todo la fruta. En los mercados es mejor calidad o igual a Supermaxi y mucho más económico. Entonces yo normalmente no compro frutas en Supermaxi, compro en el mercado”* (Julio, 2012, interview). Also, if they need something quickly, they will go to the local market, which is closer to their house than the local Supermaxi. While most shopping is done every fifteen days, basic things like fruits, vegetables, and chicken, which is consumed more than any other meat, are bought weekly. They have a friend who frequently gives them lemons, mandarins and avocados from her farm. His motivation for selecting certain products is a combination of price and quality. *“Tengo mucha experiencia en eso sobre todo por mi hija Jacqueline. Ella me ha enseñado y sabe mucho apreciar la calidad y precio, ella liga muy bien. También hay que aprender sobre las cantidades para no botar nada”* (Julio, 2012, interview).

I asked him what shopping was like before the appearance of his diabetes and he stated that it was much more liberal and he did not have many restrictions. He also described his diet as a poor one, marked by almost no consumption of salads, legumes or olive oil, and a high consumption of starches and sodas. He believes that these customs came from the dietary habits of his mother, who, as we learned above, still does not eat salads to this day, and has always had a very severe sweet tooth. He explained that because of her love for sweets and baking, there were always two or three deserts at home. *“Nunca faltaba dos o tres tipos de dulces. Dulce de leche, tomate, guayaba, durazno, pera o claudia. Nunca faltaba manjar de leche o galletas especiales de nata”* (Julio, 2012, interview). Like his wife Adriana, Julio described a family that overemphasized high starch and refined carbohydrates, a very powerful realization, and one that health experts and interventionists must help other Ecuadorians come to realize.

I asked Julio if there were certain foods or drinks that he frequently consumed before his diabetes diagnosis. He said that because of his job, he ate almost all of his meals outside his home, which is the reason that he prefers eating home cooked meals. *“Hoy día no me agrada mucho comer afuera. Entonces yo soy un poco egoísta con mi mujer porque siempre quiero comer en casa. Ella se queja de que nunca comemos afuera y tiene razón. No lo hacemos con la frecuencia que deberíamos”* (Julio, 2012, interview). This shows his obstinate and disciplined nature when it comes to controlling his diabetes, a diseases that he explained was caused by his irregular and improper dietary habits:

*Es más que seguro que mi diabetes surgió porque tenía una alimentación irregular. Como trabajaba en el campo, en la mañana desayunaba carne, café, arroz, huevos. Salía al campo a trabajar y pasaba todo el día sin comer absolutamente nada. Regresaba a las seis o siete de la tarde nuevamente a comer. Eso fue que alteró mis niveles de glucosa. Yo hacía picos. Subía y bajaba la glucosa y eso es el peor que puedes hacer en la diabetes. Lo ideal es mantener el nivel de glucosa* (Julio, 2012, interview).

When Julio started losing a lot of weight, Adriana convinced him to see a doctor, who revealed that he not only had high blood sugar, but also high cholesterol. His triglycerides were at very dangerous levels. He was in disbelief. A second exam finally convinced Julio that the diagnosis was correct. Conveniently, he has a friend who is a diabetes specialist and who helped him begin to manage his life as a diabetic. Julio talked about his type 2 diabetes, elaborating on how he controls it medically:

*Tengo diabetes tipo 2 sin insulina, pero mi diabetes está controlada. Si tú haces exámenes aparentemente no lo tengo, pero eso es por lo que tomo medicación y me cuido en la comida, entonces manejo niveles perfectos. Tengo una pastilla diaria para ayudar un poco al páncreas para que secrete. La diabetes tipo 2 es aquel que el páncreas sí trabaja, pero es vago. Entonces hay que ayudarlo para que secrete insulina. Sin medicación, seguiría vago y tendría niveles más altos de glucosa (Julio, 2012, interview).*

He talked about how vigilant he has to be with his check-ups and his diet. Every three months he has a glycated hemoglobin test done, which is more accurate than other exams because it shows average blood sugar for the past three months. With this exam, a patient cannot deceive doctors, eating correctly only a day or two before the exam, which may happen with other, less sophisticated blood tests. With indignation, Julio told me that he is aware of cases in which patients will take an exam and then immediately eat sweets afterwards. “*¡La gente no se controla! No tiene consciencia de la gravedad de las enfermedades. Entonces, ‘no me duele nada, yo puedo comerme un pastel ahora’*” (Julio, 2012, interview). He spoke firmly, affected by the irresponsible way in which many people he knows of are dealing with their diabetes.

Every meal and all of Julio’s portions are very controlled. He restrains from eating both soup and a main dish for lunch, which is a very popular custom in Ecuador. “*Escojo entre sopa y plato fuerte. Nunca los dos. Entonces, siempre voy a preferir el plato fuerte. Tengo que mantener el azúcar de la glucosa controlada. He acostumbrado a comer sopa muy de vez en cuando y una porción pequeña*” (Julio, 2012, interview).

Julio then described his daily eating habits, and how almost everything he eats is carefully measured for correct sugar intake. Breakfast consists of two or three pieces of whole grain bread, *queso fresco* every other day, eggs once or twice a week, coffee with milk, and fresh fruit juice, which is usually *tomate de árbol* and which is *always* made with a sugar substitute, *never* natural sugar. At mid-morning, a piece of fruit is consumed.

Monday through Saturday, Julio brings his lunch prepared and measured from home, and warms in the microwave at his office. Chicken is the most commonly consumed meat, followed by beef. Fish and pork are eaten more sporadically, only two to three times a month. Meals are usually accompanied by white rice, though sometimes rice will be substituted with noodles or potatoes. A salad is always consumed, which is a mixture of lettuce, tomato, broccoli, green beans, carrots or cucumbers with olive oil and

salt. The variety of vegetables consumed by Julio reveals a beneficial change from years before.

In the mid-afternoon, Julio will eat a piece of fruit and a packet of whole grain crackers. Dinner consists of white rice, a piece of chicken, coffee with milk and piece of whole wheat bread. He stressed that in an effort to avoid too many high starch and refined carbohydrates at night, he tries to eat only a small portion of rice.

I asked if there were any foods that he never or always consumes during the week, and he said that he *never* eats sweets, unless they are made with a sugar substitute. He described the same Sunday consumption habits as Adriana, which means that eggs are always eaten for breakfast and then a big meal is prepared for lunch. He also described holidays and birthdays just as Adriana did, but added that they travel to the beach once or twice a year, and so they will eat the traditional seafood dishes from the coast, always avoiding fried food and always remembering to eat salads, and eat healthfully in general.

When I asked him what difficulties he encountered once he found out that he had diabetes, he explained that it has made quite a large impact on his life, but that he has definitively been able to overcome all of the prohibitions and desires very easily. He then detailed some of the foods that he was used to consuming and how he let go with little struggle.

*Yo tomaba Coca-Cola en los desayunos. Todo el tiempo yo vivía tomando Coca-Cola. Yo tenía una adicción a la Coca-Cola. Además tomaba ron con Coca-Cola en los eventos sociales. El día que me dijeron que tenía diabetes se acabó el ron, se acabó la Coca-Cola y nunca me ha dado ganas de ir y tomar Coca-Cola. Hay la Coca-Cola Zero, la Coca-Cola light que yo teóricamente podía tomar pero no. No me tomo más. Ahora no tomo dulces. Yo hacía dulce de leche porque me gusta mucho. Pero no me muero de ganas, no quiero, no lo hago (Julio, 2012, interview).*

Julio then explained that he learned how to make *dulce de leche*, a traditional Ecuadorian desert, from his mother, who we know loved to cook sweets. He said that the fact that she always cooked sweets during his youth is one of the reasons that he was addicted to them later in life.

I changed the subject, asking Julio if he exercised, the answer to which was “*desgraciadamente no*”. He explained that he knows he should exercise, and when he was an agronomist working in the field, he did a lot of walking, but he does not anymore

because of some knee problems that cause pain. He then said that he wants to take up walking again and intently stated “*Ya voy a hacerlo*” (Julio, 2012, interview).

My last question concerned his idea of a healthy meal, to which he responded that a healthy meal is a balanced meal that combines all food groups. “*En general uno tiene que consumir un poco mas de ensaladas, regular los carbohidratos- que son muy necesarios- y tratar de minimizar los productos fabricados con aceites y grasas*” (Julio, 2012, interview). He then explained how Ecuador has a luxurious amount of fresh fruits, which should be consumed more frequently by the general population. He also said that Ecuadorians have the bad habit of combining many high starch and refined carbohydrates.

While his ideal meal is *churrasco*, which includes fried beef, French fries and a few slices of lettuce and tomato, he realizes that there is too much frying and too little freshness in this dish. Because he is aware that it is nutritionally flawed, he only eats this plate once a year, but he enjoys it to the full. With proper medical treatment, much self-discipline, and unwavering support from his family, Julio has been able to overcome many of the challenges associated with diabetes.

We will now learn about the eldest daughter, Jacqueline, whose profession as a nutritionist has been a constructive and influential force for Julio and the entire Urban Family.

### **Jacqueline (Third Generation)**

Thirty-one-year-old Jacqueline, the eldest daughter of Julio and Adriana, lives in Sierra del Moral, an upper-middle class neighborhood in the north of Quito. She has a car and her apartment is very new, modern, extremely organized. Jacqueline’s apartment is equipped with a television and DVD player, and her kitchen is outfitted with a microwave, a toaster oven, a grill/sandwich maker, a refrigerator, a FlavorWave, a coffee pot, a stove (but no oven), a blender, and a food processor.

She currently works as a product manager, and graduated from University with a double major in nutrition and food engineering. She also has earned certificates in strategic marketing and infant nutrition. I conducted the interview with Jacqueline in English, as she preferred. Before we began the interview, Jacqueline prepared me a cheese sandwich with fresh bread, and also served olives and hot tea.



Because she lives alone, she is solely in charge of food shopping and cooking. Unlike her mother and father, who go food shopping every week or two, Jacqueline goes food shopping every month. Because she brings her lunch already prepared and eats at her office, freezing food is a method she uses to save time. “I never come home to have lunch. I prepare it ready to go. I take it and I run to work. Everything is already packed” (Jacqueline, 2012, interview). This means that she prepares most of her meals on weeknights or on weekends and freezes them for the week. Her mother taught her how to freeze foods like poultry, fish, grains, and vegetables, though Jacqueline now freezes more than her mother does. “She would never ever freeze rice because she thinks that it is not fresh. There are other things like *fanescas* that she freezes, but not rice. She would say, ‘Why would I freeze rice if I can fix it every day?’ But she has the time and I don’t” (Jacqueline, 2012, interview). Jacqueline’s busy schedule is something that greatly affects what and how food is prepared, and also brings into question the idea of “freshness”, which her mother believes is being compromised to save time, a noteworthy transition between these two generations.

Jacqueline buys all her food at Supermaxi, though she may occasionally stop to buy fresh bread at a local store. Her motivation for buying certain foods is threefold. “One could be what’s on my mind if I want to cook something special. Another thing would be something that I really need, let’s say milk. And the other thing would be something new that I want to try” (Jacqueline, 2012, interview). She later explained what shopping was like when she was growing up. “Every time I went to the supermarket with my mom, I remember her just filling the cart, filling the cart. She never, ever, ever checked prices. She just got what she wanted and we could ask for anything we wanted” (Jacqueline, 2012, interview). I asked her if price was something that motivates her, considering how her mom never checked prices. She responded with the following:

What motivates me is that you get what you want, but not in a spoiled way. When I was growing up I thought that my mom really needed everything she bought, but I now realize that she didn’t need all of it. So I buy what I need. If I go over budget one or two times, it’s okay. But I don’t have such strong cravings that I *have* to have something at that moment, like my mom. I can wait until tomorrow (Jacqueline, 2012, interview).

Jacqueline displays a very disciplined nature when it comes to food shopping, which she finds has improved from the unrestrained shopping days with her mother, another interesting transition in generations.

I asked her what shopping was like before the appearance of her father's diabetes and she said that her mom would buy twelve, 1-liter bottles of Coca-Cola for her father. Julio could not have a meal without Coca-Cola, while Jacqueline and Cristina were forbidden to have it and Adriana barely drank it because she does not care for it. She said that her mom and dad often bickered because Adriana wanted Julio to drink less Coca-Cola. Jacqueline then went on to describe how her family followed Malena's (Adriana's mother) traditions since she lived so close. Similar to what Adriana described, Jacqueline pointed out elaborate meals, an overabundance of starches and a deficiency of salads.

Salads were very few and very rare, in particular for my mom and dad. In that generation there might be a salad of *mellocos* or radishes with tomatoes and onions. There was no imagination for salads. Plus, my sister and I were the only ones who ate salad, so not much was made. After my dad's diabetes, everything changed. Since I was studying nutrition, there was a huge change to include salads in each meal (Jacqueline, 2012, interview).

She said that these changes were easier for her than for other members in her family because she was educated about this topic and asked for these changes. Once again, we hear of how Jacqueline's nutritional perspective pushed the family to improve their dietary habits. Other changes were made to their diet, the purchase of more vegetables, whole foods, and special, sugar-free foods for her dad among them. Coke was eliminated while beer was reduced.

I asked Jacqueline to describe her personal consumption habits on weekdays. Breakfast consists of a ham and cheese sandwich with coffee and milk. She has a mid-morning snack of fruit and yogurt. Lunch is always beef, chicken, or fish in the ratio 3:2:2 or 2:3:2, but sometimes she substitutes fish for pork. She also has a starch, which is usually white rice and a fresh or cooked salad with lemon, vinegar and olive oil. She drinks juice or water at lunch, and almost never has desert. She also mentioned that she does not consume sweets in general, and never sodas, though sometimes she will have Nestea. Once and a while she will eat a typical *almuerzo* somewhere close to her work, which would include soup, a main dish and a desert with juice. She was very clear to

point out that she would prefer an *almuerzo* to fast food, exemplifying her nutrition consciousness. Mid-afternoon she will have a package of whole grain crackers, never Oreos or chocolate chip cookies, she assured me. Dinner is a small meal consisting of another ham and cheese sandwich or cereal with milk along with apple juice or tea to drink.

Weekends vary from weekdays, mainly Sundays, when she might have eggs for breakfast or she might go to her parents' house for a special meal. She also pointed out that she never forbids herself anything and she never diets. She eats what she wants, so she might have chocolate once or twice a month, but it is certainly not a habit.

Every week or two she might eat at a restaurant, where she prefers to order something that she does not eat during the week, like pasta. She cited that growing up, she and her family never ate out, but now it is more frequent for her. Holidays are similar to what her mother and father described, as she spends them together with her family.

Jacqueline learned how to cook by watching her mother. She also said that she likes sharing recipes with her mother. She has a lot of cookbooks in English, she gets a lot of recipes from the internet and she watches cooking channels. She mostly uses these types of recipes for special occasions, not daily meals. Jacqueline and her mother not only share recipes, but they also exchange food. Since her mother makes more elaborate and time-consuming foods like *fanescas*, soups, special meats, and baked goods like pies and cakes, she often shares these with Jacqueline. On the other hand, Jacqueline prepares quicker and easier meals, like a fresh salad, and will often bring these to her mother and father. These exchanges illustrate a family relationship fortified by food.

Jacqueline's exercise habits are not very consistent. "It depends on the month. If I buy a gym membership, then I'll go, but I need something or someone to guide me. I need to be motivated to buy the membership" (Jacqueline, 2012, interview). I spoke to Jacqueline a few weeks after our interview and she told me that she had bought a pass to a nearby pool, which she was using once or twice a week. She considered healthy and ideal diets as those consisting of five small meals a day that have all the food pyramid groups because, she explained, the body needs all of them.

Evident is that Jacqueline has helped The Urban Family gain consciousness of the gravity of diabetes. We will now see how the youngest daughter, Cristina, has dealt with

the nutrition transition and how her daughter's nutrition is currently one of her main priorities.

### **Cristina (Third Generation)**

At age 27, Cristina is the youngest of generation three. She is currently the manager of the project department at a food industry, right in line with her undergraduate university studies in food engineering.

She lives in the upper-middle-class neighborhood of Quito Tennis. She is married and has a one-year-old daughter. Her apartment is newly constructed and modern, equipped with a television and DVD player. Her main kitchen supplies include a refrigerator, a blender, a food processor, a FlavorWave, a microwave, a stove and an oven. Overall, the apartment is very clean and organized.

Before the official interview with Cristina, we spent the morning baking cookies for her daughter's first birthday party. As we were baking, Jacqueline called because she was concerned about serving Coca-Cola at the birthday party the next day. She said that she had just given a conference to parents about sugared drinks and the importance of limiting them in the diet. She suggested that they serve lemonade instead. Cristina thought responded by saying that kids like Coca-Cola and it is a special occasion. In the end, however, lemonade was served instead of Coca-Cola.

This is not the first time Cristina has taken advice from her sister, who, as an infant nutritionist, has helped guide Cristina through the alimentary process with her daughter. Something that Jacqueline suggested Cristina do, which is different from what her mother did, is give new foods to her daughter for four days in succession, in an effort to identify and subsequently avoid food allergies. Again, we see how Jacqueline is trusted and relied on when concerning food issues in The Urban Family.

Food shopping is always done by Cristina and her husband, while the task of cooking is shared by Cristina and her domestic employee, who works part-time, Monday through Friday. The employee cooks meals so that Cristina can quickly fix a lunch for herself and her husband to take to work. Her daughter eats lunch at Adriana and Julio's house or at her husband's parents' house.

Shopping is done at different places. Fruits, vegetables and fish are bought at a local market called Iñaquito because they believe it is fresher and cheaper. Most everything else is bought at Supermaxi and Santa María, but certain meats like ham, sausage and beef are always bought at Supermaxi. They frequent these places mostly because of location and convenience, and their motivation for choosing certain products is a combination of health, price and quality. “*Compro verduras porque son saludables y compro ensaladas en fundas ya preparadas porque son baratas y convenientes*” (Cristina, 2012, interview). Convenience is one Cristina’s priorities because she leaves for work around 7:00 a.m. and does not return until 7:00 p.m.

Shopping is done every fifteen days, but vegetables are usually bought weekly for freshness. Cristina did not mention too many food exchanges with her mother and father, but her husband’s family lived on the coast for a few years, and every time they go back to visit they will bring them typical cheese and fresh fruit.

I asked her what shopping was like growing up and she said that she remembers going to the market with her mother and that everyone recognized her and her mother because the same producers have been there for years. She also remembers going to Supermaxi, although she did not seem to think that her mother’s shopping method was as unrestrained as Jacqueline did. She depicts a warm atmosphere at home marked by family lunches and dinners, an atmosphere which she intends to replicate in her own home. “*Para mi, las reuniones familiares son muy importantes porque creciendo, siempre invitábamos amigos y familia a comer. Cada día comí con mi abuela, mis tíos, y siempre teníamos amigos allí*” (Cristina, 2012, interview). Now at her home, she too enjoys inviting and entertaining guests, maintaining her family tradition.

I asked her what eating habits were like after her father’s diabetes, and she responded: “*Me acuerdo unas porciones gigantes en platos gigantes. Primero sopa y después arroz, papas y fideos, todo en el mismo plato. Realmente era demasiada comida. Después comimos porciones más pequeñas*” (Cristina, 2012, interview). She also remembers how her family eliminated Coca-Cola and began to eat chicken almost every day, and less fish and beef.

For Cristina, weekdays are very busy because she must leave the house between 7:00 and 7:30 a.m., so for her, breakfast includes granola and a pack of crackers with

yogurt or chocolate milk. She usually eats breakfast in her car, on the run, because she has a 45-minute drive. Her husband is lucky enough to eat breakfast at Adriana and Julio's house, where he drops off their daughter every morning.

Cristina and her husband both bring their lunch with them to work. Chicken is the meat of choice most days, while one or two days of the week beef or fish is consumed. The other part of the meal consists of some form of potatoes, along with a salad, which is usually steamed carrots, green beans, or tomatoes. She and her husband prefer potatoes to rice, and in general, Cristina describes them as "modern" eaters. Dinner is a simple meal of milk, yogurt and bread. It should be reiterated that Cristina and her husband's dietary habits are largely influenced by time. However, they conveniently have an employee, which facilitates their household food management.

Weekends are much different because Cristina and her husband have more time. Breakfast is later in the morning and poached eggs are frequently consumed, along with wheat toast, hot chocolate and fresh juice. For weekend lunches, Cristina sometimes makes shrimp with rice, which her mother taught her, but more often she will use one of her Belgian cookbooks. Because she studied abroad in Belgium for a year, she learned how to cook in many different styles, one of her favorites being a cooking technique called wok. She showed me a special wok pan that she brought back from Belgium, which she loves to cook with. It is also common for her to make pasta on the weekends, but with sauces made from a packet, not made from fresh ingredients like her mother's sauces. I stayed for lunch the day of my interview, which was a Saturday, and Cristina prepared fettuccini with a carbonara sauce from a packet. *"Mi mamá, por ejemplo, prepararía una salsa con ingredientes frescas para una pasta. Pero los paquetes son más rápidos y convenientes para mí. Soy mamá, y mi esposo y yo trabajamos al tiempo completo, entonces conveniencia y tiempo son importantes"* (Cristina, 2012, interview).

I asked about her eating habits outside of the home, and she explained that Sunday lunches are often spent at her parent's house, where they usually have a barbecue. She and her husband eat out once a month as a couple, most often Italian, Mexican, sushi, or *shawarma*. She also mentioned that she used to eat lunch at a fast food restaurant every Friday during lunch break. However, now that she is married with a child and has a domestic employee that cooks for them, so she feels bad not eating or potentially wasting

what the employee prepares. For Cristina's family, the employee plays a very integral role in food-related activities, a role that is not mentioned in nutrition transition theory, as this is not as widespread a service in the United States and Europe as it is in Latin America.

Holidays are generally spent with Cristina's family or her husband's family, and traditional cuisine is usually prepared, although this past Christmas was quite different. Cristina's family and her husband's family both came to their house for Christmas dinner and both mothers wanted the turkey prepared in their traditional way. To avoid a potential clash, Cristina decided to prepare something completely different, and made paella, which is not a traditional dish for either family. This shows that Cristina is perfectly comfortable creating her own family traditions during the holidays. On the other hand, *fanesca* and *colada morada* are two recipes that Cristina respects and although she does not personally make them each year, she is interested in learning how to make *fanesca*.

I asked about exercise habits and Cristina responded by stating that she jogs on a treadmill about twice a month for a half hour. She admitted that she should exercise more often and that she had recently made herself a new workout plan that included running four times a week. She also pointed out that she is constantly active at work and at home with her one-year-old daughter. She, like the rest of her family, described a healthy diet as one that includes all the food groups and is balanced, like baked chicken, grilled potatoes and steamed vegetables. For her, an ideal meal would be some type of Italian dish, like risotto. Again, we see that all members of The Urban Family have similar ideas of a healthy meal.

Along with mother, Adrian, Cristina and I had the very pleasant opportunity of preparing The Urban Family's generation-old *fanesca* recipe. This experience indicates that alimentary traditions are alive and well in The Urban Family.

### **Discovering *Fanesca***

I coincidentally began my fieldwork during Holy Week, which in many parts of Ecuador, and especially in the Sierra region, is an occasion accented with family and the utterly Ecuadorian soup, *fanesca*. A typical and age-old tradition in many families, *fanesca* is

famous not only because it is exceptionally palatable, but also because its elaboration spans the course of an entire week. I was able to enter The Urban Family at a time when the kitchen was the center of activity.

When I went to Julio and Adriana's house for the first visit, it was a Thursday morning and Adriana and her mother, Malena were peeling grains to be used in the *fanesca* that coming Sunday. Adriana was very excited to receive me in her kitchen. She was likewise enthusiastic while explaining the *fanesca* tradition. The *fanesca* recipe that Adriana follows is the same one that her great-grandmother, grandmother and mother have followed. Cristina, the youngest daughter, now wants to learn and continue the family tradition.

The week before the *fanesca* dish is eaten, it is tradition for many of the women in the family to gather together in Adriana's kitchen in the evenings and peel the grains used in the *fanesca*. Adriana explained that the peels contain a lot of fiber, and if left on, would add extra weight to an already heavy dish. The grains that form part of the *fanesca* dish are bought from a local market close to her house. She likes to buy the ingredients here "*porque me voy a mirar que están frescos y tengo una persona que conozco allí, entonces yo tengo que mirar que todo está bien. Supermaxi tiene buenas cosas pero no así de fresco como estas cosas recién cosechadas*" (Adriana, 2012, interview). Adriana's mother, sisters, and daughters will come to her house and while they peel grains, they will drink beer, chat, laugh, and have fun. She said that she really enjoys this time of the year because it is an old tradition that allows her to thank God for everything he gives and to unite everyone in her home. *Fanesca*, therefore, has both a traditional and a spiritual significance for Adriana. Each year she makes enough *fanesca* for fifty people and serves close to thirty guests at her home. Beamingly, she explained that she freezes the remaining *fanesca* and takes it to her family in Miami on her next visit.

The weeklong process of preparing *fanesca* has been maintained for over five generations, albeit being transformed along the way. Adriana's 92-year-old mother talked about how in her time, *fanesca* was just *one* of *twelve* different plates served on Easter Sunday to represent the twelve apostles. These twelve plates included *humitas*, *molo*, which is a potato puree with cheese, as well as figs and cheese, just to name a few. Another change that Malena brought attention to is how *fanesca* is now eaten the Sunday



before the official Easter Sunday because many family members now travel during the holiday break. Malena grudgingly explained that Holy Week was once a time remembered by silence, fasting and daily church visits. “*Rezaban por tres horas diarias y nadie podía reírse ni prender música ni comer carne; era una época de silencio*” (Malena, 2012, interview). Adriana said that she does not serve twelve plates anymore because it is too much food.

After I spent some time getting to know Adriana and her mother, they invited me to come help them cook the *fanesca* that coming Sunday and partake in the annual family gathering. I gladly accepted. I arrived around 10:00 a.m. on Sunday, and Adriana and her two sisters were hard at work. I was given an apron and a towel to wear. An industrial-sized metal pot was used to make *fanesca* for fifty people. Adriana was just starting to puree the cilantro and garlic in a blender. I used a food processor to crush the onions. We threw all of these ingredients into the pot, along with a full plastic container of margarine. *Achiote* was added for color and cumin for flavor. We let all these ingredients, which Adriana called the *refrito*, cook until the onions were soft. Because Adriana has memorized the recipe, she just used her eyes and nose to measure the ingredients. It was very approximate. From there we added about a liter of recently warmed, whole milk. Then we added a tub of pureed *zapallo* and *zambo* to make a nice, thick broth. More whole milk was added. We then began adding the grains. Adriana stressed that it was important to add the hardest grains first, and the softest ones last, as to keep them whole, and not allow them to become mashed. Another liter of recently warmed milk was poured in. The rest of the softer grains were then added. We finished by adding four blocks of grated *queso fresco* and a bag of cream. She would show me the consistency in a large wooden spoon, insisting that a nice, thick consistency was necessary and that an even amount of grains should show in each spoonful.

About an hour after my arrival, Cristina, the youngest daughter, arrived. Adriana told me that Cristina always asks her for recipes but since she has many of them memorized, she would just have to learn by helping her cook. The oldest daughter, Jacqueline was not present this day, but later explained that she is not interested in learning how to cook *fanesca*, mainly because she cannot imagine cooking in such large quantities.

About three hours later, the *fanesca* was ready. Twenty-six family members and myself were present, and each plate of *fanesca* was topped with small empanadas, a slice of cheese and a slice of egg. Sliced onions and a dried, smoked fish called *bacalao* were served on the side. Desert was *arroz con leche*, which was white rice prepared with whole milk, cinnamon, allspice, and white sugar. Coca-Cola, beer and sweet, herbal water called *amaica* were the beverages that accompanied the *fanesca*. Many drank rum or coffee afterwards. Cola and beer with *fanesca* seemed odd to me, although Malena mentioned that growing up, she too drank a sweet, carbonated water or beer with *fanesca*.

The *fanesca* experience was one that evoked strong senses of pride and tradition, which united the family and created a very confident atmosphere. It is also a very real example of how women have been instrumental in conserving traditions in the family and protecting a valuable recipe, one that Cristina showed interest in further maintaining, though Jacqueline did not. That Cristina may be the only member of The Urban Family to guard the age-old *fanesca* recipe is a reality that provokes interest in how traditional recipes are or are not being preserved in societies, a reality that O'Sullivan et al. (2008) consider the consequence of women's changing role in the workforce; however, it is also a topic that is only indirectly discussed in nutrition transition theory, and therefore calls for more punctual attention.

The following chapter will explore the nutrition transition in The Rural Family, one that has been very distinct from the nutritional triumphs seen in The Urban Family.

## **CHAPTER IV THE RURAL FAMILY**

The origins of The Rural Family can be traced to the province of Manabí. Although some members have migrated to Quito and its surrounding areas, all have at sometime lived or are currently living in the rural town of Flavio Alfario, located in northeastern Manabí. As of 2010, close to 40,000 people were residing in Flavio Alfario. Geographically, it is quite an extensive area of 130,000 hectares, much of which is covered with a lush, biodiverse environment; indeed, the government is currently working on developing a market for tourism inspired by this biodiversity (Asociación de Municipalidades Ecuatorianas, 2010).

A principally blue collar economy sustains life in Flavio Alfario, cattle raising being the number one activity in terms of production, made clear by the thousands of hectares of land throughout the town that have been transformed into pastures for grazing. Other key products include citrus fruits, cocoa, corn, yucca, peanuts and bananas, all of which contribute to the abundant farming industry. A tropical and humid climate with sporadic rainfall makes for a relatively temperate climate, which usually only fluctuates between 22 and 26 degrees Fahrenheit (Asociación de Municipalidades Ecuatorianas, 2010).

Some major projects that are being developed by the current political administration include the construction and improvement of roads and highways, the expansion of electric services, schools and medical services (Asociación de Municipalidades Ecuatorianas, 2010). Such projects demonstrate that Flavio Alfario is a town with many incomplete basic services. These deficiencies complicate the dynamic of the nutrition transition for The Rural Family, which in most cases are unavoidable factors that impact the quality life and types of opportunities afforded to them in the countryside of Flavio Alfaro.

The Rural Family can be described as pertaining to the lowest socioeconomic classes in Ecuador. In the interviews, all members of the family marked that their total monthly household earnings were either less than \$500 dollars or between \$501 and \$1000 dollars, according to FLACSO's rubric (FLACSO, 2012). Following the latest INEC socioeconomic stratification survey, most of The Rural Family pertains to

categories C- and D, which are effectively the two lowest socioeconomic classes (INEC, 2011a).

Let us now learn about how The Rural Family is dealing with the nutrition transition, and how diabetes plays a role in their life. In total, I interviewed five members in The Rural Family. The interviews will be recounted in chronological order. I will climb down the family tree, which means that I will begin with Gloria, who represents the eldest generation. I will then continue with Sandra, daughter of Gloria, who corresponds to the second generation and finally, I will recount the stories of María, Diana and Lucía, daughters of Sandra and granddaughters of Gloria, all of whom pertain to the third generation.

Sandra and Lucía both suffer from diabetes, while María suffers from pelvic problems and Diana suffers from kidney problems, though neither of them has ever been tested for diabetes. Because Lucía now resides in Quito, one day was spent visiting her. The rest of the family lives very close to one another in Flavio Alfaro, so the other visits were done at the homes of Sandra, María and Diana. A rare and detailed account of the time I spent cooking and selling typical food at a local market with María and Sandra will also be included.

### **Gloria (First Generation)**

I first met Gloria, Sandra, Diana and María at the Hospital Básico San Andrés, which lies atop a small hill only seconds from the town center of Flavio Alfaro. The hospital immediately catches one's eye, uncharacteristically well-constructed juxtaposed to the many unfinished and partially painted concrete buildings and homes that populate Flavio Alfaro. It is a structurally and esthetically pleasant one-story red brick building with white trim, the entrance of which displays freshly paved asphalt and manicured lawns, though the inside betrays its outer fineness. Admitted to the hospital days before, María was recovering from pelvic surgery.

When I walked into the hospital room, the entire family was accompanying María, whose discomfort kept her from conversing, but not from smiling. I sat next to Gloria, and immediately noticed her timid demeanor. It was not until the next morning that I formally interviewed Gloria at her granddaughter, María's home, where she had spent the

past few months living. Because Gloria is no longer working and does not have her own home, she stays for weeks and even months at a time with her children and grandchildren, alleviating their daily burdens in the kitchen, garden, and beyond.

Before the interview, Gloria guided me around outside the house, showing me the plants, chickens and pigpens outside María's home. We sat in two lawn chairs on the ground beneath the raised home, taking shade from the swelling sun, eager to discover what transitions she has lived through during her 84 years.

Gloria grew up in Chone, a larger town only a few miles from Flavio Alfaro, in the same province of Manabí, and received no formal primary or secondary education. I asked her what eating was like when she was growing up and she started to tear, explaining that she was raised by another family and worked for them, and so she ate what they gave her. As it was a difficult subject for Gloria, I did not pry at that moment, but asked her more general questions about her youth later in the interview.

Dedicated to performing domestic work for the family who raised her, she also learned how to cook during her time there. After her employers passed away, Gloria went to work for a daughter of the same family. Later in her married life, Gloria and her husband, who passed away five years prior, worked as employees on a farm estate in Chone, where they raised their kids. She was a domestic worker and her husband a farmer.

Gloria talked in depth about her life on the farm with her husband and children. Chickens roamed the land, and her husband helped the owners of the farm grow corn, rice, peanuts and beans. Luckily, they were able to consume these plants domestically, which meant that going to the market was done much more infrequently. The main products bought at the market in Flavio Alfaro or Chone were red meat, fish, cheese, coffee and rice. Fruit and other sweet preserves were a typical part of life for Gloria, and *pechiche*, pineapple and *dulce de leche* were among the types she elaborated. Her husband always did the food shopping and Gloria always cooked.

I asked her to tell me more about what she ate and drank in her younger years. She mentioned that fresh juices, like orange, mandarin, mango, and lemon were often drunk. She also mentioned that *níspero* and *zapote* were nutritious fruits that were often consumed before, but that over time, have died out.

Typical dishes that she prepared her children at lunchtime included a variety of beans, *verde*, corn, rice, lentils, farm-raised chicken, and grains. Chicken and fish were the main sources of animal protein in her household, while red meat was consumed less often. For *merienda*, dinner, Gloria fed her children white rice with omelets or fried Manabí cheese, which is a spongy, wet cheese that is typically prepared fried. She described dinner as always being “*comida suave*”, which is to say smooth and easy on the stomach. It is interesting to note that Gloria considers fried cheese a delicate food, which is a very heavy food for the stomach in general and often prohibited by doctors when one suffers from stomach problems. I asked her what she considers a healthy diet. She responded by enumerating milk, cheese, eggs, chicken, and beef. Though fruit was consumed regularly, there was no mention of vegetable consumption, a similar habit for many other members of The Rural Family.

She often made *coladas de maduro* or *avena*, which are thick shakes combined with water, milk, brown sugar, and cinnamon. The ingredients are all cooked together and then blended, although before the time of automatic blenders, Gloria used a manual grinder to obtain a smooth consistency. The consumption of *coladas* is a healthy dietary habit that has remained in The Rural Family, though with much less frequency.

I asked her to talk about foods and habits that she noticed had evolved over her lifetime. She told me that coffee was a good example, as coffee trees were plentiful on their farm. They would pick the coffee beans by hand, toast, and then grind them with a rock. Nowadays, she and everyone she knows drinks instant coffee. “*Ahora no hay mucha gente que toma café fresco*” she added. I asked her which coffee she prefers and she said “*A mi me gusta el café de la mata porque sabe mejor. Ahora el café viene preparado de la fábrica*”. This anecdote demonstrates essential aspects of the nutrition transition. Firstly, it shows how technology has made what were once daily tasks like picking and manual grinding now obsolete. It can also be argued that these types of improvements, despite how innocuous they may seem, may also be contributing to a more sedentary lifestyle.

Gloria explained another similar example, citing that she also used to toast and grind peanuts and corn to make *salprietá*. Now, she and everyone she knows buys the *salprietá* already prepared. *Salprietá* is a seasoning commonly used in Manabí. It is made

from crushed peanuts and crushed corn, cilantro and cumin. A most popular garnish for the very versatile plantain, it is eaten on a daily basis, and for Gloria, always at breakfast. Another interesting dietary change witnessed by Gloria was the transition from *manteca de chancho* to oil. “*Antes no había aceite. Siempre usábamos manteca de chancho. A mi no me agrada casi la comida con aceite. Mis hijas usan manteca y aceite. Por ejemplo, para los huevos ellas usan aceite. Yo no. A mi no me gusta el aceite*”. We see the nutrition transition in play with the addition of oil to the diet, a change that Gloria views with aversion. Nonetheless, the consumption of oil seems to be an inescapable part of her diet now, as her family’s habits have become hers, too.

The element of time is another area that I asked her to elucidate. “*Tuvimos siete hijos y teníamos que hacer todo- cocinar, lavar, limpiar. No podíamos consentirles mucho a los hijos como la gente hace ahora. Ahora es diferente, pues*” (Gloria, 2012, interview). Gloria not only took care of her kids and all the housework, but she also had to go the extra mile for her husband, no hyperbole. Monday through Friday she walked an hour to and an hour from his worksite to deliver his meal. The meal consisted of rice, *menestra de verde*, *estofado de gallina* and *maduro frito*. The ingredients were always wrapped neatly in plantain leaves. This is what is known as *tongas*. Gloria also did all of the cooking over a wood fire, and because of her physically laborious workload, one can understand why she could not get too distracted with her kids.

For Gloria, the transition from cooking over a wood fire to cooking over a gas stove was not an eloquent one. Having no electricity where she grew up and where she raised her children, Gloria talked of much more modest times. They used lanterns and had to chop wood for the fire. She openly admitted that she has always been scared of gas fires, which her children and grandchildren now use, because she once burnt herself. She remembers preparing bread, toasted peanuts, *verde asado* and *bollos de maní con verde* over the wood fire.

I asked her if she could compare what she ate in her younger years to what she eats now. She said that she basically sustains the same diet. For breakfast, fried cheese, fried plantains and coffee are the norm. For lunch, rice, plantain stew and red meat alongside orange, watermelon or passion fruit juice would be typical. There are some noticeable changes in diet here. Firstly, she mentions that red meat is now typical,

whereas she stated that fish and chicken were the two most popular meats that she prepared her family. Red meat playing a greater role in diets is a sure sign of the nutrition transition.

I turned to the topic of holiday cuisine, and there were two major holiday dishes that, like the rest of The Rural Family, seemed to be habitually eaten. During Holy Week, the tradition for The Rural Family is to eat *picante*, a dish typical of Manabí. *Picante* is a yucca and fish based dish dressed with spices, but no special recipe is used. For Christmas, the family usually eats a chicken or pig, which is domestically raised and killed. Unlike the cohesive Urban Family, The Rural Family did not speak of always spending holidays together. Gloria will sometimes go visit her son in Santo Domingo, another nearby town, and Sandra often spends holidays with her sons and daughters in Quito. This may be the reason that there was no mention of enduring recipes, as was the case in The Urban Family.

I asked her if anyone in her family suffers from an illness and she shook her head no. I then asked if she knew anything about Sandra's diabetes and she was conspicuously unaware of what I was referring to. I asked if she had access to nutritional information and if she understood what nutrition meant, and she again shook her head no. The nutrition information gap of The Rural Family is a relevant subject because it has proved a recurring theme in all three generations, as the rest of the interviews will reveal. Gloria's unawareness of nutrition and Sandra's diabetes can be linked to a set of deficient socioeconomic circumstances, the absence of any formal education being the most indicative. These circumstances along with Ministerio de Salud Pública's most recent documents on non-communicable diseases, *Normas y protocolos para la atención de las enfermedades crónicas no transmisibles: diabetes tipo 1, diabetes tipo 2, dislipidemias, hipertensión arterial* and *Plan estratégico nacional para la prevención y control de las enfermedades crónicas no transmisibles-ECNT* (2011a,b) can serve as warning signs for the Ecuadorian government, which must work harder to deliver basic and sufficient nutritional information to every citizen, especially those most vulnerable.

I heard some screeching in the background, and sure enough, María's son had just killed a chicken, which was then skinned and prepared for lunch that same day. I went into the kitchen and Gloria, Sandra, María and María's daughter were preparing the



recently skinned chicken along with rice and beans they had just picked from María's backyard. While preparing the meal, María and Sandra said that my visit had moved them and caused them to remember older times. They explained that many things that a machine can now perform could only be done by hand before. They made juice with their hands before the times of juicers and blenders while yucca was ground manually; cumin was only sold in the form of seeds, which likewise had to be ground by hand.

Growing up, Sandra recalled that she often went by donkey to get groceries at the market in Flavio, selling firewood along the way; it took her all day to make the trip to the market and back. They smiled and laughed, all gathered together cooking in the kitchen and sharing their stories with me.

We will now learn that Sandra has come a long way from the times of traveling by donkey, but that her health has been a topic that evokes unease, bewilderment and a sense of perpetual struggle.

### **Sandra (Second Generation)**

Sandra's small home rests behind a long wooden fence only a few feet removed from the main highway in Flavio. It is a four-room home built with wood and cane. Two small desks, a total of five plastic chairs, a television, DVD player, small stereo, sewing machine and a bed furnish the main living room. She shares this home with her husband and the two grandchildren she is raising, whom are both sons of Lucía. There are also two separate bedrooms and a kitchen. The one shared bathroom, which was once enclosed by four walls, now stands enclosed only by three because the wall and part of the floor fell to the ground a year before. Although their house is older, and some parts and materials in meager shape, it was still hygienically clean and organized.

The kitchen is equipped with a refrigerator, a blender, a sandwich maker, and a broken oven that she uses for storage. Sandra uses a smaller, portable gas stovetop to cook. She is lucky to live by a river because they use a pump to bring water into the house, which means that they do not pay for water, just electricity. In the front of her home she has a small garden that includes the exotic *chirimoya* and *noni* fruits, which are consumed naturally or made into fresh juices. Lemon verbena, oregano, basil, cilantro

and mint plants are often used for fresh teas. She also has *artemisa* and *valeria* plants, medicinal plants that she explains help stomachaches and other bodily pains.

As we talked at her kitchen table, Sandra poured me a glass of *rompope*, which is a milk shake made with raw eggs, cinnamon, sweet clove, allspice and *aguardiente*, a drink that Gloria taught her. While no other type of alcohol is typically drunk, she might have *rompope* once a month. We began by talking about Sandra's youth. When I asked her age, she did not know. I asked her if she had a document that would allow us to find her age, and sure enough she had her state-issued identification card which confirmed that she was 58-years-old. One might only understand why she did not know her age if they understand that, like her mother, she has had no formal primary or secondary education.

Until age twelve, Sandra grew up in the nearby town of Chone, and has since lived in Flavio Alfario for the past forty-six years. Like Gloria, Sandra grew up working as a domestic maid for other families, and currently has no job. However, she does help her daughter, María, cook every Saturday in preparation for Sunday's market in Flavio Alfaro, where María sells typical food, a successful business that helps sustain the whole family. Sandra has six children, two of whom live on the coast and four of whom live in or near Quito.

For Sandra, diabetes is a topic of much less clarity compared to the situation described in The Urban Family. Because of some contending information given to her by two different doctors, Sandra has not had what we could call a proper nor a traditional diabetes treatment, as was the case for Julio from The Urban Family. In fact, her daughter, María unwaveringly affirms that Sandra does not have diabetes. About five years ago, Sandra suddenly and unexplainably lost about 25 pounds. She was suffering from chronic headaches as well. She went to a private clinic in Chone, which she describes was very expensive. A doctor performed exams and told her that because of her high blood sugar, she was diabetic. The same doctor also determined that she had high blood pressure. All of these results were explained to her and sent home with her, but Sandra subsequently threw them away. The doctor also told her to stop smoking and to change her diet as well, which she did. She took medication and even had insulin injections, but after only a few months of treatment, she never followed up with the same doctor for further treatment,

although the doctor told her that she should come back for regular visits. She told me that she only visits the doctor if she feels extremely ill.

About eight months ago, she did fall extremely ill again. This time, her daughter, María, who is employed by the *Hospital Básico San Andrés* in Flavio Alfaro, had her take more blood tests at the hospital, and even sent them to another clinic in Chone, both of which María affirms came back negative for diabetes. Sandra never saw those test results and they were never explained to her. María simply told her that she does not have diabetes. Since then, Sandra has not had any other diabetes tests done. “*María me dijo que no tengo diabetes, que estoy inventándolo y que tengo que sacar esa idea de mi mente porque solo me voy a empeorar*” (Sandra, 2012, interview). When telling me this, Sandra appeared as confused as I. When I originally spoke to Sandra on the phone before my first visit, she affirmed that she had diabetes. Because diabetes is incurable, and because Sandra was originally diagnosed as having diabetes, one might wonder why Sandra did not take more action and seek the results of the latest exams herself. Perhaps she prefers the blissful ignorance, perhaps she is fearful of what changes the doctor may expect of her, perhaps she simply feels apathetic towards her health, or perhaps her daughter has taken control of the situation.

According to the ADA (2012), patients can have what is called prediabetes, which is a glucose level that is higher than normal but not high enough to be type 2 diabetes. “People with prediabetes can prevent the development of type 2 diabetes by making changes in their diet and increasing their level of physical activity”. On the other hand, type 2 diabetes cannot be cured. Doctors can properly diagnose prediabetes and type 2 diabetes by using one of three different blood glucose tests. Moreover, Sandra was initially treated as a type 2 diabetes patient prescribed with medication and even insulin. This means that she should ideally follow up with the same doctor who first diagnosed her with type 2 diabetes.

I am aware of the controversy that surrounds interviewing a person whom I was told definitely has diabetes, only to find that her daughter believes that a different diagnosis has been determined. Grappling with the validity of this case as an axis of my investigation, it is my concerted conclusion that this example reflects the reality of disease diagnosis in Ecuador, and is therefore a powerful demonstration of the roadblocks

that patients may encounter. It also shows how rural, socioeconomically marginalized populations may be experiencing nutrition transitions. Furthermore, it accurately answers the question of my investigation, which was to assess how families are dealing with diabetes. In the case of The Rural Family, they are struggling to make sense of the significance of their disease, unsure of what to do and in some cases, who to believe. A state of disorder pervades this scenario and the reasons why should be understood and attended to in an urgent way.

This case also shows us how this family is dealing with diabetes. In many instances, they are ignoring and allowing their uncertainties to shape their realities. This polemic shows that norms and protocols for diabetes diagnoses must not only be established, as we learned Ecuador has recently done with the publication of the document, *“Normas y protocolos para la atención de las enfermedades crónicas no transmisibles: diabetes tipo 1, diabetes tipo 2, dislipidemias, hipertensión arterial”* (Ministerio de Salud Pública del Ecuador, 2011), but more importantly, must be enforced and standardized.

Continuing on with the interview, I was able to find out more about the eating habits of Sandra. Her husband, Miguel, who happened to be there and partake in some the interview, is in charge of food shopping while Sandra is in charge of cooking. Food shopping is done a few times a week at the market in Flavio Alfaro or at a market outside of Quito, where Miguel travels a few times a week to sell fish. The motivation for his choices is largely influenced by economics. *“Hay que buscar lo más barato; somos gente de bajos recursos”* (Miguel, 2012, interview). The staple foods bought every week include plantains, cheese, fish, and shrimp. *“Cuando hay se come carne, cuando hay se come una gallina, o cualquier cosa”* (Miguel, 2012, interview).

It is not uncommon to see chickens and other farm animals wandering about the yards of The Rural Family, much to the difference of Family One. Sandra and Miguel have three ducks, which are strictly for domestic consumption. Family exchanges are also a common part of daily life for Sandra. She exchanges meat and green plantains with her sisters when they are in need. Her daughter María often brings her food or invites her to eat at her house, and Lucía sends a lot of food for her sons. Like her mother, Sandra makes *pechiche* and *grosella* preserves.

When she was first diagnosed with diabetes, the doctor told Sandra to stop drinking soda and not to eat as many sweets. “*El doctor me dijo que no coma dulce y yo le dije ‘¿Ay, doctor por qué?’ y me dijo porque me voy a hacer daño y quería llorar*” (Sandra, 2012, interview). It was as if Sandra did not understand the gravity of her diagnosis, as if she were being punished, not treated, by her doctor. Pronounced was an overall disconnect between Sandra and her doctor, evidenced by her confusion and a lack of urgency when describing the state of her health. Before being diagnosed with diabetes, Sandra ate a lot of sweets, drank a lot of soda, and fried much of her food. After her initial diabetes diagnosis, she states that she did reduce her sugar intake and began grilling what she had once fried. She also claims that she still follows this dietary advice today, mostly avoiding sweets and fried foods. What does seem missing from her diet is the addition of more vegetables and the implementation of an exercise program. The only physical activity done is cooking, cleaning and gathering water and plants from outside her immediate surroundings.

Another aspect that may be affecting Sandra’s state of health is the apathy her husband has towards her disease. I asked Miguel if he also modified his diet the way his wife had. He replied no, and with little concern, explained that he can still eat whatever he wants. With little support or awareness from her husband, Sandra’s health is even more complicated.

To better understand what foods and dishes define Sandra’s diet, let us take a look at her typical alimentary habits during weekdays. Breakfast includes bread and coffee with white sugar. She prepares her two grandsons hard-boiled egg sometimes, but not every day because “*demasiado huevo hace daño*” (Sandra, 2012, interview). She personally does not eat eggs very often in the morning, but reserves them mostly for her grandsons. This shows that Sandra could be putting other’s health before her own.

A typical lunch, which is the largest and most important meal for Sandra, includes *caldo de arroz* or *caldo de fideo* with a fresh fruit juice, which could be orange, *mora*, *tomate de árbol*, *guanábana*, or lemon. Animal meat was not mentioned as an integral part of lunch. I asked her how often she eats meat and she said that it really depends, but it is definitely not every day because of economic restraints, or as Miguel explained, “*Cuando Dios quiera*”. Basically, fish is eaten twice a week and chicken, which they buy

fresh, kill, skin, and prepare, is eaten once a week, usually in the form of chicken soup on Sundays. Finally, red meat is sometimes eaten on Sundays, or when María gives it to Sandra. Rice and fried cheese frequent the dinner plate. Eating outside of the house almost never occurs, unless María invites her.

Weekend meals vary from those eaten during the week. Some form of green plantains are often served, usually grilled or fried with cheese. On Saturdays, she always eats at María's house because she helps her prepare food for the weekly Sunday market in Flavio Alfaro, where María has a small food stand. This meal could range from chicken, duck, pork or cow meat, served with rice and some type of *menestra*.

So far, high starch and refined carbohydrates have dominated the list of foods that Sandra has described as being habitually consumed. Bread for breakfast, noodles or rice for lunch, and rice for dinner allow us to understand how starches dominate her plate. Because she did not mention the words salad or vegetables, I asked her if she consumes them. She said not everyday, but merely once a week. Even after her diabetes diagnosis, meat and vegetables are what appear to be the scarcest elements of Sandra's diet. Additionally, though Sandra said she had eliminated fried foods from her diet, she mentioned fried cheese and fried plantains as staples, posing another significant challenge to improving her health.

When I asked her what she considered a healthy meal, she said juice and a ham and cheese sandwich, while her ideal meal is chicken soup, which she often consumes on Sundays. She also mentioned that she has no access to nutrition information, and did not understand the word *nutrition*, a word that should have been made clear to her and should be clear to anyone diagnosed with diabetes. It is evident that Sandra has not received an integral treatment plan and that her poorly managed health is a culmination of personal and external insufficiencies.

### **María (Third Generation)**

Set back about a quarter mile from the main road leading to downtown Flavio Alfaro lives María. She is only a short walk from her sister, Diana's home, and a 5-minute drive from her mother's house. Forty-two-year-old María can be described as a confident and

curious person, perhaps more serious and pensive than her sisters, but overall very cheerful.

Outside of her kitchen window is a view of the *Hospital Básico San Andrés*, where María is employed. Her home is a peach painted wood and cane structure larger than any other member's home in The Rural Family. In the large yard that surrounds her house she and her husband grow yucca, banana, papaya, lemon, guaba and bean trees, and also raise chickens for domestic consumption and pigs for sale. She also has herbs in her garden that she uses for tea.

The inside of her house, which was very clean and organized, included a large family room and three separate bedrooms. The family room has a six-person dinner table, a couch, sofa, television, and DVD player. It is the only house of The Rural Family that does not have a bed in the family room. She also has a separate bathroom and shower in the house and there are three separate bedrooms with four beds in total, the largest and newest home of all The Rural Family members. She is also the only member interviewed from The Rural Family with a car, which her husband uses for his profession as chauffeur. The family has a computer but the Internet connection is unreliable.

She was also the only one to have a washing machine, which was located in her spacious kitchen. Other major appliances in the kitchen include a small toaster oven, a stovetop (no oven), a refrigerator, many new pots and pans, a blender and a new sandwich maker.

María has two children, both of whom live with her, and eleven siblings, some of whom are half brothers and sisters. She is the administrative assistant for the cleaning department at the *Hospital Básico San Andrés*. While the other members of The Rural Family are somewhere between the C- to D socioeconomic categories, María's family is found somewhere between the C+ to C- categories. A few aspects are consistent with the C+ category, namely that her household earns between \$501 and \$1000 per month, she has completed secondary education, she has private health insurance, and that they have a car, a computer and paid Internet service.

María is skeptical of her mother's diabetes. She believes that Sandra does not, in fact, have diabetes. According to María, the exams that she paid for tested negative at the hospital in Flavio Alfaro and in another, separate clinic. Hence, María is convinced that

her mother has the idea of diabetes falsely impregnated in her head. She personally does not know about any changes in her mother's diet. As discussed above, once one is diagnosed with type 2 diabetes, it is not possible to cure, but only to treat this disease. Moreover, during my second visit to Flavio Alfaro two months later, María was very concerned about Sandra, who kept complaining about very sore legs and feet. It is widely known that nerve damage to the hands and feet is one the most common effects of type 2 diabetes.

Although María remains apparently unaffected by her mother's initial type 2 diabetes diagnosis, she does have her own health problems. As was mentioned earlier, she was recovering from surgery during my first visit and she mentioned problems with her ovaries and frequent migraines. Let us take a look at her daily eating habits.

María does most of the food shopping and cooking, although her husband helps her when he is present. She generally goes food shopping weekly, and decides meal compositions each day, depending on the time and what food is available. There are no supermarkets in Flavio Alfaro, and so most animal products and vegetables are bought at the market in Flavio Alfaro, but rice, sugar and other condiments are bought at a separate store where they are cheaper.

Domestic production is not only a source of food, but also of income. She and her husband raise pigs, all of which are strictly for sale, while the chickens are strictly for domestic consumption. The four chickens that she currently has also lay close to twelve eggs a day, all of which are used for domestic consumption.

A typical weekday breakfast includes black coffee with white sugar and fried *bolones de verde*. Because María is only a 5-minute walk from work, she has the luxury of coming home each day to each lunch, which consists of red meat twice a week, chicken once a week, and fish twice a week, along with *caldo de queso o verde*, *menestra de fréjol o verde*, rice or yucca. Lemon or orange juice often accompanies lunch. She eats pork meat very rarely, maybe once a month. She also brings apples or grapes to work for mid-morning and mid-afternoon snacks.

Leftovers from lunch often constitute dinner at María's house, and if there are no leftovers, she makes an egg omelet along with rice or fried plantains, which is served with coffee. Like her mother, María did not mention eating fresh salads. When I asked



her she said “*En el almuerzo sí, pero no siempre. Puede ser una ensalada de tomate, cebolla, lechuga, pepino, o remolacha*” (María, 2012, interview). She also mentioned her dislike for desserts, and said that she only eats them once and a while.

Because María has more time on the weekends, meals are more elaborate. Breakfast might include fried fish and fried plantains, sometimes with a salad. Saturdays are dedicated to cleaning the house, doing laundry, and preparing for Sunday’s food stand at the market. Therefore, Saturday lunch is usually canned tuna and rice, while Sunday is a more elaborate dish like beef, duck, or chicken.

Since she likes eating at home, María and her family do not often eat outside. She said that this might occur about five times a year on a special occasion like a birthday. There are two holidays when María fixes something special. On Easter she will prepare *picante* and for Christmas, a roasted chicken. She usually spends these holidays with her immediate family.

Following in her mother and grandmother’s footsteps, when María was twelve-years-old she went to live with a family in a neighboring town for five years. While she cared for their children, she was taught how to cook and she really enjoyed learning. “*Siempre me gustó cocinar. Cuando voy de repente a un restaurant siempre estoy viendo cómo hacen y siempre era curiosa para la comida*” (María, 2012, interview). Her passion for cooking is evidenced by her food stand, which she works at each Sunday. She talked about her food stand with a proud grin, something that she can call her own.

María does not do any formal exercise, but she firmly made known that her job is very physically demanding, as she cleans the hospital all day from 7:00 a.m. to 5:00 p.m. with a two-hour break in between. I asked her what she considers a healthy diet and she said vegetables, eggs and milk. She also mentioned *crema de espinaca y zanahoria* as healthy foods, which she never eats because she does not enjoy them. Instead, she would much prefer fried beef with mashed potatoes, which she declared her ideal meal.

María’s diet, like her mother’s diet, is very dependent on starches, with the noticeable difference being that she tends to eat more proteins like fish and beef. She falters by not correctly incorporating vegetables into her diet. Although she considers vegetables as “healthy” foods, she admitted that she does not eat them every day, but only sometimes. A poorly balanced meal seems to be a very debilitating, yet apparent

trend for The Rural Family thus far, an all too familiar trend in Ecuadorian diets, and the very trend that The Urban Family was successful in eliminating.

### **A Day at the Market: Preparing Typical Dishes from the Coast**

During my second visit to Flavio Alfaro, I assisted María and Sandra prepare and sell food at Sunday's market, where María has a stand. When I arrived, they had already killed two chickens from María's backyard. They had also prepared *colada de avena* and fresh grapefruit juice. Fish and beef pieces were chopped and seasoned, ready to be fried for Sunday. We stopped at a local farmer and bought a bag of fresh *manteca de chancho*, which María prefers to oil or margarine. That night we made *menestra de verde con maní* by blending green pepper, onions and garlic, then adding green plantains, milk and peanut butter to help thicken it.

Because María likes her food to be fresh, we woke up at 3:00 a.m. on Sunday and prepared a large pot of white rice, which is cooked with *manteca*. We then made a typical dish called *estofado de gallina*. I also helped make a salad, with cucumber, lettuce, carrot, radish, and salt and lemon to season. We arrived at her kiosk at 5:30 a.m. The butchers in the market, who had been up since 12 a.m. killing, skinning, and cutting meat, were ready to eat. María offered typical Coastal dishes: *estofado de gallina*, fried beef or fried fish, and cheese or chicken empanadas, which she had bought already prepared, ready to deep fry in *manteca de chancho*. Around 11:00 a.m., María began cooking *caldo de pata*. The cow foot came freshly cut from the butcher kiosk directly next to us. She cleaned off any excess hair, and boiled it with corn, carrots and yucca, and seasoned it with onion, garlic, oregano, and *manteca*. It was served with rice. This dish was the most colorful of all.

Each dish was served with a heaping pile of rice, a few scoops of *menestra de verde*, and fried plantain chips that she bought already prepared. As she served each plate, she asked the customers if they wanted salad. The majority of customers said no, and when they did say yes, a skimpy amount of salad was given. Some customers ordered one or two fried empanadas instead of salad. Without the salad, the dishes were void of color, as whites, browns, and low yellows gave way to a monotonous meddling of high starch and refined carbohydrates. One can readily understand the concern that Yépez (2007)

expresses when by highlighting Ecuador's overemphasis of high starch and refined carbohydrates.

We will now turn to, Diana, who is also from the third generation, but who was much more accepting of and vocal about her mother's diabetes.

### **Diana (Third Generation)**

Of all the homes visited, Diana's was the most visually unhygienic and unorganized. She and her family live on one side of a red, brick duplex in downtown Flavio Alfaro. Instead of grass or plants, dirt lines the entrance of her apartment, though she does have a yard that surrounds the back and side of her apartment. Gray concrete floors give an unfinished look to the inside of the home. It is also very small, dark and cramped. There is one family room with a bed, which she and her husband share, and one other bedroom with one bed which *all* of her five children share. There is also a separate kitchen and bathroom in the back of the home. The family room is equipped with a television, DVD player and CD player. The kitchen contained one stove, an oven, and another small stovetop, a blender, a refrigerator, and a small, wooden table with two plastic stools and one plastic chair. Diana herself is very pleasant and a lightness and blithe happiness abounded from her easygoing attitude.

Like María, Diana raises chickens in her backyard for domestic consumption, which can give her up to twelve eggs a week. She offered me a glass of Coca-Cola during the interview. I asked her if she often drinks Coca-Cola and she said on Sundays, but not during the week.

Diana was born in Flavio Alfario and is one of six siblings. At age 39, she has nine children, five of whom live with her. She has primary, but no secondary education, and currently works as a homemaker and also helps her husband sell fish at the market, which is how they earn a living.

I asked her if she suffers from any medical illness and she said that she has kidney problems, and goes every month to get check-ups. I asked her if anyone else in her family has health problems and she immediately revealed that both Sandra and Lucía have diabetes. I asked her if her mom had to change her diet because of her diabetes. "*No estaba viviendo con ella, pero mi mamá dejó de comer dulces y de tomar café. Antes ella*

*comía mucho suspiro, entonces ahora no puede comer cosas con azúcar y ahora se supone que debe comer más verduras*” (Diana, 2012, interview). I asked her if she changed any of her personal eating habits when she learned about her mother’s diabetes, to which she replied that her eating habits remain the same. It is interesting that Diana affirms her mother’s diabetes, while María denies it. Diana was also much more open and willing to talk about the changes that her mother had to endure because of her diabetes, whereas María was very obstinate and spoke of no such modifications in her mother’s diet.

Diana’s household has a very unstable income, which never exceed more than \$500 a month. Both she and her husband do the food shopping, while Diana is in charge of cooking. Whereas her mother buys food when she has the money, and María goes grocery shopping weekly, Diana goes grocery shopping daily. She normally frequents the small corner store next to her house for staples like cheese, eggs, white rice, white sugar and oil. However, she always buys meat, poultry and fish from the market because “*allí matan a diario*” (Diana, 2012, interview). Her husband raises fish in the local river, so they eat fish almost every day.

I asked her what shopping and eating were like when she was a child and replied, “*Antes no habían las cosas que se come ahora. Antes se comían las carnes pero no como ahora que se come carne todos los días. Comíamos más legumbres porque sembraba fréjol, choclo y habas en la casa de mi mamá*”. Diana’s recognition of a large transition from legumes to meat is perfectly on par with the nutrition transition. Although her mother, Sandra, does not eat as much meat as her daughters, Diana personally acknowledges a noticeable increase in meat consumption. She also remembers how her mother had to go get groceries by foot or by donkey, and that there were not food fairs every Sunday in Flavio Alfaro like there are now.

Diana learned how to cook from her mother-in-law, whom she moved in with when she got engaged at the age of fourteen. A typical breakfast in Diana’s household includes a fried *bolón de verde*, coffee, *jugo de tomate de árbol*, milk and sometimes a hard-boiled egg. Lunch consists of chicken or vegetable soup, followed by a main dish, which is typically fried beef, pork, fish or shrimp with rice, fried plantains or lentil stew. She also mentioned that she usually makes a salad with lunch, which is usually a

combination of cucumber, carrot and/or beet salad with onion and cheese. She was the only one in this family to mention that she eats salad every day for lunch. Orange and *naranjilla* are her juices of choice at lunch. Fish and chicken are eaten almost daily, while beef maybe be eaten twice a week and shrimp once a week. She said that she eats pork maybe once a week because “*es muy grasoso y eso no se cae bien*”. For dinner, she usually has rice with hot chocolate or coffee.

Weekend breakfasts are more simple, fresh bread with *dulce de leche* and coffee being the extent. Weekend lunches are similar to weekday lunches, while they normally buy a roasted chicken for dinner. Sundays are also special since the food fair is going on and there are many options. She buys her kids sweets and baked goods, and always has Coca-Cola on Sundays. She and her family might go out to a restaurant every few weeks to eat one of her favorite dishes, *longaniza*, which is dried pork sausage. Although she does not normally eat at other people’s homes, not ever her mother’s or María’s, she sometimes invites her mother to eat at her home.

What apparently sets Diana apart from her mother and sister is the fact that she mentioned that salads are typical for most lunches, although I was told and witnessed that the portions of salad compared to rice and plantain stew are very small. She also reiterated the fact that rice is eaten at lunch and at dinner. On the other hand, she does mention eating a lot of sweets, while Sandra and María tend to stay away from sweets. She also fries much of her food. A diet high in sugar and fat is part of the nutrition transition, and Diana’s kidney problems may be a sign of an oncoming transition.

While she does not do any formal exercise, Diana’s daily chores and job require a lot of physical activity. “*Camino mucho. Camino con mis hijos a la escuela y regreso caminando. Hago las compras, cocino, limpio, lavo. Y si tengo tiempo, ayudo a mi esposo vendiendo pescado en el mercado*”.

When I asked her what she considers a healthy diet, she paused for quite some time, and finally said that the food she eats every day is healthy. She said that she has no access to nutritional information, and as was the case with the rest of The Rural Family, she appeared perplexed by this question. The word nutrition is a foreign one to The Rural Family, clearly due to the shortcomings of their socioeconomic status and a healthcare system that has done little to disseminate nutrition information.

We will now see how little concern for nutrition has allowed poor dietary habits to take hold of Lucía, the youngest daughter interviewed. Her recent diagnosis of type 2 diabetes has so far been very similar to the uncertainties her mother continues to endure.

### **Lucía (Third Generation)**

36-year-old Lucía lives in a lower middle-class neighborhood in the north of Quito, called Carcelén Bajo. With both she and her husband working, her household income ranges between \$501 and \$1,000 a month. Lucía has three children, one of whom lives with her and two of whom live with her mother, Sandra.

Her apartment is small, consisting of a family room, a kitchen and one bedroom. The family room is furnished with a bed, a 6-person wooden table, a television and a DVD player. Her kitchen is equipped with an oven, an electric skillet (for cooking meat), a blender, and a toaster oven. She said that she does not have a refrigerator because she goes food shopping daily, and therefore does not think she needs one. There is one full bathroom in a common area that is shared with other tenants in the building. There is also a shared area for hand-washing and hang-drying clothing. The house was clean, but not extremely organized. Unlike the chickens and pigs roaming the countryside homes of her family in Flavio Alfaro, she raises no animals and has and no plants, herbs or flowers growing. When she visits Flavio Alfaro, which is usually every two to three months, she always brings cheese, plantains, coconuts, fish and yucca.

Lucía grew up in Flavio Alfaro and attended school until 5<sup>th</sup> grade. At the age of 12, she moved to Guayaquil to work as a domestic employee and at age 17, she came to Quito, where she has been working in the same profession ever since.

Just this past February, Lucía fell very ill with symptoms ranging from a fever and body aches. She had also lost almost 20 pounds, and so went to see a doctor at a nearby clinic in Quito. After performing exams, the doctor told her that she has type 2 diabetes. He then told her that she had to come back to do more exams. I asked her if she went back to have the exams done and she said “*Todavía no. Me da miedo a lo que me digan a veces*” (Lucía, 2012, interview). Lucía’s hesitation and anxiety toward her illness show history repeating itself. I asked if the doctor told her to make any modifications to her dietary habits, to which she responded no recommendations were made, and so no

changes to her diet have been made until now. I asked if her mother had given her any advice since she, too, was diagnosed with diabetes. *“Mi mami sí tiene diabetes y sí va donde un doctor, pero no toma nada tampoco para la diabetes. Solo le dijeron que no tomara mucho dulce y cola”*.

When I followed up with Lucía two months later, she told me that she went to a clinic in Flavio Alfaro while visiting her family because a bug had bitten her. At the clinic, the doctor did some blood exams. He told her that she had high blood pressure but not high blood sugar. He told her to take care of herself and not to eat a lot of sweets. I asked her if she saw the results of these blood exams and she said that her mother looked at the results but she did not.

I called Lucía’s mother, Sandra, that same day and spoke with her over the phone. She said that Lucía had been very sick lately, and the reason she went to Flavio Alfario was to have more exams done. The doctor told Sandra that Lucía had high blood pressure but Sandra claimed that the doctor did not even test Lucía for diabetes. Lucía is much like her mother. They both speak of their diabetes diagnosis with very little accuracy or concern, as if it were a phase that will shortly pass, and not a chronic disease that will worsen if unheeded. It also appears that neither of them have been able to take full control of their health, nor do they mind their doctors orders.

Lucía and Sandra were both diagnosed with diabetes from an initial visit to a doctor, but neither of them has returned to the original doctor who diagnosed them. Instead, they have either not followed up or have chosen to go to other doctors. Neither of them has followed a strict diet, nor continued to have regular check-ups with a doctor, as would be recommended. Perhaps they both would prefer to deny their illness than have to follow cumbersome and inconvenient medical and dietary advice, perhaps they are scared of the truth and the costs that diabetes would incur for them and their family. What both of these cases can illustrate is that while the degenerative diseases that appear in Stage 2 of the nutrition transition are thriving in The Rural Family, transitioning from stage 2 to stage 3, appears to be a dark and unfamiliar road for them, a road that becomes even darker considering that no member of The Rural Family besides María has health insurance.

To understand her disease, it is essential to understand Lucía's dietary habits. While she is solely in charge of food shopping, Lucía's thirteen-year-old daughter often helps her in the kitchen. She buys almost all of her food from the local corner store located just two blocks away from her house. She also frequents the local bread shop. Convenience is the reason she buys all of her food so close to home, and not at one of the many supermarkets in Quito. Every day after work, Lucía stops at the store. She emphasized that she buys only what she needs for each day.

Even though the traditional food in Quito is much different from that of Flavio Alfaro, Lucía has continued cooking the foods and dishes that she loves from the coast. A typical breakfast consists of *tortas de harina frita con maduro*. They are made with white flour, eggs, milk and ripened plantains, then fried. Sometimes she will substitute *tortas* with fried plantains, bread or hard-boiled eggs. Breakfast also includes milk, coffee, and orange or tomato tree juice.

Chicken dominates the lunch menu at Lucía's house. It is often prepared with a red pepper, tomato, garlic and onion puree. She eats chicken or canned tuna most week days and beef most weekends. She will sporadically eat pork or fresh fish. White rice usually accompanies any lunch meal, in addition to orange juice or Coca-Cola, although Lucía cheerfully asserted that she likes Coca-Cola most and drinks three glasses daily. As happened with her mother and sister, I had to ask Lucía if she eats salads or fresh vegetables. She said that she will eat salads about three times a week, usually broccoli or green beans with mayonnaise. Dinner is strictly leftovers from lunch.

While weekend breakfasts are similar to those of the weekday, lunches are distinct. Every weekend she makes *caldo de gallina*, with a fresh *pollo de campo*, that she buys at a local market. Other weekend lunch dishes include shrimp *ceviche*, fish *viche*, or fried beef with rice and *menestra*.

Lucía eats lunch at work most days. She described a typical lunch as quinoa or vegetable soup, followed by either chicken or beef, which she added is never fried; she stressed that there is always salad and of course, fruit juice. She mentioned eating salad without my having to ask her. Her lunch meal at work is noticeably more balanced than the lunch that she described she makes at home, raising some interesting inquiries.



Perhaps she prefers to cook typical Coastal dishes as she mentioned to me earlier in the interview, or perhaps the food that she prepares at work is more costly, laborious, or both.

Like the other members from The Rural Family, Lucía does not eat out regularly. Once a month they might eat a shrimp dish at a restaurant in their neighborhood or go to the well-known Carolina Park in the north of Quito, where they sell *concha* dishes that Lucía enjoys.

Holiday foods include *picante* for Holy Week and turkey at Christmas. She spends most holidays in Quito, and might visit one of her three siblings that live in Quito, or go to her husband's family's house. Sometimes Sandra will come and spend Christmas with them in Quito, though it is rare that all her brothers and sisters spend a holiday together.

She said that she does no formal exercise, but that she is always active at work cleaning, and walks ten minutes to and from the bus stop almost every day. She described a healthy meal as *caldo de gallina*, a dish that she eats weekly; she described an ideal meal as fried beef with rice and *menestra*, a dish that she eats once or twice a week.

After the interview, Lucía served *caldo de gallina*, white rice, *menestra de verde*, and *tomate de árbol* juice. She also had a homemade *aji* typical of the coast. I noticed that the meal was void of vegetables. The chicken soup contained seasoned broth and boiled chicken. The plantain stew contained garlic and onion to season, but no visible vegetables. It consisted of one portion of meat and two portions of high starch and/or refined carbohydrates. This meal allowed me to see how linear the eating habits of The Rural Family have been. An exaggeration of high starch and refined carbohydrates has kept this family stagnating at stage 2 of the nutrition transition, with little evidence of moving forward.



## **CHAPTER V INFORMING FUTURE NUTRITION INITIATIVES IN ECUADOR**

The nutritional journeys through The Urban Family and The Rural Family have allowed historical and current nutrition trends to be understood in the context of an ethnographic approach to the nutrition transition in Ecuador. The present investigation has shed light on how the nutrition transition has historically taken shape in two distinct families who have members suffering from diabetes; it has also related the unique ways in which these families have dealt with the disease; finally, it has reviewed the programs and policies in Ecuador that are responding to the nutrition transition.

The ethnographic methodology used in my investigation has been particularly useful in analyzing and portraying the nutrition transition at the family level; this approach differs from the quantitative, population approach taken by the majority of nutrition transition researchers to date. More extensive research on nutrition transitions must be done at the individual and family level in order to understand the circumstances that influence decisions about dietary and lifestyle habits. It is with this information that best actions can be taken to enhance nutritional health in Ecuador.

What follows is a comparative analysis of the conclusions drawn from the research done with both families, followed by a series of recommendations about confronting the nutrition transition in the future.

### **Urban-Rural Dynamic**

It is requisite to understand that the nutrition transition as laid out by Popkin (2003) linked the nutrition transition to more urban areas. This research has shown that the Rural family in Ecuador is also being greatly affected by the nutrition transition. The Urban Family has shown a nutrition transition almost identical to the original theory. Stage 2, known as degenerative disease, appeared in the family due to poor eating habits. With proper dietary modifications, the disease is now under control and the youngest generations have so far avoided contracting a degenerative disease. The Urban Family has advanced to Stage 3, known as successful ageing. While The Urban Family has unrestrained access to energy-dense foods related to non-communicable diseases, they also benefit from Jacqueline's profession as a nutritionist. It is therefore vital to continue

studying what socioeconomic factors influence nutrition transitions, especially in families who do not have nutrition information at their fingertips.

Demographically speaking, Popkin (1999) affirms that in “developing countries”, the nutrition transition affects urbanized populations greater than their rural counterparts. However, the findings in my study reveal that The Rural Family is actually more affected by the nutrition transition than The Urban Family. The Urban Family has advanced to the successful ageing stage of the nutrition transition and The Rural Family remains in the degenerative stage. As Diamond (2012) suggests, non-communicable diseases are appearing in various patterns and at varying rates of transition in Ecuador. Furthermore, rural dynamics in Ecuador must be examined with more precision. When conducting nutrition research, therefore, it is necessary to consider each country and each case separately, according to the specific paradigms and socioeconomic circumstances within which it operates.

### **Socioeconomic Status and Health**

Historically, both Julio and Adriana had parents who emphasized high starch and refined carbohydrates and sweets, practices that Julio believes contributed to his poor dietary habits. Due to socioeconomic factors like access to quality health services and health information, as well as high levels of education, the second and third generations have improved the poor habit of overemphasizing high starch and refined carbohydrates and now better balance all the food groups.

This change, coupled with the fact that Julio follows a strict treatment plan and regularly visits a doctor, supports the hypothesis that families with a higher socioeconomic profile will tend to have greater adequacies for attaining proper nutrition and health and are more likely to receive proper medical care. It should also be mentioned that because of socioeconomic solvency, all members of The Urban Family, except for Josefina (who has only public healthcare), have both private *and* public healthcare services; this implies extensive health coverage and security. It is recommended that more in-depth studies be done to show relationships between specific socioeconomic factors and non-communicable disease outcomes, as the diet of The

Urban Family was particularly ameliorated by Jacqueline's nutrition background, a luxury that few families have.

The Urban Family's familiarity with the concept of nutrition was exemplified through their insistence on and sensitivity towards maintaining a balanced diet. On the other hand, The Rural Family is hardly familiar with the word nutrition. My time spent preparing and consuming food with The Rural Family allowed me to see an elevated use of oils in the younger generation (especially in the form of fried foods), an overemphasis of high starch and refined carbohydrates, and a near absence of fresh vegetables, all demonstrations of an unbalanced diet.

These realities reflect the hypothesis that families with a lower socioeconomic profile will tend to have greater inadequacies for attaining proper nutrition and health. In the case of The Rural Family, these inadequacies appear to be due largely to insufficient nutrition education and poor quality healthcare. I have described a number of public and private programs, laws, and State strategies that Ecuador has created to respond to non-communicable diseases. Albeit these efforts, much of what has been written has not been materialized. Special attention must be given to non-communicable diseases in both urban and rural settings, especially in socioeconomically marginalized areas, as Sandra's struggle in Flavio Alfaro and Lucia's struggle in Quito have proved that health inadequacies are not isolated to one geographical location.

Several factors in The Rural Family support the hypothesis that those from a lower socioeconomic status who suffer from diabetes are less likely to receive proper medical care. Overall, The Rural Family has had a history of socioeconomic insecurity, evidenced by very low levels of education, unstable employment, and little access to *quality* medical care. While the Ecuadorian Constitution hails free and universal State healthcare coverage, the quality of this coverage in certain areas is dubious. As Sandra pointed out, "*El hospital de Flavio es gratuito por el Estado, solo que demora uno a dos meses para devolver los resultados*" (Sandra, 2012, interview). Because of this delay, Sandra prefers going to clinics, though at \$40 to \$60 for exams, it is a significant expenditure. These circumstances warrant the criticism that if universal healthcare is to be granted, this great social guarantee must be transformed into everyday practices and standards common to all areas of Ecuador.

Another circumstance to identify in line with this hypothesis is that Gloria, Sandra and Diana all receive the \$35 monthly government stipend known as the *bono de desarrollo humano*, which is a monetary distribution program designed to help impoverished and vulnerable Ecuadorian households (CEPAL, 2012). Marilu is the only member of The Rural Family that has private health insurance, which is provided to her through her job. Lucía works as a full time domestic employee in Quito, but her employers still have not affiliated her with the national public health insurance program, and neglecting to do so is a penal offense (IESS, 2012). This means that Lucía is not aware of her rights and that her employers are plainly breaking the law. Meanwhile, Sandra and Lucía suffer from diabetes, yet follow no treatment plan while; María has ovary problems and Diana, kidney problems. Gloria is the only member with decent health.

The socioeconomic and health struggles of The Rural Family reflect a state of “diabetes in poverty”, similar to what Pedraza (2009) deems “obesity in poverty”. We can also observe that the economic freedom of The Urban Family contrasts largely to the economic restraints of The Rural Family, a situation that mirrors the taste stratification proposed by Bourdieu (2000).

### **Food Industrialization and Generation**

A second hypothesis stated that the oldest generation would be less affected by the nutrition transition because of a less industrialized food system in their lifetime, while younger generations are more affected by the nutrition transition due to a greater industrialized food system.

Many factors abound while examining this hypothesis in The Urban Family. Josefina, the oldest generation, has lived through many of the novelties in nutrition transition theory, like increases in processed and fast foods. For example, Josefina went from consuming mostly baked sweets in her youth and adulthood to consuming a large amount of packaged sweets now; she also went from rarely eating out to eating fast food at least once a week. According to Katherine, Josefina has a higher consumption of sweets compared to the rest of the members interviewed in The Urban Family, who are extremely conscious of the need to control their intake of sugar. So, while Josefina remains unaffected by chronic diseases, she has been affected by a greater industrialized

food system later in life. Additionally, her active lifestyle is likely a main contributor to her sound state of health.

As for Julio, his addiction to Coca-Cola can prove that the influence of industrialized goods throughout his lifetime contributed to his previously poor dietary habits. And while the diets of Jacqueline and Cristina are quite balanced, there is a presence of elaborated foods in their diets, which both girls attribute mainly to time constraints, a factor that merits greater exploration in nutrition research.

Very apparent time constraints are evident in the life of the granddaughters, like the fact that Cristina eats breakfast in her car and prepares sauces from a packet to save time or the fact that Jacqueline freezes most of her meals also to save time. These time constraints have caused both girls to rely more heavily on ready-to-eat foods than their mother and grandmother. This situation testifies to what O'Sullivan et al. (2008) describe as a substitution of homemade foods for already prepared foods due to women's increased participation in the labor force.

In spite of these time constraints, health is a priority for both; Jacqueline maintains a balanced diet and performs light exercise while Cristina relies heavily on nutritional advice from Jacqueline and with the help from her domestic employee, she is able to eat balanced meals, even at work. These practices have allowed The Urban Family to successfully stave off non-communicable disease.

As was the case for Josefina in The Urban Family, Gloria, the oldest generation in The Rural Family, has not been particularly affected by a non-communicable disease, but has lived through many alimentary transformations associated with the nutrition transition. For example, she cites the change from manually grinding many foods like coffee and peanuts to mechanically grinding these foods, or entirely discontinuing the process by buying packaged coffee and *salprieta*. She also expressed dislike for but inability to avoid elaborated oils, preferring *manteca de chancho*. Red meat has also become a more common element in her diet, whereas chicken and fish were the main staples in her adulthood. The use of oils is an indicator of the concept of "obe-city" laid out by Marvin and Medd (2006), while a greater consumption of meat implies that the "hamburger connection", a concept familiarized by Kaimowitz et al. (2004), is gaining stronger ground in Ecuador.

Despite the nutritional transformations that Gloria has withstood over the years, we can deduce that her active lifestyle, walking two hours to deliver her husband's lunch each day, for example, is a principal contributor to her good health. Conversely, while the other members of The Rural Family perform activities such as cooking, cleaning, and walking, no vigorous exercise routine was mentioned.

The overemphasis of fats and refined carbohydrates in The Rural Family diet also supports the hypothesis that a greater industrialized food system is contributing to the nutrition transition in younger generations. A routine tendency to overemphasize white rice, noodles, fried animal meats and fried fish, and underemphasize grains and fresh vegetables is a norm in The Rural Family. Oil, ketchup, sugar, rice, coffee, mustard and mayonnaise were some of the other processed foods that I found in almost every home of The Rural Family. Lucía's considerable consumption of Coca-Cola is another habit concurrent with the industrialized food system hypothesis, although the rest of The Rural Family described soft drink consumption as a very rare occurrence. The overall abundance and availability of processed foods in both families can indicate the food regime theory, a concept that Dixon (2009) attributes to over-production and hyper-promotion of not necessarily nutritious cash crops and processed foods.

On the other hand, my time spent observing their cooking habits demonstrated that much of what The Rural Family eats, save Lucía, comes directly from their backyard. Also, The Rural Family does food shopping every day, or every week at most, and this shopping is done at markets. This demonstrates that the supermarket culture has not yet come to influence Flavio Alfario, and that much of what they eat is very fresh. Though there is access to and consumption of a host of processed foods, it is pale in comparison to what is available to families in a larger city like Quito or Guayaquil.

Another aspect to recapitulate is that none of the younger generations in The Rural Family expressed the kind of severe time constraints that granddaughters Cristina and Jacqueline from The Urban Family experience. Surprisingly, Gloria expressed more time constraints than her children and grandchildren, barely having time for her children due to many domestic responsibilities.



## **Food and Gender**

The last hypothesis, which stated that women, more than men, are responsible for food-related activities and determine how food will be organized within the household, involves various aspects. In *The Urban Family*, it is true that women, more than men, are responsible for the task of cooking and maintaining family traditions, like *fanesca*. On the other hand, men and women equally share the task of food shopping, except in the case of Jacqueline. While cooking remains dominated by women, the role of the domestic employee must also be taken into consideration. Domestic employees have historically assumed a very integral role in the organization and preparation of food in a great portion of the middle class and upper class Ecuadorian families, a topic not discussed in nutrition transition theory. This is a topic that requires further study, especially in order to determine to what extent domestic employees are responsible for and involved in food shopping, cooking and other food-related activities.

Similar to what was shown in *The Urban Family*, the women of *The Rural Family* are chiefly accountable for the task of cooking, while the men often help or are entirely responsible for shopping, which could be an indication of McIntosh and Zey's (1998) theory that while women are seen as the main gatekeepers of food related-activities, men maintain significant authority over what food is served. While Gloria was always responsible for the cooking in her home, her husband always did the shopping; Sandra and her husband explained the same situation; While Diana is in charge of cooking, she and her husband both share the food shopping responsibilities; María is predominantly in charge of both food shopping and cooking, but her husband often helps; Lucía is the only member of the family that does not share shopping or cooking responsibilities with her husband.

The role of traditions is another gender-related theme that is central to this investigation. While the women in *The Urban Family* keep food-related traditions alive, they are near absent in *The Rural Family*. There was no mention of recipes being passed down or family gatherings being held. This is most likely due to the fact that most of the women in *The Rural Family* learned how to cook at the homes of their employers, rather than in their own homes. Another factor is that many members of *The Rural Family* now

live outside of Flavio Alfaro, and Gloria and Sandra usually travel separately during the holidays, rarely uniting everyone together.

### **Final Remarks and Recommendations**

As demonstrated, The Urban Family has experienced stage 2 of the nutrition transition as the onset of Julio's diabetes proves. Notwithstanding, the transition to stage 3 was accomplished by the attainment of proper medical treatment and the availability of key nutrition information. This has allowed the youngest generations of The Urban Family to effectively avoid degenerative disease in a society undergoing a nutrition transition, a considerable example for society. On the other hand, the unfavorable circumstances discussed in The Rural Family have kept them from progressing to stage 3. In this respect, it is vital to foster the discussion of effective ways of responding and adapting to the nutrition transition. This is essential if societies are to become resilient in the face of nutrition transitions, an undertaking that is not easily achieved without commitment and accountability from all actors in society.

The science of nutrition must start answering the increasingly complex concerns identified below:

- How can the [nutrition] science claim to prevent food-related diseases when global rates of childhood obesity and diabetes in young people are now rocketing?
- How can poor countries protect their traditional food systems when their food supplies are overwhelmed by imported surpluses from rich countries?
- How can consumption of red meat and animal fat decrease when global food trade regulations have the effect of increasing their production and supply?
- How can the benefits of local, fresh agricultural produce be advocated when governments are shifting their rural populations into big cities? (Cannon and Leitzmann, 2005: 687-689).

These questions can be answered satisfactorily using a plurality of perspectives, including nutritional, social and environmental approaches and applications. While this thesis has not been an attempt to answer all of these questions, it has no doubt underscored the importance of seeking innovative initiatives and taking into account a plurality of perspectives in order to manage nutrition transitions.

The evolution of nutrition requires that alternative avenues be tried considering a multitude of movements and proposals that are currently on the table. Many of these

methods defy traditional technocratic wisdom and demand a deeper examination of the more culturally complex ideals that ought to be embodied in food production and consumption.

Food sovereignty, a multifaceted and growing alternative to the “world food order” style of governance, has been active in rewriting the rules of food regimes that too often disempower and disadvantage producers and consumers. Food sovereignty offers a refreshingly holistic approach to the study and practice of producing and consuming food, emphasizing the importance of process. “Food sovereignty is simultaneously about farming technology, democratic policymaking, public health, the environment, and gender, but also how the *process* of increasing food sovereignty is integral to its achievement” (Patel, 2009: 672).

It is necessary to note that food sovereignty is not synonymous with food security. While food security is concerned with quantitatively meeting a certain amount of caloric needs using conventional methods such as food aid, food sovereignty is concerned with qualitatively improving one’s relationship with food, thereby empowering communities to create alternative methods for meeting food needs *and* respecting cultural food values. In other words, while food security has claimed to *cure* undernutrition, food sovereignty seeks to *prevent* both undernutrition and over-nutrition, both of which fall under the category of malnutrition.

*Via Campesina*, a peasant-inspired movement with worldwide representation, is credited with coining the term ‘food sovereignty’ and introducing the concept at the United Nations World Food Summit in 1996. It has since been one of the most ebullient advocates for an alternative food paradigm. Their ideals are summarized below:

Food sovereignty promotes transparent trade that guarantees just incomes to all peoples as well as the rights of consumers to control their food and nutrition. It ensures that the rights to use and manage lands, territories, waters, seeds, livestock and biodiversity are in the hands of those of us who produce food. Food sovereignty implies new social relations free of oppression and inequality between men and women, peoples, racial groups, social and economic classes and generations (*Via Campesina*, 2007).

Consumer control over food and nutrition is an imperative part of the food sovereignty equation, especially since the degenerative diseases related to the nutrition transition are so widespread and difficult to tackle without a shift toward food sovereignty.

Becoming food sovereign requires developing a more meaningful relationship with food, one that may reconcile with the fact that “for the first time in human history, the specific place and time of the production of food has become more or less irrelevant for the specific place and time of its consumption” (Oosterveer, 2007: 42). Hence, many consumers are left with little knowledge about what ingredients their food contains or from where their food originates. Some science, using a technical rationality, has substituted this knowledge with health claims and caloric calculations through various food labeling techniques and billion-dollar advertising endeavors. While this might give food a nutritional significance, it is void of symbolic and cultural significance. It is therefore imperative “to identify food governance arrangements that can bridge the gap between the ways in which time and space are organized [...] Between the global material flows of food and the specific local context where most food producers and consumers still spend most of their daily lives” (Oosterveer, 2007: 57). Bridging the gap between consumers and producers is a necessary part of combating the nutrition transition, one that means respecting cultural, community, and ecological values as much as nutritional values.

One way to create more connected communities is to by developing more individual and family level responses to the nutrition transition, responses that Suárez-Herrera et al. (2009) detail and defend. The authors argue that traditional population perspective approaches taken in response to the nutrition transition have undermined individual and family perspective responses to the nutrition transition. They propose greater social participation as a more inclusive means to responding to the nutrition transition. This can be achieved through the use of individual capacity-building, collective action, and the creation of favorable environments, among other strategies.

In Ecuador, the integration of social participation campaigns could take on many forms. For example, it is of utmost importance to teach citizens how to properly combine foods in order to correct what Yépez (2007) notes as a pervasive overemphasis of refined carbohydrates. A rich and active dialogue among government health experts, private health professionals and the general public must transcend through intensive communication campaigns and events that involve and invite community participation and interaction. Municipalities must promote the use of green and recreational spaces,

and maintain these spaces in favorable conditions in order to avoid the types of urban designs that Sheppard (2006) contributes to sedentariness and obesity. Hospitals, clinics and schools should join forces in order to create easy-to-read pamphlets, flyers, websites, and other straightforward informational tools about nutrition. For example, a nutritional pyramid should be common, accessible knowledge to all citizens. Conferences, classes, lectures, and training programs must be offered and well advertised throughout urban and rural areas in order to empower individuals and communities to take control of their health. This will ideally enable citizens to rally and unite for change at a higher and more influential level.

These recommendations are preventative in nature and will require dedication, time, financing, and industriousness. They are by no means revolutionary ideas, but rather ideas whose time has come. It is time to transition to a world in which optimal nutrition is a universal standard, not a universal hope.

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## **INTERVIEWS**

Adriana, March 29<sup>th</sup>, April 1<sup>st</sup> and April 12<sup>th</sup>

Cristina, April 28<sup>th</sup>, 2012

Diana, June 2<sup>nd</sup>, 2012

Gloria, June 3<sup>rd</sup>, 2012

Ismael Soriano, May 3<sup>rd</sup>, 2012

Jacqueline, May 29<sup>th</sup>, 2012

Julio, April 16<sup>th</sup>, 2012

Katherine, September 19<sup>th</sup>, 2012

Lucía, April 21<sup>st</sup>, 2012

Malena, March 29<sup>th</sup>, 2012

María, June 2<sup>rd</sup> and August 25<sup>th</sup>-26<sup>th</sup>, 2012

Miguel, June 3<sup>rd</sup>, 2012

Sandra, June 3<sup>rd</sup> and August 26<sup>th</sup>, 2012

## **ANEX I**

### **INEC SOCIOECONOMIC CATEGORY DESCRIPTIONS**

According to INEC, the description of the four categories used in my socioeconomic analysis are as follows: Category A, which represents 1.9% of the interviewed population, describes a family with finished wooden or plank floors, two full bathrooms, conventional phone service, up to four cell phones, a refrigerator, an over, two color televisions, a washing machine, a sound system, and up to two cars. Both desktop and laptop computers along with Internet service were found in most homes. The majority had read books or manuals in the past three months. Most breadwinners have earned higher education degrees and completed graduate studies, which is reflected in their

employment status as high-level professionals. Almost all have public and private health care services (INEC, 2011a).

In Category B, which represents 11.2% of those interviewed, half of the population had finished wooden or plank floors. These homes also contained an average of two full bathrooms, conventional phone service, up to three cell phones, a refrigerator, an oven, two color televisions, a washing machine, a sound system, and an average of one car. While most homes have Internet service, 80% have desktop computers while 50% have laptop computers. The majority had read books or manuals in the past three months. The breadwinners have completed higher education and most are mid-level professionals. Almost all have public health care services and 80% also have private health care (INEC, 2011a).

Category C- describes families that have cement or brick flooring, one full bathroom, an average of two cellphones, a refrigerator, an oven and a color television. Washing machines and sound systems were found in fewer than half of the homes interviewed. Likewise, fewer than half of the homes utilize Internet services and only a little over half have conventional telephone service. The majority of breadwinners in category C- were found to have completed primary education, and most are engaged in manual labor or in service sector jobs. Only half were reportedly affiliated with the public social security healthcare system and a mere 6% affiliated with private health insurance. Category C- represents approximately 50% of the population pool (INEC, 2011).

Category D describes a family with cement, brick, untreated wood, or dirt flooring. Only 30% have a full bathroom, while less than 43% have a refrigerator and oven. On average most homes have a color television and one cellular phone, but almost no home has a washer, conventional telephone service, or sound system, while less than 10% use the Internet. On average, the breadwinner has completed primary education. Job outlook for this category is scarce, as many are described as unskilled workers; others work in service industries, many operating machinery, while some are altogether unemployed. Category D represents approximately 15% of the interview pool (INEC, 2011).

## ANNEX II GLOSSARY OF FOOD TERMS

### ***Dishes***

*Fanesca*- an Ecuadorian soup traditionally served in the Sierra region during Easter; it is made with at least 12 different types of grains and potatoes

*Molo*- a potato and cheese puree usually served during Easter

*Tamales/Chigüiles*- A meat or chicken-filled corn mass wrapped in banana leaves and steamed or baked; *chigüiles* are typical of the Loja province in Ecuador

*Humitas*- A sweet or salty corn mass wrapped in corn husks and usually steamed

*Bollos de verde*- meat or fish-filled plantain mass wrapped in banana leaves and steamed

*Bolon de verde*- fried green plantain dumpling usually filled with pork or cheese

*Estofado de gallina*- chicken cooked in tomato, onion, red/green pepper and garlic puree and usually served over rice

*Longaniza*- dried pork sausage

*Caldo de pata*- cow hoof soup made with a thin broth, carrots and corn

*Picante*- a fish dish served with diced yucca and topped with an onion and lemon puree; typically served in the Coastal region during Easter

*Ceviche*- Raw seafood soup marinated in citrus fruits and sliced onion; served chilled

*Viche*- Hot seafood soup with a peanut puree broth usually cooked with carrots, corn and yucca

*Mellocos*- A type of tuber resembling a small potato; used in soups, such as *fanescas*, and in salads

### ***Beverages***

*Champús*- a fermented drink made with cornstarch, fruits such as *babaco* and pineapple, honey, and fresh herbs

*Jucho*- a fruit cocktail originally from Riobamba made with fresh *capulí*, peaches and spices.

*Rompope*- a drink similar to what North Americans know as eggnog: it is made with raw eggs, cinnamon, sweet clove, allspice and *aguardiente*, which is an alcohol made from sugarcane

*Colada de avena*- an oatmeal and fruit drink with spices that is served warm or cold; often referred to as *quaker*, after the brand

### ***Fruits***

*Capulí*- an Andean fruit that looks and tastes like a cherry but is smaller and darker.

*Chirimoya*- an medium-sized oval Andean fruit with a green, scaly skin and a sweet, white, custard-like juice and black, bean-sized seeds

*Babaco*- a tropical hybrid originally for Ecuador; it is shaped like a papaya but is larger and the fruit is white, soft and mild

*Claudia*- green plum

*Noni*- a fruit that looks similar to the chirimoya but is smaller and has a more unpleasant taste

*Nispero*- a soft, brown-skinned orange-shaped fruit with a sweet, reddish inside and large, dark seeds

*Zapote*- a soft, brown-skinned avocado-shaped fruit with a sweet, orange inside and a large seed, also similar to an avocado

*Naranjilla*- a small, round, orange fruit that is acidic and commonly used in fresh fruit drinks

*Zapallo*- pumpkin

*Zambo*- figleaf gourd

*Pechiche*- small, round, black fruit similar to a blueberry, but bigger

### ***Plants***

*Artemisa*- a tall, green plant with purple ends known for its medicinal properties

*Valeria*- plant with pink or white flowers known for its calming properties

*Flor de jamaica*- hibiscus tea

### ***Deserts***

*Dulce de tres leches*- a sweet, moist, sponge cake soaked in cream

*Buñuelos*- doughnut fritters



*Pristiños*- a type of fried cookie served with honey; very popular Christmas desert in Ecuador

***Others***

*Concha*- Shellfish

*Salprietá*- a seasoning typical of Manabí made with ground corn and peanuts, and flavored with cilantro and other condiments