

**Immigrant Labor in the Forest Industry:
The Impacts of H-2B Employment on Local Livelihoods**

by

Arnold M. Brodbeck IV

A dissertation submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

Auburn, Alabama
May 7, 2016

Keywords: H-2B, immigrant, labor, livelihoods, forestry

Copyright 2016 by Arnold M. Brodbeck IV

Approved by

Wayde Morse, Co-Chair, Assistant Professor, School of Forestry and Wildlife Sciences

L. Conner Bailey, Co-Chair, Professor, Agricultural Economics and Rural Sociology

Becky Barlow, Associate Professor, School of Forestry and Wildlife Sciences

Ken McNabb, Professor, School of Forestry and Wildlife Sciences

Abstract

The production of timber requires labor, with peak labor demands coming during reforestation. Much of the labor used in tree planting in the United States (US) is provided by migrant workers. The overall purpose of this dissertation is to examine how the opportunity to work in the US affects migrant workers in their home communities. The specific focus of this study is on migrant workers from Guatemala who work in the southeastern US (South) under H-2B visas issued by the US Department of Immigration.

Migrant laborers working under the H-2B guest worker visa program plant an estimated two million acres every year in the South. In 2004 migrant labor constituted 84% of the forest management labor in the southern forest industry. H-2B labor provides relatively cheap, productive, and reliable labor that enables the forest products industry to remain competitive.

The purpose of this study is threefold: First, to describe the role, impact, and importance of H-2B forest workers to Alabama's forest industry from the perspective of professional foresters; second, to document laborers' background and explain why immigrant labor from Guatemala participates in the H-2B program; and third, to describe the impacts that earnings associated with H-2B forest employment have on the livelihoods of participating workers, their families, and communities. This study uses a qualitative methodology composed of face-to-face interviews and snowball sampling. Interviews were conducted in Alabama with foresters and labor contractors and in Guatemala with forest workers, family members, community leaders, and government officials in 2012 and 2013

Results indicate that immigrant labor in Alabama's forest product industry has become increasingly important to forest regeneration. Study participants expressed a preference for H-2B forest workers because of their versatility, productivity, and most importantly, their affordability. However, as a result of 2012 and 2015 Department of Labor wage rules, foresters are concerned about landowners' willingness to plant as hand planting costs increase.

H-2B forest workers are shown to migrate largely as a result of poor labor markets in their communities and the presence of persistent and chronic poverty. The impacts of remittances associated with H-2B forest work are seen in improvements to nutrition, housing, and access to healthcare. Long-term impacts are likely a result of investments in agricultural lands, microenterprise, and their children's education.

Table of Contents

Abstract.....	ii
List of Tables	vii
List of Figures and Images.....	viii
Chapter 1: Introduction	1
Immigrant Labor in the Forest Industry	2
Exploitative Concerns and Changing Laws	3
H-2B Visa Impacts in Improving Guatemalan Livelihoods	4
The Greater Contextual Framework	6
Research Objectives	10
Chapter 2: Literature Review	12
Introduction	12
Migration	13
Migrant Labor in the US Forest Industry	27
Does the H-2B Program Exploit Labor?.....	39
Does the H-2B Program Provide Opportunities for Improving Livelihoods?.....	49
Changing Policies and Implications for Immigrant Forest Labor	56
Chapter 3: Study Site	61
Identifying the Study Site	61
Overview of Guatemala	62

Narrowing the Study Site: Departments of Huehuetenango and Alta Verapaz.....	65
Inside the Departments: Primary Community Descriptions	69
Chapter 4: Methods	76
General Approach.....	76
US-Based Interviews	76
Guatemala-Based Interviews	78
Study Population.....	90
Chapter 5: Results: Opinions on the Importance of H-2B Labor to Alabama’s Forest Industry	102
What Did We Have Before Immigrant Labor?.....	103
Industry Opinions on the Importance of H-2B Immigrant Labor.....	106
Impacts of New Department of Labor H-2B Rules on Reforestation.....	109
Alternatives to H-2B Immigrant Labor.....	114
Chapter 6: Results: Understanding H-2B Forester Worker Migration and Impacts on Livelihoods	119
Part 1: Why Go? Understanding Why Immigrant Laborers Decide to Participate in the H-2B Program.....	119
We Are Poor Here.....	120
Part 2: Remittances Changing Livelihoods.....	130
Factors Affecting Earnings and Remittances.....	131
How Much Do H-2B Forest Workers Remand?.....	150
Investing Remittances: Changing Livelihoods	170
Part 3: Community Impacts of Remittances	240
Better Roads.....	241
Building Churches	244

Hiring Local Labor and Supporting Local Commerce	246
Part 4: H-2B vs. Illegal Alternatives.....	249
Why Don't H-2B Planters Overstay their Visas?	251
What Causes H-2B Planters to Overstay their Visas?	256
Chapter 7: Research Conclusions	262
Forester Opinions on the Role and Future of H-2B Forest Labor in Alabama	263
Why Do Rural Guatemalans Take H-2B Jobs?	267
Is the H-2B Program Contributing to a Higher Quality of Life?	270
Avenues for Future Research.....	273
Chapter 8: Policy Implications for Developing a Mutually Beneficial Relationship	276
Implications of Changing H-2B Rules for Forester Workers and the Forest Industry	276
Applying the Appropriate Rules to Ensure a Mutually Beneficial Relationship	281
Impact of Rising H-2B Costs on Timber Profitability and Management	285
Only Losers in Rising Regeneration Costs	288
References	290
Appendix A: Questionnaire	306
Appendix B: Tables	314
Appendix C: Figures and Images	328

List of Tables

Table 4.1. Summary of forester & labor contractor interviews conducted in Alabama in 2012 for understanding the importance of immigrant labor in forest regeneration.....	313
Table 4.2. Codebook for H-2B forest labor as outlined by Brodbeck 2016 for developing first order themes.....	314
Table 4.3. Summary of immigrant labor interviews collected in 2012 and 2013 in Guatemala differentiated by role, department, and community.....	316
Table 4.4. Demographics of H-2B forest labor interviewed in Guatemala in 2012 and 2013	317
Table 4.5. Characterization of participation of Guatemalan immigrant forest labor in the H-2B program in 2012 and 2013 in the US.....	318
Table 6.1. Pine seedling planting production and earnings of Guatemalan H-2B immigrant forest labor in 2012 and 2013 in the US	319
Table 6.2. Visa, recruitment, and travel costs to the US for H-2B forest labor from Guatemala in 2012 and 2013.....	320
Table 6.3. Monetary remittances and resulting investments in Guatemala by H-2B forest labor collected in 2012 and 2013	321
Table 6.4. Educational investments, types, and goals of H-2B forest labor in Guatemala collected in 2012 and 2013	322
Table 7.1. Estimated impacts of select 2015 Department of Labor H-2B Rules on loblolly bare-root seedling-planting costs on a per-acre basis	323
Table 7.2. Breakdown of hand vs. machine forest planting costs on a per-acre basis.....	324
Table 7.3. Key changes between the DOL 2009 and 2015 rules.....	325

List of Figures and Images

Figure 5.1. South-wide pine stumpage prices: 2007 to present	327
Figure 6.1. Number of pine seedlings planted by H-2B Guatemalan forest workers per day reported in 2012 and 2013	328
Figure 6.2. Average monthly remittances to Guatemala from H-2B workers employed in the forest industry in 2012 and 2013	329
Figure 6.3. H-2B forest planting compensation per man per day based on self-reported 2012 and 2013 daily planting averages and assuming an average compensation rate of \$31 per 1000 trees planted	330
Figure 6.4. 2013 monthly earnings comparison of H-2B forestry remittances to the Guatemalan national minimum wage, rural prevailing wage in immigrant labor home communities, and the Guatemalan government’s estimates for vital food needs	331
Figure 6.5. Annual earnings comparison of H-2B forestry remittance to the Guatemalan national minimum wages, rural prevailing wage in immigrant labor home communities, and the Guatemalan government’s estimates for vital food needs	332
Figure 6.6. Total annual H-2B forestry remittances per Guatemalan worker vs. worker’s length of visa stay in the US	333
Figure 6.7. Percent of H-2B forest workers investing in their children’s education in Guatemala in 2012 and 2013.....	334
Figure 6.8. Current educational level of H-2B forest worker’s children in Guatemala in 2012 and 2013.....	335
Figure 6.9. Educational investment types of Guatemalan H-2B forest workers in 2012 and 2013	336
Figure 6.10. Guatemalan H-2B forest workers’ educational goals for their children in 2012 and 2013.....	337
Figure 6.11. Guatemalan H-2B forest workers’ career goals for their children in 2012 and 2013	338

Figure 7.1. Estimated impacts of researcher suggested and all new 2015 DOL H-2B Rules on per acre forest planting costs.....	339
Image 3.1. Location of Guatemala in Central America	63
Image 3.2. Departments Where H-2B Communities Were Visited	66
Image 3.3. Children Carrying Firewood for Cooking	95
Image 3.4. Men Carrying Firewood for Cooking	96
Image 6.1. Corn Stored in the Homes for Future Consumption and Seed.....	157
Image 6.2. Examples of Non-Remittance Receiving Families	192
Image 6.3. Examples of Simple Remittance-Funded Homes	196
Image 6.4. Examples of More Extravagant Remittance-Funded Homes	199
Image 6.5. Examples of Average Remittance-Funded Homes	201

Chapter 1: Introduction

The production of timber requires labor, with peak labor demands occurring during reforestation. Much of the labor used in tree planting in the United States (US) is provided by migrant workers. The overall purpose of this dissertation is to examine how the opportunity to work in the US affects migrant workers in their home communities. The specific focus of this study will be on migrant workers from Guatemala who work in the southeastern US (South) under H-2B “guest worker” visas issued by the US Department of Immigration.

This study is a culmination of my experience living in Guatemala and working in the US forest industry managing crews of migrant tree planters. This experience drove my research interests and a desire to learn how the relationship between these migrant workers and the forest industry has become integral to each other’s success. As someone who spent 18 years living in Guatemala and was employed in the forest industry actively working with immigrant labor, I bring a unique combination of experience and insights to a complex relationship.

Previous research, reports, and articles related to immigrant labor highlight many of the more worrisome aspects of the US Department of Labor’s (DOL) H-2B program, which provides the current legal avenue for contracting immigrant labor in forestry (GAO 2015; Bauer 2007; Grzywacz et al. 2013; Sarathy and Casanova 2008; Seminara 2010; SPLC 2012; Knudson and

Amezcuca 2005). While recognizing and not disputing that some immigrant workers have suffered and likely continue to suffer cases of abuse, I find there is an alternative perspective that has only been marginally recognized. Based on field research and primary data collected in Guatemala, I argue that these jobs provide real and long-term positive impacts affecting the livelihoods of international laborers who willingly and actively participate in the H-2B program.

This study is aimed at exploring the links between remittances, or the transfer of money from one person to another, received by immigrant laborers employed under the H-2B guest worker visa program and the resulting impacts on the quality of life in their households and communities. To explore these links, I identified several communities in Guatemala that are significant sources of H-2B forest labor and conducted a series of interviews over a two-year period with laborers, community leaders, and government officials. The combination of qualitative interview data and field notes documenting living conditions and investments, along with comparisons between migrant and non-immigrant labor families, suggests the H-2B program is less exploitative than other accounts document.

This study also examines the roles and importance of and alternatives to H-2B labor in Alabama's forest industry as oft-revised DOL regulations raise the costs and limit the numbers of eligible H-2B workers annually. Foresters and labor contractors in the South were interviewed to gain perspective into the implications of these changing laws for forest management and forest regeneration in Alabama. This study aims to provide meaningful insights toward developing a mutually beneficial relationship between workers looking for greater opportunities and an industry attempting to retain reliable labor and profitability.

I. Immigrant Labor in the Forest Industry:

The DOL's H-2B guest worker visa program, implemented in 1986, fills thousands of jobs with immigrant laborers from around the world. Previous research has indicated that as much as 84% of labor in the forest industry is filled by immigrant labor (McDaniel and Casanova 2005). What proportion of this labor is filled by H-2B workers as compared to undocumented workers is not known.

From the perspective of the US forest industry, migrant workers provide cheap and reliable labor that has enabled the forest products industry to remain profitable for both landowners and foresters in the South.

Migrant workers fill a variety of forest operations, including herbicide applications, pre-commercial timber thinning, boundary line painting, pine straw raking, and most importantly, forest regeneration. It is estimated that immigrant laborers plant over two million acres in the South alone (McDaniel and Casanova 2003). Their hand-planting regeneration efforts have become the dominant reforestation method due to their versatility over various terrains, productivity, and affordability. In Alabama, immigrant laborers represent 80% of regeneration efforts (Dooley and Barlow 2013).

II. Exploitative Concerns and Changing Laws:

Over the past decade, and especially during the past few years, concerns and questions regarding treatment of immigrant laborers under the H-2B guest worker program have begun to surface in newspapers, reports, and peer-reviewed journal articles (Seminara 2010; McDaniel and Casanova 2005; Knudson and Amezcua 2005). The literature has highlighted abusive working conditions, unethical and illegal pay deductions, limited government oversight, and

unscrupulous employers in the forest industry (Knudson and Amezcua 2005). In some cases lawsuits have resulted against employers, and as a result, it is no longer a secret that H-2B migrant laborers have faced instances of exploitative working conditions and practices in the forest industry.

Nonetheless, the number of migrant workers seeking H-2B visas today is as large as ever. Visa requests regularly exceed the current visa caps, and proponents in Washington, D.C., seek to expand the program to allow for more guest workers (Seminara 2010). However, possibly as a result of past exploitative practices and concerns with overlooking domestic labor, the H-2B program is undergoing changes to the rules governing the program. Many of these rules provide increased worker protections, but often at an increased cost to the employer.

Since 2011, the DOL has proposed increases from 26% to as much as 104% to prevailing wages, further raising concerns among many stakeholders, including the farming, landscape, nursery, and forest industries (AFC 2011). The implications of restricting or increasing labor costs are of serious concern for many in the forest industry and related manufacturing industries. For H-2B workers, these proposed laws would improve working conditions, but possibly at the cost of limiting future employment opportunities, as alternative regeneration techniques (e.g., mechanized planting) become more competitive.

III. H-2B Visa Impacts in Improving Guatemalan Livelihoods:

Important to this discussion regarding the legality, fairness, and need for immigrant labor is the notion that these jobs might be providing viable and legal employment opportunities to international laborers. Guest workers today, even when faced with possibly exploitative

conditions, continue to return to the South and work for forest contractors. This would appear to indicate that arriving guest laborers either perceive opportunities not available in their countries or are unaware of American working conditions.

Guatemalan H-2B laborers originate from rural agricultural communities characterized by persistent poverty, where opportunities for improving their living conditions are extremely rare. Rural employment offers wages near half that of Guatemala's \$10 per day minimum wage and often requires families to work combinations of seasonal farm labor and subsistence agriculture. Children often leave school before the sixth grade to help families with crops and, as a result, limit their opportunities for rising from chronic poverty (Diaz et al. 2008).

For many families, migration proves to be a common method for escaping persistent poverty, which for most means illegal migration. The resulting remittances for the hundreds of thousands of Guatemalans working in the global North (primarily in the US) are measured annually in the billions of dollars and are a significant source of both income and rural development (IOM 2013). This influx of capital in Guatemala is undeniable, as it is evident in new homes sprouting from cornfields and tens of thousands of new cars clogging rural country roads.

The H-2B program provides a legal mechanism for employment opportunities in the US. Undocumented workers face greater financial costs and higher risks traveling to the US and often find it necessary to stay for long periods away from their homes, families, and communities. The H-2B program provides a legal alternative for Guatemalans looking for opportunities to escape persistent poverty. My research findings point toward significant improvements in living conditions that can be tied directly to employment under the H-2B program. Overall, a positive

relationship is evident in both the opinions of immigrant laborers about the program, and the resulting improvements in housing, education, healthcare, and local microenterprise.

IV. The Greater Contextual Framework:

A. A globalizing economy:

Globalization has created a continually evolving worldwide community. Specifically, globalization is the process of interacting with and integrating cultures, economies, and governments around the world (Suny Levin Institute 2014). This largely economic process is driven by global trade and investments, and has impacts on the environment (Bryant and Bailey 1997), cultural diversity, human well-being, and economic development of countries around the world (Suny Levin Institute 2014).

Globalization, however, is by no means a new process. Even though it has only recently become a catchphrase, it has its roots in some of our earliest civilizations (Chanda 2003). Some scholars have pointed to the expansion of early cultures from Africa, trade on the Silk Road, and European trade between colonized regions and cultures as the origins of globalization (Chanda 2003; Suny Levin Institute 2014; Bryant and Bailey 1997; McMichael 2012). The more modern concept of globalization became especially prominent with the European discovery of the Americas and establishment of colonies (McMichael 2012; Robinson 2007). Over time European immigrants traded and provided manufactured goods to Europe, creating interdependencies on regional and later global scales (McMichael 2012). In the past few decades, trade, investments, and migration have increased drastically on a global scale. Since

1950, the volume of international trade has increased 20 times, and between 1997 and 1999 foreign investment doubled from \$468 billion to \$827 billion (Sunny Levin Institute 2014).

This boom in international trade was the result of several factors. First, the development of political and non-governmental organizations after World War II (e.g., the United Nations) provided global governance and authority (Robinson 2007; McMichael 2012). Second, new international financial institutions (i.e., The World Bank) to finance trade and development were established (McMichael 2012). Third, new information transfer technologies allowing for quick and efficient data transmission were developed. Last, modern transportation systems increased human mobility, migration, and cross-cultural contact (McMichael 2012). The overall result of modern globalization has been what Held and McGrew (1999, p. 2) call “a widening, deepening and speeding up of worldwide interconnectedness in all aspects of contemporary social life, from the cultural to the criminal, the financial to the spiritual.”

B. Globalization and migration:

The democratic and industrial revolutions gave birth to a new economic system: capitalism. This era was characterized by a growing system of private production, distribution, competition, and exchanges of wealth that included a significant increase in the presence of wage labor. The Industrial Revolution meant the mechanization of many processes to achieve increased production and cost reduction. This gave rise to an unprecedented need for labor.

In the early years of the Industrial Revolution, as continues to be the case today, labor was pulled from the agricultural sector. Whether in 18th-century England or 21st-century China, labor has been recruited away from farms to join the capitalist system of wages and the consumerism associated with it. This recruitment has initiated a “depeasantisation” process that

continues to this day as industries spread globally and increasingly draw rural labor away from traditional occupations (McMichael 2012).

This process resulted in mass rural-to-urban migrations as people sought to join a capitalist society. However, with capitalism came a rise in inequality as increasing portions of the population toiled under low wages and migrations outpaced employment. As a result, people began to look outward for new opportunities, and thus began migrations from Europe to North America in the 19th century and from nations such as Mexico, Turkey, and the Philippines to the United States, Germany, and Saudi Arabia in the 21st century.

Today's migrations follow many of the same centuries-old patterns. We again see the expansion and globalization of capitalism as it moves into the far corners of the earth looking to further reduce costs with ever-cheaper labor. The same allure of opportunity and wealth of past centuries is now even stronger due to modern advertising through radio, billboards, and most prominently, television. These enticements further fuel depeasantisation of the rural farming sector (McMichael 2012). In this way, people migrate to urban centers or across borders to join the wage-earning masses and society of consumerism.

Preceding and intimately connected to this process was colonialism. European nations expanded globally and sought to extract resources to feed their manufacturing sector, increasing industrial demands for natural resources. But who was going to work these vast plantations? Europeans had largely modernized and therefore were less willing to provide such labor and expected higher wages. Thus began the unprecedented international labor recruitment and depeasantisation process around the world. Labor was mined from poor developing countries and shipped to almost every continent as contract labor or indentured servants to work in fields, mines, and factories.

This same pattern continues today. Asians still comprise over 55% of total migrants, moving to many of the same industries, including, most recently, oil fields in the Middle East (IOM 2013). The North American model has shifted to attracting migrant labor closer to workers' homes. Mexicans, Guatemalans, and Salvadorians work in industrial facilities that have been relocated in their respective countries. People continue to migrate away from traditional subsistence farming and, as labor shortages and perceived inequalities rise at home, are pushed and pulled north to fill labor demands in agriculture, forestry, and various low-wage processing facilities.

Modern agriculture is yet another major contributor to this process of depeasantisation and migration. The Green Revolution of the 1960s increased crop yields by over 300 times, marginalizing traditional farmers who did not have access to the better seeds and practices. Small farmers could not compete against rising production and were forced to leave their farms (McMichael 2012). Additionally, the introduction of global markets for industrial agricultural products closed yet more farms, leading to urban migration.

In the case of Guatemala, for example, it is cheaper to buy corn from industrialized farms in Mexico than on the local market. There are rising incentives for farmers to leave subsistence agriculture, and no incentive to grow corn for local consumer markets. This process is occurring globally, perpetuating depeasantisation and strengthening migration incentives. Over time, subsequent generations have become dependent on wage labor as they lose their traditional knowledge and cannot return to making a living from the land. The result is a growing number of available, cheap, and easily exploitable laborers for the ever-globalizing capitalist market. A process that has its roots in industrialization and colonialism is reflected and repeated as transnational corporations expand into new markets.

One hope for the future is the developmental power of remittances to raise living standards, strengthen education systems, and eventually slow growing gaps in equality. Today, consensus is building around the idea that the best method for poverty reduction and economic development lies not with foreign aid but rather with homegrown development strategies (Benmamoun and Lehnert 2013), including market-driven strategies such as remittances and microfinance (Benmamoun and Lehnert 2013). Remittances have shown a tendency to be supportive of small entrepreneurial businesses and also have led to investments in education, which are likely to drive higher human capital (Adams and Cuecuecha 2010). It is unclear whether remittances alone can provide this mechanism, but as they outpace foreign investment and development funding, they may provide the best opportunity for raising a community's standard of living through education, improved housing and nutrition, as well as funding local microenterprises.

V. Research Objectives:

The purpose of this study is threefold. First, it seeks to understand the backgrounds and motivations of H-2B immigrant workers from Guatemala who take jobs in the US forest industry. Second, this study attempts to document the impacts of H-2B forest jobs on the livelihoods and communities of Guatemalan migrant workers. This research will track H-2B forestry laborers back to their country of origin and to visit and interview workers on their home turf. The idea is to explore the link between workers in the forest industry with livelihoods in the developing world to better understand the motivations of this critical labor source. The third

objective of this research is to explore the role and importance of and alternatives to immigrant labor in the US forest industry in the context of changing industry regulations.

Objective 1: Describe why migrant workers from Guatemala take H-2B jobs in the United States.

Objective 2: Describe the impacts of natural resource-related employment on the livelihoods of immigrant workers, their families, and their communities in Guatemala.

Objective 3: Identify stakeholder interests and beliefs regarding the future of immigrant workers in Alabama's forest industry.

Chapter 2: Literature Review

I. Introduction:

For centuries, the US has imported migrants to fill difficult manual labor jobs. The monetary compensation for many of these jobs has been low, providing few incentives for Americans to fill these positions on farms, construction sites, or in this study, forest operations. Complementing these labor needs is a long history of global migrations, which have largely been associated with poor rural peoples seeking opportunities to improve their livelihoods in the wealthier global North. In recent decades, this combination of American demand for cheap labor and willing migrants looking for better-paying jobs has resulted in the DOL's H-2 guest worker programs.

The H-2B guest worker program, designated for nonagricultural labor including forestry, is an important component of the forest industry in the South. Over the decades, jobs that were either held by American laborers or were more mechanized have shifted to a visa program that allows labor contractors to recruit foreign labor to service the manual labor needs of the US forest industry. Today, this largely seasonal labor pool fills thousands of jobs annually and has become critical to various forest operations including reforestation, selective herbicide application, pine straw raking, and pre-commercial thinning of trees (McDaniel and Casanova 2005).

Previous research and reports have raised many valid questions and concerns regarding the use and treatment of H-2B labor. Legal and ethical concerns over the structure of the program, recruitment techniques, compensation, physical and verbal abuse, and working conditions have many questioning the current and future status of this visa program. In the midst of these legal and ethical discussions are the questions of why immigrant workers take these jobs and if and how laborers are benefiting from working in the forest industry under the H-2B program. While this in no way excuses legal and ethical violations, it is important to consider the H-2B visa program from the perspective of an immigrant laborer.

It is no secret that remittances, or the transfer of money from one person to another, earned in first-world countries like the US provide a significant source of capital to many developing countries. In Guatemala, specifically, this capital totals 11% of gross domestic product (GDP) and supports a large and growing segment of the population (IOM 2013; World Bank 2006). Remittances enhance many aspects of life (e.g., housing, transportation, nutrition, and healthcare) that poor rural populations in developing countries have difficulty accessing. As a result, employment through legal avenues such as H-2B has the potential to improve livelihoods of guest workers. The following chapter will review pertinent literature to provide a general understanding of global migration patterns, the role of immigrant labor in the forest industry, previous abuse concerns, and the potentially positive aspects of earned capital under the H-2B guest worker program.

II. Migration:

A. Globalization: factors driving migration

Globalization, defined as the increasing interdependencies between countries and the associated integration of trade, finance, ideas, marketplaces, and people, is growing stronger every year (Soubbotin 2004). Globalization is shrinking the world as technological advances lower costs of transportation and communication. This process has not only allowed for the liberalization of trade and capital markets, but is also responsible for driving increasing rates of internal and transnational migration (Soubbotin 2004).

The process of globalization was facilitated in the post-WWII era by the establishment of international institutions such as the World Bank, the International Monetary Fund (IMF), the General Agreement on Tariffs and Trade, and the World Trade Organization, which worked to reduce international protectionism and import tariffs and generally reduced regulatory constraints and tariff barriers that inhibited international trade (Soubbotin 2004). The benefits of globalization are seen in better access to markets and producers worldwide (Soubbotin 2004). However, the opening of countries to international trade also poses some risks. Specifically increased competition can push local producers, manufacturers, or employment sectors out of the market, thereby destabilizing local labor markets and instigating migration (Soubbotin 2004).

McMichael (2012) illustrates this phenomenon with the case of Wal-Mart entering the Latin American market in the mid-2000s. The introduction of Wal-Mart to Guatemala, for example, where previously 35% of the market was occupied by local supermarkets, forced many of these markets out of business (Dugger 2004). This process also impacted local agricultural producers as new standards, dropping prices, and the lack of contractual agreements placed millions of Guatemalan farmers at a disadvantage (Dugger 2004). Steeper standards, lower prices, and the transnational positioning of Wal-Mart allowed food to be imported more cheaply from other countries.

The introduction of transnational businesses like Wal-Mart, while often granting better access to a diversity of products and lower prices, can have unintended and sometimes negative impacts on local labor. This phenomenon gains significance when considering that 3.8 billion people are directly dependent on agriculture across the globe (ActionAid 2004). The percentage of the population engaged in agriculture in the developing world averages 50% and can increase to as much as 85% in some of the poorest countries (ActionAid 2004). The expanding global economy and its policies of free trade, often in combination with first-world subsidies, mean low global prices for agricultural products that displace the poor farmer (McMichael 2012).

In the case of India, agriculture has become increasingly unrewarding with dropping agricultural prices, which have fueled migration away from rural areas (Paringuax 2001). The loss of markets often results in a “depeasantisation process” in which rural farmers migrate away from traditional forms of subsistence to urban slums (McMichael 2012).. It is estimated that between 1980 and 2000 rural to urban migration in many low- to middle-income countries increased from 32% to 42% (Martin et al. 2006). As a result, estimates place the number of underemployed or unemployed workers at 1 billion globally (Davis 2006).

Now, consider the impacts of television and marketing. These millions of poor unemployed or underemployed peoples are tantalized with countless products, wealth, and the opportunities associated with the global North that cannot be had in their current situations and environment (Attali 1991). This disparity, writes Attali (1991), is driving migration to the global North, a process is further facilitated by the modern age of air travel and instantaneous communication (McMichael 2012). Scenarios like the ones in Guatemala are being played out around the globe in countless ways as populations abandon their traditions, find limited local opportunities, and migrate to find relief from poverty and seek prosperity.

Another related factor driving migration, associated with globalization, is the increasing inequalities between developed and developing nations (Flanagan 2006). In 1960 the richest 20% of the world's population had 30 times more income than the poorest 20% (United Nations 1997). By 1997, this number had increased by approximately 74 times (United Nations 1997). It is estimated that 80% of humanity lives on less than \$10 per day (United Nations 2007) and that 80% of the world's population lives in countries where income disparities are broadening (Chen and Ravallion 2008).

It has been argued that while globalization may be decreasing absolute poverty, the rich are getting richer and the poor are staying the same (Flanagan 2006; Suny Levin Institute 2014). There are concerns that outsourcing labor-intensive industries to the global South, where prevailing wages are cheaper, is creating a race to the bottom (McMichael 2012; Flanagan 2006; Suny Levin Institute 2014). This raises worries over degradation not only of local wages but also environmental conditions, as well as fears that, should countries raise wages and environmental regulations, transnational corporations might leave (Zarsky 1997). The result is declining environmental conditions and the associated living standards that further drive migration (McMichael 2012).

The informal labor sector, common in the developing world, is yet another factor likely to drive transnational migration. Informalization of employment is a political and cultural process associated with the rise of market societies and the identification of formal economic boundaries (McMichael 2012). Traditionally there has always been a segment of the population that has fallen outside these defined boundaries. A prominent example is subsistence agriculture and seasonal farm labor (Flanagan 2006).

As the depeasantisation process of rural farms takes hold, there is a shift to urban centers (McMichael 2012). Today it is estimated that slum dwellers represent one third of all urban dwellers and nearly 50% of the urban populations in developing countries (McMichael 2012). Many of these slum dwellers find informal entrepreneurial opportunities, such as the \$1.25 billion per year industry in Mumbai associated with recycling plastics (McDougall 2007). Other traditionally informal jobs include seasonal agriculture labor, house cleaners, and labor associated with small enterprises (Flanagan 2006).

The primary issues with the informal sector are the lack of government oversight and the protections it offers (McMichael 2012; Flanagan 2006). Informal employment is often characterized by significantly less pay and exemption from various social programs extended to the formal labor sector (McMichael 2012). As a result, the informal sector works on the fringes of society, outside the purview of the law, and has few fallbacks. In Guatemala it is estimated that 69% of the total and nearly 80% of the rural population are employed informally (INE 2013, 2014).

These populations are easily exploited by transnational corporations looking to further reduce costs (past the already low costs of developing countries) (Harvey 2005). Multiple studies have shown how newly arrived peasant farmers are hired and paid significantly less than other city dwellers (Flanagan 2006). These informal jobs are also associated with poor working conditions, long hours, and child labor (Chen and Wu 2006; Harvey 2005; Action Aid 2004). These situations further increase inequality and are likely factors driving migration decisions.

Another, if smaller, factor influencing migration is guest worker visa programs around the world that import labor to fill bottom-level jobs (Held et al. 1999). These temporary guest worker programs aim to add labor to the workforce without adding residents to the total

population (Martin 2006). The heyday of the guest worker programs in developed countries was in the 1950s and 1960s, after which they declined in the 1970s and then resurged with the new guest worker programs in the 1990s (Martin 2006). Driving factors behind these programs were perceived labor shortages in host countries around Europe and North America and macroeconomic factors such as interest rates and unemployment in host countries (Martin 2006).

B. Broad determinants that drive migration

The combinations of globalization and struggling third-world economies described above are certainly making labor available for migration. However, there are three determinants, discernable in the previous discussion, that encourage and facilitate migration. First is the demand-pull factor (Martin et al. 2006; IOM 2013), characterized by a need or demand for labor that pulls labor from the developing world to opportunities in the developed North. This factor is often economic in nature and is associated with inequalities and gaps in living standards in poor countries and the pull of labor to countries with higher economic standards and employment opportunities (World Bank 2006).

A second determining factor is supply-push (Martin et al. 2006; IOM 2013). This is understood to be the strongest factor, as a person may be under- or unemployed (as discussed above) or, as Martin et al. (2006) explain, have experienced crop failure, natural disasters, or conflict and thus be willing to move. Other push factors may be political and include poor governance, corruption, violence, and poor education and health services (IOM 2013). These push factors, in combination with a demand, drive most migration today.

A final critical factor is network connections (Martin et al. 2006; IOM 2013). These are family members or acquaintances who provide information about jobs, living conditions, and

expectations in a host country (Martin et al. 2006; IOM 2013). The networks can also be extended to include the mechanisms that allow laborers to reach their destinations, such as family or community networks that facilitate recruitment through recommendations of fellow workers or even the smugglers' networks that transport labor across borders (Martin et al. 2006). These mechanisms, together with growing global interconnectedness, transportation, and perceived opportunities in other regions, drive migration.

C. Current global state of migration and remittances

Transnational migration is on the rise. Between 1980 and 2000, immigration to high-income countries increased by 3%, nearly doubling the share of immigrants in those countries (World Bank 2006). Conversely, in the period between 2000 and 2005, remittances increased globally by 73% (World Bank 2006). Some countries like Guatemala and Algeria saw remittances triple in that period (World Bank 2006).

Today, over 60% of the world's migration occurs between developing and developed nations (South-North migrations) (Soubbotin 2004). The remaining 40% is associated with South-South or North-South migrations (World Bank 2006). It is estimated that more than 215 million people, or 3% of the world's population, live outside their countries of birth (World Bank 2011). Only 7.6% of these immigrants are refugees linked to global conflict, and 65% of these are in the Middle East and North Africa (World Bank 2011).

The top migrant destinations include the United States (43%), Russian Federation (12%), Germany (11%), Saudi Arabia (7%), and Canada (7%) (World Bank 2011). In 2010, the Mexico-United States corridor, South-North migration, represented the largest migration route between two countries, accounting for 11.6 million migrants, followed by the Ukraine-Russia

(3.7 million, South-South), Bangladesh-India (3 million South-South) and Turkey-Germany (2.7 million South-North) corridors (World Bank 2011). Coincidentally, Mexico represents the largest share of migrants at 12%, followed by India (11%), Russia (11%), and China (8%) (World Bank 2011).

Interestingly, some of the largest migration corridors in the world are South-to-South migrations. This helps account for the fact that today most workers are still low skilled in both South-North and South-South migrations (IOM 2013). It is estimated that 44% of migrants are low skilled, 33% have intermediate skills, and 22% are highly skilled (Dumont et al. 2010). As a result of these high numbers of unskilled workers and the relatively low costs (crossing nearby borders) and informality of South-to-South migrations, this migration pattern is likely to play a growing role in the future (IOM 2013). This is especially the case as transnational corporations set up businesses in regions such as India, which pulls cheap labor from Bangladesh, where the population is being pushed due to political unrest (IOM 2013).

Remittance flows associated with worldwide migration were \$401 billion in 2012 (World Bank Brief 2013) and expected to reach \$435 billion by the end of 2014 (World Bank Brief 2014). The majority of remittance flow is North-South, from developed to developing countries (IOM 2013). The recipients of the most remittances in 2013 were India (\$69 billion), China (\$60 billion), Philippines (\$24 billion), and Mexico (\$23 billion) (World Bank Brief 2013). Regionally, remittances are largest in the East Asia and Pacific region at \$109 billion, followed by the Latin America and Caribbean region at \$62 billion, and finally the Eastern Europe and Central Asian region at \$40 billion (World Bank Brief 2013). In the Latin American region, Mexico, El Salvador, and Guatemala account for over half of the region's remittances (World Bank Brief 2014).

The importance of remittances as a source of foreign exchange is reflected in the fact that they have outpaced foreign capital and development investments. Specifically, remittances in 2014 were three times greater than official development assistance and significantly larger than foreign direct investment in developing countries (World Bank Brief 2014). Remittances for many smaller countries can be a third of their GDP (World Bank Brief 2014). However, it is important to note that between 30-35% of remittances originate in the global South and are not all associated with a North-to-South trajectory (World Bank 2006).

The primary drivers of remittances are the economic conditions in the remittance-receiving countries. Immigration reform policies stand to increase remittances in addition to improving the process of admitting legal workers under programs such as the US's H-1B (for professional and specialty occupations), H-2A (for agricultural seasonal labor), and H-2B visas (for non-agricultural seasonal labor) (World Bank Brief 2013). Other important considerations are exchange rates and sending costs associated with bank transfers.

Increasing immigration is raising concerns among citizens in the global North. There appears to be growing anti-immigrant sentiment and racism (McMichael 2012). The burgeoning anxiety is leading to more gated communities and fears of terrorism (McMichael 2012). This phenomenon is found not only in North America but in Western Europe as well, as illegal immigrants pour into these countries, filling bottom-level jobs (McMichael 2012). The recent wave of refugees flowing out of conflict zones in Syria, Iraq, and Afghanistan into Europe in 2015 is the most recent manifestation of this migration pattern.

Regardless of growing anti-immigrant sentiment, industry in the global North desires cheap labor to fill bottom-level jobs that pay too little or require too much manual work for

domestic laborers. These bottom-level jobs, McMichael (2012) reminds us, are not a new phenomenon but rather have their roots in colonialism.

D. Historical perspective on global migration: who will work the field?

Migration stretches back to origins of the human race. The spread of peoples is often associated with war and conquest of different regions (Held et al. 1999). However, the modern trends in global migrations have been associated with people seeking opportunities (both employee and employer), whether legal, illegal, or in the case of slavery, unwilling (McMichael 2012). The era of colonialism propelled the need for labor as Europeans claimed territory around the globe and sought labor to mine, farm, and develop the resources from their newly colonized lands (McMichael 2012).

Authors have described two major waves in globalization that strongly encouraged migration. The first occurred between the dawn of the Industrial Revolution and ended abruptly with World War I (WWI) (Flanagan 2006). The second wave has run continuously since the WWII era (Flanagan 2006). While international trade and migration grew during the first wave, they have increased more dramatically during the second (Flanagan 2006).

1. Industrial Revolution to WWI:

The first wave of migration as it relates to globalization is closely connected to European colonialism and the industrial and democratic revolutions of Europe and North America (Flanagan 2006). Immigration to the United States primarily between 1850 and 1914 totaled an estimated 46 million people (44 million were European and 2 million Asian, to be discussed later) (Held et al. 1999). The driving factors were economic, as a result of a surplus of agrarian

workers in a rapidly industrializing Europe and the need for labor in the land-rich Americas. As a result, Europeans migrated not only to the United States but also to various colonies around the world in search of better jobs and cheap land (Held et al. 1999).

The pace of migration increased in the late 1800s as a result of cheap, reliable, and regular transportation (Held et al. 1999). Remittances from immigrants, as in current migration patterns, facilitated the further migration of relatives during this period (Kenwood and Loughheed 1989). While migration in this period began to slow as a result of growing resentment and racism in receiving countries like the US, the defining conclusion of this wave of migration came with the commencement of WWI (Held et al. 1999).

Early European migrations were often in the form of indentured labor (Held et al. 1999). This was especially the case in the Americas; however, the numbers of willing laborers proved insufficient to meet the growing labor demands in farming the vast American landscape (Held et al. 1999). This resulted in stronger measures and thus the commencement of the North American and Caribbean slave trade from West Africa.

The movement of slaves across the Atlantic to work colonial and American lands is estimated to have involved between 9 and 12 million people (Curtin 1997). Slaves were moved not only to North America but also to Brazil and the Caribbean. In fact, only 10% of slaves arrived in the southern US; however, by 1860 they represented 60% of the population as a result of forced propagation common to the region (Held et al. 1999). With the eventual decline and later abolition of slavery in the mid-1800s, the need for labor in colonial lands rose again.

This gave rise to indentured and contract labor recruitment largely from Asia. The new Asian laborer or coolie system began to develop in many colonial regions as well as in North America (Held et al. 1999). For colonial Britain, this system also coincided with the decline of

forced inmate labor common in colonial Australia (Tinker 1974; Potts 1990). This coolie system was generally based on short contractual periods, at the end of which labor returned home, much like modern visa programs. The system was characterized by workers being bound to employers through debts incurred during transit and often subject to penal sanctions (Held et al. 1999). Compensation and working and living conditions were often deplorable (Held et al. 1999), all of which raise interesting connections to many of today's transnational migration relationships.

Coolie labor migrations originated largely from India, China, Japan, and Java to destinations ranging from the US to various British, French, Dutch, and German colonies (Held et al. 1999). Held et al. (1999) suggest that the most significant migration of this period was that of Indians, with numbers estimated to be over 30 million between 1834 and 1937 (of which 24 million returned home) (Tinker 1974). Geographically, these migrations were on a global scale, with labor moving to Asia, Africa, and the Caribbean (Held et al. 1999). Much of this labor was destined to work in colonial plantations such as rubber, tea, and various other agriculture and mining products.

In North America, the coolie system was mostly composed of Chinese laborers. Estimates place this migration at over 2 million workers leaving China between the mid- to late 1800s. In the US, this labor was responsible for various American expansions, most notably building the US railroad system and mining the California gold rushes (Hui 1995). Like the colonial coolie system, these laborers were often indentured and suffered many of the same working conditions (often poorer than their contemporary European indentured counterparts) (Held et al. 1999). Indentured labor slowly phased out in the early 1900s, though in the Dutch East Indies it persisted until 1941 (Held et al. 1999).

2. *Post WWII:*

While the post-WWII era saw a second European migration to primarily North America and Australia to escape a recovering Europe, this period also saw the birth of guest worker programs around the world. In 1950s Europe during post-WWII reconstruction, countries such as Belgium, France, and Germany started active recruitment programs drawing initially from Eastern Europe but spreading later to Turkey and North Africa (Held et al. 1999). These semi-official guest worker programs were meant to be temporary in nature but often resulted in illegal immigration (Martin et al. 2006; Held et al. 1999). Today these programs have resulted in foreign populations of between 5-10% in many European countries (Martin et al. 2006).

Ex-colonial powers, such as Britain, France, and the Netherlands, used old connections to recruit labor from former colonies (Held et al. 1999). Most of these recruitments were permanent for either returning colonists or indigenous populations (Held et al. 1999). Across Europe, guest workers were seen as an economic plus, as there were more jobs than people, especially with a post-war baby boom keeping women from the labor market (Martin et al. 2006). Most European guest worker programs ended suddenly in the 1970s with the onset of the economic crisis (Held et al. 1999; Martin et al. 2006). However, it is estimated that 10% of the Turkish population participated in emigration during this period (Martin et al. 2006).

Immigration in Europe today continues, with foreigners making up between 3-10% of the labor force. Most of these workers continue to come from Turkey and former Eastern Bloc countries. However, foreign workers' unemployment rates are now twice those of natives (Martin et al. 2006). This has resulted in dependence on government programs and in anti-immigration sentiments in many Europeans (Martin et al. 2006).

Migration in Asia continues to be a growing trend building on a long history of low-cost labor migration. It is estimated that more than half of Filipinos have been abroad or have a family member abroad (Martin et al. 2006). India also continues to be a major source of migration labor. Between 1950 and 2000, nearly 1.25 million Indians immigrated around the world to destinations such as the US, Canada, the UK, and the Middle East.

A major destination for Filipinos and Indians has been the oil fields in the Middle Eastern Gulf States (McMichael 2012; Held et al. 1999; Martin 2006). Migration to these countries began in the 1960s, grew in the 1970s, and despite a decline in the 1980s, continues to the present day (Held et al. 1999; McMichael 2012; Srivastava 2003). In some Middle Eastern countries, foreign labor can account for as much as 50% of the labor force (Martin et al. 2012). In recent years, the flow of Filipino and Indian labor has feminized, with growing service and housekeeping employment and a local preference for women workers (Martin et al. 2006; McMichael 2012).

In the 1990s, migration flows in Asia shifted to closer destinations with Japan's and South Korea's growth as regional economic powers. While many of these labor-importing countries do not have official visa programs or policies, they continue to import labor to fill bottom-level jobs (Martin 2006). Most laborers immigrate under "trainee" visas that are used unofficially as guest worker programs (Martin et al. 2006).

While earlier in the 20th century China was a major labor exporter, in the post-WWII era most migration in China occurred within its borders. It is estimated that China has 114 million internal migrants moving from rural regions to urban centers (Martin et al. 2006). The participation of China in international trade and the growth of manufacturing industries seeking cheap labor have led to increasing urban migrations (Martin et al. 2012; McMichael 2012).

These people migrate for the same reason all migrants move, to find better-paying jobs for a higher standard of living (Martin et al. 2006).

A major shift in China in recent decades has been a shift of migration from outbound to inbound (IOM 2013). South-to-South migrations and North-to-South migrations motivated by their growing economies means labor from Asia and even North America and Europe is moving to China (IOM 2013). This includes both unskilled and highly educated labor (IOM 2013).

In North America, particularly in the US, at the conclusion of the coolie period, there was a shift to draw labor from Mexico. Mexican immigrants were recruited through a series of legal and semi-legal programs to provide needed labor on American farms. These Braceros programs, beginning in the early 20th century, grew in prominence during WWII because of farmers' fears of labor shortages caused by the war (Braceros History Archive 2015). The program became the largest-scale US experiment in immigrant labor, with an estimated 4.6 million contracts signed between 1942 and 1964 (Braceros History Archive 2015). Starting in the 1990s and continuing through the 2000s, there has been a shift toward Central American workers. This new labor source increasingly has been perceived as harder working and more willing to take agricultural and especially forestry jobs (McDaniel and Casanova 2005).

Many of the trends started in the 20th century continue today. Traditional migrant supply societies such as India and the Philippines continue to play major roles in migration. Today the migration corridors between Mexico and the US have surpassed single Asian corridors. However, as a total region, Asia continues its historical dominance in low-cost labor, accounting for 55% of total global migrations (IOM 2013).

III. Migrant Labor in the US Forest Industry

A. What is the H-2B guest worker program?

Since the 1980s, guest workers from Mexico, Guatemala, Honduras, and other parts of Latin America and the world have been coming to work in the US under the H-2B program (McDaniel and Casanova 2005). The H-2B program, designated for temporary non-agricultural work, utilizes labor in a variety of industries, including hotel (i.e., hotels, ski resorts, amusement parks, etc.), seafood processing, landscaping, restaurant, construction, and forestry (Seminara 2010). The guest worker program operates on the assumption that labor is needed to fill a “temporary” need for seasonal, peak load, or intermittent jobs that local populations are unwilling or unavailable to fill (Seminara 2010).

The current H-2B guest worker program has its roots in the Braceros programs (Bauer 2007; Sarathy and Casanova 2008; McDaniel and Casanova 2003). The first Braceros program was established 1917 with Mexico and concluded in 1921. The second Braceros program, initiated during the labor shortages on American farms caused by WWII, led to a bilateral agreement between the US and Mexico to provide low-wage laborers with American work visas (Sarathy and Casanova 2008). While the program was initially small, 450,000 Braceros visas were being filled by 1960 (Massey et al. 2002). By the time the program expired in 1964, an estimated 4.5 million jobs had been filled by Mexican citizens (Bauer 2007).

Following the dismantling of the Braceros program, foreign labor could still be contracted under the H-2 section of the Immigration and Nationality Act of 1943 (Bauer 2007). The H-2 program provided temporary visas, initially to allow Caribbean workers to harvest sugar cane in Florida (Bauer 2007; Wilkenson 1989). However, following a well-publicized

deportation of 300 imported laborers as a result of their objecting to exploitative working conditions, the H-2 program was reformed in 1986 (Bauer 2007; Sarathy and Casanova 2008).

The current H-2 guest worker program was implemented after the Immigration Reform and Control Act of 1986 (McDaniel and Casanova 2005). This legislation resulted in the development of two separate programs, the H-2A program, which allows farmers to hire temporary foreign agricultural workers, and the H-2B program for non-agriculture related work. The reformed H-2 program also served as a mechanism to prevent employers from hiring illegal and undocumented workers, a practice that was prevalent following the dissolution of the Braceros program (Bauer 2007).

Employers demonstrating labor shortages are issued visas; the employers in turn grant these visas to foreign workers (McDaniel and Casanova 2005; Seminara 2010). Congress established a 66,000 visa per year cap; however, in 2006 the Save Our Small and Seasonal Businesses Act (H.R. 793 and S. 988) allowed returning H-2B workers to obtain H-2R visas that did not count toward the 66,000 (Seminara 2010). Thus, in 2007 there was an all-time high of 129,547 H-2B/H-2R visas granted (Seminara 2010), and in 2014 a total of 93,649 H-2B and H-2R visas were filled (US Department of Labor 2015). The H-2R program, initiated by the Emergency Supplemental Appropriations Act passed under the Save Our Small and Seasonal Businesses Act, has been allowed to expire multiple times, once in 2008 and again in 2015, to the consternation of business interest (Seminar 2010). Today lobbying continues to reinstate the H-2R visa, as many fear labor shortages.

B. How important is migrant labor to the southern timber industry?

The South exhibits some of the most intensively managed forests in the world (Smith et al. 2009). A major component of timber production in the South involves forest management operations including tree planting, herbicide application, logging, and various other labor-intensive jobs. Migrant laborers, contracted through the H-2B program, are recruited to the South to work for forest labor contractors providing services to forest landowners, forestry consultants, and industrial forest managers necessary for intensive forest management (McDaniel and Casanova 2003). There are also undocumented migrant workers doing such work, but by their very nature, data on such workers are difficult to obtain, and they are not the focus of this study. Instead, I only encountered workers who at one time had worked illegally in forestry, but had since transferred to the H-2B program, as their employers shifted to legal labor.

In 2007 the South was responsible for 58% of all timber production in the US (Smith et al. 2009). Additionally, the South accounts for 40% of the nation's total timberlands (Smith et al. 2009). The Pacific Northwest, a previous leader in forest products, has all but stopped logging and shifted most of its forest management activities to ecosystem restoration (Sarathy 2006). The importance of private forestland in the South and the income derived from related timber production is substantial. However, much of this production would be difficult without the use of imported migrant labor or "guest workers."

Parallels can be drawn to the US agricultural industry, which had an 85% increase in value gains between 2000 and 2010 (Grzywacz et al. 2013). While a variety of factors have likely contributed to the value gain in the forest industry, Grzywacz et al. (2013) argue that savings associated with labor costs, which comprise 30-40% of total costs and roughly 30% in forest regeneration (Barlow and Levenids 2015), is a driving factor. Other researchers have

pointed out that heavy reliance on immigrant labor is a good way to reduce costs and improve global competitiveness (Oxfam 2004).

While nationally H-2B migrant labor only makes up 12.7% of the forestry workforce, in the southern forest industry, immigrant labor constitutes a much higher percentage of between 50-84% (Grzywacz et al. 2013; McDaniel and Casanova 2005). In states like Mississippi, it has been as high as 100% (Grzywacz et al. 2013), presumably not including consulting foresters, loggers, or mill workers.

Data from the DOL indicate that the forest industry leads all other industries (service, landscaping, construction, processing, etc.) in the number of visas requested per year within the H-2B program (McDaniel and Casanova 2005). While in 2005 approximately 20% of H-2B visas granted were for forestry workers, the numbers have since dropped to 10% in 2014 (Bauer 2007; Sarathy and Casanova 2008; US DOL 2015).

H-2B migrant laborers, prevalent in the South since the 1980s, have transformed the southern landscape from dwindling agriculture to booming forestry. Migrant laborers arrive in the South and plant nearly 2 million acres in trees every year (McDaniel and Casanova 2003). Furthermore, 79% of the total acres planted in the US occurred in the southern region in 1998 (Wear and Greise 2002). A 2013 survey found that nearly 80% of acres planted in Alabama specifically were done by hand (Dooley and Barlow 2013).

Immigrant forest labor is growing in importance in various parts of the country. In fact, a significant portion of the forest management workforce, of which tree planters are a major component, is comprised of Latin American immigrant workers in the US as a whole (Mosley 2006; Sarathy 2006). In the Pacific Northwest, where logging and related reforestation activities

have all but stopped, migrant labor is still the dominant labor force in the ecosystem restoration activities on federal lands (Sarathy 2006).

In Maine, research conducted by Egan (2009) in the logging industry concluded that there was a decline in available local labor willing to work in that industry. Egan (2009) indicated that this lack of willing and available labor in Maine will likely follow similar trends found in the southern US, where 10% of logging crews are utilizing migrant labor (O'Neal and Shaffer 2006). O'Neal reported in 2006 that 90% of loggers interviewed hired at least one Hispanic worker. While this only accounts for roughly 3.37% of the southern logger labor force, the numbers can be expected to rise (O'Neal and Shaffer 2006).

An increase in migrant labor in many industries is often associated with deteriorating wages and other working conditions (Catanzarite 1998; Catanzarite and Aguilera 2002). Moseley and Reyes (2007) concluded that if the logging profession becomes less and less attractive to American workers in Oregon, there will likely be an increase in imported migrant labor in that industry. In the forest industry, loggers typically earn far more than forest operations workers, which makes many of the jobs related to reforestation unappealing to most Americans (Moseley and Reyes 2007).

While in years prior to the H-2B guest worker program, American laborers provided tree planting and spraying labor, the current production expectations (i.e., number of trees planted or acres sprayed per day) reportedly far exceed what previous American crews accomplished (McDaniel and Casanova 2005). In short, there is undoubtedly a dependence on imported H-2B migrant labor in the forest industry in the South and Pacific Northwest and a growing presence in the Northeast.

Both private and federal forestlands utilize and benefit from migrant Latin American laborers (McDaniel and Casanova 2005; Sarathy 2006). Furthermore, there is a long history dating back to the Braceros program of dependence on immigrant labor, mostly in agriculture, to fill jobs and perform work most Americans reject. Finally, the necessity to reduce costs to improve competition leads to contracting the cheapest labor possible (Grzywacz et al. 2013). In most cases, this means an increasing reliance on cheap, productive immigrant workers (Grzywacz et al. 2013).

C. Are diminishing profit margins driving a need for cheap reforestation labor?

The southern US, with only 2% of global forests, generates 58% of national timber harvests, 12% of roundwood forest products, and 19% of pulp and paper production, which is more than any other country (Smith et al. 2009; FAO 2011). The dominance of the southern forest industry is uncontroversial; however, changes in domestic consumption, oversupply, and international competition are leading some to believe that forestry in the US and Southeast can expect flat or declining timber prices and possibly disinvestment (Wear 2007; Wear and Greis 2012).

Pulpwood demand has steadily declined in the US since the 1990s (Wear and Greis 2012; Harris et al. 2003). Likely contributing factors include substitution of electronic media for paper and increased recycled content (Wear 2007). Forest product markets in the South, as a whole, have suffered from mill closure and industry consolidation, with a net loss of 499 mills between 2005 and 2009 (Brandeis et al. 2012). This has contributed toward a steady decline in thinning and overall harvests between 1985 and 2010 (Brandeis et al. 2012).

These drops in demand and mill consolidation have contributed to a downward trend in worldwide pulp prices since 1995 (Brandeis et al. 2012). Softwood pulpwood prices, for example, in 2004 reached the lowest prices in the 1977 to 2004 timeframe (Wear 2007). The US pulpwood industry, the largest in the world and comprised of 42% of US timber consumption, has declined by 16% in the South since 1998 (Wear 2007).

This decline in domestic capacity has occurred as international capacities expand in countries like Indonesia, Chile, and Brazil (Hodges et al. 2012; Wear 2007; Whiteman 2003). This decline is in part the result of a shift in comparable advantages in labor costs, raw material costs, and proximity to final markets for international producers (Wear 2007; Harris et al. 2003). South American producers are able to deliver both softwood and hardwood pulp at around 25% less than American producers (Wear 2007; Harris, et al. 2003). While proximity to market (the US is the largest consumer) limits these competitors, they still remain viable competition for southeastern producers, due in large part to significantly shorter growing rotations (Carvalho et al. 2009).

While pulp and chip imports represent less than 3% of the southern pulp market, it is likely that the Brazilian and Chilean eucalyptus chips (preferred for some paper products) may define a price ceiling for domestic producers (Wear 2007). Additionally, chip exports to Japan, at one time comprising 80% of US exports, had nearly ceased by 2002 and were likely taken by South American producers (Wear 2007). In tropical countries, there is a clear trend toward developing capacity in primary and secondary processed products intended mostly for export markets (Johnson et al. 2003). Most indications point to a declining pulp and paper industry with limited prospects for increases in domestic demand (Hodges et al. 2012; Wear 2007).

Similarly, softwood lumber and panel markets, while remaining strong through 2007, dropped steeply in 2008 (Wear and Greis 2012). The correlation of softwood lumber to housing starts (Wear 2007) has meant a sharp decline in recent years as the result of the 2008 recession (Keegan et al. 2012; Wear and Greis 2012). Forecast models show a forest sector easily able to meet timber demands, however, with little upward pressure on pricing (Wear and Greis 2012).

The drops and leveling of timber prices in recent years, and arguably an oversupply of available timber (Wear and Greis 2012), indicate that landowners can expect flat timber price with little hope of returning to 1990s pricing (Wear and Greis 2012; Wear 2007). This could lead to a reduction in future reforestation, as studies have indicated that there is a correlation between stumpage prices and the willingness of landowners to reforest after harvests (Sun et al. 2008; Kline et al. 2002; Hyberg 1989). Forest landowner surveys in Mississippi found that tree planting accounted for over half the money spent in timber management, making it one of the more costly operations (Arano 2002).

Contributing to challenges within the US and southern forest products market is the fact that timber management costs, including reforestation, have increased by 20% over the last decade (Bair and Alig 2006). The increased costs are associated with the increasing input costs of labor and capital (Bair and Alig 2006). Excluding government assistance programs, such as Conservation Reserve Program (CRP), which have accounted for significant increases in nonindustrial private forest (NIPF) reforestation, planting is expected to decrease among NIPFs in the South (Alig and Butler 2004; Kline et al. 2002).

While the majority of forest planting has been conducted by corporations in the forest products industry (Kline et al. 2002; Wear 2007), in recent years industry has continued to reduce timberland holdings (by 50% between 1999 and 2005), adding to the role and importance

of NIPFs (Wear 2007). Specifically, in 1998 the South planted 78.7% of all new trees in the US, and 53.7% of these were planted by NIPFs (Beach et al. 2002).

As timber prices have dropped and largely remain flat, reforestation costs need to remain competitive to ensure landowners will continue to engage in reforestation. Studies have pointed out that family forest owners are often constrained by income and capital limitations, which when combined with high immediate costs or upfront reforestation costs can shift away from forest regeneration (Royer 1987; Doolittle and Straka 1987; Zhang and Flick 2001). As a result, continued forest regeneration will be increasingly driven by lower-cost reforestation operations, which hand planting has provided for the past 40 years (Dooley and Barlow 2013).

D. Why is hand planting dominating southern reforestation?

Several factors drive the use of hand planting in the southern US as opposed to machine planting. First is topography. Machine planting generally requires flat or rolling topography that is well drained and free from large rocks (Moak 1982; Texas Forest Service 2015; Bair and Alig 2006). As a result, it is most commonly used in the coastal plains of southern states; it is not well suited to the piedmont and very difficult in the Appalachian foothills. These regions often have more rocks, gullies, and steep slopes that will leave unplanted gaps or not allow planting in steep or wet areas. Hand planting, on the other hand, is not as restricted by topography and is more capable of working around broken terrain, rocky soils, or wet areas and is thus more commonly used (Moak, 1982; Texas Forest Service 2015).

A second major factor is cost. Hand planting costs began to regularly run below machine planting costs in the 1970s (Dooley and Barlow 2013). Guldin (1983) has attributed this drop in price to the introduction of full-time reforestation crews. The increased interregional mobility of

these crews, beginning in the early 1980s, drove prices down as operators from around the country began to compete in placing bids on southern reforestation contracts (Guldin 1983). Additionally, transition from temporary to full-time migrant planting crews meant crews acquired skill and experience, which translated into faster planting and higher job quality (Guldin 1983).

Today, hand planting by immigrant labor dominates reforestation contracts in the South (McDaniel and Casanova 2005; Dooley and Barlow 2013). These new crews recruited from Latin America provide exceedingly high production planting and have arguably allowed for reforestation prices to remain low and competitive. Machine planting, in contrast, is subject to high equipment costs, rising fuel costs, and lower productivity (Dubois et al. 1997; Bair and Alig 2006). As a result, machine planting has a long history of higher costs. Between 1974 and 1979, for example, machine planting costs rose by 24% while hand planting costs dropped by 12% during the same time period. More recently, in 2012 machine planting costs were more than double hand planting costs (Dooley and Barlow 2013).

Correlated to costs, a third factor driving hand planting over machine planting is intensity of site preparation. Machine planting generally requires a cleaner site free of large debris that might impede planting (Guldin 1983; Texas Forest Service 2015). As a result, machine planting will occasionally require more intensive site preparation than hand planting. These operations often need to be mechanical in nature to remove stumps and large debris and are therefore subject to the same high equipment and fuel costs associated with machine planting (Dubois et al. 1997; Guldin 1983).

It is important to note that the majority of reforestation activities are occurring on cutover sites, which require the above-mentioned mechanical site preparation in addition to chemical site

preparation commonly used in hand planting (Guldin 1983). Like machine planting, mechanical site preparation costs have risen dramatically over time. While in the 1950s mechanical and chemical site preparation costs were similar, today mechanical site preparation costs are over three times that of chemical (Dooley and Barlow 2013).

The dominance of hand planting operations will continue as long as labor is available. Immigrant labor has provided a willing, productive, and cheaper alternative to machine planting. The topography of the South and the replanting of mostly cutover sites limit machine-planting sites and increase its costs. However, should labor become unavailable and technological advances allow machine planting to require less intensive site preparation, it might become more prominent. Machine planting has the advantages of providing straighter rows and generally better seedling survival (Texas Forest Service 2015), making it a good alternative under the right circumstances.

E. Are there labor niches in the forest industry for willing guest workers?

There is no shortage of interest from people in often desperate conditions to work in the US as an opportunity to improve their lives and the lives of their families. This coincides neatly with the demands of the American forest industry, which needs laborers who view bottom-level jobs as an opportunity to earn money and not as a status symbol (McDaniel and Casanova 2003).

Earnings are often considered the single most important determinant for job desirability; however, non-monetary factors such as working conditions, work-life, job security, and occupational status can be far more important (Jencks et al. 1988). Seasonal tree planting, herbicide applications, and other labor-intensive forest operations work offer none of the previously mentioned factors contributing to job desirability. In fact, research conducted by

McDaniel and Casanova (2003) found that contractors complained of American workers being lazy and unwilling to do manual labor.

Manual labor jobs in the forest industry are physically demanding and subject to inclement weather. Reforestation occurs in cold winter months, and planters must endure rain, challenging topography, and often thick, thorny underbrush. Conversely, herbicide application takes place in the hot summer months on the same topography with thick underbrush. These are difficult, undesirable jobs, and the forest industry has had difficulty attracting an American workforce.

As result, there is a demand for cheap and reliable labor, which has driven the forest industry to seek labor outside the US borders. In contrast to American opinions, guest workers derive considerable prestige and honor as a result of the opportunity to not only work in the US but send money home in remittances (McDaniel and Casanova 2003). The opportunity to earn American dollars, as opposed to subsistence living or low daily wages, common in Latin America, attracts laborers to the potentially lucrative guest worker visas. Massey (1999) explains that most guest workers are uninterested in improving their status in their host country, but rather are interested in the higher earning potential.

IV. Does the H-2B Program Exploit Labor?

A. A history of exploitative programs:

Exploitative working conditions for migrant Hispanic workers are not a new phenomenon in the US. The various programs that have imported foreign labor over the past 90 years have at one time or another succumbed to exploitative conditions that have led to either reform or the

conclusion of the program. The first Braceros program, initiated in 1917, concluded in 1921 after the Mexican government became dissatisfied with laborers' wages as a result of fees charged at company farm stores (McDaniel and Casanova 2003; Rural Migration News 2006).

The second Braceros program, in the 1940s, while appearing to have significant written legal protection for workers (even more than today's H-2B program), in reality was rife with labor exploitation (Bauer 2007; Sarathy and Casanova 2008). The limited ability of laborers to speak English and lack of education led to employers shortchanging workers who were generally unable to read or simply comprehend their legal rights (Bauer 2007). These practices eventually led to the demise of the Braceros program in 1964 (Bauer 2007; Sarathy and Casanova 2008).

The original H-2 program implemented in the mid-1940s suffered similar problems related to appalling working conditions and workers being threatened with deportation or unjustly deported (Wilkenson 1989). An extreme example occurred on November 21, 1986, when 300 sugar cane laborers in Florida were loaded on buses at gunpoint for objecting to working for lower wages than had been contractually agreed upon (Bacon 2004). The subsequent deportation raised public awareness and symbolized the control that contractors and employers have over the right of laborers to remain in the country (Bauer 2007). As a result, the H-2 program was reformed as part of the Immigration Reform and Control Act of 1986 (Bauer 2007).

B. A flawed H-2B structure:

The Immigration Reform and Control Act of 1986, while improving working conditions for agriculture workers under the new H-2A program, did little for the newly created non-agriculture H-2B program (Bauer 2007). Many of the legal protections born out of the Braceros

and earlier H-2 programs appear to have not completely transferred, at least until the new Interim Final Rule of 2015, to the H-2B program. Some examples include the omission of the “three-quarter rule,” which guarantees that laborers receive three-fourths of the total hours promised in the contract during the period of employment promised (Bauer 2007). Unlike the H-2A program, the employer is not required to provide free housing, social security tax exemptions, transportation to the daily worksites, and visa and transportation costs to the US (Bauer 2007). Limited legal protections have also opened the program to the possibility of labor exploitation by unscrupulous labor contractors.

The H-2B guest worker program is structured in such a way as to place contractors in complete control (McDaniel and Casanova 2005; Bauer 2007). Visas are granted to contractors, who in turn recruit workers from Latin America and grant them the visas. The visas are only valid when working for the contractors named on the visas; any other job is illegal. According to McDaniel and Casanova (2005, p. 118), this makes it so that “they cannot simply walk away from the contractor,” but rather are legally bound and arguably at the mercy of the contractors.

Furthermore, there is still no established means for guest workers to file grievances against the contractors (McDaniel and Casanova, 2005). Complaining about working conditions can often result in losing their jobs and being deported or more likely not being invited back to work the following year (Grzywacz et al. 2013; Sarathy and Casanova 2008). This has the unfortunate effect of keeping H-2B labor quiet, and as a result, exploitative cases are often difficult to identify (Grzywacz et al. 2013).

A recent report by the Southern Poverty Law Center (SPLC) in Montgomery, Alabama, commented that H-2B workers are not treated like “guests,” but rather they are systematically exploited and abused (Bauer 2007). The guest worker program as it currently operates removes

one of the fundamental protections of competitive labor markets, the ability to change jobs when mistreated (Bauer 2007; Mathes 2012). As the program stood prior to 2015, guest workers were “imported” laborers, with limited legal rights, and as Bauer writes, “the H-2 guest worker system also can be viewed as a modern-day system of indentured servitude” (Bauer 2007, p. 2).

Lack of oversight of this program is also of significant concern. In Alabama, at least in 2007, there was only one person assigned to enforcement and protection from the DOL (Sarathy and Casanova 2008). However, this one individual was also charged with investigating child labor violations, which often took precedence (Sarathy and Casanova 2008). This is not a situation prevalent only in Alabama or the Southeast, but also in Oregon, for instance; there, Sarathy (2008) found that there were only three such federal personnel mandated with the oversight and protection of H-2B guest workers (Sarathy and Casanova 2008).

To date, several lawsuits have been filed by H-2B laborers against their employers. Two were against forestry contractors in the Southeast (Seminara 2010). In at least one case, the contractor settled the case with the laborers, while other cases remain open (Seminara 2010). In 2012, the Southern Poverty Law Center won an \$11.8 million lawsuit against a Georgia-based forestry company that failed to reimburse travel, pay appropriate wages, and fulfill contract periods (SPLC 2012). Recent cases are increasingly proving that H-2B labor has a small but growing recourse for dealing with law-breaking or unethical employers (SPLC 2012).

However, regardless of the complaints, pending lawsuits, or guilty verdicts against some US companies, seldom have companies been denied a petition for H-2B visas by the DOL or the Department of Homeland Security (Seminara 2010). Both of these agencies charged with implementing and monitoring the H-2 program appear unable to deny violators the right to

secure H-2B visas based on past grievances by laborers or questionable and often illegal labor violations.

C. Questionable practices of American H-2B contractors:

Guest workers are almost invisible to the casual observer. The nature of the work is highly mobile and transient (McDaniel and Casanova 2003). Laborers generally stay in small, rural, inexpensive hotels for short periods of time as they move throughout the Southeast (McDaniel and Casanova 2003). Because guest workers operating under contractors in the forest industry are nearly invisible, their plight goes largely unnoticed unless these laborers are specifically sought out (McDaniel and Casanova 2003).

Research conducted by McDaniel and Casanova (2005) characterized the H-2B guest worker program within the reforestation sector of the forest industry. This research documented controversial and potentially exploitative labor conditions for tree planters in the Southeast (McDaniel and Casanova 2005). Interviewed contractors and laborers pointed toward common exploitative tactics such as underpaying workers, inflating wages, and recovering costs through charging guest workers exorbitant rates for tools, transportation, and money transfers (McDaniel and Casanova, 2005). In many cases, these cost-recovery activities or deductions had laborers earning below the national minimum wage (SPLC 2012). These claims of contractors exploiting H-2B migrant labor, according to McDaniel (2005, p. 118), are reasons for “significant concern.”

Additional research and subsequent lawsuits filed against labor contractors by the Southern Poverty Law Center have further documented the exploitation of migrant laborers through improper wages and underpayment for work performed (Bauer 2007). Today workers are generally paid piece rate, or in the case of planting by each tree planted, as a production

incentive (McDaniel and Casanova 2005). While production incentives have a legitimate place in this industry, it appears that hourly wages could have been manipulated to match the piece rate figures, thus evading paying hourly (Bauer 2007). By law, workers are to be paid the prevailing wage unless the earnings by piece rate exceed the hourly wage.

Compounding the piece rate system is contractors' failure to pay for travel time (Knudson 2005). Riding in contractor vans, sometimes for hours at a time, is time guest workers generally are forced to write off. The piece rate system often favors the contractor, especially considering that timberland fragmentation often means planting several smaller tracts rather than one large tract in a day. It is no surprise, then, that McDaniel (2005) described that, upon arriving at planting sites, workers spill out of vans and rapidly collect their gear in the hope of finding the easier fire-lanes to plant (McDaniel and Casanova 2005).

The piece rate system has driven another worrisome practice, that of companies only retaining the fastest and most work-hardened individuals. McDaniel and Casanova (2005) reported that some companies gave workers two weeks to reach the minimum per day quotas of 2,000 or more trees. Those who were unable were returned to their countries of origin (or possibly allowed to work illegally) (Sarathy and Casanova, 2008). This questionable practice has also resulted in contractors preferring to pay only piece rates (Seminara 2010; Sarathy and Casanova 2008). To date, the new 2015 wage rules allow for these minimum production quotas and only specify a rather vague warning that they are to be reasonable (US DOL 2015), leaving us to question what is reasonable.

The new economics prompted by H-2B labor has increased production standards that far exceed anything that was seen when Americans planted tracts in the 1970s. Competitive pricing for tree planting is now based on estimates of guest workers planting a minimum, set by some

companies as high as 2,500 trees per day (McDaniel and Casanova, 2005). This exceeds the reported 600 to 800 trees planted per day by Americans in the 1980s (Sarathy and Casanova 2008). The new production standards have raised the bar so high that Americans could seldom be used again (McDaniel and Casanova 2003).

Furthermore, some have speculated that the presence of highly productive and cheap H-2B labor has allowed the timber industry in the Southeast to remain productive even as timber prices drop (Sarathy and Casanova 2008). McDaniel and Casanova (2005) found that the prevailing wages in tree planting had not increased from 1996 to 2001 and that some contractors speculated that H-2B laborers were being paid between a third and a half less than previous American laborers (McDaniel and Casanova 2005). Whether timber companies are making more money as a result, while likely, is uncertain. However, what appears to be key is that the H-2B labor force is keeping prices artificially low.

It is important to note that this work is exceedingly difficult, even for these work-hardened people. McDaniel and Casanova (2003) explain that manual physical labor is nothing new for Latin Americans. Most originate in remote regions of countries like Guatemala and Honduras, where living conditions are difficult. However, as research by McDaniel and Casanova (2003) notes, workers returning year after year begin creating problems with declining satisfaction and demands for higher pay. H-2B laborers also gain experience and begin to develop networks that lead contractors to worry about higher flight risks (Sarathy and Casanova 2008). This, however, is something some contractors try to avoid by hiring people from remote regions with fewer established family or labor networks (McDaniel and Casanova 2003; Sarathy and Casanova 2008).

Many contractors have expressed a dislike of hiring laborers with experience working in the US and especially in other industries (McDaniel and Casanova 2003; Sarathy and Casanova 2008). In some cases, contractors have gone as far as not allowing laborers to stay in the same hotel as a competing contractor (Sarathy and Casanova 2008). Furthermore, relatives are often not allowed to work on the same crews because some contractors feel this could hinder productivity (Sarathy and Casanova 2008).

Generally, there is a sense that contractors prefer ignorant, often desperate, and inexperienced laborers (McDaniel and Casanova 2003; Seminara 2010; Sarathy and Casanova 2008). In some cases, research has documented that contractors would not hire laborers with over five years of experience due to their fears of laborers becoming overly experienced and Americanized (McDaniel and Casanova 2003).

D. Foreign recruiting process:

1. Illegal recruitment fees:

H-2B visas are highly desirable in Latin America and have facilitated the growth of an illegal labor recruitment process in the indirect recruitment sector (Bauer 2007; Seminara 2010). Third-party foreign recruiters have been known to charge H-2B laborers fees of between \$1,500 and \$20,000 for visas (Seminara 2010). These are exorbitant fees when you consider the minimum wage for a laborer in a country like Guatemala is about \$7 per day.

The H-2B labor recruitment process occurs in two primary ways. First, there is the direct recruitment method, in which employers travel to the country and villages and hire labor directly (GAO 2015). This method is good for experienced employers but difficult for employers without previous experience to know where to go, and it is also time consuming (GAO 2015).

The more common method is indirect recruitment, whereby employers utilize either a formal or informal indirect process. In the indirect, formal process, they hire third-party contractors who recruit labor for them (GAO 2015). There are companies both in the US and various other countries that specialize in this process (GAO 2015). The indirect, informal process uses returning workers or often a trusted foreman to recruit labor from their villages for their employers (GAO 2015).

The recruitment phase is often when abuse of H-2B labor begins. Each of the above methods has its tradeoffs. The direct method is time consuming and thus seldom used, while the indirect method often places various layers between employers and H-2B labor that are easily exploitable. It is in these layers that fees are charged to H-2B laborers by contracted recruitment companies using lawyers and various other professionals to facilitate the recruitment and necessary paperwork (GAO 2015). Another problem with the indirect informal method is the foreman charging fees or keeping a portion of fellow employees' salaries in exchange for visas (GAO 2015).

Foreign recruiters serve an important purpose in the H-2B process. They help facilitate the process of locating guest workers for their American employers, as well as help the guest workers navigate the relatively complex process of passport, visa, and embassy paperwork (McDaniel and Casanova 2003). However, in an interview with an American H-2B contractor, one contractor admitted to “distancing themselves legally from recruiters in the H-2B process” (McDaniel and Casanova 2003, p. 91). Contractors often have limited control over what occurs during recruitment; they can ask recruiters to not charge fees but often have no way of learning what occurs back in their countries of origin. As a result, many try to limit their exposure through plausible deniability.

A recent example of H-2B visa recruitment fraud arose in Orlando, Florida, in 2009, when four Brazilian citizens ran a recruitment business that charged between \$1,000 and \$15,000 for work/study H-2B visas (Rand 2009). Another case in New Orleans found Indian workers paying recruiters between \$10,000 and \$20,000 for H-2B visas to work as pipe welders after Hurricane Katrina (SPLC 2015). A report by Seminara (2010) found that fees charged for acquiring visas ranged from \$500 to \$10,000. However, it appears that most of the larger fees are for H-2B jobs outside the forestry industry (Seminara 2010). These illegal ventures earn millions of dollars for international recruiters who facilitate access to the big American dream (Seminara 2010). While it is unlikely that this presents a norm, it is relatively unknown how prevalent recruitment fees are in the forest industry.

2. Travel costs, loans, and misleading contracts:

Another worrisome aspect associated with the recruitment process, but generally not illegal, is the debts H-2B laborers incur to secure visas and travel to the US. The average debt of an H-2B Guatemalan forest laborer as shown by the Southern Poverty Law Center and research at Auburn University was roughly \$2,000 (Bauer 2007; Sarathy and Casanova 2008; McDaniel and Casanova 2003). This included recruitment, visa, and passport fees, as well as airline tickets not covered by prospective employers (Bauer 2007; Seminara 2010).

These recruitment, visa, and travel costs are exacerbated by the frequent failure of recruiters to disclose earnings or expected paycheck deductions. Many H-2B laborers take jobs without ever seeing or fully understanding the contract. According to Seminara (2010), recruiters often exaggerate the earnings laborers can expect in the US, assuring workers that the visa fees and travel costs they pay are warranted.

The desperation of these immigrant workers for H-2B visas places them in an easily exploitable position (Seminara 2010), since most guest workers are relatively poor and have very limited capital. They are encouraged to seek loans to cover visa and transportation costs with the promise of earning of between \$7 and \$13 per hour (Knudson 2005). The realities, however, can be significantly different as guest workers lose earnings to travel and equipment deductions, as well as recruiting fees, salary advances, Social Security, and Medicare (Knudson 2005).

The resulting loans, especially for impoverished individuals with few assets, can be risky and exceedingly difficult to secure. Traditional loans are often not an option for a laborer earning \$7 per day in a country like Guatemala (Bauer 2007). Often workers must rely on loan sharks providing high-interest loans or borrow against the recruiter or American contractor to cover their expenses (Bauer 2007).

This places laborers in a vulnerable position, where they need their employers to pay back loans and therefore will often tolerate future abuses (GAO 2015). Workers find themselves accepting less favorable contracts or abusive living and working conditions to pay back their loans (GAO 2015). In some extreme cases, recruiters require that H-2B laborers leave some type of collateral to ensure they complete their contract. Recruiters, ensuring that laborers do not use the visa only as a means to reach the US, often ask for deeds to land, vehicles, homes, or in one case reported by the Southern Poverty Law Center, their wife be left as collateral (Seminar 2010; Bauer 2007). Knudson (2005) found that some American contractors, ensuring that laborers did not vacate their contracts, confiscated passports and visas. This provides yet another means that is utilized to guarantee a docile and problem-free workforce.

V. Does the H-2B Program Provide Opportunities for Improving Livelihoods?

A. Growing importance of remittances in Guatemala:

In the past few decades, the importance of remittances has grown significantly and has become a driving force for worldwide development. It is estimated that in 2014 worldwide remittances will reach \$435 billion (World Bank Brief 2014). Remittances surpassed official development assistance (ODA) as a source of development financing back in 2007, and the margin has continued to grow (Grable 2008). Today remittances worldwide are worth more than three times as much as ODA investments and are significantly larger than foreign direct investment (FDI) (World Bank Brief 2014).

In Guatemala, specifically, the gap between remittances, ODA, and FDI are more pronounced than the worldwide averages. In 2012, ODA was \$299 million for Guatemala, which was significantly less than the \$1.3 billion in FDI (IOM 2013; OECD 2014). Remittances of \$4.5 billion for 2012 far exceeded ODA by 15 times and FDI by 4.5 times (IOM 2013). There is no doubt that remittances are the largest source of capital entering Guatemala.

Remittances also outcompete local investments, as they represented over 11% of GDP in 2012 and regularly account for over 80% of exports, dwarfing the main products of coffee, sugar, and bananas (IOM 2013; World Bank 2006). Additionally, remittances come from a significant percentage of the population. It was estimated in 2006 that 10% of the population, or approximately 1.3 million Guatemalans, were residing in the US (World Bank 2006). Of this number, 80% are sending remittances to family members in Guatemala (World Bank 2006).

B. Are remittances improving household living conditions?

A good way to gauge the impacts of American jobs on immigrant laborers in the developing world is by following the money trails. Remittances, or the transfer of money by a foreign worker to family in their home countries, can provide a broader understanding of the impacts dollars are having on local livelihoods. While most previous research on the impacts of remittances on livelihoods is not specific to the H-2B program, but rather include the broader population of naturalized, legal, and illegal migrants, it still provides a sense of the impacts of American jobs on these communities in other countries.

While there is no doubt that remittances are pouring into developing economies in the billions of dollars, there are questions of if and how these funds have improved life for families and communities. According to a report by the World Bank (2006), a growing body of knowledge shows that remittances do in fact reduce poverty. A survey conducted by Sistema Economico Latinoamericano y del Caribe (SELA) in 2009 found that the top reasons to migrate from one's country of origin included sending money home (61%), low wages in country of origin (60%), and to improve living conditions (58%).

Considering that in Central American countries like Guatemala, where 50% of the population lives below the poverty line and 16% in extreme poverty, remittances can be seen as a poverty reduction measure (MIB-IADB 2010). Furthermore, many of the agricultural-based economies in countries like Guatemala have very unstable and largely temporary labor markets (MIB-IADB 2010). Guatemala, for example, only has 22.5% of the economically active population formally employed (INE 2013, 2014). Consequently, 69% of the population is employed in informal, largely agricultural jobs that are seasonal in nature (INE 2013, 2014).

In the broadest sense, studies by IADB-MIF (2004) and MIF-IADB (2010, 2003) have confirmed that increasing remittances leads to poverty reduction. Specifically, Adams and Page

(2005), in a survey of 71 developing countries, found that a 10% increase in remittances per capita led to a 3.5% reduction in poverty. Furthermore, another study by Adams (2005) showed that poverty was reduced by remittances by 11% to 5% in Uganda and Ghana, respectively.

In Guatemala, however, Adams's (2004) study showed that while remittances had limited effects in reducing the number of poor people, they did significantly reduce poverty severity. Similarly, in Mexico, one study argued that remittances were responsible for a poverty rate of less than 2% (Wodon et al. 2002). This same study found that the effect of remittances was similar in magnitude to government poverty reduction programs (Wodon et al. 2002). Across Latin America, remittances account for an estimated 25% of annual household income (MIB-IADB 2003). However, this number can increase significantly, as found by Adams (2004) in Guatemala, where remittances accounted for 60% of household income for the poorest families. In Mexico, by contrast, the numbers nationally are 15% of per capita household income (Taylor et al. 2005). Regardless of the variability in remittance contributions to household incomes and poverty reduction, there is a strong correlation that these funds are improving living conditions and housing and are leading to investment in human capital and enterprise.

Some have argued that remittances are simply a replacement for earned income and are thus spent on normal household goods, much like locally earned income (Adams and Cuecuecha 2010). Others argue that remittances lead to behavioral changes which cause spending on consumption rather than investment goods (Chami et al. 2003; Adams and Cuecuecha 2010). Finally, newer research is increasingly pointing toward remittances being spent at the margins on investments in goods for both human and physical capital (Adams and Cuecuecha 2010).

At the core of remittances for many Central American countries is paying for common household expenses and housing. In Mexico 78%, and Central America 77%, of remittances expenditures are accounted for in household expenditures, including food and staple goods. Specifically, a study by Fletcher (1999) in Mexico found that remittances not only allowed people to eat and dress better but also allowed for conspicuous consumption that previously had not been possible. Fletcher (1999) found that consumption of meats and milk increased dramatically. These funds also allowed for the purchase of more and newer clothes for modern dress.

In contrast, studies in Guatemala (Adams and Cuecuecha 2010; Adams 2004) have highlighted that the majority of remittances paid for housing, which in recent years has led to a housing boom. Fletcher (1999), in her Mexican study, found that remittances were very closely tied to improving housing. She found that housing was, in fact, not only the dream associated with remittances but the primary goal.

Several studies have shown that poor households lacking insurance have used migration and remittances as assurances against crop failures, catastrophic storms, and drought (Lucas and Stark 1985; Clarke and Wallsten 2003; Yang and Choi 2005). Families are able to hedge against these phenomena by having family members in other parts of the world send them money during difficult times. Remittances have also led to better access to credit and capital for investment (World Bank 2006). However, the greatest impacts on poor households are investments in human capital by way of education and health.

In El Salvador, for example, Cox Edwards et al. (2003) found that remittances reduced the likelihood of children leaving school by 10 times in urban areas and 2.5 times in rural areas. Similarly, another study in El Salvador and one in the Philippines have shown that remittances

contribute to student retention rates and investment in education (Edwards and Ureta 2003; Yang 2005). Adams (2010) found in Guatemala that remittances spent on the margins accounted for 194% more investment in education than would otherwise have been spent. In Mexico, children of immigrant workers completed more school and girls, who traditionally have the lowest education levels, achieved on average .89 additional years in schooling (Hanson and Woodruff 2003).

There is also evidence that remittances improve healthcare. Several studies in Mexico looking at immigrants remanding money found that families receiving remittances spend more money on primary healthcare than those who do not (Amuedo-Dorantes et al. 2007; Airola 2007; Taylor and Mora 2006). Most studies have found the remittances are used most often to cover urgent medical issues such as surgery (Lopez-Cordova 2006; Amuedo et al. 2007).

Investment of remittance in child health has also been documented in Mexico by Hildebrandt and McKenzie (2005), who found a 3% decrease in infant mortality and higher birth weights. A similar study in Guatemala found the combination of diffused migrant information and remittances improved prenatal care (Lindstrom & Munoz-Franco 2006). In Ecuador, a study found a correlation between remittances and antiparasitic medication to treat short and chronic health issues (Lopez et al. 2012).

Remittances have also been shown to encourage entrepreneurship. Studies in Mexico have found that remittances are closely tied to increased productive investments (Massey and Parrado 1998). In particular, one study in Mexico found that 20% of the capital in micro-enterprises was from remittances, and this number increased to 33% when limited to regions with the highest migrant numbers (Woodruff and Zenteno 2007). Another study in Mexico

looking at three rural communities found that 61% of local businesses were funded with US earnings (Cornelius 1990).

There is also evidence of remittances subsidizing public ventures in communities all over the world. In Indonesia, remittances have been known to finance roads, schools, and housing (McMichael 2012). In Zacatecas, Mexico, migrants have invested an estimated \$6 million in roads, schools, churches, water systems, and public parks (Thompson 2002). Various other studies have pointed to remittances enabling similar community improvement projects around the world, including sewers, electrification, churches, schools, parks, and of course, roads (Reichert 1981; Massey et al. 1987; Goldring 1990). There is little doubt that migration and remittances are improving livelihoods globally and in Latin America specifically.

C. Connecting forest industry dollars to living standards for Latin American families:

Guest worker programs around the world have been shown, if only in a few cases, to contribute towards livelihoods. Specifically, Honekopp (1997) found that Polish guest workers tied to the German guest worker programs contributed remittances about equal to the foreign direct investments of Poland. Martin (2006) noted that most governments in labor-sending countries welcome guest worker programs and the relief they contribute toward unemployment and poverty reduction through remittances.

There is little evidence, however, that connects immigrant labor in the forest industry to remittances and improved living standards. Work conducted by McDaniel and Casanova (2004) suggested that earnings of H-2B laborers in the forest industry were used for building houses, paying for daily expenses, buying land, covering medical expenses, and paying for education.

This same study provided some indirect connections by estimating H-2B tree-planter earnings to be between \$300 and \$400 per week. McDaniel (2005) estimated that, after living expenses (food and lodging), the average worker keeps about \$220 to \$320 per week and generally sends home about \$600 to \$700 per month. This data, not verified in country of origin, does provide a connection between Alabama's forest industry and Latin American household well-being.

However, interviews by the Southern Poverty Law Center found that many companies allow their H-2B laborers to take other jobs once planting season, often lasting only three to four months, concludes (Bauer 2007). This "visa libre" or free visa time often allows workers to make more money than with the original tree-planting contractors (Bauer 2007). While their time spent harvesting agricultural crops, landscaping, or working in various factories is illegal by visa requirements, it does provide an opportunity for the laborers even if it is not connected to the forest industry.

It must be noted that the forest industry does provide the original and legal avenue for these seasonal workers to arrive in the US. As a result, regardless of how lucrative the forestry jobs prove to be, there is still some potential to see this as a legal and tangible opportunity for many of these laborers.

VI. Changing Policies and Implications for Immigrant Forest Labor

In recent years, as a result of concerns over labor abuses and outsourcing American jobs, there has been a movement by the DOL to amend the regulations governing the certification and employment of H-2B migrant laborers. Between 2012 and 2015, a series of laws governing the H-2B program have been passed, retracted, modified, and re-passed. These laws have worked to

change the previous 2008 rules to increase opportunities for U.S. workers and improve worker protections for H-2B labor.

A key change to the H-2B program is to increase the wages as well as shift the costs associated with recruiting, processing, and transporting labor from workers' home countries to employers (DOL 2015). Many of these pre-employment costs, often exceeding \$2000 for each tree planter (McDaniel and Casanova 2005), have some worried about the future of the H-2B program (Mathes 2012).

It is feared that the increased costs associated with pre-employment expenses will have unintended consequences, primarily by reducing opportunities for the least-skilled laborers (likely forestry) and laborers in countries with the highest transportation costs, such as Guatemala and Jamaica (Mathes 2012). These changes aimed at reducing instances of labor exploitation associated with recruitment fees and the associated travel expenses are likely to cause some employers to reconsider hiring guest workers (Mathes 2012).

Recruitment of labor, however, which is often done by fellow nationals contracted by American companies, is fraught with illicit fees charged to labor for both the privilege and processing of visa paperwork. Additionally, the loans most laborers take to pay for visa and transportation costs to the US often involve questionable lenders charging exorbitant interest rates. These loans have led to abuses both at home and with employers who have in some cases provided these loans and used them as leverage.

The additional costs that visa processing and travel expenses represent, Mathes (2012) explains, will likely hurt immigrant laborers, who may lose the opportunity to work in the US. However, as the 2012 law was only in effect for a few months, and the 2015 law was just enacted in April of 2015, there is limited understanding of what impacts the law will have for

both forest stakeholders and laborers. This is because the primary season of labor demand for tree planting is during the months of December through March.

The second and more contested change to the H-2B program is the DOL's proposed amendment of the methodology used to calculate the prevailing wage for H-2B employees (Mathes 2012). Both the previous 2012 and the new 2015 wage rules eliminate the 2008 four skill-level tier system for determining prevailing wages for a specified industry. DOL administrators felt this system resulted in employers always opting for the lowest tier and artificially depressing H-2B and domestic wages. Instead, the 2015 system takes the mean of the four tiers to determine the prevailing wages, which some feel overcompensates unskilled labor, as the four tiers might include educated and more experienced labor. As a result, the DOL will allow third-party wage surveys if the Occupation Employment Statistics program does not provide data specific to a geographic area or employment type.

Concerned employers argue that some of these changes to the prevailing wages could increase wages by 83% from an average of \$10.40 in Alabama to between \$13 and \$21 per hour (Mathes 2012). The Alabama Forestry Commission (AFC) estimates that this wage change could increase reforestation costs by 26% to 104% (AFC 2011). This could raise reforestation hand-planting costs from \$37 per acre (Barlow and Levenids 2015) to between \$47 and \$75 per acre. However, it must be noted that the 2015 wage rule has yet to be fully applied, since labor applications submitted before its release were allowed to operate under the previous rule. Consequently, the impact of either the mean tier system or the third-party surveys is still unknown.

A third contested rule is the guarantee that employers will pay for three-quarters of the workdays in a 12-week period. Many argue that this places an unfair burden on employers as

weather or other unforeseen circumstances could limit available working days (FRA 2015). Under the new law, employers would be responsible for paying for any lost hours. For H-2B labor, however, this is likely to be a positive ruling as it shifts a portion of the risk associated with weather and contracts back to their employers. Laborers, currently responsible for their own housing, have in the past borne the burden of hotel and living expenses during poor weather, contractual mistakes, or travel between sites.

Housing requirements for H-2B laborers are also changing. New laws, if implemented, will have employers paying for housing as in the H-2A agricultural visa program. Unlike agriculture, forestry work is highly migratory because planting sites change every year and laborers moves across the country providing their services. This, the Forest Resources Association (FRA) argues, assuming extreme housing rates, could cost the forest industry \$74 million annually.

This new rule has some speculating that it could price H-2B labor out of the market and leave the door open for illegal labor (Mathes 2012). Another possibility could be a decrease in forest operations, including reforestation, as alternative methods such as machine planting or natural regeneration are applied to compensate for labor shortages. Proponents of the wage rule argue that the fears are exaggerated and the increase will merely meet average wages for the occupation (Mathes 2012). At this time, it is uncertain how long the 2015 law will remain in effect, as strong opposition both in Congress and the forest industry is working to amend the proposed law. The 2012 rules lasted only a few months before a series of lawsuits resulted in injunctions and suspensions (Shah, 2015). Regardless of how long this law stays in effect, it certainly raises questions regarding the value of H-2B labor in the forest industry and what alternatives exist for forest stakeholders.

Now, in the midst of these new laws governing immigrant labor, is the time to ascertain the opinions and beliefs of forestry stakeholders and immigrant laborers as to the future of labor in the forest industry. Immigrant labor and the programs that govern legal immigration are undergoing change. The profitability of the southern forest industry could very well depend on the impacts of these laws. Also in the balance are thousands of legally employed immigrant workers, and it is important to better understand whether these jobs are providing a positive contribution towards their livelihoods. The hope is to develop and nurture a program that leads toward a mutually beneficial relationship between immigrant labor and the forest industry.

Chapter 3: Study Site

I. Identifying the Study Site

Several factors contributed to Guatemala being chosen as the study site for investigating the impacts of remittances on local livelihoods. First, Guatemala ranks as the third-largest provider of H-2B workers, at 2,850 visas in 2010, behind Mexico (33,366) and Jamaica (3,468) (US Department of Homeland Security 2011). Additionally, previous research and reports identified H-2B forest labor as originating predominantly from Latin America and specifically from Mexico and Guatemala (McDaniel and Casanova 2005; Bauer 2007).

Second, and more important, is my past professional experience working as a forestry consultant with mainly Guatemalan H-2B forest labor. Based on this experience of overseeing and having informal conversations with multiple crews, I had a good sense that Guatemala is a major source of H-2B labor. Furthermore, I learned the general regions in Guatemala from which labor is recruited.

Third, Guatemala proved to be a good choice as I am very familiar with the country, having been born and raised there. I spent the first 18 years of my life as a permanent resident of Guatemala and have visited yearly in the intervening years. This provided familiarity with the language, culture, geography, and safety considerations for a region with a growing drug

trafficking trade and increasing crime rates. This knowledge limited some of the inherent uncertainty in conducting research in a country without any prior experience.

Finally, this geographical and cultural knowledge proved useful in opening doors with many key informants from Guatemala. Building trust in an industry that has been highly criticized and scrutinized is not a simple matter. Previous researchers and journalists have not painted favorable pictures of H-2B contractors, and as a result, most laborers are instructed to avoid people asking questions.

However, I found that when speaking to Guatemalans in fluent Spanish with my unique background in both Guatemala and commercial forestry, I could ease uncertainty and bring down barriers. Simply having shared experiences from Guatemala enabled me to commiserate about local places, foods, and the adjustments to living and working in the US forest industry. This common ground provided the trust necessary to not only conduct interviews, but also gain access to workers, communities, and families.

II. Overview of Guatemala:

Located in Central America, Guatemala is bordered to the north and west by Mexico, to the northeast by Belize, and to the southeast by Honduras and El Salvador. To the southwest is the Pacific Ocean (Image 3.1). Guatemala is roughly the size of Tennessee or Iceland, with a land area of over 108,000 square kilometers, divided into 22 departments or states (CIA 2015). Geographically, it is composed of three main regions. The cool central highlands, with elevations reaching 14,000 feet, are home to the majority of the Guatemalan population. Bordering either side of the highlands are tropical areas along the Pacific and Caribbean coasts,

dominated by industrial agriculture. Finally, the northern end of the country is a lowland area consisting of tropical jungle and increasing conversions to agriculture.

The population of Guatemala is 14.9 million, making it the most populous country in Central America, in addition to having the highest growth rate in Latin America (CIA 2015).

The population growth rate is expected to continue unchecked since more than half of



Image 3.1 Location of Guatemala

Guatemala's population is under the age of

19 (CIA 2015). Guatemala struggles in

several areas of infrastructure, including

health, education, and development, with

high infant mortality rates (22.7

deaths/1,000 births as compared to the US at

5.8) and the lowest school completion rates

in Central America (USAID 2015).

Even though economically dominant

in the region, Guatemala suffers from one of the highest inequality rates in the world. Guatemala

ranks 133 out of 187 countries on the Human Development Index (HDI), making it the worst in

Central America (World Bank 2009). Guatemala is predominantly a poor country with over

50% of the population living below the poverty line; in rural regions, it is even more pronounced,

with 8 out of 10 suffering from poverty (World Bank 2009).

Seventy-two percent of this poor population lives in rural areas, accounting for half of the

total population (FAO 2010). The majority, or 83%, of these poor households depend on

agriculture and livestock as their sole source of income (FOA 2010). Forty-five percent of these

subsistence agriculture producers own less than 1.7 acres, with an additional 47% owning between 2 and 17 acres (Barreda 2007). However, 38% of subsistence farmers rent land, as they have no cropland of their own (FAO 2010).

Subsistence agriculture is common in the central highland region of Guatemala, evidenced by a patchwork of small fields intermixed with regenerating fallow lands and original forests. Most of these poor farmers grow their subsistence crops on marginal agricultural lands composed of steep mountainsides, which are adversely affected by erosion. These small subsistence farmers own less than 22% of farmland, while less than 2% of the population farms over 56% of the land (Barreda 2007). This unequal land distribution in part explains the poverty and inequality prevalent in rural Guatemala (Barreda 2007).

Guatemala has one of the more ethnically diverse populations in Central America, with 26 languages spoken (CIA 2015). Forty percent of the population is composed of indigenous ethnic groups, which are disproportionately marginalized from the economic, social, and political mainstreams (World Bank 2009). The remainder of the population is composed of Ladinos of mixed Mayan and European ancestry. Spanish is the national language, although in rural indigenous regions, it is often spoken as a second language.

Largely as a result of poverty, Guatemalan people have a long history of immigrating to other countries both legally and illegally (CIA 2015). It was estimated in 2006 that approximately 10% of the population lived outside the country, with a large majority of these (97%) living in the US (World Bank 2009). Consequently, in recent years foreign remittances have replaced agricultural products as the largest source of foreign income (World Bank 2006).

The majority of immigrants are young men with only a primary education (World Bank 2009). Prior to migration, 20% of migrants worked in some type of agricultural job (World Bank

2009). It is estimated that 70% of Guatemalans working in the US have illegal status (World Bank 2006), resulting in over 54,000 deportations in 2014 (US ICE 2014).

Guatemala is also a major source of labor for H-2B visa employers. It is estimated that, between 2009 and 2013, Guatemala supplied 5% of H-2B laborers, making it the third-largest supplier, behind Mexico, providing 71%, and Jamaica, 9% (U.S. GAO 2015). During my interviews with foresters and labor contractors, most discussed using Guatemalan planters. This finding is in line with the work of McDaniel and Casanova (2005), who noted that Guatemalans were commonly found as planters in their 2003 study.

III. Narrowing the Study Site: Departments of Huehuetenango and Alta Verapaz

In Guatemala I visited a total of nine communities in five separate departments (states) from which H-2B labor is recruited (Image 3.2, Table 4.3). Communities were located in the departments of Huehuetenango, Alta Verapaz, Quetzaltenango, Guatemala, and Izabal (Image 3.2). Two of these communities, El Cushing and Kak'ik, located in the departments of Huehuetenango and Alta Verapaz, respectively, are major sources of H-2B workers and the primary focus of this study. People from these two departments, located in the central highlands, constituted 78% of the H-2B interviews and 76% of total interviews. The other four communities, located in the departments of Izabal, Zunil, and Huehuetenango, had more isolated occurrences of interviews and served as secondary sites. All but the department of Izabal, which is on Guatemala's Caribbean coast, are located in the central highlands.

A. Overview of Huehuetenango:

In the Department of Huehuetenango, I visited four villages, all but the regional capital being located on the far western end of the department, near the Mexican border. All four of the villages had predominantly Ladino populations. Of these four villages, I identified one community, El Cushing, as being the oldest and largest source of H-2B labor in the country. The other three villages provided isolated groups usually consisting of family units.



Image 3. 2 Departments Where H-2B Communities Were Visited

The Department of Huehuetenango is bordered by the Mexican state of Chiapas on its northern and western boundaries. This proximity to the Mexican border of both the department and specifically the villages visited puts the region at the heart of Guatemala's corridor of violence (International Crisis Group 2014). This area is notorious for smuggling and drug trafficking, with elevated murder rates and regular intervention by the Guatemalan military (International Crisis Group 2014).

Geographically the region is part of the central highlands and encompasses a large portion of the Sierra de los Cuchumatanes mountain range, whose elevation reaches altitudes of over 10,000 feet. The department has a variety of climatic zones, ranging from pine forests in the high mountains to tropical lowland forests in the foothills. The region is heavily deforested,

with forests replaced by subsistence agriculture on highly erodible soils, which leads to declining agricultural productivity.

The population of the Department of Huehuetenango is just under 1.2 million people (7.8% of total population), with an estimated 67% of the population living in poverty and 10% in extreme poverty (INE 2013). Poverty and food insecurity in the region, according to a national survey, mean that 63% of children between the ages of 6 and 10 have stunted growth compared to the national average of 46% (Ministerio de Educación and SESAN 2008).

The department is largely populated by indigenous Mayans, consisting of approximately 65% of the population, with the remaining Ladino population tending to congregate in the large towns and villages (Diaz et al. 2008). The southwestern regions in Huehuetenango from which H-2B labor has been recruited have largely been Ladino, with an indigenous population of less than 15% (Diaz et al. 2008).

Huehuetenango is also characterized by a relatively large young population, constituting 58% of the total population (Diaz et al. 2008). Poverty and limited economic opportunity in the region has led to outmigrations of this young population, with short-term migrations to Mexico for seasonal labor and longer-term migration to the US (Saenz de Tejada 2009; Maluccio et al. 2014).

Illiteracy rates in the department are 33%, well above the national norm of 24% (UNICEF 2012; Daiz et al. 2008). While 75% of children in the department register for elementary school, the percentages drop rapidly to 8.8% for middle school and 4.5% for high school (Diaz et al. 2008).

In rural regions of Huehuetenango, subsistence agriculture and seasonal farm labor are the primary sources of income. The region is well known for corn production as well as cattle,

of which the majority is either for subsistence or local markets (Diaz et al. 2008). The productivity of the land, however, is poor largely due to topography, lack of investments, and the use of traditional pre-Columbian planting methods (Diaz et al. 2008). Coffee production is the department's largest export and has gained national and international recognition (Diaz et al. 2008).

B. Overview of Alta Verapaz:

In Alta Verapaz, I identified a single community with a significant number of H-2B guest workers. This department is located in the north central part of Guatemala and is bordered by the departments of Peten to the north, Izabal to the east, Zacapa, El Progreso, and Baja Verapaz to the south. Alta Verapaz is characterized by steep mountains with a patchwork of small subsistence cornfields interspersed with tropical broadleaf forests in the lower elevations and pine forests on the upper slopes. The region is exceedingly rural with only a few large communities, of which Coban is the largest.

The population of Alta Verapaz in 2012 was 1.1 million, representing 7.6% of the country's total population and growing at a rate of 3% since 2011 (INE 2013). This department, like Huehuetenango, is part of Guatemala's poverty belt. However, Alta Verapaz is considered one of the very poorest departments in Guatemala (World Bank 2009). Seventy-eight percent of the population is classified as living below the poverty line, with an estimated 38%, and by some estimates over 43%, living in extreme poverty (INE 2013; World Bank 2009).

Elementary school enrollment rates in Alta Verapaz are some of the lowest in the country at 20% (IFAD 2012); note that government studies place this figure higher, at 100% (INE 2013). Enrollment rates continue to drop as children move beyond their elementary education to middle

and high school (INE 2013). Illiteracy rates in the department dropped from 35% in 2008 to 29% in 2012, which are higher than the national average of 24% (INE 2013).

The region is largely indigenous, with 90% of the population being Mayan (INE 2013). This is far higher than the national average of 40% (INE 2013). The region is also characterized as rural, with an estimated 77% of the population living outside the larger communities in the department (INE 2013).

Like the Department of Huehuetenango, Alta Verapaz is dominated by subsistence agriculture. Corn is largely grown for subsistence or local markets and often intercropped with beans. Economically important crops in the region are coffee, cardamom, cacao, and most recently in the northern part of the department, African palm. African palm in the region has been highly contentious as small subsistence farmers have been displaced from their lands by controversial means (Guerena and Zepeda 2013). However, these same African palm producers have also been employment sources for residents recruited and seasonally migrating from rural regions (Guerena and Zepeda 2013).

Like Huehuetenango, the department of Alta Verapaz has a history of problems with drug cartels operating in the rural region (International Crisis Group 2014). In 2010 the Guatemalan government declared a state of siege, authorizing the military to sweep the region in an operation to capture Zeta drug cartel members responsible for several brutal massacres involving dismemberment of bodies and targeting government officials in the region (International Crisis Group 2014). The region was also home to the most prominent Guatemalan drug lord and Zeta member, Walther Overdick, finally arrested in 2012 (International Crisis Group 2014).

IV. Inside the Departments: Primary Community Descriptions

A. Cushing: A community in the clouds

Cushing, identified for this study with the help of a key informant willing to serve as a local guide, is located in the Department of Huehuetenango. It is within 10 miles of the Mexican border, at an elevation of 5,000 feet. The community is located in one of the top coffee-producing regions in Guatemala, evident in the coffee-covered mountain sides I observed as I drove up from the Pan American Highway to a village quite literally nestled in the clouds.

The approach to Cushing is a rather complicated drive up a series of backcountry farm roads initially installed to service the large coffee farms operating in the region. After a few kilometers of dirt, I reached a single-track cement paved road that required four-wheel drive due to the incline that in places reaches near 30%. The steep, narrow, and winding road is treacherous, especially when meeting traffic, which forces the descending driver to back up and find a place wide enough for two cars to pass.

Driver-side mirrors nearly touching and only inches separating tires from precipices dropping hundreds of feet are everyday occurrences as the passing drivers smile and wave. Coffee is planted on impossibly steep slopes on either side of the road that make harvesting difficult for the indigenous Mayan women picking coffee with small children tied to their backs. Nearing the top of the mountain, cement-block homes with attached garages housing the only vehicles that can make this drive, four-wheel drive trucks, became increasingly apparent.

It was difficult to imagine anything at the end of this road, and I began to worry about there being a place to turn around and how I would descend this road should it start raining. And yet as we summited the ridge, I saw the community of Cushing situated on a saddle with a large peak beyond and a small valley below. The community is strung along the primary cement road as well as a couple of small secondary paved roads that wind along the ridge and into the valley.

Homes, built almost entirely of cement, are perched on the sides of the mountains and appear to almost be stacked one on top of the other, as there is not a single flat space in town.

Many of the homes are surrounded by a half-acre of coffee, and in some places the homes give way to larger parcels of coffee plantation. It is evident that coffee is a major crop, an observation reinforced by the presence of sun-drying patios either located on roofs or serving dual purposes as patios in front of homes. Coffee can be seen drying on patios as it is prepared for storage or roasting. In the corners of some patios are small polybag nurseries of coffee seedlings being grown for the following year's plantings.

The history of Cushing is that of a small village settled approximately 70 to 90 years ago initially to farm subsistence corn. Only a few families lived in the mountain-top village and made weekly trips on foot down the mountain to buy supplies at a store. However, much of the land in the area, especially on the lower slopes, was converted to coffee by the larger farmers. People living in the area soon found jobs on the coffee farms, and over a period of a few decades, coffee spread farther up the slopes as outside investors (Guatemalans from other regions) and some locals converted corn to the more profitable coffee.

Surprisingly, the community of Cushing is almost entirely Ladino in a region of the country with large concentrations of indigenous Mayans. However, further research has shown that the region where Cushing lies is populated almost entirely by Ladinos, while Mayans from other parts of the department are contracted and trucked into the region for cheap labor by the harvesters who can be seen in town. As a result, Spanish is the primary language spoken in town.

The most salient characteristic of Cushing, interviews suggested, is that the community is made up almost entirely of immigrant workers. Most of the men in the community have at one

time traveled to the US with an H-2B visa. Between the late 1990s and early 2000s, the community sent an estimated 1,200 H-2B tree planters to the US. As a result, the predominant business in town is H-2B forest labor.

The origins of the heavy local recruitment are tied to a single local man, married to an American, who established early connections with tree-planting contractors in the US. This individual used local family and community connections to recruit and take people to the US. His fame grew in the region, and soon men from surrounding communities visited Cushing looking for opportunities. Over time, other veteran planters became contractors and sought labor locally as well as in other parts of the country.

While today only around 400 people travel from Cushing and surrounding hamlets annually, remittances still comprise the single largest source of income. During planting season, in the months of December through March, the community experiences a large outmigration of mostly men to the US. Those who are left work in supporting industries, which include coffee, building construction, and various small microenterprises in town.

Coffee, according to interviews, provides the second-largest source of income. Nearly everyone in town owns a parcel of coffee and works with a growing number of small coffee cooperatives in the region. Some of the more successful H-2B planters have bought enough land to make coffee a source of retirement. Overall, the community is small, isolated, and prides itself on its ability to stand alone and away from the hustle and bustle of the larger, more commercial towns below and along the Pan American Highway.

The community is small enough that everyone knows each other, and they work to keep the outside world away, which in the far western parts of Huehuetenango is very unsafe. La Frontera, located below the community and serving as their primary source for commercial

goods, has become infamous in the region for drug cartel activity. This community in 2013 had murder rates well above the national average and during that year was under a government-mandated military siege following the assassination of multiple police officers in their own precinct. Heavily armed military stops were common, and safety warnings were in effect.

B. Kak'ik: A town lost in time:

Kak'ik is located in the Department of Alta Verapaz. It is about an hour and a half's drive outside the region's largest city, Coban, which served as my home base during interviews. Finding Kak'ik, which is not on any map, was a series of fortunate events. First, I shared dinner with a local German conservationist introduced to me by a personal friend, who provided detailed directions to supplement those given by my local contact. These directions, however, proved confusing as I wound down a series of mud-track roads into a beautiful landscape of steeply contoured mountains with limestone cliffs and multiple diverging roads. I was further assisted by picking up a local indigenous Mayan needing a ride, who, as circumstance would have it, was traveling to within a few kilometers of Kak'ik.

My first impressions of the village as I spiraled up the steep mud-track road were those of isolation, poverty, and age-old Mayan traditions. In fact, nothing about this town was any different from the dozens of other poor rural Mayan communities I have visited over a lifetime of living and working in Guatemala. The first and most substantial building I encountered was a white Catholic church built of cement block to resemble the classic Spanish architecture found in some of the older towns in Guatemala.

Apart from the church, the rest of the community is composed of nothing more than a series of homes scattered along about a kilometer of dirt road. Other homes could be seen up

and down the steep mountainside, connected by muddy trails. The community is sparsely populated, and nothing signals the presence of the community other than a slight increase in home density among the cornfields. The size and quality of the homes varies from relatively nice and modern cement-block homes painted a variety of pastel colors to cement homes left unadorned cement gray. In the distance, homes built of wood with tin and in a few cases thatch roofs are also evident.

The community is composed of Q'eqchi indigenous Mayans, who originate from Alta Verapaz but because of land displacement, persecution, and Guatemala's civil war are one of the most widely dispersed Mayan ethnic groups. Their language, named after their ethnic group, is also Q'eqchi, and it is the primary language spoken in the community. Spanish is learned in the local schools; however, for many women and older men, due to their more limited education, it is spoken less fluently.

Cornfields with interspersed patches of pine forest dominate the landscape. The elevation is approximately 6,000 feet, and the climate is cool and wet. The area has a strong tradition in subsistence agriculture, farming primarily corn. The community uses the same age-old Mayan traditions of planting corn and beans in the same hole and inter-planting squashes between rows (Citizendium 2010). This combination forms the staple diet of many of the ethnic Mayans in Guatemala's highlands.

The areas around Kak'ik practice slash-and-burn agriculture. This tradition, also termed swidden agriculture, is a technique used by various indigenous peoples around the world, whereby the land is cleared of forests, allowed to dry, and burned (Citizendium 2010). The resulting nutrient-rich ashes are tilled into the soil and farmed for two to three years (Citizendium 2010). As productivity drops, the land is allowed to go fallow and revert to woody

underbrush (Citizendium 2010). After a number of years, the farmer will re-burn this site to recapture the nutrient-rich ash for series of years. In most of Guatemala, as in Kak'ik, these traditions are supplemented with modern fertilizers and herbicides.

The community is a relatively recent source of H-2B labor, going back about six to eight years. The community became a source of H-2B labor through family connections from other villages in the region. Word of mouth prompted a community leader from the region to take a job and in subsequent years to help family members and local acquaintances be recruited. The majority of the H-2B planters in town have family connections or live within a few hundred meters of each other. Today, between 15 and 25 people are recruited every year from Kak'ik and the surrounding countryside.

Chapter 4: Methods

I. General Approach:

This qualitative study used a semi-structured interview process comprised of face-to-face interviews with H-2B workers, predominantly in their home communities (LeCompte and Schensul 1999). Interview scripts were guided by the literature on this topic as well as a limited series of face-to-face interviews with forestry professionals and H-2B labor contractors in the US who regularly interact with, hire, or contract immigrant labor.

The research site and H-2B laborers were identified through a combination of US-based interviews, professional experience, and local NGO and university contacts. Once in the country, snowball (or referral sampling, where one subject identifies similar individuals) and opportunistic (or emergent sampling, where the researcher takes advantages of opportunities in the field) sampling (Ritchie et al. 2003) were used for both identifying and sampling the desired population. Open and axial coding was used on transcripts and detailed notes to identify central themes to better understand who these H-2B forest laborers are, why they take these jobs, and what impacts these jobs have on local livelihoods.

II. US-Based Interviews:

Prior to beginning research in Guatemala, I conducted 16 semi-structured interviews with foresters and H-2B labor contractors in Alabama with Institutional Review Board (IRB) approval (Table 4.1). The purpose of these interviews was twofold. First, they were conducted to understand the role and importance of and alternatives to immigrant labor in the forest industry during a volatile period of changing laws governing the H-2B program. Second, they served as a guide for developing immigrant labor questionnaires and identifying H-2B key informants. This series of interviews served to support and ground the main research purpose in focusing on the livelihoods of H-2B labor.

Interviews were conducted beginning in August of 2012 through early 2013. Sampling was initially based on opportunistic sampling of foresters whom I knew professionally (Ritchie et al. 2003; Creswell 2013). After a couple of interviews, I shifted to snowball sampling to allow these foresters to identify both foresters who worked more directly with H-2B labor and contractors in our region (Ritchie et al. 2003; Creswell 2013). This technique proved especially useful, as these initial interviews served as introductions to contractors who were often reluctant to be interviewed.

The questionnaire for foresters used 10 semi-structured questions that were placed under the broad headings of The Role of Immigrant Labor in Forestry, Prevailing Wages, Immigration Law, and Landowner Perceptions. Contractor questionnaires used the same questions and headings with the addition of 9 questions (19 total) under the headings Business Operations and Labor Sources.

Interviews for both groups lasted between 45 minutes and an hour and a half and were all recorded, except for a few interviews with contractors who declined. In these cases, I relied on

field notes. Recorded interviews were transcribed by a research assistant and reviewed by myself to ensure quality.

Forester and contractor interviews were conducted to saturation and the subsequent data was open coded. Broad themes were developed to discuss the most common issues and general consensus of both foresters and contractors. As this research project developed, the focus of the study shifted more toward the livelihood impacts of H-2B labor internationally. As a result, I do not discuss many of the subthemes or contradicting opinions that only the nuances and complexities of managing biological systems can produce, especially when discussing alternative forest management systems to H-2B labor.

III. Guatemala-Based Interviews

A. Sampling methodologies

1. Making contact in Guatemala

The process of identifying immigrant labor was initially a daunting and difficult task. Past experience gave me a rough idea of where I could look; however, reality dictated that I could not simply arrive in-country and hope to find tree planters in a vast region composed of hundreds of small towns. Instead, I needed specific names and addresses and, equally important, introductions to commence my snowball sampling methodology.

H-2B labor has drawn a vast amount of media publicity, research interest, and activism from groups like the Southern Poverty Law Center and the Forest Stewards Guild, which have highlighted past abuses and ongoing concerns with the H-2B program. This has resulted in labor contractors being very skeptical about talking to anyone showing interest in the visa program. In

addition, H-2B labor was very cognizant of both their employers' preferences of their not speaking about their jobs and resulting lawsuits, which often limited available visas. Personal introductions, then, were key to gaining access and beginning the process of establishing trust. I used three primary techniques to help me identify H-2B planters and their communities in Guatemala.

First, I used a series of face-to-face semi-structured interviews with Alabama foresters and planting contractors as one means to identify where labor was recruited and possible interview contacts. This technique, along with my years of experience working in the forest industry, often overseeing H-2B labor and in one case recruiting labor, reinforced research showing that Guatemala is a major source of tree planters. Additionally, these interviews rendered three key informants.

The first was an American tree-planting contractor who recruited labor in Guatemala. During his interview, we noted that our trips to Guatemala would coincide, and he agreed to introduce me to his crew. This resulted in multiple interviews at a Guatemalan airport as his crew prepared to jet-off to their 2013 planting season. This airport connection had the unfortunate effect of allowing interviews but missing community visits in Izabal, Guatemala.

The second informant was identified during an interview with a reforestation contractor, who recommended I speak to the tree-planting foreman who had overseen his planting the previous year. This resulted in my gaining access to two tree-planting foremen, who arrived together for an interview in Demopolis, Alabama. At the conclusion of these two interviews, I was able to establish rapport with these "gatekeepers" (Crewswell 2013), and asked if I might visit their communities. Their response was positive, as one foreman produced the name and contact information for his brother, who was a veteran tree-planting foreman of over 12 years

and would be in-country during my visit. The second planter provided contact information for his father, a local community leader.

The veteran foreman proved to be a central figure in moving within the local H-2B tree-planting community. In addition to providing an excellent interview, he gave access to a community with the oldest and largest population of H-2B labor in Guatemala, Cushing. Through his local networks and willingness to travel with me and serve as my guide, I was able to meet other central figures, who provided additional internal access to Cushing as well to Kak'ik in Alta Verapaz. Due to the remoteness and difficult driving conditions to reach Cushing, it is very likely I would not have found the town without his direct assistance.

A second method I utilized to identify sources of H-2B labor in Guatemala was to establish a working agreement with two organizations in Guatemala that could provide introductions to tree planters in their communities. I was uncertain if the previous face-to-face interviews with foresters and labor contractors would produce viable contacts, so I sought alternative means to ensure a foothold for commencing snowball sampling.

The first organization I contacted was the Universidad de San Carlos de Guatemala (University of San Carlos of Guatemala). Through a Guatemalan colleague at Auburn University, I was given a personal introduction to a forestry professor working at their Huehuetenango campus. I had known previously that the Huehuetenango region had long been a source of H-2B labor and hoped that a local professor with ties to the community might help me make inquiries. This avenue produced two contacts in the way of a local H-2B recruiter and foreman. These interviews also pointed me in the direction of Cushing, although limited rapport did not allow for a personal introduction.

I also reached out to a nonprofit organization called Instituto Centroamericano de Estudios Sociales y Desarrollo (Central American Institute for the Study of Society and Development) (INCEDES), which works with immigrant labor rights. This organization that I identified through the literature is located in Guatemala City, Guatemala. While their capacity to locate H-2B planters proved unsuccessful, they did have government connections, which I used to schedule interviews. Through INCEDES I was able to schedule an interview with a leading diplomat with the Guatemalan Ministry of Foreign Affairs to gain insight into the government's perspectives. INCEDES also put me in contact with another researcher working with immigrant labor in Guatemala, who provided some additional local context.

Finally, I used personal contacts in Guatemala to find two additional tree planters working in a separate part of the country. When I arrived in Guatemala, I asked friends and family to inquire about any local H-2B planters. Coincidentally, I located two pine straw rakers recently returned and living only miles from my family's home.

2. Sampling methodologies in Guatemala:

As noted above, a combination of snowball and opportunistic sampling methodologies was used (Ritchie et al. 2003; Creswell 2013). Snowball sampling functioned as a means to move through the H-2B forest worker population by having each interviewee identify other contacts. This technique worked exceedingly well as the first group of contacts I had initially identified began to suggest not only specific people but also towns with significant H-2B populations.

In one of my first interviews, the veteran foreman identified through an interview with his brother in Alabama went as far as making phone calls to H-2B friends in the nearby town of

Cushing, which he described as a prominent source of H-2B labor. His phone calls not only set up an interview the following day, but he also volunteered to act as a guide to ensure I could find Cushing. With this foreman as a guide, I met a local H-2A foreman and previous H-2B planter.

Establishing rapport to gain access (Creswell 2013) to El Cushing proved to be moderately challenging. Following a morning of informal conversations about what I was doing and who I was, I learned that another researcher had been in the community a few years before. These men connected their interviews with lawsuits that had closed one of the companies providing visas in their community. They saw this as a threat to their livelihood and were initially very reserved. It was here that my previously discussed background in Guatemala and forestry proved useful in gaining trust, as well as my study focusing on impacts of remittances rather than some of the more questionable aspects of the H-2B program.

Once rapport was established with this foreman in Cushing, the doors to this community cracked open. This individual set up multiple interviews in the community and provided a tour of the town, where I was introduced to current and retired H-2B planters. In many of these cases, I resorted to opportunistic sampling to interview planters I met in the streets, patios, or homes (Creswell 2013; Ritchie et al. 2003). These interviews tended to be shorter, as I focused on central questions due to time constraints. I did encounter planters in Cushing who declined to be interviewed, even with my gatekeepers in tow. Concern and distrust run deep in a community that subsists on H-2B visas.

Once the snowball sampling in Cushing was exhausted either because of unwilling or absent planters away for the 2013 planting season, I asked about planters from other parts of the country. This resulted in the region of Alta Verapaz being suggested. I was given the name and

number of a planter and community leader from the region, whom my contacts had prepared for my call.

Upon arrival in Kak'ik, at an agreed date and time, I found my host and about half a dozen planters waiting in his home. Interviews were conducted with each planter individually and followed by a tour of each planter's home. These tours around town lead to opportunistic sampling as we encountered other planters who invited me into their homes. Once again I conducted interviews until I had exhausted the available population. In Kak'ik I found everyone willing to speak but was limited by several planters' absence for the 2013 planting season.

In other parts of the country, the snowball sampling process also identified smaller pockets or isolated H-2B planters. Visits were made to their homes to conduct interviews, and if additional sources were not found, I reverted to my list of possible contacts. I followed each thread until it either produced an interview or a dead end when a planter declined to be interviewed or a meeting could not be scheduled.

This combination of techniques, using multiple sources to identify contacts in Guatemala and using a snowball sampling process in-country, had the benefit of triangulating H-2B planters and communities from various sources as well as identifying additional communities that a single contact would likely have missed. This provided a broader population of tree planters from various parts of Guatemala. It also ensured that I branched outside of the recruitment zone of only one or two recruiters and US-based contractors.

It is common for a community to have one or possibly two contractors operating in a region. By using these various introductory techniques I reached several regions and, as a result, not only different contractors but also different cultural and ethnic backgrounds being impacted

by H-2B remittances. I feel confident that I sampled a diverse population of H-2B planters whose stories reflect the impacts that remittances are having on local livelihoods in Guatemala.

B. Data collection and analysis

1. Questionnaire instrument:

The interview script was comprised of open-ended questions aimed at encouraging interviewees to explain the impacts of returning dollars on local livelihoods (Kvale and Brinkmann 2009). Questions were categorized by broad topics, and when needed, follow-up questions, included in the interview script, were used to prompt subjects to open up and begin talking (Kvale and Brinkmann 2009). Every effort was made to allow subjects to lead the conversation, and questions were posed to keep them on track.

Content validity for the interview script was initially guided using available literature on H-2B forest labor, international remittance, and livelihood impacts. A limited number of 16 face-to-face interviews with foresters and labor contractors conducted predominantly in Alabama prior to traveling to Guatemala further contributed to ensuring questions were relevant. This group served the purpose of helping understand the relevance of the research in the US forest industry, as well as providing some key informant data for script development (Creswell 2013). Finally, once in the field, the interview script was further modified as certain questions proved to be irrelevant and additional questions gained importance.

The interview script for H-2B laborers included five sections: demographic and employment background, the recruitment process, remittance investments, work description, and impacts of recent prevailing wage and immigration laws. The script was composed of a total of 32 questions with an additional short questionnaire composed of 7 questions to be used with

community leaders and government officials, which focused primarily on community impacts of remittances (Appendix A).

2. Data collection strategies:

Two separate trips were made to Guatemala, conducting a total of 49 interviews. The first trip was made in November through January of 2012 and a second trip in August through September of 2013. The timing of the first trip was found to have just missed some tree planters who had left in late October. Thus a second trip was made to reach planters missed in 2012 and ensure that a representative sample was taken. A total of eight weeks were spent in the field locating, visiting, and interviewing subjects.

Data collection consisted of a semi-structured interview process (LeCompte and Schensul 1999). Interviews were conducted in a face-to-face format with H-2B laborers, their families, local community leaders, and government officials. Interviews were conducted in Spanish and often in the home of the subject being interviewed. While most interviews were on an individual basis, some interviews were conducted as a group with multiple tree planters congregating in the home of a key informant. Translators were occasionally needed, usually the key informant, to clarify questions and translate answers from the Mayan Q'eqchi dialect to Spanish.

Interviews often commenced with simple demographic information, as well as interviewees' backgrounds and the impacts of remittances. As rapport was established through openness and honesty, I moved to more controversial questions related to recruitment and legal considerations (Kvale and Brinkmann 2009). The decision to introduce potentially controversial questions was subject to my judgment to ensure I did not interrupt snowball sampling (Kvale and Brinkmann 2009).

Visits to communities usually lasted between one and four days. The reasoning for the lack of community immersion was twofold. First, the community of Cushing is located in a very dangerous part of the country with a heavy drug-trafficking presence, which I had been warned about by key informants and local contacts in Guatemala. For security purposes, I worked to keep a low profile by setting up interviews and trying to spend no more than one or two days in the region.

Second, I was warned of kidnappings and cartels' strong distaste for journalists, which I resembled with my notebooks and questionnaires. This had the unfortunate effect of limiting my stays and interviews only to contacts established and scheduled through snowball sampling. While I certainly spent time touring towns, I limited my presence as much as possible.

Interview data consisted of detailed field notes (Berg and Lune 2012). The use of recording devices proved to be difficult due to the perceived sensitivity of H-2B jobs by tree planters. Some discussed employers cautioning them against speaking to people about their H-2B jobs and feared jeopardizing their future with recruiters, contractors, or the US government. In another case, other researchers or interviewers had visited the community in the recent past, and many felt this had contributed to their losing a contractor in their community.

As result, I found early in the process that asking for permission to record interviews was often declined, increased tension, and might limit future interviews. The process of building rapport with key informants, who had access to other tree planters in their communities, was already difficult. This process often took anywhere from a few minutes to a few hours of informal conversation about my background, the research, and how I would use the data. After this testing period, I was granted permission to begin interviews. Anonymity was important, and a recording required more trust than most interviewees were willing to grant.

Without recordings, I relied on collecting detailed field notes during interviews (Berg and Lune 2012). In these notes, I attempted to capture near word-for-word conversations. In many cases, direct quotes and unique usage of common Spanish words were noted to ensure rich descriptive data. I attempted to note key words and phrases to help me recall the conversation in detail (Berg and Lune 2012).

Field notes were then transcribed into a word processor usually within a day and in some cases a few days of the interview (Berg and Lune 2012). During these transcriptions I made an effort to include as much rich description as I could of the people, homes, and villages I had visited (Berg and Lune 2012; Creswell 2013). The resulting data is composed of paraphrased conversations, semi-direct quotes, and rich descriptions of the sites and observations during interviews.

Interviews were collected to the point of saturation (Creswell 2013). During my initial trip in 2012, I reached a point at which I felt I was hearing a consistent message from H-2B laborers. However, to ensure I had reached saturation I returned in the summer of 2013 and collected another dozen interviews. This process not only ensured saturation but also ensured I captured interviews of planters who had been away the previous year (Creswell 2013).

3. Data analysis: coding:

Data was coded using an open and axial coding methodology, as described by Creswell (2013). Coding to some degree began during the interview process itself. Interviews were conducted in Spanish; however, field notes were taken in English. In a strict sense, I was beginning the process of reducing data through my translation process. Additionally, field notes

often were paraphrased, and this can be considered reducing and coding data as well (Berg and Lune 2012).

Formal coding began with the process of transcribing written field notes into Microsoft Word documents. As I transcribed the field notes, I placed bold headers over sections that pertained to a particular subject. These broad open codes were initially meant to help me find certain passages, but later I found many of them turned into a good source of open codes.

Formal open coding was conducted at the conclusion of each field visit to Guatemala. The coding process utilized a Microsoft Excel worksheet. Data was copied and pasted into individual cells that were cross-referenced between the interview number and the determined code. As these codes began to emerge from the data, axial coding began to be applied (Creswell 2013).

The process of axial coding consisted of categorizing groups of codes into themes that were housed in labeled tabs in the Excel worksheet (Creswell 2013). The result was a process in which open and axial coding occurred to some degree in unison. The patterns began to emerge and be placed into themes.

The data was coded on a line-by-line basis, placing the sentences or paraphrased notations into the appropriate subtheme or subthemes if more than one theme applied. Interviews were reread, and data was moved into any additional themes that might not have existed earlier in the process. This process is in line with what Bernard and Ryan (2010, p. 58-60) describe as a “constant comparison involv[ing] searching for similarities and differences.”

At the conclusion of this process, a codebook was developed to help clarify and begin defining the themes (Bernard and Ryan 2010) (Table 4.2). This process consisted of noting themes and listing all codes that contributed to the parent theme (Bernard and Ryan 2010). This

process was important to help me better understand my themes and in some cases move codes from one theme to a more appropriate theme.

Finally, I further reduced the number of themes from 15 to 6 by combining the subject matter into broader topics that would become sections in my dissertation. This process coincided with developing the outline of my dissertation and beginning to formulate the story that would address my research objective. The Excel tables also facilitated the process of compiling data into frequency tables, figures, and descriptive statistics when needed (Bernard and Ryan 2010, p. 148-189).

4. *Validity:*

I used several methods to ensure the validity or trustworthiness of my results. First, I used triangulation as described by Creswell (2013). Triangulation was accomplished through a combination of in-depth literature reviews to corroborate or contradict my findings. Second, I used multiple techniques to identify my interview subjects in Guatemala, ensuring I sampled from various communities, ethnic groups, and employers. This helped me gain a broader understanding of the impacts of the H-2B program from multiple Guatemalan perspectives.

A second validation method I employed is what Creswell (2013) called a “prolonged engagement” in the field. For me, this began soon after college when I worked as a forester employing and overseeing H-2B reforestation crews. This experience combined with my cultural background in Guatemala ensured that I understood both the profession and culture, allowing me to avoid any cultural or professional misunderstandings or misinformation. To further limit misinformation, a series of US-based interviews with foresters was conducted prior to my data collection, which further helped me understand the connections of immigrant labor to

our forest industry. Finally, the use of two separate trips, at different times of the year made possible not only data saturation but enough time (eight weeks) in the field to understand the nuances of my research questions.

A third technique I employed was rich, thick descriptions (Creswell 2013). I took detailed notes on the interviews, people, homes, communities, and in some cases, vehicles and land during my time in the field. This, Creswell (2013) notes, helps provide detailed descriptions of the study sites and the participants so the reader can make a decision about the transferability of my findings.

IV. Study Population:

During my eight weeks in Guatemala I conducted a total of 49 interviews (Table 4.3). Thirty-seven interviews were conducted with H-2B guest workers employed by the forest industry. In four cases I conducted interviews with the wives or fathers of H-2B planters who were away working in the US. Three interviews were with government officials with the Guatemalan government or the US Embassy. Finally, I conducted two interviews with people who had worked illegally in the US and three with community leaders.

The primary data source for understanding the impacts H-2B forest jobs have on livelihoods comes largely from the interviews with H-2B guest workers. Secondary interviews with family members, community leaders, and government officials provide excellent sources for understanding the economic and social impacts of these jobs on the community as a whole. The variations in geographic locations as well as in demographics such as ethnicity, age,

education, and years with the program provide additional richness for broadening the transferability of findings to H-2B laborers from other regions and possibly countries.

A. The demographics of H-2B guest workers: who are we?

1. Ethnicity:

Sixty-three percent of H-2B guest workers interviewed were Ladinos (Table 4.4). Their communities were located in the departments of Huehuetenango, Zunil, and Izabal. Ladinos are generally defined as a segment of the Guatemalan population (comprising 59% of the total population) of mixed indigenous and European descent (US AID 2015). Culture is another defining feature of the Ladino population. Their culture is one that has adopted Spanish as their primary language and abandoned traditional clothing and lifestyles in favor of European customs. Ladinos tend to congregate in more urban areas and as a result have generally been beneficiaries of better education and government social programs.

The remaining 37% of H-2B guest workers are of indigenous Mayan descent. The large majority of these H-2B workers were identified in a single community in the department of Alta Verapaz, with a smaller group originating from an unidentified community in Huehuetenango. Most of these H-2B planters were of the Q'eqchi ethnic group found in Alta Verapaz.

Traditional indigenous Mayans maintain a distinct identity centered on their lands and traditional forms of subsistence agriculture. Geographically, they are generally tied to a specific village or region in the western highlands of Guatemala (Country Quest 2003). Each ethnic group has its own language and a very colorful traditional hand-woven corte (skirt) and huipil

(blouse) that is worn by the women. Ladino men have largely shifted to western clothing, except for certain ethnic groups in the western highlands.

The guest workers interviewed in Alta Verapaz spoke Q'eqchi, which is part of the larger Quiche language family (Cloudforestconservation 2015). Initially a highland people from the mountainous regions of southern Alta Verapaz, due to forced displacement early in their history by more powerful ethnic groups, they have moved to the lowland areas of northern Alta Verapaz, El Peten, Izabal, and across the Guatemalan border to Belize. Today the Q'eqchi are the largest ethnic group in Guatemala, both in numbers and geographic distribution (Cloudforestconservation 2015).

2. Age:

Interviews conducted in the late fall of 2012 were mostly with tree planters who were retired, usually fewer than three years, or had taken a year off either by choice or not having been selected for the 2013 planting season. Interviews conducted in late summer of 2013 captured many of the planters who had been away during the fall of 2012. Most of these planters were back on break and awaiting the recruitment call for the 2014 season. The resulting combination of recently retired and active tree planters, while having little effect on most of the demographic data, does inflate the age of tree planters to a small degree.

The average age of H-2B workers interviewed was 37 years (Table 4.4). Ages ranged from an amazing 65-year-old man still actively planting and expecting a recruitment call for the 2014 season to a first-year tree planter, aged 21. The subtraction of recently retired tree planters only drops the average age of tree planters to 35 years (n = 25).

It is interesting to note that many tree planters interviewed were of an age that might be considered too old to perform this physically demanding work. I often alluded to this notion and would receive a prideful retort as to how many trees they planted on average per day. Industry standards from previous research (McDaniel and Casanova 2005) and my own data suggest that planters are expected to plant 2,000 or more trees per day under normal conditions (tracts that have been herbicided and burned and with average travel time).

Forty-five percent of tree planters interviewed were over the age of 36. Eighteen percent of these men still planted trees daily while 9% had progressed to being foreman. Each of these planters claimed to plant between 2,000 and 3,500 trees per day. These near superhuman feats beg the question, how are they capable?

3. What did we do before H-2B tree planting?

It has long been a supposition of mine that most tree planters are recruited from rural areas with strong agricultural backgrounds. I have suspected that this agricultural background makes these individuals able to perform the grueling physical labor that is tree planting. Furthermore, learning about their background helps us understand not only their ability but also their willingness to take these tough, bottom-level jobs. As a result, during interviews we often discussed what jobs they performed before moving into tree planting.

The answers were nearly unanimous, “*agricultura*.” Translated as “agriculture” in English, this is a broad term that, after multiple interviews and the subsequent clarifying questions, came to mean farm day labor. This farm day labor could mean anything from subsistence corn agriculture to harvesting, weeding, or clearing land for coffee, palm oil, or

cardamom. For many it often meant a combination of subsistence and some type of paid farm day labor.

Specifically, 70% of tree planters interviewed worked agricultural jobs exclusively (Table 4.4). While 30% of laborers worked in other ventures including construction, sales, or fishing on the Caribbean coast, most still had subsistence corn plots they farmed on the side. This is not surprising, considering that nationally agriculture generates 14% of the GDP and employs some 40% to 50% of the workforce (FAO 2010).

Depending on the regions where guest workers originated, agricultural work varied from primarily subsistence corn to more of a paid farm day labor occupation. For the community of El Cushing in Huehuetenango, most of the men interviewed had worked as farm day laborers on the large coffee farms in the region. These jobs ranged from harvesting coffee, often paid on a piece rate measured by weight, to seasonal maintenance such as weeding, fumigating, or periodically pruning back the coffee plants.

In the community in Alta Verapaz, where few large agricultural operations exist, most farmed subsistence corn. Subsistence agriculture consisted of farming corn on marginal lands, usually small plots on steep mountain slopes. Many supplemented their subsistence agriculture by taking seasonal farm day labor employment. As limited opportunities existed locally, most laborers made seasonal migrations, lasting from 1 to 3 months, to larger farms in different parts of the country. These migrations, by some estimates, can total over a million people annually and fill important agricultural labor needs in the larger agri-economic farms (Plant 1998).

This background in largely agricultural labor, often starting in childhood, makes for a tough people, unafraid, accustomed and willing to perform manual labor. Their labor backgrounds often extend beyond formal employment to physical struggles of everyday life for

rural Guatemalans. For example, driving through the highlands of western Guatemala, it is common to see children often as young as 10 years old carrying loads of firewood strapped to their backs (Image 3.3).

As fuelwood is the primary source for cooking meals, wood is gathered by the men, women, and children. These firewood loads, cut by hand, can weigh over 100 pounds for men and are carried miles back to their homes (Image 3.4). This process might be done a few times a week in addition to their other subsistence agriculture and paid farm day labor responsibilities.



Image 3.3 Children Carrying Firewood for Cooking



Image 3.4 Man Carrying Firewood for Cooking

This strong work ethic from an early age of wielding hand tools such as machetes, hoes, or backpack sprayers makes for a work-hardened people accustomed to manual labor. *“I helped my dad grow the corn and beans,”* explained one tree planter from Huehuetenango. *“I was probably about 10 years old,”* he recalled. *“When I got old enough, I went to work in the coffee and cardamom farms with my dad.”*

In addition to starting work at an early age and working multiple manual jobs, walking is part of life. Laborers in Guatemala walk miles to collect firewood, and some interviews suggested that some villagers might walk as much as two hours to reach their subsistence corn plots. Additionally, many often have to walk to their day labor jobs, which might be anywhere from a few minutes to over an hour’s walk away.

Tree planters interviewed did not own a vehicle before beginning work in the US. They relied on walking and for longer journeys used public transportation. The wife of one tree planter, a local school teacher, explained how she walked about six miles a day get to and back from work. Another tree planter who grew and harvested maxan, a tropical leaf used to wrap tamales, pointed across a valley and described the nearly 10-mile round trip he made carrying 120 pounds of maxan over slopes often exceeding 30%.

All of these factors combine to make a people that are tough and accustomed to physical labor. Additionally, they are programmed to understand difficult living and working conditions. Their backgrounds from rural regions where physical farm labor is the predominant occupation makes them ideal recruits for tree planting. This, however, does not make tree planting easy for tree planters, but instead makes them more capable.

4. Education:

The average education of tree planters interviewed is 5.2 years, just under the 6 years required for an elementary education. Years of education ranged from 0 to 3 years for 32% of respondents to one respondent, or 4%, having achieved a high school degree. The majority of tree planters, or 64%, finished their elementary education of 6 years.

These education figures are actually just slightly ahead of the Guatemalan national average. According to the USAID (2010), only 4 in 10 children finish the sixth grade, or 40%. While Guatemala has a 96% educational enrollment rate, the completion rate is significantly different (USAID 2010). The downward trend only increases, with only 1 child in 10 finishing lower secondary education, or the ninth grade (USAID 2010). Finally, only 8.5% of kids in Guatemala pursue a college degree (USAID 2010).

This educational problem is especially prominent in the rural regions of Guatemala. While the Guatemalan government has significantly increased access to education in rural areas by building schools, the education system is still severely underfunded (USAID 2010). Only 2.8% of the GDP in 2007 was allocated to education (USAID 2010).

This, in combination with undereducated and inadequately trained schoolteachers, makes for an ineffectual system. Furthermore, as previously discussed, the norm in rural areas is for children to begin helping their families to survive after completing sixth grade. My research found that 64% of tree planters had followed this trend, with an additional 32% having given up earlier. Many left school at an early age due to limited financial means for buying school materials and needing to help their families survive. Others discussed not having much support from their families and not seeing the value of this education. As a result, many left before finishing the sixth grade, which is available in even the smallest towns.

All of these factors combine for Guatemala to have one of the poorest literacy rates in Central America. Twenty-four percent of the population is illiterate, and this rate jumps to nearly 60% in the rural indigenous populations, according to the Global Education Fund (2010). For tree planters coming from these rural and in many cases indigenous populations, education is very limited. While every village I visited had a local elementary school, many interviewees had not completed this education and most had not gone any further.

5. Years with the H-2B program and length of visa stays:

The average tree planter interviewed had spent six years in the US with the H-2B guest worker program (Table 4.5). Fifty-four percent of the study population had fewer than five years in the program, accounting for the largest group interviewed (Table 4.5). Those with 6 to 10

years accounted for 30%, and a smaller group, comprising 16% of the population, had spent more than 11 years working with the H-2B program (Table 4.5).

The average visa stay was approximately 7.2 months. The spectrum ranged from three planters who had only spent three months to one tree planter who had gotten a visa extension and stayed for a total of 12 months. The most common answer for length of visa was nine months, which correlates with the maximum length of stay under the H-2B program (without an extension). However, many tree planters discussed being issued six-month visas that were often extended while in the US to nine months.

In the case of a few tree planters, under one particular contractor, there was an informal agreement in which visas were transferred to other employers, or in some cases employees were allowed to take construction, landscaping, or nursery jobs with questionable legal status. Interestingly for these tree planters, the actual planting occurred in just the South and lasted only two to three months. These planters discussed how just a three-month visa stay was borderline unprofitable. For these forest workers, what made their trip profitable was the additional months tacked onto the end of their tree-planting contracts.

6. *The work:*

The majority of H-2B guest workers interviewed worked in reforestation in the forest industry. In fact, 76% of subjects interviewed planted trees for a portion of their visa stay every year. While planting filled the majority of their visa stay, most guest workers often performed other duties depending on the timing of their trip.

Other duties for guest workers arriving early in the year, possibly in October or November, included working at forest nurseries, pulling and packaging trees for planting season.

In other cases, they worked placing protective covers, termed bud capping, over the tips of young pine seedlings to protect them from deer browse. These various jobs were often dependent on the contractor and their geographical location. Bud capping was generally only done in the Midwest, while most of the nursery jobs were in the South.

Many guest workers interviewed arrived in time for planting season and often stayed into the spring and summer, at which point they often shifted to herbicide applications. The manual application of herbicides with backpack sprayers is common for a variety of land management activities where aerial applications are not feasible. This includes selective herbicide applications to avoid killing desirable hardwoods, to control invasive plants, or to treat small acreages.

A smaller percentage of guest workers interviewed, 19%, had progressed to the role of supervisory foreman. In this role, they oversaw crews of 10 to 20 tree planters. Their responsibilities included driving the vans, ensuring planting quality control, finding hotels and housing for their crews, and taking crews out for food and laundry. Foremen usually must have good English communication skills to speak with landowners and foresters and be able to read maps and instructions.

As result, most tree planters progress into this role of foreman as they acquire these skills. Some tree planters interviewed had many of these skills but discussed being unwilling to assume the responsibilities and work associated with this position. This position meant they had a less physically strenuous job but often worked longer hours with driving, housing, and ensuring the crew was cared for before and after the tree-planting workday. However, for many planters the progression to foreman was a way to stay in the business longer, as the work is physically demanding.

Finally, I encountered only 2 planters, or 5%, who worked in pine straw spreading. Their H-2B jobs were associated with raking and later spreading pine straw. These jobs, while less strenuous than planting, still required them to work exceedingly fast to meet employer demands and quotas. While initially these two planters worked on a piece rate system, their incredible productivity, according to them, caused their employer to favor the hourly rate.

Chapter 5: Forester Opinions on the Role and Importance of H-2B Labor in the Alabama Forest Industry

I began my career in Alabama as a consulting forester preparing timber sales, harvesting timber, and eventually overseeing immigrant labor crews providing herbicide and planting services. It was during this time that I was first exposed to H-2B workers, and I would eventually end up helping a local forester recruit and operate an H-2B reforestation crew. As a result, I gained an inside perspective on both the role of H-2B labor in the forest industry and the programmatic process of recruiting and operating labor.

Prior to beginning research with H-2B immigrant workers, I conducted a limited series of interviews with 6 H-2B labor contractors and 10 professional foresters actively engaged in forest operations. The purpose was to provide an understanding of the perceived role, importance, and future of immigrant labor in the southern forest industry. These interviews worked to supplement and helped me compare my personal and professional experience as I sought to better understand the role and future of immigrant labor in the forest industry.

At the time of the interviews, the DOL's new wage rules were being implemented, possibly increasing hourly wage rates and imposing new requirements on contractors that would likely increase the cost of utilizing H-2B labor. As these changes were relevant back in 2012 during the period of these interviews, they are still relevant today. The 2012 rules were only

applied for a short period before being retracted; however, today new 2015 rules are applying many of the same guidelines.

As a result, the questions of how these rules will impact both contractors and the decisions of landowners to replant forests remain relevant. In the following section, I will outline key findings, including the perceived role and importance of immigrant labor to forest operations, the impacts of new DOL rules on reforestation, and what alternatives foresters see to immigrant labor in reforestation.

I. What did we have Before Immigrant Labor?

As a forester who started his career working for a small forestry-consulting firm, I was exposed to various aspects of the forest industry, including immigrant labor. I was fascinated with the largely Guatemalan crews I oversaw during planting season with their incredible productivity and work ethic, as well as their journey from small rural Guatemalan villages to the piedmont of central Alabama. My employer at the time, a veteran consultant, would often reminisce about the old “hippie” crews that planted in years before immigrant labor, which always left me with a lingering question, of how and who planted before immigrant labor.

During interviews with foresters and contractors alike, I brought this question up repeatedly and learned how we planted and how we might have to plant again if this labor source should ever disappear. Most foresters agreed that in the years prior to the 1980s, when immigrant labor became increasingly prevalent, most regeneration was mechanized. As one veteran forester remembered it, *“The only time that you would do hand planting would be if it was so rough or so wet that you couldn’t get a bulldozer to do it.”*

Prior to the early 1980s, machine planting was less costly than hand planting forest trees (Guldin 1983). As a result, it was the preferred method that most of the older foresters I interviewed recalled using. Additionally, all foresters interviewed agreed that machine planting, excluding costs, is a superior method. It usually does require more intensive and mechanical site preparation to remove debris by raking-piling; however, this leaves a cleaner open track for planting. Machines are then able to plant trees in straighter rows, which avoids trees being planted too shallow, resulting in “j” rooting, which is common to hand planting. As one industrial forester put it, *“I think I prefer mechanical planting, if I could justify the cost of it.”*

However, once hand planting became the cheaper regeneration option, it grew to be the dominant method. According to Guldin (1983), the costs of hand planting became increasingly more affordable than machine planting in the early 1980s. Most foresters recall the early years of hand planting being done by local black crews. Starting in the 1970s, however, there was a movement of young white men and families who traveled around the country providing manual labor in planting. These crews were commonly referred to as “hippie” crews, and they soon began to dominate the hand-planting industry and displace many of the black crews.

Some remember these hippie crews as being “Seventh-Day Adventists,” but what both these groups had in common was that they traveled in caravans that included wives and children. These caravans would pull up to the planting sites, where they would camp and live until the job was done before moving to the next site. *“Basically it was hippies living in old burned-out bread trucks that were travelling around like gypsies doing the same thing that the immigrants are doing now,”* recalled a forester about the early days of hand planting.

These hippie crews, common in the 1970s and prevalent into the early 1980s, were small operations consisting of enterprising businessmen who made a living through planting. Many of

these crews that worked in the southern US originated in Arkansas, where they formed communes where they were able to live cheaply and *“saw tree planting as an opportunity to make some money during the winter months,”* explained the daughter from one of these hippie tree-planting families. These groups, she went on to say, *“were motivated by the freedom of camping, cooking over fires, and liked that the jobs were unrestrictive and temporary in nature.”* She laughed and said, *“They could travel real cheap, camp on the land, plant the hell out of some trees, and then party all night.”*

However, as time passed, these hippie crews matured, *“became yuppies,”* and grew into businessmen in the tree-planting business. In fact, many of the commune tree-planting hippies were actually well educated with college degrees, which facilitated their transition from labor to management. This maturation led to their using new crews often composed of Hispanic labor, likely of dubious legal status, but in the same migratory patterns they had started themselves. *“Just like the hippie crews, early Hispanic immigrant labor crews also camped on the tracts they planted,”* one forester noted. This combination of hippie crews and the new Hispanic immigrant labor crews operated by hippies are possible factors that drove the prices of hand planting down in the 1970s. As Guldin (1983) explains, the mobility and increasing skills of full-time planters improved productive capabilities, which began to outperform the old norm, machine planting.

While most of the foresters interviewed remember these hippie crews, there were a few instances of local planting crews operating in their own communities. These crews were often made up of minority groups, such as blacks and in some cases groups that foresters referred to as “Cajuns.” These crews were generally deemed as having limited productive capabilities, and one contractor recalled, *“I did over 300 W2s that year for a 15-man crew for the winter. I just*

had such a big turnover that I always have at least 40 folks on payroll a week just to make sure I had enough people that would show up on Monday to go out.”

This perceived lack of dependability associated with local labor eventually led this contractor to shift to Hispanic labor. As he recalled, *“I heard about different folks, talked to some Mexican guys, and started bringing a few of them that were residents and working for me. And then next year, they brought a few more, and then it finally swapped over to all Mexican.”*

Like the hippie crews, this small operator also shifted to Hispanic labor to grow his business and find more dependable labor. Both the hippie operators and the local labor contractor made the shift to H-2B labor in the early 1990s when the DOL created the H-2B program. The shift was largely to ensure that they were hiring legal personnel, as most admitted that it was probable that many of their employees were illegal.

II. Industry Opinions on the Importance of H-2B Immigrant Labor:

Ask any forester about the importance of immigrant labor to the southern forest industry, and you will hear a near-unanimous answer: “critical.” Both foresters and labor contractors stated that they used immigrant labor predominantly in reforestation and that between 90% and 100% of forest planting in Alabama is conducted by hand. This estimate roughly approximates survey results of research done by Dooley and Barlow (2013) in Alabama, which found that 70% of planting is done by hand.

The use of immigrant labor, for many foresters, is all about costs. As one industry forester explained, *“We choose to hand plant, number one, it is a good method of reestablishing trees, but it is also a much more cost-efficient method.”* For the consultants planting for smaller

private landowners, this is even more pertinent, as these landowners are often less willing or able to pay for increasing costs. As one consultant put it, *“The reason I don’t do any machine planting now is because I have gotten to the point, we have gotten to the point today, and I can’t make even other consultants, or other industry foresters that help landowners or do whatever, I can’t make them understand, especially for a landowner, it is all about cost. It is about cost, and it is about survivability of those new trees.”* In reforestation, the labor costs, which in 2012 were \$55 per acre and in 2015 dropped to \$37.17 per acre, make up between 55% and 65% of the reforestation cost, excluding site preparation costs (Dooley and Barlow 2013; Barlow and Levendis 2015).

Most estimates place the cost of hand planting at almost half that of machine planting, \$37 per acre for hand versus \$67 per acre for machine (Table 7.2) (Dooley and Barlow 2013). Machine planting also requires relatively flat tracts, with stumps cut near ground level and having limited debris left on the site. Tracts with heavy logging residue, which could prevent equipment from operating, often require the site to be prepared by raking-piling debris into rows or burned to remove debris. These methods are very costly and have largely given way to cheaper herbicide site preparation, which controls unwanted vegetation from competing with planted trees but does nothing for making sites more plantable by machine. It should be noted that today’s machine planters can push through some debris and thus likely only need additional site prep in the toughest of situations.

However, should it be needed, the average mechanical site preparation costs run around \$185 per acre or \$38 per acre for the alternative burn (Table 7.2). Both of these operations are sometimes added to the standard chemical site preparation of around \$55 per acre (Table 7.2) (Dooley and Barlow 2013). A landowner using hand planters would only pay for the chemical

site preparation, as hand planters are generally able to move over and around obstacles.

Foresters see immigrant labor not only as a cost-effective method to plant tracts but also as versatile, because they are not subject to many of the geographical and site restrictions that mechanical planting suffers.

Mechanical planting becomes increasingly difficult as terrain becomes steeper, rocky, or overly wet. Machines, which rip trenches in the ground, cannot operate over terrain that is overly steep or has shallow or rocky soil. Additionally, as sites become wet, which is common since most planting occurs during winter, equipment flotation can become problematic in boggy areas. As a result, most machine planting today occurs in the flatter and sandier soils of the coastal plains and on upland sites. Foresters recognize these limitations and therefore see immigrant labor as their best option for planting entire tracts rather than leaving fallow areas where steep, broken, wet, or eroded terrain won't allow machines to operate.

Overall, foresters interviewed feel that immigrant labor has become an integral part not only of reforestation but also of many forest improvement operations, such as selective herbicide applications, pre-commercial thinning, and small-scale site preparation. While the vast majority of herbicide work in forestry is mechanized, using either helicopter or skidders and tractors, niche management options that immigrant labor provides have also developed. Hack and squirt herbicide applications, for example, can allow landowners to remove invasive or undesirable trees to achieve selective plant control for improving management goals such as wildlife habitat. Backpack spraying is also common for selectively spraying rows where trees will be planted or have recently been planted (herbicide release), to avoid the costs associated with broadcast treatments.

In other cases, foresters explained that immigrant labor is used to spray small or narrow tracts of land that are difficult for aerial applicators to reach. Additionally, one forester uses immigrant labor to spray the buffer zones helicopters leave to avoid drift onto neighboring properties. This might account, in part, for why currently 50% of herbaceous weed control in Alabama is manual backpack spraying (Dooley and Barlow 2013).

Interestingly, foresters are using immigrant labor crews to meet many of these small or scale-appropriate demands that mechanization and economies of scale often marginalize. This could be of growing importance as parcelization increases, with an estimated 60% of timberland owners in the US owning less than 10 acres and the mean average size of timberland in Alabama being 29 acres (Majumdar et al. 2008). The process of timberland parcelization, argue Zhang et al. (2005), has meant that certain operations such as herbicide site preparation and release would need to be done by either backpack or skidder, as moving costs and economies of scale would make the aerial applications more costly.

Foresters agree that without immigrant labor, especially in reforestation, the forest industry would become less profitable and possibly cease to exist as we know it today. *“If we cannot get trees planted, our number- one industry in Alabama is going to go away,”* explained one consulting forester. Another consultant, when asked what forestry in the South would be like without immigrant labor, said, *“I think it would be like forestry in the South without a logging force, or an end user for the material. I don’t know what we would do. I guess we will have to figure it out, but everything will have to change.”*

III. Impacts of New Department of Labor H-2B Rules on Reforestation

The DOL's recent wages rules have raised several challenges for reforestation in Alabama. Foresters and contractors alluded to experiencing increasing uncertainty and costs that are not only impacting their livelihoods but also possibly future reforestation. Additionally, foresters expect that, if new wage rules remain in place, hand planting by immigrant labor might decline and be replaced by alternative methods of comparable or lesser costs.

For contractors and foresters alike, one of the greatest challenges associated with the DOL's wage rules is the uncertainty. *"I think that the biggest problem is the uncertainty, because we never know what they are going to do...there is so much uncertainty in the business world."* From the perspective of the H-2B contractor or the reforestation forester, the challenges and uncertainties are rooted in the nearly annual fluctuation in wages in the last few years. Beginning in 2009, then again in 2011 and 2012, new wage rules were released; following a series of lawsuits and the application of political pressure, the DOL wavered and eventually returned to the old 2008 wage rules. Since 2012, pending wage rules and lawsuits have kept contractors guessing, and now once again it has changed with a new 2015 wage rule.

One forester explained, *"What we need is for them to tell us, 'This is what it's going to be for the next five years.'"* Instead, he said, *"They change it every year,"* which makes it *"hard to be competitive on anything, when you don't know what it is going to be."* Compounding this uncertainty is the fact that wages paid to labor can vary within a single year, depending on when labor was recruited and entered the country. Labor entering before or after a certain date may be subject to an older or new wage rule, which can have significant impacts on the wages being paid to labor, and thus the reforestation rates charged to landowners.

Additionally, prevailing wages are also based on the county where labor is going to plant, and the difference can be dramatic. For example, one forester explained, *"Last year in Dallas*

County in Selma, it was \$8.70 to plant trees. But over here it was \$16.15 in Coffee County.”

With a distance of less than 150 miles and similar rural demographics, the discrepancy in wages is difficult to comprehend. In fact, most contractors and foresters are at a loss to explain how such incredibly high prevailing wages for planting trees are derived.

Additionally, this frequent fluctuation in rules and wages is posing challenges to the reforestation planning process, which can begin well over a year before planting. As one reforestation forester commented, *“They don’t time how they do all this [the timing of implementing new laws in relation to contractor labor needs]...you have coordinated all that stuff. You have everything that goes with reforestation, you have site prep, you have fire lanes, you have burning and planting. It takes you all year to get that ready. So you have no idea what your costs are going to be.”* As wage rules threaten to change, contractors and foresters alike struggle with planning and explaining their uncertain reforestation costs to their landowners. *“We never know what they are going to do,”* explained one frustrated forester.

To plant a tract in January, a forester starts the planning process of scheduling site preparation and burning contractors a year in advance, and the timing is critical to the success. Following the timber harvest, most landowners generally withhold a percentage of their timber profits based on forester estimates for these site prep and reforestation costs the following year. However, if foresters cannot predict the costs of planting because of shifting wage regulations for H-2B labor, they have difficulty convincing landowners to start the site preparations procedures needed to plant. As a result, foresters and contractors have found that their smaller landowners have wavered and opted out during these uncertain periods.

A second challenge that the wage rules pose is a possible decline in the willingness of some landowners to reforest after harvest as reforestation prices increase with higher H-2B wage

rates. *“People won’t plant. We ran into that last year. I told them, we sent out a poll that could be this price to this price...a lot of them said forget it.”* In their eyes, the forestry consultant explained, landowners say *“I held out this much money, and if it goes up, I can’t pay for it. Therefore, I don’t want to do the chemical end of it, and I don’t want to do the burn end of it. Because if I do all of that, and it is more money than I have, I can’t do it.”* As a result, he noted, *“We are letting land go fallow and growing up in privet because there is so much uncertainty.”*

Landowners faced with declining timber prices, which fell between 20% and 30% after the 2008 recession (Brandeis et al. 2012) and have yet to fully recover (Figure 5.1), and rising management costs as a result of the 2011 and 2012 wage rules are more likely to opt out of reforestation. Studies have found that there is a correlation between timber prices and landowners’ willingness to replant (Sun et al. 2008; Hyberg 1989). Additionally, research has suggested that landowners can be sensitive to high up-front costs (Royer 1987) and capital limitations, as well as profitability perceptions, which can turn family forest landowners away from reforestation (Doolittle and Straka 1987; Zhang and Flick 2001).

While foresters were concerned these price increases would impact their small landowners, only one consultant saw landowners decline to plant, while most foresters experienced few changes. It must be noted, however, that the wage rules of 2011 and 2012 were not applied across the board. Again, when labor entered the country mandated whether contractors were subject to the new high hourly rates. This certainly added to the confusion but also limited the effects of the 2012 wage rule on reforestation decisions. As a reforestation contractor observed, *“Last year I paid anywhere from the low wage to \$15 or \$16 an hour. And the stuff that I booked, I couldn’t hardly make any money from it.”*

Another consultant specializing in reforestation, when asked if his prices had increased as a result of the new wage rules explained, *“Last year the costs went up a little bit. Probably 15% or more, at least mine did, maybe 20%.”* This consultant, however, had no landowners decide to not plant. Instead, he commented, *“I get a lot of grumbling, and a lot of questions. But I haven’t seen anybody not planting. What I have done is reduced trees per acre.”* To offset the increased labor costs, he reduced the number of trees he normally planted from 622 trees per acre to 484. This had the effect of reducing the seedling costs and narrowing the cost gaps that the increased labor wages caused. However, this raises many concerns about the future wood quality of stands that might develop and retain excess branches, leading to knots and poor prices (Alexander III et al. 1994; Smith and Strub 1991; Adams and Clason 2002). It is a shame that costs rather than proven silvicultural practices might drive future stocking rates.

Foresters, overall, remain nervous about how landowners will react to increasing planting costs. As the costs of immigrant labor increase, foresters expect to see fewer landowners replanting after harvesting, as the literature, especially for small landowners sensitive to high up-front costs, suggests (Royer 1987). A consultant for small landowners explained, *“I think for private landowners, I think that if H-2B goes to the numbers that they are talking about right now...it will be a lot of landowners not going plant. They are just folding out.”*

For the large or industrial landowners, the increasing wage rates are regarded a bit differently. Their attitude, while not happy, was one of, *“We will find a way to make the numbers work.”* As one forester put it, *“Your big landowners, they have got to cut timber because that is their income...there are the large ones that don’t really hold daily jobs other than managing their resource, and it doesn’t matter what it is, they can’t stop cutting timber because they have got to have income, and they are going to replant because they have got to have*

income in 15 years too.” Instead, it is the smaller landowner who might seek alternatives, or as the forester said, “It’s the guy that works at the mill that owns 20 acres that he inherited from his mom, those type of people, they may wait longer to cut their timber.”

A third impact that increasing wage rates might have is a shift away from hand planting to other regeneration alternatives. Most foresters agreed that increasing hand planting costs would have them looking at comparable alternatives. As one forester commented, *“I think I prefer mechanical planting if I could justify the cost of it.”* Overall, foresters think that as the gap between hand planting and alternatives like machine planting narrow, more foresters and landowners will move this way.

In fact, one reforestation contractor on the coastal plain stated, *“Here at least 30% of the regeneration is machine planting. It is a far superior planting technique with better rows and survivability....Actually, many landowners request it.”* In his opinion, in the next few years, especially with the uncertainty about H-2B wages, planting will shift toward machine on the coastal plain. This shift could lead to hand planting only being used on lands where machine planting is not feasible due to site restrictions.

IV. Alternatives to H-2B Immigrant Labor

Most foresters agreed that, if the 2012 wage rules had been applied, many landowners would consider alternatives to hand planting. Foresters saw two alternatives to increasing H-2B costs.

First is mechanical or machine planting. The use of this technique, which declined in recent decades due to its high costs and site limitations, would need to be scaled back up. While

machine planting is currently available, most foresters agreed that there are two primary problems with this option. First, there are simply not enough machine planters out there to meet the yearly demand. As a consultant in central Alabama explained, *“You couldn’t get enough machine planters to plant all that has to be done in the Southeast. I am one consultant, and I plant 4,000 to 6,000 acres a year. Let’s see, what do you get a day, probably average, over the season—15 acres a day per machine.”* This, he stated, when compared to hand planting, is inadequate, as *“my tree planting crews will average about 70 acres a day.”*

Machine planting is a less productive method on a per-acre basis. These contractors are seldom able to plant the same number of acres when compared to the average hand-planting crew. As a result, one forester felt new contractors would need to be added to account for the thousands of acres he plants annually. Furthermore, there is a narrow planting window of three months. *“You have got 100 days, basically, to plant trees,”* explained one consultant, and he felt that *“You can’t ramp up enough bulldozers and enough people to plant trees.”* As a result, he felt things would come *“to a standstill”* until the forestry industry was able to respond.

A second challenge to ramping up machine planting for use on a larger scale is the high equipment costs for a relatively short time period per year. Planting season traditionally lasts only three to four months, and equipment like large Caterpillar dozers with planting attachments would sit idly the rest of the year. One planting contractor noted, *“The equipment companies won’t rent this equipment for forestry work anymore...they know the stuff we push through and the wear and tear on their machines.”* Consequently, contractors entering this business will have high equipment costs and a short time period each year to earn profits for equipment payments. *“They might be able to find other work for the rest of the year...but it’s not likely,”* the contractor said.

A third challenge for machine planting is that, as mentioned above, it is subject to a relatively flat topography and a clean planting site, necessitating costly mechanical site preparation. Machine planting generally requires flat or rolling topography that is well drained and free from large rocks (Moak 1982; Texas Forest Service 2015; Blair and Alig 2006). As a result, it is most commonly used in the coastal plains of southern states, not well suited to the piedmont, and very difficult in the Appalachian foothills.

Additionally, mechanical site preparation considerations pose costly limitations to machine planting. Sites with residual debris, through which mechanical planters cannot plant, require machinery to rake-pile debris. These operations add costs to the planting process of \$185 per acre or more (Barlow and Dooley 2013). As a forester put it, *“It is a cost factor. Machine planting is more costly. The preparation work that you have to do in order to use machinery is more costly. You have to shear and rake and do more intensive mechanical work.”* While machine planting is an alternative, it might not be a good one for smaller landowners worried about costs. As another consultant commented, *“It is still going to cost you probably 30 to 40% more per acre to get it done mechanically.”*

The second alternative foresters discussed for replacing immigrant labor is changing the way they manage forests. *“You don’t clear cut. You both don’t clear cut and replant, you do natural regeneration,”* explained one consultant. Another forester thought they would have to go back and use the management techniques of 30 years ago, when he first started. *“The availability of, the cost, and also the cost of mechanical work, I think we were more inclined to create natural regeneration... We did more silvicultural work and trying to establish it naturally.”*

Another consultant, however, felt that going back to natural regeneration is just not that easy. Natural regeneration is a silvicultural process in which landowners have to prepare their sites to receive the seedfall for successful natural regeneration. As he explained it, *“You have to start years ahead of the game if you are going to try to have a have place that is regenerated naturally. You have got to get your brush under control, you have got to get your bushes under control, and you have got to do your prescribed burning. A lot of places today we can’t prescribe burn. We can’t prescribe burn because of the trial lawyers that have jumped on us.”*

While some see natural regeneration as a good alternative, other foresters see that this brings a whole new set of challenges. Prescribed burning, commonly used to clear sites of debris and prepare sites for planting, is becoming increasingly difficult to apply. Urbanization is leading to increasing conflicts between the public and forest silvicultural activities. This could make natural regeneration difficult for landowners located near urbanizing centers.

However, one forester explained that the transition to natural regeneration will be gradual and that many landowners have already started this process in anticipation of increased costs. As he put it, *“I can tell you it is not going to happen at a certain point, it is just going to start happening gradually. And we are starting to do it. I am going to be honest with you, we are beginning to see some of that now.”*

The alternatives to hand planting are both costly and complex. Machine planting needs to scale back up and is both costly and not suited for many terrains, thus leaving gaps or a need for hand planting. Natural regeneration is a lengthy process with complex silvicultural management steps that will suit only engaged and active landowners. For less active landowners, many of these silvicultural practices will have their own costs, which with

increasing numbers of absentee landowners could make this option challenging for foresters to successfully implement.

The impacts on the forest industry might be problematic in both alternatives. Overall, the increasing planting costs will have many landowners making the decision to “cut and leave,” and as one forester put it, *“They will probably leave a few trees out there, thinking that they will let the next generation deal with the fable of letting it grow back up.”* Generally, foresters feel this could mean a decline in intensive forest management and possible future yields.

Chapter 6 Results:

Part 1: Why Go? Understanding Why Immigrant Laborers Decide to Participate in the H-2B Program:

Ask any immigrant laborer why he works in forestry, and you will receive a near unanimous answer: *“por la necesidad.”* This answer, translated to “because of necessity,” is a brief but all-encompassing comment that simultaneously answers everything and yet tells nothing. In laborers’ eyes, it is simple, as one respondent pointed out by waving his arm in a sweeping motion around his home as if to say, “Isn’t it obvious? We are poor here.”

To explore this necessity, I used probing questions to encourage laborers to open up and begin to tell their stories and specific reasoning for working in the US under the H-2B visa program. During interviews, one primary theme became glaringly evident: escaping poverty. Working in the US is viewed as an opportunity to build a new future for themselves and their children outside of oppressive poverty.

Within this overarching theme, three interconnected subthemes help illustrate immigrant labor backgrounds, local living conditions, and the source of their poverty, driving both legal and illegal migration to the US. The three subthemes are poor education, limited employment, and low local wages.

I. We Are Poor Here:

As you drive deeper into the western highlands of rural Guatemala, poverty becomes increasingly evident. The adobe mud or stick and slat homes with gaping cracks surrounded by an acre or two of subsistence agriculture corn are sure signs that you have arrived. In rural Guatemala, life is carved from the land, and as one tree planter explained, “...*you have to remember, we have no help from the government here...we invest in our own futures.*” Often that means a combination of subsistence agriculture to grow, if they are lucky, their yearly consumption of corn with sporadic farm day labor to fill in the “store-bought” needs for cloth and shelter for their families.

Guatemala, while having one of the largest economies in Central America, has some of the highest inequality levels in the world (World Bank 2009). Guatemala ranks 133 out of 187 countries in the Human Development Index (HDI), rated ahead of only Haiti in the region (World Bank 2009). (The HDI is a comparative measure of education, literacy, life expectancy, and living standards world wide.) While nationally over 50% of the population lives below the poverty line, in rural regions poverty is even more pronounced, with 8 out of 10 suffering from poverty.

Several factors drive chronic rural poverty in Guatemala. First, while Guatemala has a multi-ethnic population, the indigenous Mayans, comprising 40% of the population, have largely been excluded from Guatemala’s economic, social, and political mainstream (Rural Poverty Portal 2014). Secondly, aggravating this situation is the difficult topography of Guatemala’s western highlands (a region with high poverty and a large indigenous population, often referred to as the poverty belt), characterized by steep mountains and volcanoes interspersed with dense

forests (Rural Poverty Portal 2014). These regions also have a poor road network and, until recent cellular service, a poor communications network as well. As a result, these rural and often indigenous populations have suffered from centuries of isolation and neglect.

Finally, poverty is also associated with the inherent vulnerabilities of a rural population largely sustained by a combination of subsistence agricultural and day labor jobs. While one-fifth of Guatemala's GDP and 40% of the total national labor force are involved in agriculture (Rural Poverty Portal 2014), my interviews in the small communities from which H-2B labor is recruited suggest this number is much higher in their communities. Most interviewed tree planters had worked a combination of subsistence agriculture and farm day-labor jobs before being recruited.

The farming conditions for these families dependent on subsistence agriculture are often difficult. Crops are grown on steep and broken terrain with shallow soil profiles typical of Guatemala's western highlands. As a result of these farming conditions, exacerbated by slash and burn agriculture, erosion becomes almost an immediate problem.

This leads to declining productivity and high food insecurity. These conditions can be further exacerbated by periods of drought, flood, or over-exploited soils, making for a vulnerable population. It is common for many of these rural areas to suffer from poor nutrition and the resulting high infant mortality rates, contributing to the low HDI rating (FAO 2010).

H-2B forest labor is recruited almost exclusively from these rural areas. For these people, there are few opportunities for escape from a life of poverty and in some cases extreme poverty. For generations, rural Guatemalans have lived a very similar lifestyle. They are often born into large families with high infant mortality rates, leave school at an early age to work in subsistence agriculture, and finally enter the farm labor force in their mid to late teens.

As one tree planter commented about his life before H-2B work, *“Before, we were very poor, we did not owe anything but did not own anything either.”* Another tree planter explained, *“In Guatemala, we were in poverty...I could not afford shoes growing up. I would cut the ends off my shoes when they got too small.”* Common threads that came out of most interviews suggested a need for relief from oppressive poverty and a lack of opportunities in their local communities or regions.

Outside of their long tradition and difficulties with subsistence agriculture and isolation are the challenges associated with the farm day-labor jobs. In the next few sections, I will discuss the associated subthemes of limited education, few local jobs, and poor wages that are perpetuating poverty and increasingly driving labor to consider migration.

A. We leave school early:

When asked about schooling, most tree planters grinned self-consciously. *“I didn’t study much,”* said one tree planter. *“...Wish I had...I know better now.”* The story from one interview to the next was very similar. Students leave school between third and fourth grade to begin helping their families survive. Chronic poverty and the need to help their families farm subsistence corn, gather firewood for cooking, and in some cases working with their parents in day-labor jobs becomes a necessity.

As one tree planter in Alta Verapaz observed, *“If a father has money, he can raise his kids well. However, if there is no money for food tomorrow...you work for food tomorrow. You don’t worry about school.”* Another planter from Guatemala’s Caribbean coast explained, *“I only have a third-grade education....I went to work in the fields early to help my dad grow corn*

and beans.” This is reality for many families in rural Guatemala. Oppressive poverty forces many to leave their educations behind and enter the workforce at a young age.

Limited education compounds poverty by ensuring limited upward mobility into other labor markets. The average education of tree planters interviewed was only 5.2 years (Table 4.4). This statistic holds very close to the national average for Guatemala, which has one of the lowest primary-school completion rates in Central America, with only 1 of 10 children completing their lower-secondary education (USAID 2015; FAO 2010). This lack of education limits their opportunities for branching out into other job sectors in more urbanized regions. As a result, they are condemned to a life of farm labor and subsistence agriculture.

This translates into a vicious cycle in which rural Guatemalans seldom progress from the standard of living of the previous generation. As one tree planter told me, he could see his life laid out before him, and it was not the life he wanted. *“I wanted more,”* he said. As another tree planter commented, *“There is nothing to live on here.”* As will be discussed later, bottom-level jobs provide limited wages and few opportunities for improvement and upward mobility.

So when the opportunity arises to perform work that they are familiar with, manual farm labor, but also provides a substantially higher wage, many jump at the opportunity. This is an opportunity to not only improve their immediate living conditions but also possibly break the cycle of poverty by educating the next generation. *“I don’t work for me...my future is what it is. I work for my children’s education,”* one planter said of his hopes that his children would move away from subsistence agriculture and farm day-labor jobs. Their limited education provides few local opportunities to advance; instead, most migrate to the US to find that opportunity.

B. There is no work here:

Intimately connected to poverty and a primary reason immigrant labor takes H-2B jobs is a weak local labor market. Respondents regularly discussed the lack of opportunities and jobs in their communities or region of Guatemala. As previously discussed, most tree planters have limited education and live in rural areas where agriculture-related jobs are the biggest source of employment. However, even these bottom-level jobs are not always available.

“Work is hard to find down here, and if you have a job, you don’t earn much,” explained one tree planter interviewed outside his home in El Cushing, Huehuetenango. Most tree planters complained about a lack of local employment. For the Huehuetenango region, coffee is a major crop. As a result, many of the tree planters had a history of working in the larger coffee farms as day laborers.

Interestingly, respondents suggested that most of the local jobs in coffee were seasonal in nature. They would pick coffee during harvest season and provide other seasonal labor, such as weed management, which consisting of using a machete to hack weeds from under coffee shrubs. At other times of the year, they might fertilize or even plant coffee. But the overpowering sense was that these jobs were not full time and in most cases not dependable from one year to the next or even one season to the next.

“Jobs here are variable. There is not always work, and you have to travel for those jobs too,” explained a father and son who both now planted trees in the US. Their combined families, living under one roof, had previously lived by piecing together their farm day labor earnings with subsistence farming on rented land over two hours away. *“The local jobs are just enough to buy corn and beans to eat,”* said the father, shaking his head. *“Before, we had nothing...now we have some...because of H-2B, we have this opportunity...we now have a house, land, and a good income.”*

Alternately, in the Alta Verapaz region of Guatemala, subsistence agriculture was the predominant job. Most of the respondents discussed working in their own corn plots and occasionally as day laborers for larger landowners. As one tree planter sitting in his home completely surrounded by subsistence corn noted, *“The work here is just...working in the corn.”* With most of the land in subsistence corn production, there are not many larger farming operations to provide cash for day-labor opportunities.

Walking around the village of Kak’ik in Alta Verapaz meant walking through a patchwork of cornfields with small tin-roofed homes scattered in and around the corn. Corn is often planted to within five feet of the home to maximize production, with the hopes of growing the family’s yearly consumption. This land, as previously discussed, is consistent with many of the challenges farmers face in subsistence agriculture in Guatemala. Corn was planted on steep slopes with evident erosion and likely declining productivity. As with the rest of Guatemala, this means food insecurity.

Some of the H-2B tree planters, still farming subsistence corn during their downtime, admitted to often not being able to cover their yearly needs. *“These were bad years,”* explained one tree planter, especially with the rising price of corn. He went on to say, *“That is why I used to have to work in Petén”* (contract work in the far north of the country). To buy about 9 quintales of corn annually (approximately 1 quintal is 100 pounds), *“The price is tough,”* he said, *“at 125 Quetzales per quintal”* (the exchange rate is 7.6 Quetzales to \$1US). This means that farm day-labor jobs are needed to fill the gaps. For tree planters, this is no problem; however, for families without a husband or son traveling to the US and remanding money home, this means local employment is needed.

As a result, many of the labors in Alta Verapaz discussed traveling to other parts of the country to find farm day-labor jobs to meet these monetary needs. In these cases, similarly to H-2B recruiters, recruiters for large plantations of palm oil, sugarcane, coffee, cardamom, or other crops visit these areas to hire and in some cases transport labor to regions with labor shortages. One respondent discussed having worked in the palm oil plantations that were being established in the remote and less populated Petén region of Guatemala. *“The alternatives here before...were going to work in places other than Kak’ik...there is not much work here...I worked on large farms in the Petén and also around Xela,”* explained one tree planter about his employment before H-2B.

Throughout the region from which H-2B workers are recruited, this lack of consistent employment or simply any jobs at all is a common thread. Jobs are predominantly seasonal and seldom dependable. This translates to most local labor carving a living from a combination of subsistence agriculture and periodic day labor jobs. These poor local economies make migration northward a strong draw.

The lack of jobs voiced by tree planters again mirrors the greater national picture. In 2011 there was a 4.1% unemployment rate, although by some estimates 52% of youths 15 to 29 years old are either unemployed or work in the informal sector (European Union 2013). This unemployment combines with one of the highest Gini coefficients of .55 in the world, a measure of income and wealth disparity. Additionally, 50% of the population lives in poverty, with 16% in extreme poverty, and for the indigenous communities, such as in Alta Verapaz, the poverty rate can be as high as 73% (European Union 2013).

C. We can’t get ahead working here:

Compounding poverty, in addition to limited education and employment opportunities, is poor wages. The current minimum wage in Guatemala is approximately \$10 per day. These are the wages that any farm day laborer at a large or corporate farm would expect to earn. In rural Guatemala, however, the story is very different. Interviews suggested that the local wages declined steeply the deeper into the rural western highlands I traveled.

Wages in rural areas of Huehuetenango and Alta Verapaz varied from under four to over seven dollars per day. Interviews indicated that employers in rural Guatemala paid far less than the national minimum wages. Most of the jobs described were informal day-labor jobs. These were jobs originating from small farmers, unscrupulous large farmers, or in some cases neighbors needing help for a few days to harvest or weed crops. Regardless, the low wages were very consistent within villages and approximated a norm in the region. To find better paying jobs, often still not the minimum wage, workers had to travel outside their local regions to more urbanized areas.

“The people here only earn about 50 Quetzales a day,” reported one tree planter from the Huehuetenango region when asked why he traveled to the US. A planter from Alta Verapaz explained that local jobs in Kak’ik paid only about 30 to 35 Quetzales, or about \$3.85 per day. Interviews from the Caribbean coast of Guatemala suggested much the same. Tree planters who had been fishermen complained about low wages. *“I did not earn much as a fisherman...I left because of economic reasons,”* was a common complaint reflecting economic conditions in both Alta Verapaz and Huehuetenango.

As one tree-planting foreman recalled about his life before H-2B labor, *“I used to earn enough only to eat. I would work all week for a cheap pair of shoes.”* He laughed and pointed to his late-model Nikes, looked about his modern kitchen, and said, *“You can’t earn this here.”*

Another tree planter talking about the wage of 35 Quetzales per day in Alta Verapaz stated, “...*It’s enough to eat but not much more than that.*” These daily wages, as one tree planter pointed out, may allow locals to eat meat only once a week.

It is easy to see why malnutrition and infant mortality are such a problem in many rural villages in Guatemala. The local wages combined with subsistence agriculture provide very little other than corn, beans, and occasionally meat for a diet. Certainly there are no funds for many comforts in life. The homes of non-immigrant laborers are adobe with mud floors, or in the case of very poor families, a construction of thin sticks tied together and covered in mud to fill in cracks. Children are dressed in grubby clothes, and as one tree planter pointed out, you might work all week to buy just one pair of cheap rubber shoes.

The local wages provide very little opportunity for advancement in Guatemala. This, combined with the uncertain and limited full-time dependable opportunities for work, makes for a hard existence. “*I earn 50 Quetzales per day, but there is not work every day,*” said one retired tree planter living in Huehuetenango. Another laborer talking about his neighbors who do not work in the US explained, “*They have to work several jobs to earn enough to live.*”

A tree planter who had retired four years ago talking about the difficulties of living on Guatemalan wages explained, “*Take me, for instance...I have three jobs...I drive my microbus, I farm my corn, and I work in a butcher shop occasionally.*” For this man, his job in the US has allowed him the capital to buy land to farm subsistence corn and purchase the microbus as a microeconomic venture. However, many rent rather than own land and work several farm day-labor jobs to earn a basic living.

Migration looks increasingly brighter for many in Guatemala. Many look around their communities and see a very limited future. One tree planter who initially traveled to the US

illegally said that at the age of 18 he could see their poverty and felt that someone in his family needed to do something to “*raise our family’s prosperity.*” So in November of 1993, “*I walked down the mountain from El Cushing, and in three days I was in Tijuana...at one in the morning, we went through the fence and made it to LA, where I worked for a Salvadorian.*”

These stories of illegal immigration are common in Guatemala. Interviews and casual conversations in many of the villages frequently resulted in discussions regarding family members, neighbors, or friends who had taken the illegal route. It was not uncommon to have a tree planter point out new homes, cars, or successful households directly connected to someone’s illegal visit to the US.

In even a casual discussion when giving an elderly couple a ride one afternoon in Alta Verapaz, I learned about their son working in the US. An interview with the father of a tree planter revealed his illegal visit to the US and the resulting nicely painted cement-block home with modern kitchen appliances, which he referred to as “*Mi recuerdo de mi viaje a los Estados Unidos*” (my souvenir from my trip to the United States).

The combination of chronic poverty, limited employment, low wages, and no education to facilitate local opportunities has resulted in the outmigration of young men. Many are caught in a cycle of poverty that might be generations old with little hope of escape. A culture of subsistence agriculture combined with insufficient labor and earnings makes migration an attractive alternative.

Most of this migration is illegal, which leads to increased risk of exploitation, according to an interview with an official in the Guatemalan Ministry of Foreign Affairs. When asked about the H-2B program, the official stated, “*Any legal avenue that allows our people to work in*

the US and earn a good income and have limited exposure to exploitation is good.” Officials appeared to be resigned to the facts of migration and simply hoped for safer alternatives.

Part 2: Remittances Changing Livelihoods:

A good way to gauge the impacts of H-2B forestry jobs in Guatemala is by following the money trail. Examining the path of remittances, or the transfer of money by a foreign worker to their home country, can provide a broader understanding of the impacts these jobs are having on local livelihoods. Various studies have pointed to the fact that remittances are improving livelihoods in Latin America and Guatemala specifically (World Bank 2006; Orozco 2009; MIB-IADB 2010; Adams and Page 2005; Adams 2004; Wondon et al. 2002).

Remittances have been shown to be associated with improving living conditions, education, access to healthcare, and reducing infant mortality (Edwards et. al 2003; Hanson and Woodruff 2003; Hildebrandt and McKenzie 2005; Adams 2005b and 2004). Furthermore, other studies have shown that remittances improve access to capital and fund microeconomic enterprises and entrepreneurship (Massey and Parrado 1998; Woodruff and Zenteno 2001). However, remittances made by H-2B forest workers and the impacts on their livelihoods are largely unknown.

Therefore, a core component of this study is to understand the impacts that the dollars earned under the H-2B program in forestry have on livelihoods in Guatemala. Respondents were asked not only how much they earned but also how they invested their earnings. Having gained an understanding of their earnings and investments, I will discuss how this compares to the financial situation of non-remittance receiving families in Guatemala. To supplement this data, I

will also use observational field notes to describe their living conditions and make comparisons with non-remittance receiving families in their communities.

It is important to note that interviews were not conducted with non-remittance receiving families. Instead, H-2B laborers receiving remittances were asked how they fared in comparison to neighbors not receiving remittances. I bolster this data with observational notes and images of homes of people identified as receiving no or limited remittances.

I. Factors Affecting Earnings and Remittances:

Several factors impact monthly remittances that are unique and inherent to the tree-planting business. These factors include a planter's production capabilities and the influences on his production from a variety of site factors, such as tract vegetative condition and topography, size, and weather. Most of these factors are beyond the control of the planters and are highly variable from site to site or season to season. However, they hold serious implications for the earnings of planters working almost exclusively on a piece rate system.

Just as important are the variables associated with living expenses while working in the US. Workers are largely responsible for their own housing and food expenses, which can be costly, considering the high degree of mobility and the need to stay in hotels. As one tree-planting foreman explained, *"We make about \$1,200 every 15 days. Then pay...\$120 for hotel, plus or minus. \$110 for taxes and then food and other things... We remand about \$1000 per month, plus or minus. A tree planter is more variable. He sends between \$600 and \$1100 per month."*

Other factors include deductions imposed by some contractors including travel and equipment charges. In the following sections, I will discuss these variables in more detail to help the reader better understand the tree-planting business and its influences on earnings and ultimately remittances.

A. Planting production variables:

1. How many trees can I plant?

Tree planters are paid largely on a piece rate basis, meaning they are paid per seedling planted. In my interviews, I found that 97% of tree planters are paid in this way. As a result, planters who are able to achieve higher production will have larger monthly earnings.

Production is very important to planters and a major source of pride. In many ways, the planters I interviewed gauged their success and skills based on their production capabilities and often the inability of Americans to match their skills. The enormous numbers of trees that planters can plant has earned them a reputation in the forestry community for being hardworking, productive, and an extremely important component of the forest industry. This has not escaped the notice of veteran tree planters, who smiled and wagged a finger “no” when I asked about Americans doing their job. As one reforestation business owner put it, “*Most guys [meaning Americans] don’t make it to lunch...a few lasted the day and even fewer two weeks.*”

Planters understood their value and often expressed their pride in being valued for this work. I found that the balance between the workers’ wish to brag and inflate planting rates and their wish to express the challenges of high production provided an honest response from workers during interviews. Often they would relate their highest achieved rates and then their realistic production capabilities. “*When we first started, we could only plant 1,000 per day...*

Now I can plant as many as 4,000 to 4,500 per day, but normally it's probably closer to 3,000 to 3,500," said one planter with five years of planting experience.

Planting production averages 3,146 seedlings per day. Respondents explained that their production varied between 2,500 and 3,500 seedlings per day (Figure 6.1 and Table 6.1). One planter stated that, *"On good days and on good tracts I plant over 5,000...and less than 2,000 on poor tracts."*

In few other industries is there such a close tie between direct labor and earnings. If you are a highly productive planter, you earn more money. But if there are too many site constraints, the jobs can quickly become frustrating and less lucrative.

2. *What am I paid per tree?*

A second variable impacting earnings is the actual pay rates for piece rate. My data suggest that planters were paid on average \$31 per thousand seedlings, or roughly 3 cents per seedling planted (Table 6.1). Piece rates were \$30 per thousand trees for most planters and occasionally \$35 in a few cases. Assuming the piece rate system of compensation was used, workers were paid between \$78 and \$124 per day and averaged \$97.52, assuming the planting production and payment averages were representative (Figure 6.3 and Table 6.1).

If tracts became overly difficult to plant or were too small, planters said that companies would sometimes increase their rate to compensate for lower production or sometimes pay hourly rates. *"...They are paying us by the hour right now because the site is hard planting. It's too hard and dry, and we can't make it by piece rate...so they pay us \$10 per hour."*

Another planter put it this way: *"Sometimes if the land is really bad, they will pay us more. We sometimes get paid hourly for those bad areas. But they are always looking to try and*

make the hourly wage match the piece rate.” While most planters worked for some type of piece rate system that might fluctuate when site conditions dictated higher rates, there were some respondents who said that there were times when they were paid hourly. My data on this subject are rather vague, and this issue seems to vary from employer to employer, each of whom appeared to have their own policies and procedures.

3. *Where do I plant?*

Third, one of the biggest factors affecting earnings in tree planting has to do with planting site conditions and their impacts on production. Tree planters often discussed the difficulties in achieving production on planting sites that were overly thick and dense with briars or in some cases had rocky ground. As one tree planter commented, *“Sometimes it’s hard to make money when the land is really rocky or there are lots of thorns. You can’t plant that many and don’t make much.”*

An older veteran tree planter in his mid-fifties put it this way: *“Sometimes there is good land and sometimes bad land....When there is bad land, you can’t advance....too many thorns or rocks or hills, and you can’t plant much, so you don’t make much. I feel it more now. I am older and don’t have as much strength as I used to have, I feel less strength.”*

The ease or difficulty of planting sites is dictated by several factors, beginning with forest cover prior to harvest and the intensity of harvest. Sites with dense underbrush and excessive un-merchantable timber often result in thick ground cover following harvest. These sites rely on loggers pushing over and generally trampling much of the biomass on site. However, it is more likely that they will select only the merchantable timber, leaving alleys of disturbance and thick undergrowth in portions of the tract.

Finally and most importantly, yet still heavily influenced by the above factors, is the intensity of site preparation before planting. Site preparation can include combinations of chemical, mechanical, and prescribed fire to remove unwanted material for the purposes of not only improving the ease of planting but reducing competition after planting.

However, as the prices of site preparation increase and timber prices remain relatively stable, or at times decrease, this leads to decisions to reduce the intensity of site preparation. Today, the most common site preparation technique is chemical applications. These are often paired with prescribed fire to remove the dead material and improve the plantability of the site. However, fire is not always used, due to cost or unfavorable weather. This often results in sites that planters describe as *“thorny and thick.”*

In the past, site preparation relied on more mechanical and in some cases bedding sites. Mechanical operations like raking-piling often cut unwanted woody material and piled it into windrows, leaving sites clear to ease planting. Older planters often talked about bedded sites where production was especially easy. However, my interviews suggested that today sites are seldom bedded and often only have chemical and prescribed fire applications. This makes for sites that, depending on pre-harvest stand composition, discussed previously, can be tough and unruly to plant, since chemical site prep does little to knock down and remove unwanted brush.

Other site factors affecting planting include broken or rocky terrain. As planters rely on a dibble or hoe-dad hand tools to plant trees, terrain can influence the speed of planting. Rocky ground or heavy clay soils may cause planters to swing and pick at the ground multiple times to achieve the proper planting depth. As one veteran planter explained, *“It is important to plant fast but not to go too fast. Some companies we planted for were very delicate...They wanted it done good....They would tell us, out of 10 trees, at least 8 need to be planted right. Not ‘j’ root or ‘l’*

root or too loose in the soil.” Conversely, another planter said good land could mean good earnings. *“One guy in Mobile made \$1,300 one month after all expenses. This was because of sand and good land. By 2 pm he had 5,000 trees.”* Rocks and clay mean slow planting and fewer trees per day.

Planters are always aware of the balances between their production and the need to ensure planting quality. Poor planting often results in their production being thrown out and sometimes their having to replant an area. As the same planter told me, *“Once I was going with three guys behind me, and I told them to stick on my line....These guys next to us were planting really fast, and when the inspector checked them, he stopped them, and we kept going. Later that day, they stopped them again. I asked the supervisor if we were ok, and he said, ‘Yes, we checked you too.’ At the end of the day, we planted 4,000, and they only planted 2,000 because they were trying to go too fast and kept getting stopped and going back to replant.”*

Planting sites can mean the difference between productive days and “dog days.” Many of these variables are out of the hands of planters and yet affect their production and earnings directly. The variability in planting site conditions means fluctuations in remittances, and as many planters commented over and over, *“You need luck.”* In their eyes, landing good clean tracts that are easily plantable means extra dollars in their pocket.

4. Why do I like large tracts?

A fourth factor affecting production and ultimately remittances is tract size. Multiple small tracts increase travel time and take time away from planting. *“The size of a property also slowed our planting due to time lost to travel, moving between plantings,”* one planter said. *“We prefer large properties that would take all day or longer.”* Timberland fragmentation is a real problem for tree planters on the piece rate system because, as one planter put it, *“There are*

no dollars when traveling.” However, in some cases, it appears that there are increases in piece rate or hourly rates when production becomes difficult to achieve due to travel, much like on hard-to-plant tracts.

One foreman talked about how companies are now trying to carefully plan their planting schedule to minimize travel time and ensure labor gets production. *“...In the past we used to not be very efficient. We would travel one hour to plant for two hours. Our guys would only get 1,000 trees planted. This does not make them happy...This type of production is not worth their while, and they will quickly find other work. You can’t make it if you are only being paid for 1,000 trees planted.”* Today planting contractors and foremen work to minimize travel and might increase planting rates if the size of the tract is consistently small. It is unclear at what point workers get paid extra for smaller tracts, but what is clear is that time lost to travel is on the planter’s dime.

As a result, planters prefer large tracts, which minimize time lost to travel and provide the greatest opportunity to plant more trees per travel day. Some of the older planters discussed huge planting sites in the past that could take a week to plant. *“We like to see big expanses of area to plant,” one said. “It seems that now there are only small pieces, and there is less to plant in the US. We like the big areas where you can spend a week.”*

Timberland fragmentation, in combination with less intensive site preparation and consequently denser residual vegetation slows production and reduces planters’ earnings. As one tree planter explained, they prefer planting areas that have been burned and are especially happy with bedded tracts. However, planters claimed these tracts are less frequently encountered.

5. *Weather to plant or not?*

Poor weather is another factor that slows production by removing planting days in cases of heavy rains or frozen soils. Again, as most of the planters are predominantly paid on a piece rate system, weather can make some weeks or occasionally some seasons more or less lucrative. Cold mornings can mean frozen ground and a delay in planting until the ground thaws later in the day. As one planter, discussing the influence of weather on his monthly remittances, said: *“I try to send \$1,000 in remittances per month...but sometimes this can be difficult to do because sometimes I don’t earn much money...like if it rains or is overly cold weather, we can’t plant trees and are shut down...we are not making money. We are only paid when working.”*

Similarly, as another planter put it, *“If you’re not planting, you’re not earning.”* One veteran foreman of over 10 years commented, *“The weather and climate need to be good to be able to make production... one year may be good and another bad and you can’t make production.”*

Poor weather can mean accruing living costs in hotel and food without the possibility of earnings. These situations distress planters, especially if they persist for long periods or occur frequently in a season. Most planters accept this loss of production and earnings as part of the job. Planters assume more risks under the piece rate system and the uncertainty of their earnings.

As result, only the worst of weather stops planting. Planters are stopped only if the weather will adversely impact planting quality or is a serious risk. Drizzling rain or sleet is a planting day like any other. As a forester, in my previous career, I was with crews on plenty of rainy days when they kept planting.

However, in some cases employers help workers out when the weather is excessively bad by covering some living expenses. During one interview, a tree-planting foreman explained,

“We get no money when we don’t work. If it is raining the planters don’t get paid.... But sometimes the business owners help us with hotel in downtimes like this.”

Production, earnings, and the associated remittances are highly variable. Planters are subject to multiple factors that impact earning and the success of their planting season. It is clear that all these variables can combine to mean a very productive or conversely a very poor planting season. Interestingly, planters understand and accept these risks as a part of the tree-planting business.

While some planters talked about employers paying hourly rates on excessively difficult tracts, most appeared to still be on some type of piece rate system. Piece rates might be increased; however, I have little data to understand if, when, and how hourly rates became necessary. There is definitely some variability among employers, some of them more willing to compensate for small tracts or overly difficult planting situations by increasing piece rates or going to an hourly rate. Still, weather delays seem to go without any type of compensation.

However, I had a sense during some interviews that conditions that became too dire might lead to workers leaving the job and moving into illegal roles. I had no interviews that suggested this as a result of the aforementioned factors but did interview planters who became sick during their planting season, causing them to lose production and ultimately choose illegal employment to recover earnings necessary to pay travel debts.

6. *Yearly variability:*

There is also some general variability from one year to the next. This is associated with previously mentioned production and its correlation to planting site quality and size, travel, and weather. During my interviews in 2012, there was concern among some of the families and

retired tree planters about a poor season. Workers had been in the US over one month, and most had not sent their remittances home or had sent very little. Their conversations on the phone with family members were raising concerns about poor weather, small tracts, and the possibility of an unprofitable season. As the tree-planting foreman put it, *“You have to have some luck...the work is hard and uncertain.”*

B. Costs of doing business:

1. Getting to the United States:

“Well, there are two trips to Guatemala City,” a guest worker told me. *“One for paperwork and embassy interview. The second to fly out. It normally costs us about 8,000 Quetzales. This includes ticket, visa, and all other incidental costs. We pay for all of this.”*

Participating in the H-2B program takes a serious investment on the part of laborers. Participation also requires significant risk from a people who have very little in the way of capital. As a result, many must rely on loans from family, friends, or community members and often place property as collateral. Before we discuss the earnings and remittances, it is important to first understand and consider the costs

On average, respondents estimated it cost them \$1,178 to participate in the H-2B program every year, with a range of \$921 to \$1776 per trip (Table 6.2). These costs are accrued in a variety of ways that occur almost like clockwork every year. First, workers wait for an invitation to participate in the H-2B program from employers in the US. Once they know they have been selected, the paperwork goes to an in-country recruiter.

In many cases, this recruiter is a veteran tree planter who acts as the local contact. In other cases, it is an individual working specifically as a recruiter, often someone with a law

degree. These recruiters' tasks are to ensure that the people being selected are suited for the job (can keep up with the rigors of planting and productivity), to ensure they are trustworthy (meaning they will not abscond illegally on arrival to the US), and to facilitate and process all in-country paperwork.

This paperwork includes scheduling US embassy interviews, filling out forms, applying for passports, and taking the workers to the US embassy in Guatemala City. It is important to note that many of these workers have an average education of 4.7 years and may have poor reading skills. Furthermore, many have never traveled far from their communities, not to mention the Guatemalan capital.

Travel is often arranged in groups, either by public transportation or hiring a van to take them as a group. For the majority of the villages I visited, this is a four- to six-hour commute. While I don't have specific data on these travel and recruitment costs, I estimate them to be around \$250 to \$450 per person (based on local knowledge of public transportation, hotel, and food costs) (Table 6.2). Some of this fee is associated with paying this local recruiter a processing fee.

Strictly speaking, the US DOL considers collecting recruitment fees an illegal activity. This is because numerous scams have occurred both in Guatemala and around the world in which visas are essentially sold or fees are charged for nonexistent visas (Government Accountability Office, GAO 2015). However, in many cases, as is explained above, this fee is more associated with helping people with very limited education and experience navigate the paperwork and application process. As one planter turned part-time recruiter reasoned, "*We are doing a job too, and we should be paid to do it.*"

At least a third of the planters I interviewed admitted to paying a recruitment fee. However, I suspect this number is much higher, as this seems to be an essential part of the process. As one planter explained it, *“The recruiter in Guatemala gets the names of the planters and does all the in-country paperwork. For his troubles we pay the recruiter about \$150 to \$200 per person.”* Another planter explained the visa application fees this way: *“It costs about 3,200 Quetzales (\$421) to pay for the visa, passport, and for the lawyer fees to process paperwork...about 1,140 Quetzales (\$150) for the recruiter.”* The rest of the \$250 to \$450 is for travel, food, and hotels associated with the visa transaction in the Guatemalan capital.

Next, there is the largest cost, which is purchasing the airline ticket to the US. These fares vary from \$500 to \$900, depending on the month and year of trip (Table 6.2). Finally, many workers discussed taking funds to cover expenses during their trip to the US and to get them through their first few days until their first paycheck. Some companies front workers funds for these first couple of weeks and then deduct this sum back over the next few weeks from their paychecks.

When considering the local wages, it is understandable what a sizable sum this is for many of these people. This is not money that they can easily access and often requires mortgaging properties and homes. As previously discussed, most take loans from family, friends, or independent people willing to front the capital. In this latter case, the interest rates can be exceedingly high.

2. *Hotel and food:*

Living costs also account for variability in the monthly remittances of tree planters. Tree planters have a highly migratory job, so most stay in hotels. Many tree-planting companies

today recruit labor and have contracts covering multiple states, sometimes ranging from Minnesota to Florida.

In most cases, the expectation is that workers will live in motels centrally located to the tracts of land being planted that day or week. Some interviews with planting companies operating small-scale businesses indicated that workers lived in fixed homes or trailers geographically central to the planting region. These crews might have longer travel times and occasional stays in motels. However, this is not a norm, but rather more of an exception, as most operators recruit labor that is farmed out for planting all of the South and the eastern US in many cases. Without the capabilities of renting homes or trailers, to keep costs down, planters stay in inexpensive motels. To further reduce costs, many try to rent rooms by the week and maximize the occupancy rate, with most respondents staying four planters to the room.

How many to a room?

During one interview in a trailer in Central Alabama, a veteran tree planter of 10 years, now working in the nursery industry under an H-2A visa, reminisced about his tree-planting days. Waving his arm around the trailer we were in, he recalled, *“We used to live in these very same trailers, but we paid for it and we would pile 9 or 10 of us in here. We used to come home late in the evening dirty, covered in mud and very tired... There was never enough hot water. The first guys got it, and then we had cold showers.”*

H-2B visas, unlike H-2A visas, often require laborers to pay for their visas. The tree planter above had his housing provided by his H-2A employer. As a result, they often live more comfortably. In past years, H-2B laborers, in trying to reduce their living costs, would cram as many people as possible into trailers, homes, or hotel rooms.

Today, I found that most planters stay four to a room. This is in part due to two factors. First, hotels are increasingly enforcing their occupancy rates, which are generally no more than four to a room with two beds. Second, recent DOL rules have stated that laborers in hotels need to adhere to hotel occupancy rates. The crowding of the past has largely been stopped. However, many workers still bring hotplates and kitchen supplies in efforts to minimize costs by not eating out.

However, hotel costs vary by region. This results in some variability in costs, especially when weekly hotel stays don't overlap with the work to be accomplished from a certain hotel. This often requires more costly nightly rates rather than weekly rates. Additionally, sometimes projected work runs out before prepaid weekly rates are fulfilled. In these cases, workers lose that money and have to pay for another hotel at their next location. This results in doubling expenses, as one retired tree planter speaking about his son currently in the tree-planting business noted: *"...We used to stay in trailers, but many have to stay in hotels as they travel a lot. The problem with this is that you find the cheapest way to pay for the hotel, which is by the week. Sometimes you pay for a week, my son says, and then the work finishes up, and you need to move away and have to forfeit the hotel and get another one. This hurts."*

Planters figure out pretty quickly that to maximize remittances they also need to keep their food costs down. *"Eating hamburgers is too expensive. Paying \$4 to \$5 was too much money per meal. I calculated my expense and found it would be too expensive for me...So I discovered that I could reduce expenses by buying food for a week and preparing that food at the trailer. I would take bread sandwiches into the field for lunch and would drink water or Gatorade to help with the heat."*

Planting crews, breaking down into four-man-per-room units, develop a system of buying food and taking turns cooking to avoid restaurants. *"One week I cook and the next week one of the other guys cooks,"* explained one foreman. *"Some of us cook better than others, and we often fall asleep waiting for the food to be ready...we wake up, eat, and sometimes don't even shower...we are tired."* It is clear from interviews that they are not in the US to live but to earn dollars for the improvement of their lives. Consequently, you see planters finding ways to live as inexpensively as possible.

3. Deductions:

Deductions come in a number of ways, ranging from employers who make few if any deductions to others who appear to charge workers for a variety of business costs. These deductions add up and chip away at the earning potential and eventually the remittances that are sent home. Interestingly, most planters accept, though in some cases grudgingly, the deductions as a cost of doing business.

Common deductions include paying for transportation to and from planting tracts, equipment rental/purchase, and occasionally hotels where employers pay with their company credit cards and deduct costs from employees later. Many planters also lump taxes into the deductions categories. As many do not complete tax returns, much of this money is lost.

H-2B labor is subject to the same taxes and deductions as American domestic labor (IRS 2014). These include Social Security, Medicare, and state and federal income taxes. Employers also pay their share of the Social Security, Medicare, and workman's compensation, as well as state and federal unemployment taxes (IRS 2014). H-2B labor, unlike domestic labor, cannot collect many of these benefits, since they are not living in the US. While H-2B laborers can file for tax returns, I found that most were uncertain of how this could be done, and I am unclear on how or if they received their W-2 forms.

As a result, these tax deductions seem to confuse many workers. When I did get the opportunity to ask this question, I had a mix of answers suggesting that workers confuse taxes with possibly travel, equipment, and hotel deductions. One worker, when asked about deductions, simply said, *"Yes, but I am not sure how much,"* while another said, *"I made \$75 per day, and then they took away taxes and other discounts."*

Some companies appear to prepay hotels to keep crew bosses from having to book or pay for hotels, as many don't have credit cards. As one foreman who is very informed about his deductions explained, *"Our employer would often discount from each of our paychecks our taxes, hotel, and truck costs. Usually about \$100 per week."* Another planter knew the exact hotel costs paid by his employer and later deducted from his salary. He reported, *"\$45 per week is what we pay...Our supervisor does the contracts with the hotels. They pay for our hotels. They cover that expense for us. We normally stay four guys to a room."*

Transportation fees are common in the industry. My interviews suggested that about one-third of respondents paid them, and the costs ranged from \$20 to \$25 per week. These fees are charged for the use of the company truck to transport workers to and from the planting tracts and on weekends to buy food, wash laundry, and do other recreational activities. As a foreman explained during an interview in the US, *"We pay \$20 per week for our transportation...per worker."*

Although not as common as transportation fees, there are also fees associated with purchasing planting equipment. This would include both the planting dibble/hoe-dad and the seedling-carrying bag. One respondent admitted to still having to purchase his equipment every year. *"The funny thing is you end up buying the same equipment you bought last year. The good thing is you want an older piece of equipment because it is more worn down and has a sharper point and does not weigh as much."* Most respondents no longer paid this fee, but many of the retired planters discussed having paid it in the past. This finding corresponds with research by McDaniel and Casanova (2003), who found that rental of equipment was a common practice.

The purchase of equipment for returning workers ends up being more of a rental agreement as they return it every year and repurchase it the following year. This process can go

on until equipment wears out and is replaced. When I asked the same planter what he thought about this, he shrugged and said, “*Well...it is what it is.*” Regardless, this is a cost charged by a seemingly shrinking number of employers.

The rental equipment question in combination with the transportation question were sometimes not asked due to the perceived sensitivity of the questions and the dynamics of some interviews. These questions in a few cases caused unease, as I felt that it might be perceived as a search for exploitative concerns. Workers are very sensitive to not painting employers in a poor light, and these types of questions had a way of raising uncertainty about my purposes for conducting the interviews. As a result, I was hesitant during some interviews when I felt I was under scrutiny.

It might be thought that some of these deductions were illegal. In fact, at the time of the interviews, most deductions were indeed legal and were usually spelled out in the contract that workers signed prior to taking these jobs. The DOL requires that all expenses to be paid by the workers be made clear to them in writing during recruitment. While morally questionable, legally there were few problems with deductions.

C. Coping with uncertainty in remittances:

The tree-planting business is an uncertain business. Veteran tree planters know this and new planters find this out quickly. This gives rise to a labor force that is accustomed to challenges and finding ways to make the system work in their favor. Some years might be very lucrative with the combinations of large tracts, clean and open ground, and cooperative weather, allowing for strong remittances. Other years might prove difficult, as appeared to be the case for one crew during my trip to Guatemala in the fall of 2012.

Families in Guatemala commented that planters who had been in US nearly two months had sent very little money home at the time of my visit. A retired tree planter who had stopped planting three years back due to health concerns commented, *“I heard that my brothers are not sending much money home. It has never been like that, and it’s tough because they both have families.”*

The concern pointed to the work not being very good that year and that the weather was not conducive to planting. For families back home, this meant lean times. Most of these planters did not leave much in the way of reserves for their wives and children. Instead, families depended on the influx of remittances to pay the grocer’s bills and keep life comfortable.

Some families have adjusted to this uncertainty by finding other ways to support themselves. A tree planter’s wife in one village I visited commented, *“When my husband is away, we have to work some to survive. I have a small business and sell basic food items to survive until he gets back...I mostly sell tortillas....This is how I support myself...It’s real tough till he sends money.”*

Interviews with other wives pointed to similar situations where they found odd jobs or ran the business that their husband set up for them in their absence. This is certainly the case for one tree planter who had both a small dry-goods store and a corn gristmill that local villagers visited to grind corn used in the local staple, tortillas.

Family networks also facilitated the care of the families left without a male figure in the household. There were times where many of the families of tree planters bound together and helped each other out, and this bond seemed to go beyond family to some degree. It is important to remember that many of the husbands while away were working, living, and eating together for

a six- to nine-month period. These close living quarters appeared to strengthen what I guessed to be life-long bonds, as most men on these crews came from within a few miles of each other.

In a way, everyone in town knew everyone else's business. I was given an extensive tour of the homes of many of the tree planters, many of whom were away during my first visit. My arrival in town was met by what amounted to a community meeting in the home of what I took to be a certain tree planter with some prestige in town. (I later learned that he was part of the first planting crew to be recruited from their village and was instrumental in recruiting others from his community.) He called all the men who were either retired or had not gone that year, as well as wives of men who were away. Additionally, as word spread, other wives who had not received advance notice of my visit stopped by.

During my days visiting these villages, I sensed a close camaraderie in the shared experience in their men being away. I am not certain how far this camaraderie goes, to understand if they help feed each other in times of need or are there for safety and simple moral support. However, I saw situations where one husband would stay back and take care of his extended family's interests. I saw this scenario play out in three separate villages, where men would recruit a family member to act as patriarch in their absence, often for as many as three separate family units. In other cases, three brothers would sometimes take turns going to work in the US while one stayed behind to look after the families. *"My brother and I alternate who goes to the US. I have been back for two years setting up my store and being with my family. But next year my brother wants to stay back with his family. We help each other out with remittances when one of us stays behind."*

In another case, one brother was worn out and retired from tree planting. His younger brothers continued to work and he serves his family by taking care of their wives and children in

their absence. In this last case, the two brothers and one sister who were actively working with visas supported and took care of the brother and his family who were back home. An active tree planter whose brother who now stays back said, *“My brothers told me God says you need to stay and take care of our families...we will pay for you to live and help you...so now for three years they have been helping me and giving me money, and I take care of his family, his house, and his cars.”* He lived in his brother’s house, with both his other brothers’ and sister’s families living in neighboring homes. Their mother and father lived in the same home, and he now serves as the family’s guardian while the others are away.

This idea of families taking on defined roles and sharing resources is played out time and time again. In my interviews, I saw this situation in at least three families and likely more often, as the topic was not addressed directly. The circumstances varied, but overall, the idea that there is someone back home to look after the needs of the family is consistent. These individuals often worked and in some cases could help offset difficult times as long as they were not too prolonged.

Back in the village, where remittances were not flowing, the family bonds were certainly present, if not as well defined as in the three cases above. It is hard to say how they coped with the limited remittances, but I would suggest that families and in some sense the community shared this common bond and helped each other out, ensuring no one suffered greatly.

II. How Much Do H-2B Forest Workers Remand?

A. Monthly H-2B forestry remittances:

The average monthly monetary remittance of tree planters, based on 27 respondents, is \$982 (Figure 6.2 and Table 6.3). This is profit, after expenses associated with housing, food, taxes, and other deductions in the US are subtracted. This is the money that planters utilize for supporting families and investments back in Guatemala. *“I save most of the money, I spend some only on my expenses,” one planter said. “We send the majority of the money home...For instance...if I make \$1,000 in 15 days I will send \$600 to \$700. The rest goes to food.”*

The most common response when planters were asked how much they remand on a monthly basis was \$1000. However, there is some variability, ranging from the lowest average monthly remittances per worker of just over \$500 to one worker claiming to send on average about \$1750 per month (Figure 6.2 and Table 6.3). The figures quoted by tree planters were seasonal averages, meaning that in some months they might send more than others. These figures are higher than the national average for all remittances entering Guatemala, which is estimated at \$283 (UNICEF 2012).

These monthly remittance figures are higher than those found by McDaniel and Casanova in 2003 for H-2B forest workers. They reported monthly remittances of between \$600 and \$700. This would be approximately 44% less than my data suggest. This inconsistency might be accounted for by the 25% increase in labor planting costs between 2002 (the approximate time of data collection by McDaniel and Casanova) and 2012 (time of my data collection) (Dooley and Barlow 2013). Prices paid to the laborers, according to McDaniel and Casanova (2003), ranged from between \$.015 to \$.06 per seedling. My research found that planters consistently reported being paid \$.03 per seedling. This might suggest that planters in 2002 were likely paid on the lower end of that scale, which would be consistent with the reports of some of the older retired planters I interviewed.

B. How do remittances stack up against local wages?

A monthly remittance of just under \$1,000 is a large sum of money for the small agricultural communities from which H-2B labor is recruited. As discussed in Chapter 5, forest labor is recruited from poor rural communities with strong agricultural traditions. Employment in these communities is a combination of subsistence agricultural and seasonal farm labor. As a result, wages are seldom above minimum wage and are mostly seasonal in nature.

Few if any people I interviewed had full-time employment in their communities. Instead, they took farm-labor jobs locally when available or traveled to parts of the country for seasonal labor such as corn, coffee, sugarcane, or palm oil harvests. Temporary migration has long been a strategy for survival, especially for indigenous people. Jobs might also be found during other times of the year for short periods, such as conducting weed control, fertilization, spraying, or planting. While many of these farms likely employ full-time labor, the majority of the workers are brought in to fill these temporary labor needs. Guatemalan Mayans have a long tradition of taking seasonal jobs on the large coastal farms (Plant 1998). By some estimates, a million indigenous family members migrate from the western highlands to coastal farms for one month or more every year (Plant 1998).

Unfortunately, as temporary workers, many of these laborers fall within the “informal sector” (INE 2014, 2015). In the informal sector, labor often operates independently and is largely excluded from the national minimum wage and the benefits afforded to full-time employees (US State Department 2013; McMichael 2012; Flanagan 2006). My findings are very much in line with a 2014 report on employment and income released by the Guatemalan government’s “Instituto Nacional de Estadísticas” (National Institute of Statistics), which claims

that 69% of the Guatemalan population is employed informally (INE 2014, 2015). In rural areas, such as the communities where H-2B labor is recruited, the situation worsens, with the report asserting that only 2 of 10 workers are employed formally (INE 2014, 2015).

By working in the informal sector, the laborer is likely not receiving the minimum wage of 75 Quetzales, or \$9.90 per day (Wageindicator.org 2014). In fact, none of the respondents interviewed claimed to be paid this wage. Furthermore, by working informally, laborers do not receive the benefits associated with full-time employment. These informal jobs are instead associated with poor working conditions, long hours, and child labor (Chen and Wu 2006; Harvey 2003; Action Aid 2004), which is common in many developing nations.

In the formal sector, Guatemalan workers are eligible for 12 paid holidays, 15 paid vacation days, and are paid for their “*séptimo día*,” or seventh day every week (US State Department 2013). Full-time employees are also eligible for a mandatory employment incentive of 250 Quetzales every month (US State Department 2013). These same employees also receive a Christmas bonus (a payment of a 13th month’s salary called an *aguinaldo*) as well as a 14th month’s bonus (called *Bono 14*), each equivalent to a month’s salary (US State Department 2013).

The Guatemalan National Institute of Statistics estimated that only 23% of rural workers received *Bono 14* and 21% received their *aguinaldo* (INE 2014, 2015). Furthermore, only 25% of rural Guatemalans are affiliated with the Guatemalan Social Security, which provides workman’s compensation, retirement, disability pay, and health services to workers whose employers pay this tax (INE 2014, 2015). Workers outside this system have no retirement system, as they must contribute 17.5 years into the system to be eligible (INE 2014, 2015). One tree planter commented, “*You have to remember we have no help from the government down*

here.” From this perspective, it is clear that the Guatemalan government struggles with enforcing wage laws and informal laborers are on their own (US State Department 2013).

Employers in the informal sector avoid paying many of these benefits in two primary ways. First, many of the jobs are paid on a production basis rather than through daily wages. Work by the “*tarea*,” or task, is common, meaning workers are paid a fixed fee for weeding an acre or harvesting a “*quintal*,” or 100 pounds of coffee. This tasked labor practice makes the workers independent contractors, and not employees. Second, employers can avoid formal employment by ensuring workers are not employed 60 consecutive days, necessary for eligibility (interview with local business owner). This means employers might alternate workers to ensure no one is on their payroll long enough to earn *Bono 14* or *aguinaldo* pay (legally, these workers should get *séptimo día* and any holidays that fall within their work period; however, many likely don’t earn it).

It must also be noted that these informal jobs are often just that. Many are simply part-time and informal work and as such do not capture these additional benefits. Jobs in many of these rural areas I visited are sporadic employment for someone who needs help working in their fields for a few days. As planters explained over and over, “*There is not work every day here*,” meaning that full-time employment is largely unavailable and mostly falls within the informal sector.

Informal employment also means that none of the workers I interviewed earned the national minimum wage, much less their bonuses, vacation, holidays, or seventh-day pay. In fact, as mentioned in Chapter 5, wages are considerably less than Guatemala’s minimum wage in the rural communities I visited. I found local wages to range between 25 (\$3.30) and 65 (\$8.60) Quetzales per day, with an average of 45 (\$6) Quetzales. Interestingly, these earnings are in line

with the Guatemalan government's reported average earnings for agricultural workers of 918 Quetzales per month (INE 2014, 2015). If you assume local labor could find employment for 6 days a week, for 4 weeks, at the Q45 per day rate, this multiplies to 1,080 Quetzales. However, as most laborers discussed not being able to find work every day, the 918 Quetzales rate is likely very close to my findings.

The Guatemalan national minimum wage, based on the inclusion of the *séptimo día*, is currently at 2,280.34 Quetzales per month; the 250 Quetzal monthly bonus raises the wage to 2,530.34 Quetzales or \$337 (Wageindicator.org 2014). This means that laborers in the rural communities from which labor is recruited are earning less than half the national minimum wage before even considering the *Bono 14* and *aguinaldo*.

This national minimum wage is just sufficient to cover food and basic vital needs. According to estimates by the Guatemalan National Institute of Statistics, the minimum food budget for a family of five is 2,719 Quetzales or \$358 per month (INE 2014). To cover housing and other vital needs, including food, the minimum requirement is 4,962 Quetzales or \$653 per month (INE 2014). The national minimum wage barely covers food and does not come close to covering housing, clothing, and other vital needs. This situation becomes especially dire when you consider the wages being paid in rural communities where tree planters are recruited. This is, of course, assuming they can find work five days a week for four weeks, which I found seldom to be the case. (However, it should be noted that the above basic vital needs are national averages that include goods that poor rural families are likely not buying. It is probable that these families can survive on less than these national averages.)

As one tree planter from Huehuetenango explained, "*Here you only make about 45 to 50 Quetzales per day...but there is not work every day. It is real hard here.*" Another planter

explaining the local wages and job availability put it this way: *“The locals here earn about 50 Quetzales per day....But for the people of Kak’ik, the work is variable, there is not always work, and you have to travel for those jobs too. The local jobs are just enough to buy corn and beans to eat.”*

So, how do families subsist on these wages? First, families from these poor agricultural villages use subsistence agriculture to grow corn to help compensate for the gaps in earnings. They are truly subsisting on what they grow, as they simply cannot afford to buy enough food. During my visit in September of 2012, it was common to see the previous year’s corn harvest stored in the rafters of their homes (Image 6.1). *“This corn just goes for my own consumption,”* explained a tree planter when asked about this practice.



Image 6.1: Corn Stored in the Homes for Future Consumption and Seed

Second, it is not uncommon to see villagers eating what they term *“monte,”* or wild plants. As one planter said of his diet, *“I eat the local herbs like wiskil and the tips of the wiskil vine.”* They plant a variety of traditional edible plants around their homes or harvest them from the wild to supplement their diets. Outside one home I found a wild tree tomato and commonly

saw *Hierba Mora (Solanum nigrum)*, a local herb occurring in the wild that is used in various dishes.

Many of these families are truly scraping together an existence, putting generations' worth of agricultural knowledge to work to supplement their earnings. Many explained that they tried to grow enough corn for the year on their own lands. *"I plant corn on the land I rent, and I produce enough for my own consumption...none of it is for selling...Often I don't grow enough and usually have to buy about 9 quintales at 125 Quetzales per quintal."* Finally, it is common to see chickens, pigs, and other animals around homes. This is part of their subsistence formula to have eggs and occasional meat.

This pairing of seasonal farm labor and subsistence agriculture allows families to survive with low intermittent wages. They have their lands, whether owned or rented, to fall back on and fill in the dietary gaps. Much of the earned monetary income goes to cover housing, clothing, and medical needs.

So when considering the earning potential of H-2B jobs and the money workers are able to remand, it is clearly understandable why poor rural Guatemalans migrate. As a planter from the region of Zunil put it, *"You make about 400 to 500 Quetzales per week around here, and that is working 6 or 7 days a week. In the US, we were making 2,500 Quetzales per week sometimes, and sometimes only working 5 days...sometimes 6 days a week."* The average monthly forest worker remittance, of \$982 per month, far exceeds local wages and even surpasses the payment of those making the national minimum wage (Figure 6.4).

This influx of funds provides capital that many of these families could never otherwise access. As local jobs are largely seasonal, informal, and low-paying, it is easy to see why H-2B forest jobs are so coveted. They easily exceed payment for formal employment by threefold and

the informal local wages by over four times (Figure 6.4). With money being well over even the Guatemalan Vital Food, Housing and Other costs (Figure 6.4), this provides funds for improving livelihoods and making long-term investments.

C. Stretching remittances for a year:

Remittances far exceed the local wages in any given month. However, H-2B visas are temporary in nature. The average visa stay, as discussed in chapter 4, is 7.2 months. The remittances flow of \$982, as a result, is for just over half the year (Figure 6.2 and Table 6.3).

It is important to consider visa and travel costs associated with working in the US. While new 2015 DOL rules require employers to reimburse H-2B laborers' travel to the US, at the time of my interviews, forest laborers were responsible for their own travel costs. These travel costs averaged \$1,178 per person per year. These costs included visa fees at the US embassy (~\$150), passports fees (~\$38), travel to the Guatemalan capital for visa interviews (~ \$300), airline tickets (~ \$500 to \$1000), and incidental funds until the first paycheck. These visa and travel fees were lower than the \$2,000 cost reported by the Southern Poverty Law Center (Bauer 2007) but still constitute a substantial amount of money when considering local earnings.

These travel expenses are a substantial amount of money for planters earning \$180 per month in Guatemala (Figure 6.4). This sum may amount to what they earn in a year working local seasonal labor. This results in laborers having to take out loans to cover expenses. Most respondents agreed that it took approximately two months working in the US to pay loans before being able to remand money free and clear. This effectively further reduces the income planters can expect from a work trip to the US.

Knowing that on average it takes 2 months to pay off travel costs, H-2B labor is remanding \$982 for 5 months (subtracting 2 months from the 7-month average visa stay) for a total of just under \$5,000 per year (Figure 6.5). Laborers in the Guatemalan formal sector, assuming employers are paying all the bonuses (14 months' salary), have the potential to earn \$4,200 per year (Figure 6.5). However, we know that nationally only 31% and rurally only 21% of the population can expect this salary. The comparison to the rural annual salary estimates of just over \$2,100 per year makes these H-2B jobs very attractive (Figure 6.5).

H-2B labor earns in 5 months 14% more than the Guatemalan formal sector and 56% more than the reported rural agricultural informal sector. This has not escaped the attention of H-2B laborers, who see the opportunity to make more than twice as much money in a seven-month period. They see value in these H-2B jobs and actively work to be recruited in subsequent years, even knowing that travel expenses will cost them approximately two months of hard work.

However, the time back home is seldom wasted and, in fact, it is used to further supplement their incomes. Many will return home to find local jobs similar to those they had before traveling. This is especially the case for H-2B workers with fewer years in the program. Long-term workers, by contrast (normally over five years), have generally earned enough capital to invest in lands and various microenterprises. As a result, they return home to manage these properties and business ventures. As one veteran tree-planting foreman from Zerco explained, *“The first two to three years, I still went to work in the fields when I was home...sometimes the very next day...you can't ever stop working. Then by year three or four, I started to build my house and working for myself more.”*

Upon their return, most workers continue to farm agricultural lands, many bought with H-2B remittances. When they are away, family members oversee these plots that continue to

provide traditional subsistence agriculture to further supplement families' food supply throughout the year. Some H-2B workers have invested in business ventures, which have variable success (see section on microeconomic enterprises). For instance, the foreman from Zerco built a general merchandise store next to his home, complete with air-conditioning to service his local community. In fact, his business not only supports his family while he is away but has allowed him to take a couple of years off from tree planting and spend time with his family.

While travel costs reduce their earning potential, the majority of H-2B workers still show a substantially higher income bracket than would be the case with only local earnings. Additionally, this money translates into investment opportunities that would never be possible earning local wages. These investments, whether agricultural lands or businesses, allow workers to maximize visa stays that only provided income for portions of the year. However, almost unanimously, all H-2B laborers were interested in longer-term visas to make their large travel investments worthwhile and allow for larger yearly earnings.

D. Length of visa stay and livelihood:

The profitability associated with H-2B visas for laborers is very closely correlated to length of visa stay (Figure 6.6). The longer laborers work in the US, the more capital they gain. The earning potential, as previously discussed, is greater in the US, and every worker wants the longest visa stay possible. As a result, H-2B workers regularly asked about the possibilities of having longer visa stays. Most stayed an average of seven months, which presented an acceptable norm.

However, during interviews, I talked to several workers with shorter visa stays that led to fewer benefits and a sense of dissatisfaction from these laborers. The issue appeared to be twofold. First, and most notably, were the visa and travel costs associated with H-2B visas. The estimated visa and travel cost of just under \$1200 is the same, whether they work the full nine months or only three months.

For many planters, short trips mean fewer dollars at the end of their trip, as travel costs eat up earnings. As one of the pine straw spreaders explained, *“My money’s gone now...I started off by paying off my debts for the trip costs...about 10,000 to 11,000 Quetzales”* (~\$1400)...*the remainder went to finish my second home in Momo, where my parents live.”* Another pine straw spreader on the same trip explained, *“We made about 25,000 Quetzales on that trip...I put some money into house repairs and upgrades. I know you can’t see much, but remember, 1000 Quetzales here is nothing...building materials are expensive.”* This same man had borrowed 7000 Quetzales (~ \$933) from family members for trip expenses, which he had to pay back from his earnings.

In both these cases, workers appreciated the capacity to earn more money in the US but, due to short stay and high travel costs, had little to show for their efforts. Neither of these laborers had bought land, homes, vehicles, or other common purchases seen among those with longer visa stays. Instead, funds were used in making home repairs and covering daily living expenses. The two laborers with 3-month stays earned just over \$2100, and one laborer with a 5-month stay was paid just under \$2700. The worker with a 7-month visa pays the same visa and travel expenses but can expect to earn just under \$5,000. This extra capital seems to provide the longer-term impacts by way of land, homes, and microenterprise that laborers with longer visa stays claimed in subsequent interviews.

A second issue with shorter visa stays is that workers likely do not earn enough to cover basic living expenses for the entire year and thus must return and find local jobs. However, local jobs could be hard to find, respondents repeatedly explained. Thus should laborers leave a local job and experience short visa stays, it might lead to hardships when they return and have difficulty finding jobs. In the case of the two pine straw spreaders interviewed, this proved not to be a major problem. Instead, within 10 days, one laborer was back working construction with his previous employer and the second returned to farming cash crops and part-time construction work. However, interviews in other parts of Guatemala suggested that local jobs might be more difficult to find and these short visa stays might be more troublesome.

Surprisingly, all respondents were eager to give it another try, even after their short trips. As one explained, *“I hope this opportunity arises again....my bosses said we should be able to go up again...we are waiting.”* However, it is difficult to ignore that there is a hope that the second trip will be longer than the first. As the planter further reported, *“We went up in March and came back in early July. I was sad that the trip was too short...it was supposed to be for eight to nine months, but because our visa were delayed...it was only three months...but I was told that on our next trip we will go for three months to collect pine straw and make bales for the next six months.”*

Short work-trips provide limited time to depreciate travel costs against \$1000 per month remittances. It is important to remember that laborers are often the primary earners in their families, so large portions of the funds are consumed in daily expenses. These expenses eat away at the longer-term impacts of these jobs. As a result, most planters are looking for longer visa stays to provide an opportunity to alleviate poverty in the longer term.

E. Years in H-2B and impacts of remittances:

Another important component affecting long-term impacts of remittances is the number of years working in the H-2B program. It quickly became apparent during interviews that those laborers who had more consecutive years working in the US had accumulated more wealth. Following the previous discussion, this comes as no surprise. The longer laborers work in the US remanding money, the greater the impacts back home.

Interviewees ranged from workers who had just completed their first year as H-2B forest laborers to one laborer who had participated for 12 years. It was apparent during interviews that those with a single season had invested in only a few items, possibly a small lot, home repairs, or motorcycle. As workers accumulated more years working, they began to build homes, purchase more land, and in some cases start businesses or buy vehicles. Those who had worked longest with the H-2B program often had nicer homes, more land, business ventures, vehicles, and sometimes second homes and often had children finishing high school or attending college.

The point here is that, as with any career, those who have worked longer often have more visible signs of accumulated wealth. I found myself often questioning why one planter's home would be larger than another or why one had more land or better-educated children. In many cases, this was a simple matter of an older planter who had strung together 10 or more years at a substantially higher wage than his neighbors. This capital allowed him to leverage better results and ultimately show grander improvements.

F. Securing loans: declining profitability and access to visas:

1. Who provides loans and what are the interest rates?

Most H-2B forest workers have difficulty raising the funds necessary to purchase airline tickets, visas, and other expenses necessary to reach job sites in the US. Therefore, as previously discussed, most have to borrow money from family, friends, or community members willing to make loans. *“I had to take out a loan to pay for my tickets and other expenses...The loan was given to me by different family members who contributed,”* one worker told me.

For the most part, bank loans are inaccessible to these laborers. *“Banks won’t give us money...so we borrow from people we know,”* explained a tree-planting foreman. As a result, the majority of the funds are raised by family members, who might sell a car, land, or loan their savings to a son, nephew, or grandson. One long-term tree-planting foreman noted, *“Some families hold fund-raising drives to raise the money.”* In many ways, these trips are a family venture in which an extended family might support one person with the hopes of improving the entire family unit.

In many cases, family support might raise a portion of the funds and yet most workers have to take some type of loan from people outside their family as well. *“We get loans from people we know or people who have money in the community for the tickets...the interest rates are generally about 5 to 15%,”* a planter said. These loans from wealthier people, or in one case a local cooperative, are often accompanied by interest rates that are highly variable.

Additionally, the loans are outside the purview of any regulations or oversight. Most H-2B forest laborers discussed interest rates of around 10%. These interest rates usually appeared to be applied on a monthly basis, making for exorbitant yearly rates and partially accounting for the pay-off periods averaging two months’ worth of remittances (~\$1,950).

The application of interest rates is common to family loans as well and is also variable. Some planters discussed having family cover their expenses at no cost, while others had various

small loans with interest rates from different family members. One planter, for example, explained, *“I was lucky because friends and family in the community here loaned me the money to pay for visa and air travel...without any interest.”* By contrast, another forest worker said, *“My uncle helped me by giving me the money to go up and charged 10% interest.”* The loans for travel and visa costs are gathered from various sources and have varying interest rates, as one tree planter affirmed: *“The interest rates you can get are very variable depending on who you get them from...some were as low as 4%, others 8%, and still others 10%...Most loans came from people I know in the community who had money to loan and sometimes family members.”*

2. Collateral and who has access to loans?

Collateral is an important component to guaranteeing loans. Most workers discussed placing land, homes, or vehicles as collateral. This raises an interesting issue. Those who don't have collateral, usually meaning the poorest, can't get loans to participate in the current H-2B visa program. One tree planter explained it this way: *“Some don't have money or land to mortgage to go to the US...you see...you have to either have the money or something to place in collateral to get a loan to pay for the trip up and back. Locals here will loan money on a mortgage. So those that are really poor who don't have land, can't go. Those people are much poorer.”*

While most H-2B planters come from very poor regions and are by Guatemalan national measures poor, they tend to not be the poorest people in their communities. They are the families who own land, or have achieved some moderate success, to allow them the resources to place as collateral. I did observe cases where large families came together to empower very poor

people in the community to go. However, it is interesting to see that, within their own poverty scale, most planters are not the poorest in their communities.

One tree-planting foreman related a story of a very poor man in his community whom he helped get an H-2B visa by providing a loan with little to no collateral. This man, the foreman explained, had many children, could never find enough work, and probably was not able to feed his kids three meals a day. *“The guy had a stick house, torn and patched clothes and shoes with holes...and he had a big family that he could barely clothe,”* he recalled. *“I took him to city and paid for his visa, in-country travel, and passport expenses...I also took him in for his embassy interview. I could not buy him the airline ticket, that was too much money, but loaned him the money to help him out.”*

This uplifting story does not have a positive ending. The foreman went on to explain, *“Unfortunately, this poor guy got sick in the United States...He got a hernia after only a few weeks and was really sick and had to go back home. He never got the chance to go back....I never charged the guy for the rest of the ticket price.”* This story highlights some of the challenges that travel debts and the correlated loans can present workers. Should sickness or some type of tragedy strike, they are unable to pay off loans. As these loans are with community members, there are no legal recourses. If collateral was put up, they might expect to lose it. This leaves the very poorest people increasingly marginalized and those marginally better off taking risks every year to borrow the money for the following trip to the US. Many place homes, land, and other possessions as collateral and risk it all for the opportunity to work in the H-2B program.

Returning H-2B forest workers know to save some of their current earnings for the next year's trip. As a long-term foreman turned H-2A recruiter explained, *“We save enough money*

from the previous year to pay for the upcoming year.” However, many planters admitted to not saving much money for the next year but taking out the same loans year after year. This appeared unusual, but I suspect this is due to investing their earnings in land, homes, and having used much of it for daily living expenses during their time away, with not much left for next year’s ticket. Additionally, when most workers were asked if they were returning next year, they replied, *“Si Dios permite,”* or *“Should God will it,”* meaning for most there is uncertainty they will be invited to participate again by employers or even if employers will be able to secure their visas for the following year. This uncertainty, I imagine, allows limited savings for the following year’s trip, forcing them to place their property as collateral year after year.

3. *What happens when loans aren’t repaid?*

Unsatisfactory work trips or sickness preventing or slowing earning needed to repay loans often result in workers taking an illegal alternative. They leave the forestry jobs and find other work in an effort to not only pay off debts but also make the money that they sought to earn. This was the case for one H-2B tree planter, who standing on a muddy street in Guatemala, carrying an armload of greens for his rabbits. He explained, *“On my last trip, I overstayed my visa...I got sick and could not plant for a good part of the time I was up there....I had a lien on my property, and I had not made enough money to pay it back. If I returned home, I would lose my land, so I had to stay and find a job. So...I stayed illegally for eight years, working for the government paving roads. I got back about two years ago.”*

This type of situation, while not common, is also not an isolated occurrence. Other challenges that might prevent earnings include a season with poor weather or difficult planting terrain or, more likely, poor planting conditions combined with a short visa stay. This was the

case for the brother of a veteran tree planter turned foreman who related, *“One of my brothers can’t come to the US to work anymore...A few years ago, he went up to work, but his visa ended early. It was too short and the work was only OK...He was unable to pay off his debts he had taken out to get there. So he found other work and overstayed his visa.”* The visa ending sooner than expected is likely a result, as previously discussed, of a difficulty in the visa-processing paperwork of either the employer or the DOL, which shortened the expected visa work period. In this case, the illegal visa overstay caused problems because, as his brother explained, *“He ended up getting caught and is now serving a five-year penalty where he can’t go back.”*

It is important to note that H-2B workers who run into illness, short visa stays, or other labor challenges leading to insufficient earnings are in a difficult position. With very limited earning opportunities in Guatemala, the loans planters take out may amount to a year’s earnings. This forces many to overstay their visas and take other jobs, making them illegal. Many are doing nothing more than ensuring they will not lose collateral and are fulfilling their obligations to family and friends who might have loaned money. As this planter’s brother said, *“What was he to do? ...He could not go back without paying his debts....You can’t return and pay them off in Guatemala.”*

In interviewing another planter, I discovered that almost an entire crew of workers had not returned from last year’s tree-planting season. As this planter said, *“This year there were about 15 planters here from town that went to the US....however, most of them stayed illegally up there this year.”* When I enquired as to the reason for their failure to return and their decision to resort to illegal status, which I had learned is relatively unusual, the planter explained, *“It was because our boss up there went out of business and did not pay them. The boss still owes them money, including me, and some of the other guys decided not to come back home.”* I found this

case to be atypical, but again, it exemplifies the constraints that travel costs and the associated loans place on workers.

As another longtime tree-planting foreman put it, *“You have to have some luck...the work is hard and uncertain. You have to work in the snow and rain...and you don’t know if the weather will cooperate.”* Some workers are unlucky and get sick. The loans back home often force them to turn what is supposed to be a seven- or eight-month trip into a multiple-year stay. That is, once they take the illegal route, most will maximize their stay, as they realize they have lost the opportunity to come and go using legal visas. Their names are now registered with the US Immigration and Naturalization Service (INS), and they are either penalized for multiple years, as the brother discussed, or become permanently ineligible.

Whether the reason is illness, shortened visas, unusually difficult working conditions, or fraudulent employers, the results are laborers being forced to take an illegal route. As a result, most planters interviewed wished to see longer visa stays to reduce these yearly costs of doing business and the associated loans. As the foreman observed, *“The visa expense is high for us, and it would be better if visas could last longer, maybe one to two years....This would help offset our visa costs.”* Interestingly, seldom did laborers ask employers to pay for travel expenses but rather preferred longer visa stays as a route to reduce the risks associated with their loans.

Did I really just ask how much they earned?

You would think that asking someone what they earn would be an uncomfortable question. In fact, I found it to be quite the opposite. The Guatemalans I interviewed were very open on this topic. In a way, it was a source of pride to discuss how many trees they planted and the associated earnings.

Remittances were a bit trickier. When alone, there were few, if any, hesitations; in groups of planters, it was much the same, as most earned similar wages and in many cases lived and likely remanded money with one another during their trips to the US. While paid on a bimonthly basis, most remanded back home once per month to minimize the bank transfer costs.

However, when outsiders were present, as was the case during one set of interviews when a forestry professor from a local college was present, there was some hesitation. While I felt I had their trust, they were leery of fellow countrymen who were not part of the H-2B planting business. I soon learned that it was best when only I was present. I guessed that the planters were more comfortable speaking to an outsider and someone connected to their industry than a fellow community member not involved in the business.

Interestingly, that same forestry professor was blown away during interviews at the wages planters were remanding. He stopped one interview to ask the planter to repeat the figure. I saw his eyebrows go up and heard him make a comment to the effect of “maybe I should be a planter.” It was at that moment I learned two things. First, planters are protective of their jobs and wish for no more competition for visas than they already have. Second, if you have money or are sending money regularly, you or your family is likely a target for theft.

Armed robberies in Guatemala are a common occurrence. My father has been held up at gunpoint leaving a bank in the last two years. Supporting this suspicion were subsequent interviews in which planters from the Cushing community discussed now having an ATM and bank branch in their community. When asked about this, they talked about the dangers of the region and especially the communities down the mountain near the Mexican border. Banks near their community limited exposure to robbery. Similarly, limiting who knows that they are remanding money, how much, and when is important, as it minimizes exposures to robberies.

III. Investing Remittances: Changing Livelihoods:

Livelihoods are difficult to understand, measure, and quantify. What we might consider a good livelihood in the US is completely different from that of a poor rural Guatemalan. To us,

the acreages, homes, and education levels may seem substandard or minimal, but when compared within their own regions or communities, they can begin to take on a new light. As we now know that the average planter is remanding just under \$1,000 per month, the question becomes, how are they investing these funds, and what impacts are they having on livelihoods?

Investments came to be classified into five categories that were often systematic in nature and followed a repeating sequence. Family nutrition and care, land, home, education, business, and vehicles are common and sequential investments across the population of H-2B forest workers interviewed. As one tree planter summed it up: *“I first bought my lot and built my house. Then I bought some land. However, not all my money is invested in land and house...I have also invested in my children.”* In the following sections, I will discuss how H-2B immigrant laborers invest their remittances and the impacts this has on livelihoods in Guatemala.

A. Going with goals in mind:

It won't take long in any conversation about why they go and the resulting accomplishments before you hear about needing to have goals. These goals often were very closely tied to improving their living conditions and those of their children. However, it struck me that tree planters appreciated the variability and uncertainty in this business and understood that each year could be their last planting season.

As a result, many have set goals and key milestones that they hope to achieve before considering retirement. As a longtime tree planter explained, *“You really need to think about how you are going to spend your money....There are choices...land or education or fix up the house or buy cars. It is important to know how to administer money. You have to have goals. If*

you don't, there have been some that have come up here for years but have nothing to show for it at the end."

It is interesting to note that many of these goals are co-founded between the husbands, who are away, and their wives, who stay home and care for their families and in some cases help manage and invest their remittances. I found one interview captured this common trend when one laborer carefully explained to me, *"We trust in God and hope for our family....We have been together 10 years but we are OK...My wife and I made a pact with the family. I go to the US, you stay here, and I will send you the money to feed and keep the kids. She stays and cleans and gives the kids a good example...Our kids need to know we come up here because of necessity, not because we want to...or that we have forgotten about them. We call them regularly to ask how they are doing....Our kids stay crying, we have to be conscious the whole time we are here to benefit them and help them advance."*

This interview, conducted in a small trailer home with three planters away from their families, exemplified not only the sacrifice that immigrant laborers make, but their resolve to achieve their goals, not for their own advancement but that of their families. Closely associated with these goals of improving their livelihoods and futures through the purchases of homes, land, and businesses is the idea that planters have to abstain from what they often termed the "riches" in the US. As one planter plainly put it, *"You can go up to the US and spend the money...."* Instead, he said that while you are up there you have to, *"aguantar para triunfa,"* or *"endure to triumph."* By this he meant you can't *"eat out or drink, you don't buy things...instead, you save the money to spend it with your family....to move yourselves forward."*

As a result, there is a single-mindedness common to many tree planters. Their goals are not in the US but back home, and they apply this rule to their lives in the US and often back home to ensure they benefit from the sacrifices that these jobs often entail. As one veteran planter explained, *“My wife and I discuss if I make this much, we will do this...if not, we do this. We have a plan. We don’t waste money. We only buy what we truly need. You won’t see some item we bought laying around unused later.”*

This trend of husbands and wives setting goals and working toward a common end came up multiple times and in several cases included wives helping manage remittances and invest the resources. As a planter from a small Mayan village put it, *“Thank God I have a good wife who is good at saving money. It was actually my wife who bought the first piece of land....I was in the US at the time. After I got back, I bought more land.”* In another interview with a tree planter’s wife, whose husband at the time was in the US planting trees, she explained, *“I receive the money and invest it for him.”*

Families carefully set goals and work in their orchestrated roles to not only build the better future these jobs provide, but also are wary of the stresses their absence has on their children. The result is a determination to invest carefully in items that will have long-lasting impacts on poverty and their children’s future. The uncertainty from year to year of whether they will be invited back further drives careful planning and goals. When asked how long they will participate in H-2B, most tell me until they can no longer plant or until the visas are no longer available. As a veteran of over 13 years summed it up, *“I plan to keep fighting with this job while I still have this opportunity....if one day the immigration folks say no more visas...well, we have made enough investments to start working here with our land and houses.”* As an older

retired immigrant laborer discussing goals put it, *“You work in the US long enough to accomplish your goals you have set for yourself and then come back, just like he did.”*

B. We live better: buying food and clothing:

During interviews, discussion of investments in food and clothing were often sidelined for talk of the bigger investments of land, homes, or cars. These were the investments that planters wished to showcase, and they had me walk miles to ensure I toured everyone’s home or prized land. However, over time there were subtle hints, and some not-so-subtle hints, that remittances, and likely a significant portion of them, were used on what they termed “daily consumption” and improving local living conditions.

Remittances are used to cover the day-to-day expenses of food, housing, transportation, and other household expenditures. As one planter explained, *“I also use the money because I need to be able to maintain my family.”* Some scholars have concerns that the impacts of remittances toward development and improving livelihoods are negligible. Some would argue that remittances are simply replacements for earned income and are thus spent on normal household goods much like locally earned income, as indicated in the quote above (Adams and Cuecuecha 2010). Others argue that remittances lead to behavioral changes, which cause spending on consumption rather than investment goods (Chami et al. 2003; Adams and Cuecuecha 2010). Finally, newer research is increasingly pointing to remittances being spent at the margins toward investments in goods for both human and physical capital (Adams and Cuecuecha 2010).

In the case of my research, it became increasingly clear that these funds provided not just an alternative means or substitution for local earning but rather a means to a better standard of

living. As one immigrant laborer put it, *“The trip to the US improves life....You dress better or, even better, can dress all of your kids.”*

Oppressive poverty is common to the regions where H-2B immigrant labor is recruited, and the influx of remittances raises the standard of living for participating families over what had been previously possible. One planter explained this by saying, *“Without remittances, it is hard to bring about any changes in your living condition. You just don’t make enough money. Remittances allow us to eat better and clothe ourselves and our families better.”* By contrast, he noted that community members without access to foreign jobs *“have few opportunities to change their lives and are stuck.”*

When planters were asked to elaborate on this by comparing their living conditions to those of community members who were not working in H-2B, and thus generally not receiving remittances, they explained, *“We can maintain ourselves better....We have better food and health.”* Time and time again, planters made it a point to explain that local jobs and wages were very limiting and led to stagnating circumstances. One planter commented, *“It’s simple, the ones who don’t go don’t advance, just \$100 is a lot here....Here, making only 35 Quetzales per day, it is hard. What really helps us is the conversion from dollars to Quetzales.”*

Another planter, pointing to a neighbor’s home of stick and mud construction, described people in his community: *“People here work for food day to day. They live for the day and have no extra money for tomorrow....they don’t have money for homes, to buy land, or anything else.”* When one planter was asked if and how having an H-2B visa helped, he bluntly explained, *“It helps with food. Working here is not enough to feed your family anymore....So it’s better to go and come with the visa.”*

Another interviewee in the same village strengthened the connection between remittances and alleviating local poverty by explaining, “*With remittances you always have food for all three meals....some families around here can't eat three meals....they may not have enough work sometimes...so there is not enough food.*” These interviews closely match national statistics, which suggest that the poorest half of the nation only receives 60% of the minimum caloric requirements (Worldmark 2007).

Interestingly, the influx of remittances seems to have little to no effect on what people eat. I was almost disappointed to learn that this influx of money did not have them buying steak; instead, as one planter from a small Mayan village explained, “*The remittances help us some with food...You do feel it some, but for us, for the most part we eat the same as before.*” As before, this often means harvesting wild vegetables and eating the corn and beans grown in their subsistence-style agriculture. As a fellow planter explained, “*I have also invested in food and living. I eat real nice now....But I pretty much eat the same food as always. But every eight days or so, I buy some meat that my wife and I will eat on for a couple of days.*”

While remittances improved the quantity and regularity of food, most planters did not change their diet but instead stuck to what they termed their “*costumbre,*” or custom. Many continued to live much as they always had and instead seemed to reserve much of their earnings to invest toward their goals. Remittances don't necessarily seem to translate to a better diet but rather fill in the gaps and ensure everyone eats and all are clothed. They relieve the day-to-day struggles for survival and open previously closed doors. The doors to better healthcare, purchasing land, building homes, educating their children, starting microenterprises, and generally establishing a more stable foundation to rise above poverty are opened a crack.

As a result, I would agree with findings by Adams (2010), which suggest that remittances are increasingly being used and reserved for the margins to improve livelihoods. While H-2B workers certainly need to continue to cover their daily living expenses, they don't seem to increase these expenses but rather keep them relatively in line with traditional customs. Instead, they reserve these funds for more long-term improvements to livelihoods.

As a longtime foreman from a community that at one time sent over 1,000 H-2B tree planters to the US summed it up, *"We live better and have more possibilities. Down here, you make 1,000 Quetzales per month, and you think real hard before you spend it...It's tough...Now we eat and dress better. Sometimes you can buy things you always wanted, but because you worked in Guatemala, could never afford it...Where we are from, a lot of people come to the US; you see the differences. In our town, people now invest in land and coffee and business, they better themselves...Those that don't go don't improve their situation."*

C. Better healthcare:

Remittances are also regularly associated with improving access to healthcare for many of the H-2B immigrant laborers. In Guatemala, the healthcare institutions consist of public and private healthcare. The private system, while good, is generally inaccessible to the majority of the impoverished population due to cost. Those who have difficulty simply feeding their families are hard pressed to afford regular healthcare. This is a significant problem when considering that Guatemala has the highest level of private or out-of-pocket expenditure as a proportion of total health expenditures of any country in Latin America (World Health Organization 2014).

The public system does not provide much of an alternative. It has been chronically underfunded, with only 4% to 6% of the GDP going to healthcare expenditures in Guatemala (Worldmark Encyclopedia 2007). While the public healthcare system is improving, it offers understaffed, underfunded, and generally poor healthcare services when compared to the private sector (World Health Organization 2014).

It is estimated that more than 40% of the population has no access to healthcare services (Worldmark Encyclopedia 2007). Furthermore, it has been suggested that healthcare challenges are greatest in the poorer and largely indigenous portions of the country (World Health Organization 2014). These are the very same regions from which H-2B immigrant laborers are recruited.

It is thus important to understand that most healthcare services in Guatemala require payment for services. Considering the average local wages of approximately \$6 per day, it is easy to understand why many planters spoke of having no access to healthcare. Coincidentally, Guatemala suffers from the highest infant mortality rates and the lowest life expectancy in Central America and ranks among the worst worldwide (World Health Care Organization 2014).

One community leader, and the father of a tree planter, explained how low local wages limit many people's access to good healthcare and how that affects their lives. He put it this way: *“Here people make 40 to 50 Quetzales per day (~\$5.50 to \$6.50/day). Or between 150 to 300 Quetzales per week (~\$20 to 40/week). This money, however, is all spent on food. Corn, for example, costs about 140 Quetzales per quintal right now. Last year, it was really tough, it cost 225 Quetzales per quintal....there is nothing left for the doctor....going to the general hospital is not a good option; private clinics are the only ones with good doctors. Here in town, some people die when they get sick because they have no other options or help.”*

As a result, many planters use remittances to not only help their own immediate families but also often their extended families receive healthcare. As one planter responding to a question on how he uses his remittances said, *“We also invest in health, there is no insurance here...if you have to go to the doctor, you pay what it costs, if you need medicine, you pay what it costs.”* Other planters echoed these investments and livelihood improvements when saying, *“I have also remodeled my house, bought a car, and paid for sickness when family members get sick.”* Another planter similarly commented on life before remittances by saying, *“It’s hard to raise a large family, it’s hard to have enough money....it’s hard to care for them when sick.”*

I was surprised during one interview when one planter’s remittance investments were significantly less than those reported in several previous interviews. I asked him about this, and he told me the story of his sick wife and how her care has consumed the majority of his earnings over the years. *“I don’t save much because my wife is disabled. She has lots of medicines that I have to buy. She has medicines that she takes two to three times per week, and you have to check her blood a lot.”* His work in the US and the dollars he earned enabled him to provide care that locally would have been difficult to attain, or as the community leader explained, *“People die when they get sick because they have no options or help.”*

Remittances are used to alleviate healthcare emergencies that without immediate care might result in death. The community leader and son of a tree planter spoke of his personal experience a year ago and how his son’s remittances saved his life. *“My son always sends me money to help with daily life and especially with emergencies as they arise. Just last year I needed emergency surgery, and my son sent me 7,000 Quetzales to pay for my surgery in Huehue....here in town, it’s hard to find that kind of money. If it wasn’t for my son and his work in the US, I might not be here.”*

In many of the villages that I visited from which H-2B planters are recruited, there are no healthcare facilities. For most of these people, there are local pharmacies and maybe a small medical clinic in towns 30 minutes to an hour away. These facilities might care for normal illnesses, at a charge, of course. Doctors and especially hospitals, however, are located in large cities like Huehuetenango, which are two hours away. There are costs in not only reaching these facilities but also paying for private care. For non-remittance receiving families, these private clinics and the medicines are simply not affordable.

The influx of remittances allows people who previously suffered through diseases to afford what are, by modern standards, simple cures. Surgery or more complex health problems might mean death to the non-remittance receiving family, as this would entail a trip to the larger city to visit one of the public hospitals, which offer poor care. The impacts of remittances not only improve access to healthcare, but as their children eat better and more regularly, we should see families that begin to experience longer lives and lower cases of infant mortality in many Guatemalan villages.

D. This land is our land:

Land is often the first investment made by tree planters. As one tree-planting veteran of 10 years put it, *“We don’t have money saved in the bank...instead, we invest the money in things like land...land value only goes up.”* As discussed in Chapters 4 and 5, tree planters come from rural communities with strong agrarian traditions. It is not surprising that their first purchase, after covering basic living expenses, is land. For most, land is not only a future source of income and means to feed their families, but also a tangible investment.

I visited multiple villages in the Huehuetenango and Alta Verapaz regions of Guatemala, and all shared a common theme in investments in land. The agrarian traditions are well engrained, and owning land is not only a status symbol but also a mark of success for many rural Guatemalans. Regardless of the ethnic backgrounds of the people in the villages, which ranged from Mayan Indians to Ladinos, the purchase of land was an almost unanimous goal, either as something that had already been achieved or was in their future plans.

1. Why buy land?

Land is bought for three primary purposes. First, this is the land that many will build their homes on and in many cases the futures of their families. Many planters, after their first season working in the US, purchase initially a small parcel where they will build their homes.

“First I bought my lot and built my house...then I bought some land.”

These lots and the future homes often house extended families. In the case of one planter, his home housed not only his immediate family but also his parents and the families of two brothers. In a way, many planters view this land as a place where they begin to build a future for their entire family, as they strive to rise above extreme poverty and reach toward better opportunities.

Second, many will begin the process of accumulating more land, not only as a tangible investment, but also as a means to grow their traditional subsistence corn and beans. For most respondents interviewed, this land was used as a means to feed their families. When asked about his land, one planter reported, *“I have bought 75 cuerdas* and I have all of it in corn...This corn is just for my own consumption.”* Another planter from the same village, explaining about their

subsistence agriculture said, *“This corn is just for our own consumption, not for selling....It is normally enough for us to eat all year.”*

* A *cuerva* is a unit of land measurement used in Guatemala, where approximately 9.8 *cuervas* equals 1 acre.

Planters’ investments are made in what they know. Planters from rural agrarian societies purchase land and plant it in their traditional crops. As one foreman said of his investment in land, *“Money in our pockets is like water, we spend it....So for us, it’s better to invest in tangible things like land or our store. It’s hard to manage money.”* For generations, rural Guatemalans have cleared land and planted corn and beans as a means of subsistence. With the influx of American dollars, there appears to be limited variation from this tradition. The biggest difference is the amount of land they are able to purchase, which in some cases has led to some diversification in crops.

Finally, land is purchased to grow cash crops as a source of income. I found that in the region of Huehuetenango, famous for high-quality coffee, many H-2B laborers bought land and planted coffee as a cash crop. While for many the acreages are relatively small, they sell their coffee to local and international coffee cooperatives operating in the region. Coffee is a dominant crop in the region, and many had worked as field laborers on the larger plantations prior to being employed in the H-2B program. This made coffee-growing almost as common as subsistence corn, and there was a natural transition from coffee laborer to grower.

As a result, many of the planters in the Huehuetenango region placed much of their land in coffee. *“I bought 20 cuervas, which are all in coffee,”* said one planter, while another talking about his land added, *“I also have another 100 cuervas in coffee....50 of these 100 were bought*

with remittance money...Some people here don't have land, and they have to pick coffee."

Investment in cash crops was not common outside this coffee-growing region. The other communities interviewed had very limited investment in any cash crop and instead practiced traditional subsistence agriculture.

It was not exactly a cash crop, but a small number of tree planters in the Alta Verapaz region planted pines as long-term investments on land they had purchased. During interviews, I got the sense that they had enough land in corn and so planted pines on land assets as long-term crops for personal or market consumption. *"On land way away from the road, I planted 2,000 pines on about 35 cuerdas back in September..."* Some of these pine plantings were supplementing natural pine stands on lands that were not convenient for farming subsistence crops due to their lack of access.

Buying land is engrained in rural Guatemalan culture, largely for agrarian subsistence or business purposes. Certainly, there were small regional differences, where some villages might have a history only in corn, while other areas might have a stronger coffee tradition that is incorporated in addition to corn. However, the reasoning was consistent. Land was an investment to supplement their food and income, and something they could pass on to future generations. It was an investment they hoped to leverage to improve their livelihoods.

2. What has this land afforded me?

During interviews, it was not uncommon to be given a tour of planters' land. Owning land is a source of immense pride, and in a sense, it lends control and security to a segment of their lives. As the planter from Huehuetenango explained, *"Those who don't have land pick the*

coffee.” Landownership in some ways distinguishes the haves from the have-nots. People at the bottom have no land and work for those with land.

Landownership also means those with land are able to be their own employers. This idea was reinforced during another interview when a tree-planting foreman said, “...*We feel different...some. We live a lot better. I don’t have to work hard when I get down there. Down there, I only work when I want to.*” This land, whether through growing subsistence crops or cash crops, supplements their lives when not working in the US. For most, this means that when they are back home, they are free to manage their properties.

Furthermore, for those who have accumulated more land, landownership means their families might not have to take seasonal farm-labor jobs. Instead, sons and daughters work the family farm lot. Or, as I will discuss in following sections, remittances and purchased lands allow children to remain in school longer, as they don’t have the pressure to travel for seasonal farm labor. It is important to remember that the continued flow of remittances drives this land purchase and frees up resources to allow families to progress from the bottom rungs of society.

Most respondents either grow enough corn to feed their families or have relatively small earnings from coffee lots. In many cases, these earnings cannot replace H-2B jobs and remittances, but supplement earnings. However, when compared to non-remittance receiving families who might only rent or own less land, this translates to not growing enough corn to cover yearly consumption or having higher costs associated with rents and purchasing corn.

Prior to the influx of H-2B related remittances, many of these planters rented land or owned very small parcels. Some owned land in conjunction with parents or may have inherited small parcels. Most tree planters discussed the difficulties of being able to afford land without remittances. “*Before I started going to the US, I had no land...*,” one planter said. When asked

how his landownership compared to that of non-remittance receiving families, he put it this way:

“It’s easy...those that don’t go...they have less land.”

When I first visited the coffee-growing community in Huehuetenango, it was during coffee harvest. The distinction between the remittance-receiving families who owned coffee land and those who were harvesting it was evident. While driving through coffee plantings, I asked a planter about the men and women, often with small children in tow, harvesting the coffee. He explained that many of them are from poorer families or travel there from poor villages to find jobs harvesting the coffee. These seasonal jobs, which many respondents discussed having done before H-2B, have now passed to other families.

3. *How much land?*

Sixty-one percent of tree planters interviewed owned some of type of land that was directly tied to remittances associated with H-2B forest labor (Table 6.3). Another 18% owned no land. This lack of landownership was rare but was associated largely with young planters with only one year’s worth of work in the US, or in a few cases, with planters originating from Guatemala’s Caribbean coast, where fishing and buying boats is the norm, not farming. Finally, this lack of landownership for one respondent was associated with family sickness consuming most of remittances sent, not allowing for the purchase of land.

Finally, for 21% of respondents I was unable to collect data. Reasons varied from very short, rushed interviews on town streets where the question was left unasked to interviews with spouses with whom language and comprehension was a problem.

The size of land purchased also proved to be variable. On average, planters bought 3.7 acres that were tied to H-2B forestry remittances (Table 6.3). However, the ownerships range

from just 0.1 acre to over 15 acres,
as the uses of these lands varied
from house lots to agricultural
fields.

The small landownerships,
as previously mentioned, were

Some hire labor, others work their land:

It is important to note that within Huehuetenango there were some larger landowners who owned extensive coffee holding. It was unclear if these individuals had a connection to tree planting remittances or were simply wealthy landowners. This became especially contradictory when one family talked about hiring poor families to harvest coffee while others explained that they harvested it themselves or had their own children or families harvest if they were away planting trees.

mostly from first-time planters or planters who only worked one season. As noted above, there is a clear correlation between acreages bought and years in the H-2B program. However, there is a point at which planters begin to diversify their expenditures away from just land. As one planter said, *“There is more to buy than land.”*

Other costs, such as education, building homes, vehicles, and businesses, also consume incomes. Land seemed to be bought mostly on the front end and then continuously as additional resources were available and not competing with basic living necessities. Without trust or any experience in the banking system, land is purchased admittedly as a tangible investment.

4. Why the variability in landownership?

There is substantial variability in the ownership and size of land. This variability is accounted for by three primary circumstances. First, as previously mentioned, is the length of time a planter has spent working in the US. There is a direct correlation between length of stay and the accumulation of wealth.

A second factor that affected the wide distribution of landownership sizes is the variability in land cost. Several considerations affected land pricing, as with any part of the world. First is the region. The region of Huehuetenango, where interviews were conducted, is

relatively more populated and has a climate conducive to coffee production. These considerations caused land prices to be more expensive and limited how much remittance dollars could buy.

By contrast, the Alta Verapaz region is far more rural and located in a region with few, if any, major cash crops. As a result, most of the land is used for subsistence crops and in some cases forested woodlots. This results in cheaper land and thus allows laborers more purchasing power.

A second consideration affecting variability in land cost is access. Both communities are rural with limited vehicular access. This results in land on or near a road being sold at premium prices. As one tree planter commented, *“Land near the road is expensive...I walk 5 minutes and it costs \$256 per cuerda (per one-tenth acre)...if I was willing to walk 30 minutes, it would cost \$38.50 per cuerda.”*

The proximity of land to roads thus influences the amount of land planters buy. Some are willing to walk farther than others and, as a result, have more land. In reality, most planters remand nearly identical amounts of money. How they invest that money is where I saw diverging paths. However, few diverged far from the traditional norms.

Finally, there were a few who broke from the norms of farmland tradition. Some only bought home lots, accounting for limited acreage, and spent their funds in other microeconomic ventures in building homes and buying vehicles. These cases were very limited, accounting for only 2 or 3 planters of the 39 interviewed.

E. Building new homes:

One of the most visible signs of investment of remittances as I drove throughout Guatemala was housing. Homes traditionally built of adobe, rough-hewn wood, or cane and mud construction are being replaced with modern homes built of cement cinder blocks. Today various forms of modern architecture, often with green or blue reflective glass windows, sprout from small cornfields with chickens scratching in the yard, marking a juxtaposition of remittance-funded homes and the age-old traditions of subsistence agriculture.

This juxtaposition of old world meets new world is directly correlated to the billions of dollars that enter Guatemala by way of remittances. For the poor subsistence farmer, remittance dollars mean better, sturdier, roomier, and more comfortable homes. For those with remittances, long gone are the drafty thatch-roofed huts that marked Guatemala's poor rural farmers. For the H-2B laborer, these visas mean a regular source of capital that most translate almost immediately into housing.

1. Our homes before remittances:

The traditional rural homes that many planters owned or grew up in before H-2B remittances are very rudimentary. As I drove or walked through villages conducting interviews with H-2B planters and their families, I regularly asked them about their homes before H-2B or the homes of their neighbors who were not participating in the H-2B program. In response, they often pointed to the simple traditional homes in town that came in various types and signaled the level of poverty of the family. As one planter explained, "*My home before remittances was wood with a thatch roof...these houses are still very common with people without work or money.*"

These traditional homes provide only the most basic structures using local materials and techniques going back centuries. A common form of construction among the poorest in the villages I visited is cane poles tied together to provide a basic structure over which clay mud is caked to form walls. The results are uneven, coarse mud-brown walls with bamboo seen at regular intervals providing structural support (Image 6.2). These homes are generally small and likely have a short life span as the cane decomposes and the mud cracks.

Roofs are constructed using roundwood, composed of whole trees stripped of their bark for rafters and rough-hewn wood to enclose eaves. Supporting posts with natural branching forks are used to hold crossbeams. Roof materials in the poorest homes are built from locally grown thatch that is woven to provide a thick waterproof layer.

Moderately better homes use locally made adobe bricks that are laid forming thick earthen walls that are sturdier and likely longer lasting than the above-described cane and mud homes. These homes are often larger and generally have at least one window. Roofs are either thatch or terracotta tiles, which are locally made and provide a good and yet heavy building material. Increasingly, corrugated tin roofs are used by families that have additional capital (Image 6.2). Tin lasts decades, is far better at keeping homes dry, and is easier to install.

Indoors, the floors of both these construction types are often nothing more than packed earth with the most rudimentary furniture. Beds are composed of rough-hewn wood with either blankets or a straw-stuffed mattress. There will usually be a small wooden table and a few chairs to complete their furniture. The home will generally be composed of one large room and occasionally two, with the family sharing one or two pallet-like beds.

Cooking is done over an open fire, built either in the center of the room or in a corner, using a stone or brick structure to contain the fire and provide a platform to support a metal plate

stove top for cooking tortillas or heating water. Seldom are there chimneys; instead, the smoke drifts through the thatch or terracotta roofs to escape the homes. Smoke infiltrates all parts of the home, making the interior dim and blackened from years of soot. In many cases, this increases the risk associated with various respiratory diseases.

Families who have done better for themselves build homes of rough-hewn dimensional lumber harvested from nearby pine forests. These homes, as the wife of a tree planter explained, are common among *“those who can’t go to the US.”* Their homes, she explained, *“are normally built of wood.”* These homes might still have the same thatch roofs but more often corrugated tin. However, these homes often have gaps between the wooden planks, which makes the homes airy in the cold mountain weather of the western highlands. Additionally, as this lumber is untreated, these homes are subject to rapid decay.

It is important to note that the above descriptions are especially visible in the more rural villages I visited in Alta Verapaz and Huehuetenango. These areas are especially impoverished regions, and yet as I moved into their more urbanized centers, cement homes became more prevalent. However, as I have discussed, most H-2B planters are recruited from the rural communities where the above housing is the norm. The variability in the building materials is subject to available capital, local building materials, and cultural norms for the village in question.

Today this housing, a direct result of remittances related to H-2B and, more frequently, to illegal immigration, is being replaced with cement homes, which are both larger and more modern. It should be no surprise that available capital is almost immediately translated into homes that are larger, provide more comfort, have modern amenities such as running water and electricity, and will last far longer. As a planter explained, *“With remittances, we can build*

better houses...building materials are expensive, and with US dollars, we can buy more of them....we can really see the difference in what we can achieve.”



Image 6.2: Examples of Homes of Non-Remittance Receiving Families

2. Investing remittances in new homes:

Seventy-two percent of the laborers interviewed had built new homes (Table 6.3). One of the first priorities for H-2B laborers following the purchase of land is building a better home. As one young planter on his first trip to the US explained, *“This is my first trip, but I have a goal of building a house. I worked down there, and I saved some as a bank teller, but with this job I save more.”* This young planter, who had a professional job before H-2B, had earned good money, which had allowed him to save and buy land. However, his H-2B job provided higher earnings, which he had been saving to build his new home. He said, *“Now I want to build my house....With the money, this year, I am building my house at this moment....You save money, and once you have enough, you start building.”*

A further 17% of H-2B planters had remodeled or expanded existing homes (Table 6.3). In reviewing these cases, it is evident that several factors contributed to these decisions. First, many of these planters had existing homes. As a result, they sought to improve these homes by adding better roofs, appliances, or in some cases more rooms. As a young planter recently

returned from his first year of planting reported, *“I have a house, and I am still happy with it....But I did use some remittances to do some home improvements.”*

Second, most of these planters had only spent a relatively short time working and earning remittances in the US. With a couple of exceptions, most had only completed one year in the US and therefore had earned limited capital. This, in combination with already owning homes, resulted in their investing in existing properties. As one planter commented, *“Remittances have helped me add onto and improve my house.”*

A single season working with H-2B and the uncertainties of securing visas the following year, inherent to this program, made it difficult for first-year planters to begin a multi-year building project. As a result, many who already had homes instead opt to improve and build additions, which a single year can often fund. As one first-year planter commented, *“I put some money into my house in repairs and upgrades....”* He added, pointing around his house, *“I know you can’t see much, but remember, 1,000 Quetzales here is nothing.”*

Short visa stay, as in the case of this planter who only spent three months working in Georgia, meant he had little to show for his time away. This planter expressed some frustration that after covering his family’s living expenses he was only able to upgrade his home, which to the outside observer, he acknowledged, is invisible. However, even in these cases, homes often received new appliances, a roof, or simply additional electrical wiring for more lights, as in the case of the planter above.

A small percentage of planters, or 11%, had not built a home or remodeled an existing home (Table 6.3). In these relatively rare cases, this was generally due to the planters being young unmarried men still living at home and usually only having spent one season working in the US. Many of these men invested in land and began saving for homes that they will build

when married. In the more rural villages, many of these saving are likely in land purchases, as most do not appear to save using the banking systems.

There is one conspicuous exception I encountered as to why one planter had not purchased a home. This is the case of a planter in his mid-forties whose wife suffers from an illness that requires expensive medications and hospital treatments. As a result, most of the funds from his 14 years with H-2B have been spent on medical expenses. For this man, remittances are largely used to sustain his wife with private healthcare, which remittances made possible.

There are also a small number of planters, or 11%, who have built more than one home (Table 6.3). As I have discussed, H-2B planters prefer to invest in tangible assets, and second homes are often a combination of microeconomic investments and housing for other family members. It is important to remember that while many planters are away working in the US, various family members often provide assistance to their families. Brothers, parents, or older children will look after wives and small children, subsistence crops, and any business ventures they might operate.

This is the case of one husband-and-wife planting team (she works in the office and as a foreman while he plants) from Guatemala's Caribbean coast. They built her sister a small home next door to theirs, both in return for her help and to ensure she is close by to look after their home and boats. As she explained it, "*We have built two houses. One for us and one for my sister to use....My sister cares for our house when we are gone working up there.*"

In most cases, H-2B planters build second homes for their children or parents. One planter in Alta Verapaz did for this son, who was 12 years old at the time, so that he can gift him with a house when he is older. In this father's words, "*I have also bought a house down in the*

'colonia' (neighborhood). I have that house empty, but I bought it for my son so that he might have a place to live later."

In some cases, second homes are microeconomic ventures. This is the case for a longtime foreman who bought two lots and built a home that he rents as a source of income in a larger city two hours away. This same property, he hopes, will provide a place for his children to live when they move off to college. For this veteran foreman, remittances have allowed him to not only build a comfortable home but have a second home and, sometime in the years to come, a third home to help him earn a local income. These homes have a secondary function of saving him money when he pays for his children to go college.

In all these cases, remittances are major factors that have allowed planters to not only improve their own housing but often provide better housing to other family members as well. Frequently, I asked planters to compare their current remittance-funded homes with previous housing. In all cases, they described smaller homes built of mud and cane, rough-hewn wood, and either thatch or tin roofs.

Many would point to these types of homes scattered through town or the homes of non-remittances families. As one planter remembered, while sitting at the dining room table in his new home with a tin roof, smooth cement floor, polished wooden doors, and a few modern accents, *"Before, I lived in a small wood house that was way off the nearest road. We were poor...and that house was not nice."*

It is all relative, as his home still sits at 10-minute walk down the side of a steep mountain through his remittance-purchased cornfields. But in his view, he now lives in a better home with multiple rooms, skylights and windows for natural light, vibrant paint and pictures on

his walls, and surrounded by his land and crops. His primary worry today is whether he will get a call from the H-2B recruiter next year to keep improving his life and that of his family.

3. Description of remittance-funded homes:

Homes are a major source of pride. This is not surprising, considering planters' transition from their humble origins of adobe mud homes with dirt floors to homes built of cement with tile floors, sometimes glass windows, and running water. A foreman with seven years working in the H-2B program was quick to point out the finer features of his new home: *"I have a house that is two stories, it's a cement house with lots of ceramic tile, it's a fancy house."*

While in Alta Verapaz, I quickly found myself traipsing up and down single-track trails to visit everyone's remittance-funded home. Invitations often included a cup of coffee, piece of bread, and in one case, "Kaq Ik," a spicy Mayan turkey soup. They showed me modern appliances, TVs with satellite receivers, and homes of various sizes displaying varying levels of quality and comfort.

It is difficult to describe the homes that remittances afford H-2B planters. As I have discussed, those with more years, longer visa stays, and varying cultural backgrounds build homes that run a broad continuum from moderately better than those without remittances to homes that rival those of upper-class Guatemalans. To help the reader grasp the differences, I will provide three descriptions along this spectrum: a home at the bottom end, one at the top end, and a general description of a home that can serve as an average of sorts for the vast majority.



Image 6.3: Examples of Simple Remittance-Funded Homes

a. Case of the simplest H-2B homes encountered:

The simplest home I encountered belonged to a planter who had only spent one nine-month visa planting trees. His home was constructed of a combination of cement block and pine siding. The lower one-third of his home was constructed of cement blocks. Above this point, his home was built of pine boards cut by chainsaw into 1-by-12-inch boards. Sawmills are very rare in rural Guatemala, and instead chainsaws are used to saw dimensional lumber.

The home had a rough cement floor and few windows with shutters and no glass (Image 6.3). The home had two rooms and an outdoor kitchen. The furniture was very rudimentary, with only a few wooden chairs and one table (Image 6.3). The house was lit by a single electric bulb, and running water was only available through an outdoor spigot. The home had a tin roof, and by most standards was very simple. However, for this man, it was a drastic improvement. When asked about his home, he responded, *“Because I did not have much money, my house is built of half cement block and half of wood....My house is a big improvement from my last house...that house was all wood and a thatch roof.”*

b. Case of the more extravagant H-2B funded homes:

On the other end of the spectrum were a few homes that were built almost to American standards. The particular case I will use to illustrate these types of homes was that of a foreman who had recently retired after 14 years of working in the H-2B program. His home was located in a small town miles down a dirt track road and only a stone's throw from the Mexican border. His home was larger than those at the bottom end of the scale, likely around 1,300 to 1,500 square feet. The layout of his home had a large kitchen leading to dining/living rooms in an open format (Image 6.4). The home had three bedrooms, a room for each of the two children, and one for the planter and his wife. The home had modern appliances including a gas stove, refrigerator, and television.

Floors were decorative polished tiles and extended to his front porch, which, interestingly, led to landscaped and manicured garden with grass, shrubs, and palms. Furniture in the living room included a stuffed sofa and chair and a wooden dining table with matching chairs. Decorations were more elaborate than in simpler homes visited and included pictures of his family, decorative clocks, children's school art, and pictures of his club soccer team.

The roof was built of steel rafters with corrugated tin, and the home had glass windows with screens. Some of the larger homes I visited had small one-car garages; however, this home instead had his "*tienda*," or dry-goods store, attached to the front of his home. As in the case of this foreman, it is common to see businesses attached to homes.

From the exterior, it appeared these larger homes often paid more attention to architectural features than the purely functional smaller homes, often using railings or banisters with fluted columns, arches, or trim in materials such as brick or cement plaster. Exterior and interior walls were painted rather than being left the original cement gray common to the poorer

homes. In this case, the foreman’s home was a combination of cement gray with the trim painted in white, giving the home a modern utilitarian look.

These finer homes often had modern plumbing with a toilet and at least one all-purpose washing station, or “*pila*,” out back. In one case, there was a home with an indoor bathroom with running water. In most cases, however, as in the case of this foreman, the bathroom and *pila* were located against the side of the home as part of a covered rear patio.

Overall ,the foreman’s home was very comfortable, modern, and resembled many of the middle-class homes of professional Guatemalans. The home was clean, well maintained, and an example of what years of remittances could build. His pride was evident, and he readily commented, “*I have a nice house because of my time in the United States.*”



Image 6.4: Examples of More Extravagant Remittance-Funded Homes

c. The average H-2B planter’s home:

On seeing both ends of the spectrum, it is important to understand that these are outliers. I only saw or heard of a couple of wood-cement homes and found most of the homes to be clustered closer to the top end of the spectrum, with the exceptions of fancy tiles, architectural features, carports, and upholstered furniture.

Instead, the home of the average tree planter tended to be about 800 to 1,200 square feet. These homes were generally built of cement block with cement floors or simple tiles (Image 6.5). Roofs were usually corrugated tin. The homes often had two bedrooms, a family room, and a kitchen, or in the Mayan villages, a wooden detached kitchen.

The detached kitchens common to the Mayan H-2B planters used wood-burning stoves and were kept separate from homes to keep smoke out of principal living spaces. In the Ladino homes, kitchens tended to be more modern; however, most still had a wood-burning stove, as they complained about electricity costs needed to run modern stoves. Wood-burning stoves in most cases were more modern than those of non-remittance receiving families and had chimneys to keep smoke out of the homes.

Furniture was simple, consisting of wooden chairs and tables, and in the large rooms, benches along walls were common. Walls were simply decorated with religious icons, family pictures, and various posters of sport teams. For the most part, Mayan homes had sparser and simpler furniture and decorations. This lent these homes an empty, echolike feeling, especially in the large family rooms with sparse furnishings. Ladino homes, on the whole, had more decorations, furniture, and (by conventional North American standards) an overall homier feel.

Most homes had electricity, unless it was unavailable due to the location of the village or their homes. Some planters discussed wanting their homes to be more secluded to be closer to their subsistence crops. This was especially the case with the more rural Mayan communities. Running water was usually not in the home but rather as part of the *pila*, or all-purpose washing station, for dishes, clothes, and drinking water. Water was piped indoors in only the finer homes I visited.

Exterior architecture was highly variable, ranging from homes with fluted columns and arches to homes built very simply with no paint over the cement walls (Image 6.5). On average, most homes had some architectural features, such as veranda columns, brick highlights, or arches, but most lacked paint.

Landscaping was generally absent. Instead, homes had farm animals such as chickens or pigs in the yard. Apart from edible shrubs or plants around the home, the yards were packed earth, which was swept clean of leaves or debris. As in most of Guatemala, little care was taken to collect garbage.

Garbage was commonly swept into the corners of the landscape or strewn in unused parts of the yard. I would like to think H-2B homes were moderately cleaner than non-remittance homes; however, I cannot make that assertion with a strong conviction. There were certainly isolated cases, as in the foreman with the nice home discussed the section above and a couple of families in El Cushing. In these cases, garbage was absent and openly pointed out and discussed as something they had observed in the US and worked to apply as a social remittance in their homes.

These cases of fine landscaping, garbage-free yards and more modern homes often were observed in planters who had spent over 12 years traveling back and forth to the US. It was evident that the workers with more time working under H-2B had observed and implemented these social remittances. During interviews, they discussed how they observed landscaped lawns, clean neighborhoods, and homes with certain design features and strove to implement these features on their own properties.

Overall, it is evident that H-2B remittances have made an immediate impact on housing. There are cases of first-year planters building new homes, or more often, remodeling existing

homes. As the years stack up in the H-2B program, most workers invest their capital in clearly better homes than local wages would allow. To the average H-2B planter, these homes and the success that they symbolize in their communities is a driving factor as to why many initially immigrate. However, as their jobs are uncertain from year to year, and visas last varying lengths of time, it takes them multiple years to build these homes.



Image 6.5: Examples of Average Remittance-Funded Homes

4. It takes time to build a home:

Seldom do planters earn enough in one year to build their homes. Instead, most begin building their homes between years one and three. Most must first buy the land and then begin to start saving for their home. The first investment any planter makes is a lot for his home and possibly a few extra acres for his subsistence agriculture. Once he has those in hand, he is ready to start saving for his home. For some, this takes a year or two; for others, it might be a bit longer.

A case in point is the veteran foreman whose above-average home I described previously: *“It took me three years to start building my house.”* For him, it was a matter of buying his lot and working long enough to save enough money to begin building. Home loans are not common. Instead, most build with cash in hand, waiting multiple years to start, and then

completing their homes. They buy the materials they can afford each year after paying off H-2B visa travel loans, covering their family's living expenses, and taking care of any unforeseen issues such as family sickness.

Once begun, homes take anywhere from two to three years and occasionally more to complete. As one planter commented, *"I built my house in 2006...but it was built by pieces. I did not do it in one year but over many as money was available from my remittances."* As they earn the money, they apply it to furthering construction on their homes, often starting out with a small home that over time they continue to expand. The small home ensures that their family has a home even if the visa is not renewed. However, once the visa is renewed the following year, a second story, another room, or finer appliances are added.

This, from an aesthetic standpoint, has the effect of most rural homes in Guatemala appearing unfinished. It is common to see steel rebar and PVC piping protruding from rooftops for the second story that will be added with next year's remittance check. Materials are often stockpiled around homes for the next addition or phase of construction.

For many, these are their dream homes and take years to build. As one planter, proudly pointing to his two-story home with tile floors and an attached concrete garage, told me, *"I have built this house... it cost me 250,000 Quetzales to build my house."* It is important to note that his building cost of \$33,300 is immense by rural Guatemalan standards. While I did not ask this planter how long it took him to build his home, I suspect this home has been a work in progress for over four years and would be impossible to attain for families without access to remittances.

Many planters remand money to family members who begin house construction, often while planters are still working in the US. While visiting a small village in Huehuetenango, I

saw several homes under construction or being remodeled. In one case, the home belonged to a man's sister, who was currently working with an H-2A visa at a US nursery.

Another home, recently finished, belonged to a young foreman whom I had interviewed in Demopolis, Alabama, earlier that year. He had provided contact information for his father, whom I visited. During my visit, his father walked me next door to his son's home under construction. *"I am overseeing the building while he is away,"* he explained. This home was nearly complete on the exterior and would likely be finished the following year, once his son and his earnings arrived.

Contrary to my general findings, this young foreman had taken a small loan to complete his home. He had spent a total of four years planting with H-2B and had recently been promoted to foreman. He had first saved some money for his home but wanted a home sooner to share with his new wife. So, as he explained it, *"I have taken a loan to start building my house, and I have used this money from up here to begin paying for it. I took the loan because I knew I had this job."*

This planter took out a loan for five years, which he has the option to extend for up to 12 years. I had the sense in talking to him that he was confident in his H-2B job being available for multiple years. Additionally, I suspect, as most planters take around three years to complete their homes, that he plans on paying his note quickly to reduce his risks.

In all but this case, planters opted to save and build their homes with cash in hand. They traveled with their H-2B visas, and if they had a good planting season, they might complete their home. If it was a poor season or family emergencies delayed them, then they might progress a bit slower.

As I have discussed, loans to poor rural Guatemalans have extremely high interest rates and are generally not available through conventional institutions such as banks. Instead, they are through community members with money and are risky if they are for amounts greater than a planter can hope to earn in a single year. Should visas not be available or employers not extend an invitation, these planters could lose their properties to pay off the notes.

Due to the uncertainties of the H-2B visas, it is easy to understand why many build their homes piecemeal using available cash. They start with a small house to ensure they can complete it in a year or two and add to it if visas are offered in consecutive years. Their homes progress more slowly, and yet this strategy is far safer for planters, who understand the uncertainties inherent to their jobs and visas.

5. Impacts of culture on housing:

The village of Cushing in the Department of Huehuetenango is largely Ladino, as were the other two communities I visited in the department. By contrast, the villages I visited in Alta Verapaz were predominantly Mayan. While all the communities were relatively remote and impoverished, the poverty was far more evident in the Mayan communities. I noted during my visits that these cultural differences and likely income inequalities extended to their remittance-funded homes.

It was more common to see modern features like tile floors, indoor plumbing, and kitchens with electric stoves and refrigerators in Ladino homes, as was also true with glass windows, modern architectural features, and manicured landscapes on the exterior. When asked about these design features, one young planter commented, *“I saw it in a magazine and decided*

to copy it.” Among the Ladino population, there seemed to be more of a desire to incorporate home features seen either in the US or in popular culture.

By contrast, Mayan homes were far simpler and generally had a more utilitarian and function-oriented feel. Most had simple cement floors, limited plumbing, and rudimentary kitchens usually detached from the home with wood-burning stoves. Often when walking into a Mayan planter’s home, I found the main room largely empty except for a simple wooden table and chairs. Walls were generally barren, and often they stored their year’s corn harvest in the rafters of their family room. This main room was almost a combination of family room and barn used to store agricultural products and equipment.

Mayan homes generally had fewer rooms. In some cases, the total size of the homes was similar to homes of Ladinos, but rather than having multiple bedrooms, there would be one overly large living space and one or two other rooms. This was not surprising, considering that many indigenous Mayan families are accustomed to sleeping in a single room. This is a norm that is encountered in many Mayan homes, largely a function of intense long-standing poverty. Interestingly, even with the influx of remittances, most still opted to build homes with one large central room and one or two bedrooms with multiple beds.

Ladino homes were often a bit more spacious, with more elaborate decorations and modern amenities. Furniture was nicer and likely store-bought, family pictures hang on walls, and more of an effort was made to make their homes comfortable. Hammocks hung on patios, there were chairs on porches, and there was a more leisurely feel, as in a place to relax.

Their homes often had more bedrooms and segregated living spaces. Multiple family members might still live in a single room; however, this was more of a function of large families

in a small home. Yet it was evident that most strove to add bedrooms to provide children with separate living spaces.

It must be noted there were multiple exceptions. I did encounter tile floors in the Mayan villages and simpler homes in the Ladino villages. Some Mayan homes did not store corn in rafters and made more of an effort to decorate their homes. However, trends were largely otherwise.

I am certain that cultural differences played a role in their home designs, levels of modernity, and function. Mayans have a long history of marginalization. Most still cling to subsistence agricultural traditions and, due to discrimination, have largely been excluded from the outside world. There is a long-standing distrust of the government and the capitalist markets that have repeatedly taken advantage of local mineral rights and prime farmland and used these communities as sources for cheap agricultural labor.

Education and social programs have also been disproportionately absent from many Mayan areas, increasing this sense of isolationism. This has kept these communities impoverished and provided very little access to better employment and outside influences. This marginalization has in many ways kept many cultural norms intact, as few have the opportunity to incorporate outside cultures and join the capitalist society.

As a result, capitalist ideals seem to have less sway, as many still strive to invest their H-2B earnings in familiar ways such as subsistence agriculture rather than in building large extravagant homes with modern amenities. Rather than investing in microenterprises to make more money, they instead buy land to grow the same corn on the same mountains as their Mayan ancestors. In no way am I saying they are free from these capitalist ideals, as indigenous Mayans in more urbanized regions have certainly adopted many of these practices. As remittances

become more common, many begin to join the society of mass consumption, if a bit more slowly.

Ladinos, on the other hand, are part of the ruling class. The middle class is largely made up of Ladinos. It is likely that this culture is more able to adapt and modernize, as they have generally had better access to education and the outside world. Their traditions are often a mixture of Mayan and European ancestry and thus are worldlier in a modern capitalist sense.

As a result, they seemed more apt to adopt modern architectural features, appliances, furnishings, decorations, and multiple other goods that capitalist societies encourage. Certainly, the poorer Ladino H-2B planters were more reminiscent of their Mayan counterparts. However, in judging from the long-term successful planters, there is certainly more focus on accumulating wealth, as most had finer homes, multiple vehicles, and small businesses.

Yet, even for the rural Ladino, the traditions of land and subsistence agriculture are still there. Most still farmed some corn, and yet most also converted their lands to cash crops such as coffee. The subsistence agriculture is certainly there but is more common in the newer and less successful H-2B Ladinos, who still invest in more traditional ways.

Another factor that cannot be ignored and features prominently in the differences in homes is years in the H-2B program. On the whole, the Ladino communities in Huehuetenango, and especially Cushing, have a longer history in participating in the H-2B program. The longer a community participates in the program, the more likely it is that two things begin to happen.

First, planters who have been going and coming for multiple years have accumulated more capital, which they have invested in modern homes. More money easily translates into better homes and amenities. Mayans generally had spent fewer years in the US and thus had accumulated less capital. This could be one explanation for their smaller, simpler homes.

Second, the Ladino community of Cushing has been participating in H-2B since the program was initiated in the mid-1990s. Consequently, the community has a long history of introducing social remittances to the region. Modern architecture, use of electric appliances, homes with multiple rooms, and living rooms laid out using American sense of design have been introduced and accepted as a new norm.

In contrast, workers from the Mayan communities had generally participated for less than 7 years. The number of participants is also substantially fewer. Cushing had over 1,300 people per year going to the US. The Mayan communities generally only have a dozen or possibly two dozen in good years. They simply have not had much exposure and time to incorporate many new social norms into their house design and function. However, among the younger planters, these norms were becoming evident. This could be a function of increasing outside influences from the ever-rising numbers of illegal workers. In addition, the Mayan culture is beginning to move outward as roads and capitalism reach even these poor rural regions.

F. Educating our children:

1. The state of education in Guatemala:

To understand the impacts of remittances on the education of planters' children, it is important to recognize why many poor rural families seldom exceed a sixth-grade education in Guatemala. Guatemalan education is technically free until the sixth grade. "*Primaria*," or primary/elementary schools, are located in most of the villages, making education easily accessible. As a result, there is an enrollment of approximately 95% in Guatemala (GHRC 2010).

However, completion rates for elementary education are only 78% nationally (GHRC 2010; Global Education Fund 2015). There are several factors that contribute to this dropout rate. First, there are costs for these students in the way of school materials and uniforms. While these costs are minimal, they add to the financial difficulties of people living in poverty and in some cases extreme poverty. A second factor is the need for children to begin helping families in subsistence agriculture and fuelwood collection, common to many rural regions. This pressure, driven by poverty and the need for children to help their families survive, has many dropping out before the sixth grade. Finally, there might be some cultural norms at play, especially in the rural indigenous regions that place a lower value on education. However, it is unclear how prevalent this is, as most indigenous populations suffer disproportionately from extreme poverty.

Regardless of the reason, 76% of indigenous children drop out before completing their primary education (GHRC 2010). My interview data suggest very similar trends, as the average education for indigenous planters was 3.6 years, while the education for Ladino planters was 6.3 years. It is common to see most of the Ladino planters having completed their elementary education, with a few having gone further, while most of the indigenous planters dropped out at third grade, with a few completing the sixth grade.

The largest drop in education, however, occurs between elementary and secondary education. The enrollment rate between sixth grade and secondary education is currently only 38% nationally and is likely lower in rural indigenous regions (GHRC 2010; USAID 2015). Secondary education poses additional challenges, as these schools are generally located in larger towns. This means children must travel either on foot (if possible) or by public transportation to attend these schools. The latter increases the costs of this education. This, in combination with

the increasing pressure to help in subsistence agriculture and even paid farm labor as these children age, leads to a very low enrollment rate.

Secondary education in Guatemala is broken down into two sections. First, the provincial education, which is similar to the American middle school system, lasts three years (GHRC 2010; USAID 2015). These schools cover general studies and can be found in most of the small towns. The final three years of secondary school are called “*diversificado*,” or diversification, which is a technical education (Classbase web 2012). These schools are generally found in the larger towns, and state-run schools traditionally offer certificates in either teaching or bookkeeping (Classbase Web 2012). These schools are the cheaper and more accessible alternative, which results in most H-2B planters using these schools for their children’s education.

Private schools are available and offer a broader spectrum of careers, including computers, agronomy, auto mechanics, secretarial services, and tourism (Classbase web 2012). These private schools are only located in the larger towns or cities such as county seats. This certainly increases the educational costs, not only for private tuition, but also paying for travel and living expenses for children commuting or living outside the home. These schools for non-remittance receiving families are generally unattainable; however, as I will discuss later, there are cases of H-2B planters sending their children to private schools and in some cases college.

Finally, there are additional educational problems with disparities between male and female enrollment. Guatemala currently has the lowest female enrollment in Latin America (GHRC 2010). This disparity is again more pronounced in the indigenous populations (GHRC 2010). Girls are generally kept home to help their mothers with household chores, raise younger siblings, or weave textiles (GHRC 2010).

Without the influx of remittances, it is difficult for both Ladino and indigenous populations to improve their children's education. Programs from the USAID and other foreign aid have improved education for rural populations. However, as I will discuss in the next segment, remittances and in the case of this study, specifically H-2B forest remittances, are likely having the most direct impacts on improving education.

Links between remittances and education as a development tool have been documented around the globe. Specifically, studies in El Salvador and the Philippines have shown that remittances contribute to student retention rates and investment in education (Edwards and Ureta 2003; Yang 2005). Similarly, Adams (2010) found in Guatemala that remittances spent on the margins accounted for 194% more investment in education than would have been spent otherwise.

2. Investing in children's education:

"Our children won't be like us," is the strong hope that H-2B planters expressed for their children. Investing in education is a common theme that I saw surface in almost every conversation related to remittances. As one longtime planter put it, *"I don't want my kids to do this job....we want them to have office jobs, not working brutally like me....My kids will be the beneficiaries of this money...We come to see our children improve."*

The education of the average H-2B planter I interviewed was five years, meaning most did not complete elementary school. As a planter from Guatemala's central highlands commented, *"I only had a third-grade education...I went to work in the fields early to help my dad grow corn and beans...I was maybe 10 years old...when I was old enough that I went to work on the coffee, cardamom, and corn farms."*

Most of these men have known no other profession than wielding a machete, hoe, or shovel as agricultural day laborers. Yet, for most, this influx of remittances has them thinking about breaking this cycle of back-breaking work at the bottom rungs of society for their children. As the one planter commented, *“We come to see our children improve.”*

For families without remittances, education for their children is difficult to attain. Most leave school at an early age to help their families collect fuelwood, farm subsistence agriculture, and eventually take seasonal farm-labor jobs as the men of the previous generation have done. The influx of remittances has begun to allow families who have followed this age-old tradition to invest in a different future for their children. *“If you don’t come up here, many parents can’t afford it and have to pull their children out of school. These jobs often allow us to finish our children’s degrees,”* explained one planter. A recruiter and foreman in Huehuetenango commented, *“In this region, like us, for example, a sixth-grade education was all you got...after all our travels to the United States, you start seeing families sending their kids to school longer, and you see professionals beginning to graduate. The benefits of making more money are that you see our kids becoming teachers, lawyers, and starting to go even to better private schools.”*

The majority of the H-2B planters interviewed were young men with young families who had yet to invest in their children’s education. As a result, of the 39 planters interviewed, 54% were currently investing in their children’s education (Figure 6.7 and Table 6.4). For the majority, or 36%, the investments were minor, as their children were enrolled in public elementary schools (Figure 6.8).

A small percentage (14%) of H-2B planters enrolled their children in private elementary schools to ensure they had the best education (Table 6.4 and Figure 6.9). One of the villages I visited, which at one time was sending over 1,200 H-2B laborers annually, and thus had a

massive influx of remittances, had started a private school for parents wanting a better education for their children. For this village, private education was available, which is an anomaly for small rural towns.

As one young planter explained, *“I pay for private school for my kids’ education. I don’t like the public school system...the education is terrible. Teachers are always on strike and kids are never in school...my kids are now in a private Christian school.”* This same father made it a point to ensure I understood that his H-2B job made this possible by saying, *“If I stop going to the United States, I will no longer be able to afford their education.”*

The costs of these private schools are substantial when considering local earnings, and it is easy to see how remittances are needed to finance what is likely a better education. As a 65-year-old veteran tree planter of 14 years who still traveled to plant told me, *“This is an opportunity for our family....,”* meaning the H-2B program. *“It has allowed us to put our kids in school...and one of our kids even went to private school. Now all my kids have careers.”* The private school, he explained, was expensive, as it cost 10,000 Quetzales, or approximately \$1,333 per child per year.

Apart from planters investing in private schools, I expect the percentage of planters paying for education and the amount they pay to increase as children move beyond sixth grade and transition to the more costly secondary education. In the villages I visited, elementary education was available locally until the sixth grade; however, all but one of the villages did not have secondary education available, thus requiring travel and additional costs. As a young tree-planting foreman explained about his village, *“For our kids, when we have them, it will be tough with education because kids can only study elementary school in our small town....Then*

remittances are really needed to help keep the kids studying, because you now have to travel to another town for school.”

Of the 39 planters interviewed, 29% were currently investing in their children’s education by paying for secondary high school education and in one case college (note that most studied in the free state-run secondary schools, however still incurred travel, book, uniform, and other costs) (Table 6.4 and Figure 6.9). While 23% of the planters interviewed did not yet have kids, this did not keep them from thinking ahead and investing in their children’s education (Figure 6.8). One young planter even went as far as buying a lot near a larger town to eventually build a second home for his kids when they went to specialized high schools or even college. This same planter has dreams for his children that he hopes his remittances will fund. As he explained it, *“I have four kids, and I really want them to become more educated and become professionals such as a doctor or lawyer...this is the hope if I can continue to work in the United States.”*

As I will discuss in the next section, many of the parents have educational goals for their young or unborn children; however, I found multiple examples of H-2B planters who were currently or had already succeeded in improving their children’s education above national norms. As an older planter nearing retirement told me, *“I have paid for studies for my children. Without this job, I could not pay for their education. I have five kids. They all went at least till sixth grade. One continued to study and is now a teacher. Another is an accountant....One of my girls is a bilingual secretary.”* As discussed in the previous section, these degrees are from local government-run high schools offering specialized degrees. Regardless, this is over twice the education of that their parents achieved.

These degrees afford these children opportunities to work in professional careers, teaching in schools, working in banks and/or office buildings as secretaries. The children of

these planters will not be subject to manual farm day labor and can instead achieve their parents' goals of being "professionals." Another planter from the same town similarly explained, *"I now have a daughter who has graduated with a teaching degree and have two more kids in the process....I pay for their education and will keep working till they are done."*

It is clear that remittances associated with these jobs are helping children to achieve high school educations. These funds do not always flow from parents to children but at times to siblings. One young planter said, *"Before remittances, you had to quite studying at an early age because there was not money to keep you in school longer. Now my younger sisters, I hope, will finish high school and maybe go on to be schoolteachers."*

Contrary to national norms, and most surprising to me, was to find a case of a planter who had invested in a college education for his children. As I will discuss in the next section, there is plenty of talk about their children going to college from other planters; however, to have a case of children actually reaching these goals validates these discussions. One planter proudly explained during an interview, *"I have two girls that are both in university...right now. Both are studying to be lawyers. One was a teacher before but did not like it...so is now back in school."*

What makes this case unique by Guatemalan standards is that the university that these girls attend is a three-hour drive from the family's town. This means that this planter has to not only cover tuition costs but also living expenses for his children living in a separate city. Most of the technical high schools that other planters' children attended required travel, but likely just to the larger towns in the region, and likely less than one hour away, meaning they return home most nights and thus reduce living costs.

It is doubtless that the influx of remittances is raising the level of education for the children of H-2B planters. The majority either have children who have graduated, are attending,

or whom they hope will attend high school. It is clear these funds provide the capital to pay for the costs of public, and in some cases, private schools. The multitude of small expenses in books, uniforms, transportation, and in some cases, tuition are now within their grasp. However, the more important contribution that remittances make to education is that they relieve the pressures associated with poverty.

H-2B families are not relying as heavily on children for collecting fuelwood, either because they have bought modern appliances, or because they now buy most of the wood from vendors. Additionally, the need for children to work in the fields is lower as some of the pressures of extreme poverty have been relieved. Parents no longer need to have their kids work as seasonal farm laborers to supplement household incomes. In the case of their subsistence agriculture, which most continue, they can hire people to help them when children are unavailable. Both the parents and the children have room to build new futures that previously were less likely, as multiple factors weighed down these prospects.

What was made crystal clear during every interview was the connection of remittances to higher education. As one planter put it, *“I never really studied myself...but here, if a father has money, he can raise his kids well....However, if there is no money for food tomorrow, you work for food tomorrow...you don’t worry about school.”* Similarly, another planter said, *“Poor families can really only afford to educate one kid in the family...So if they have four, there is no money for the others.”*

Blurry lines between technical high schools and college:

It is important to note that I found the line between attending technical high schools and college to be blurry. It wasn't until returning from the field that I noted that what planters meant by a professional degree such as teaching is often a certificate granted after attending a technical or specialized high school and not a college degree. However, there are two-year college teaching degrees available in Guatemala as well. Thus it is unclear from my interview notes, except for one case, whether some of these diplomas were college or high school degrees. For the purposes of this study, I am assuming all but one were 12-year

3. Remittances don't always translate into higher education:

While education as a whole is improving for most remittance-receiving families, there are a few cases of disconfirming evidence, with children following the traditional norms of a sixth-grade education or less. These cases, comprising 5% (Figure 6.7) of the sample population, can be grouped by three primary reasons for less education. First, parents discussed having children who were uninterested in their studies. As a planter and community leader in a small town explained, *"The remittances really help with raising the kids and paying for education....But my kids have not gone to school much....I have seven kids, and while some are still in school, most of my kids only went through third grade. I wished they would stay in school longer, but you can't make them study and learn."*

It is unclear specifically what caused the case above. It might be that the family did not place enough importance on or encourage their education. The father claimed otherwise; however, it might be that other family members did not support what is not a community norm. Another possibility is that higher education in this small Mayan town is not the norm. Most kids do not finish elementary school and instead go into the fields to help their father's farm or get jobs. It could be that there are some cultural norms that discourage finishing school. The idea might be that no one else does it, none of my friends do it, so why should I?

Regardless of the reason, the cases of children not finishing elementary school were almost unanimously found in the Mayan communities. As I have previously discussed, the planters from these communities normally conclude their education at third grade, unlike the Ladino communities, where sixth grade was the norm for parents. As a result, the cultural norms might in part encourage or discourage higher education. However, even in this same Mayan town, I had interviews with parents who had children in the sixth grade making an argument that some parents were pushing their children beyond the regional and cultural norms.

A second factor possibly affecting children not going on to higher education is limited funds. One planter stated that it simply cost too much money to send his kids past sixth grade. *“I had to pull my kids out of school at sixth grade. After that, it was just too expensive. I would have to send them away to school, but it cost too much money...there is not enough.”* It is clear that there are serious costs to consider when children must leave their hometowns and go to the middle/high schools in the larger towns. This validates the idea that remittances in most cases help with these costs, but it also shows that there are cases where these costs might be more than some planters are able or willing to spend.

A third factor to consider is availability of schools. This is especially true for planters originating from particularly rural communities such as Kak’ik, which is located over an hour’s drive from larger towns with schools offering secondary education. These cases, in my experience, more common in the Mayan communities, might also explain the reluctance or cultural norms among Mayan planters that have led children to either leave school early or not transition to a secondary education.

These cases of parents either being unable or unwilling to invest in education were relatively rare, comprising only 5% of the sample population (Figure 6.7 and Table 6.4).

However, as 23% of the population had yet to have children and 36% had children who were still in elementary school, it is unclear how their children's education will develop (Table 6.4 and Figure 6.8). As a result, I regularly asked planters about the educational goals for their children. This provided a sense of what parents were thinking and how H-2B remittances might be used to further education in the years to come.

4. Educational goals for their children:

Ask parents about their educational goals for their children and most will tell you, *"Become a professional such as a doctor or lawyer."* Interestingly, almost in the next breath, most planters were sure to tell me that this was dependent on their continued visas and jobs. As one young planter put it, *"My hope is to continue to work in the US to have the dollars to pay for it. If not, just high school will have to be enough."* Likewise, another planter explained, *"I hope to send my kids to school too, if I still have this opportunity...but it is hard, because school is expensive, and you need this visa and job, or you can't do it."*

Education, as the quotes above imply, is very closely correlated to remittances. When remittances are flowing, parents invest in education and dream of the education they hope their children will achieve. However, any interruption in remittances, such as a year without a visa, and education falters. I would suggest that the first expense dropped by any planter whose visa opportunity stops is education.

Take, for example, the case of two planters who had just returned from a contract, which concluded with their employer still owing them money, and little hope of securing visas the following year. When asked about education, this is what one of these planters had to say: *"I have one son and one daughter. They are both in school. My son is in fourth grade and my*

daughter is in sixth grade...My hope is to invest in their education, but right now I have not been fully paid. So right now I hope to maybe find a job here or hopefully go back and work planting trees if I can find another visa....somewhere.”

Another planter on the same work crew similarly told me, *“I have one son who is 13 years old, and he is currently in sixth grade, and I want him to keep studying, so I need to keep going to the US to be able to pay for this school.”* It was clear during these interviews that these planters were unwilling or unable to think about their children’s education when their jobs were uncertain. In both cases, these planters had children who had already exceeded the national and certainly their Mayan community educational norms. However, both parents are on the cusp of making the investment in the more costly secondary education. It was clear to me during interviews that, without a visa the following year, it was unlikely that either of these families would be sending their kids to neighboring towns (over an hour away) to attend high school.

While these two cases were unusual, they highlight issues related to the uncertainty of H-2B visas and how not only planters’ livelihoods but their children’s education hinge on these jobs. This would explain why discussions related to education are always followed by a caveat of *“if visas are available.”* However, even with, or possibly as a result of, this uncertainty, most still dreamed of pushing their children away from manual labor jobs and toward professional careers, where education is a must.

Thirty-six percent of the H-2B planters interviewed hoped to use remittances to educate their children and push them into a professional career (Figure 6.11 and Table 6.4). The most common professional degrees discussed by planters were teachers and accountants, both of which are commonly available specialized or technical high school tracks in the national

education system. However, it was also common for parents to want their children to become lawyers, secretaries, and doctors.

These latter professions had an air of parents dreaming big with lofty goals for poor kids from rural communities. If it had not been for the case of a planter having one child graduate as a lawyer and a second on her way, I would have likely taken these claims as nothing more than aspirations with limited foundations. While I commonly saw kids achieve specialized degrees in teaching, it is not impossible for some of these children to attend universities and reach loftier goals.

Interestingly, further questioning as to the educational levels parents hoped their children would achieve in pursuit of these professional careers showed that 49% of planters want their children to achieve either a high-school education or more (Table 6.4 and Figure 6.10), meaning many hoped their children would either attend a tertiary technical school or university. This is incredible when considering the educational level of the parents is only five years and that most of these families are residing in small rural towns or villages with limited exemplary models.

5. Encouraging children to become H-2B laborers:

Counter to my expectations, I learned that only 15% of planters hoped their children would follow in their footsteps as H-2B laborers (Figure 6.11 and Table 6.4). The majority spoke of wanting their kids to be professionals. As one young foreman explained, *“I want to teach them to work in the field....But I want them to one day have better opportunities...I want them to become professionals and be able to progress so my kids don't have to do what I did.”*

The majority are pushing to elevate their children outside of physical labor. They don't want their children to have to take seasonal jobs where *“we leave our children crying at home,”*

but instead want them to be able to make a similar earning at home. It is clear that, while H-2B jobs provide families a means to a different place in society, it is not a career they wish to share with their children.

There is a minority of parents who hope their children will follow their example. One planter of over eight years said, *“I want my son to go and work like I have done in the US....He will be old enough soon, and I hope he can go...I want him to better himself and his family.”* The father wanted this for his son, because as he further explained, *“Here you can’t make it, you will always stay poor.”*

Another young foreman who had yet to have children feared that with remittances his children would grow up not appreciating field labor. As he put it, *“I want to teach my kids to work....I think it would be good for them to come and work here and look for a better life....I know people with lots of education, and all they do is wait for work, they are not willing to work in the field.”* It is important to remember that remittances are not unique to H-2B forest workers.

Instead, the vast majority of remittances are earned by illegal laborers or legal US residents sending money home to family members in Guatemala. This means that this massive influx of capital has many families pushing to educate their children further. In the case of this young foreman, he is re-thinking the value of educating his kids, or at least being cautious about its outcomes.

Absentee parents with monthly remittance checks have many children growing up very differently in Guatemala. They don’t follow the old rural traditions of fieldwork and having to scrape out a living. Instead, they learn to go to the bank at the first of the month and wait for their monthly remittances from their father or mother working in the US. This has resulted in what many planters describe as children who have never worked and don’t know how to work.

It was interesting to see some parents observing this trend in their illegal neighbors and avoiding it with their children.

However, these cases are isolated, and the minority who are interested in their children following in their footsteps are likely more interested in seeing the children have similar success to themselves. Of the parents interested in children working in H-2B, the majority had children with limited education. As a result, they see these jobs as an avenue for escaping poverty, just as they have done.

It is important to note that there is a small minority of planters who had children with high-school degrees, and thus were relatively educated, whose fathers would not discourage their children from working in H-2B (5%) (Figure 6.11 and Table 6.4). The reason for this is unclear, other than parents' realization that even with high-school degrees, local opportunities might not compare to the dollars earned under H-2B. Regardless, these latter two cases were a minority; however, it is important to note that these questions were not asked of 44% of planters interviewed (Figure 6.11 and Table 6.4).

Due to various challenges in the field, interviews were often cut short and questions had to be prioritized. Still, that data is missing for some of this population. In examining how planters answered other interview questions, it is clear that most are interested in seeing their children become professionals and move away from manual labor. Education was singly important to many families, and as long as remittances flowed, most sought to encourage higher education, with the hopes of elevating their children to professional status.

6. Improving local education and private schooling:

One of the more interesting findings is to see communities come together and recruit private education to their towns. The impacts of the forest industry's H-2B program in Cushing are more readily seen in the vehicles purchased and the cinder-block homes that sprout from a region famous for its coffee. However, what struck me as Cushing's greatest coup is the presence of two private high schools the community has attracted and operates.

It is difficult to describe how isolated this town is and what an unlikely candidate it is for private schooling. However, remittances, all of which, at least initially, had their origins in H-2B (there are many illegal immigrants now sending remittances), funded these educational ventures. In fact, one of the schools was founded by the son of an H-2B planter who became educated and started his own school in response to the poorly funded and understaffed national schools.

A labor contractor from this community explained about H-2B laborers and the impacts of remittances on local education: *"Many of these communities start to see their schools becoming better. This means you don't have to travel to better schools...it means it's a lot cheaper for them."* As a result, he noted, *"Now all the kids finish high school....."* At this point, they must leave their small communities and travel to schools in larger towns. It appears that the influx of remittances has helped the communities grow and recruit high schools to serve an increasing demand for education.

I had the sense through talking to several fathers, one of whom was the PTA president at the local elementary school, that their government-run school is marginally better than similar schools in the region. I don't have strong confirmation of this, but rather a conjecture that community demands have ensured better teachers. Certainly, community members in Cushing who sent their children to public schools felt this way. However, those with children in private

school complained of teacher strikes and closed schools being common in their public school system.

As a result of these challenges with government-run schools, the community of Cushing operates two private schools. This is only possible through the increased availability of funds from H-2B families, according to the same labor recruiter, which allows their children to “*mostly go to private schools too....Because of remittances, they have the dollars to do this.*” He went on to explain how private schools began to emerge locally “*because of the demand for private schools and them (meaning H-2B laborers) having money, they started bringing these schools into their communities.*” As a result, the remittance-intensive community of Cushing has ensured their children’s education, not by sending them out, but rather by bringing education to their children.

The community of Cushing is proud of their success, and laborers attribute this success to the H-2B visa. As a local H-2B laborer explained, “*Cushing has two private schools....This is the visa (meaning the remittances associated with H-2B visas)....This is development....Cushing is the most built up and progressive town in the municipality.*” Furthermore, Cushing’s private schools offer technical degrees with certificates in teaching, pre-law, and accounting. As he elaborated, “*You can get three different professional careers in town....It is a town to respect.*”

The combination of government and private schools offers high-school degrees with multiple certificates. This level of education is normally only found in much larger communities. Yet, Cushing has brought this level of education to their children. It is clear today that these schools are funded by both legal and illegal remittances. Interviews suggested that most people in town have a family member either traveling or who had traveled with an H-2B or H-2A visa, or in some cases stayed illegally. Today, the local region now only sends around 400

planters annually, down from 1,200 a decade ago. This massive influx of funds, as the one planter commented, has made Cushing a beacon for the impacts that remanded dollars have on education.

A case in point was the local recycling program that was a project of one of the local schools. Around town, garbage cans, which in of themselves are a novelty in rural Guatemala, as most toss people garbage on the ground, were available for recycling cans and glass. When I asked a local foreman about this, he shrugged and explained it was a school project and how it is now just garbage cans, as no one came to collect the recycling. However, regardless of the ultimate failure of this project, it exemplifies a more sophisticated education program.

G. Business starts:

After a few years of traveling with the H-2B program, it is common to see laborers begin to invest in small microenterprises. As many of the laborers come from rural regions, the opportunities for local business are relatively limited. It is interesting to see how they begin to find niches and establish small businesses to help supplement family incomes. These ventures, while having mixed results, impact the livelihoods of planters both immediately and as a means of retirement from the H-2B program.

For many families, wives run these businesses while the H-2B planters are away. In many cases, these businesses also help supplement families' incomes and at times help compensate for less lucrative planting seasons in the US. Many planters also see the microenterprises as a means to fund their retirements, or more likely, fund the absence of an H-2B visa.

Interview data suggest that only about 50% of planters have invested in some type of business. As I have previously discussed, there is a pattern to remittance investments. First comes the land, followed by the home, and later, in no discernable order, a business, vehicle or education for their children as their specific situations dictate. Once they have established a secure foundation, they begin to look toward long-term investments, whether they be education or microenterprises. It must be noted that I did not consider the purchase of land for traditional subsistence agriculture as a business start. Instead, I looked for individuals who established some type of business that produced monetary capital.

In the case of planters interviewed in four separate regions of the country, it became apparent that there is a connection between years in the H-2B program and investments in microenterprise. I found that the 50% of planters who had started a business had an average of 8.5 years in the program. Those without a business, by comparison, had 4.5 years. It is evident, as with other remittance investments, that the number of years in the program allows for accumulation of capital that will eventually be reinvested in business.

Businesses range from dry-goods stores to agriculture, with more innovative planters finding niche businesses such as transportation, firewood sales, fishing, clothing sales, and various other small ventures (Table 6.3). The success of these businesses is unclear. As I will discuss below, most planters seemed to be piecing together a living from combined subsistence agriculture, microenterprise, H-2B labor, and occasional seasonal labor once retired from H-2B. Some experience more success, while others return to traditional employment with a better home, more land, and possibly better-educated children and a vehicle to remember their time working in the H-2B program.

1. Building local commerce:

The types of microenterprise are often very predictable and unfortunately seem to suffer from a lack of imagination. A case in point was the plethora of small community dry-goods stores. In a small community in Alta Verapaz, I saw three and possibly four separate stores run by H-2B planters. These stores are located within a couple hundred meters of each other in a village of only a few hundred people. It was not surprising when one planter commented, *“I built a small wood house that I use as a store....But the business is not very good...there are too many stores up here, everyone seems to have one. I don’t really sell that much.”*

While many planters seemed to install the same business as their neighbor, and thus suffered from an oversupply and limited demand, there were many cases of H-2B planters finding niches that proved to be more successful. Two examples in this same small community come to mind. First, there was a tree planter who after 5 years of planting did not have his visa renewed: *“I went to the meeting where they list who was going this year and found that my name was not listed as one of the people with visas this year. I hoped that it will be this year only....they never said why I did not get a visa, but I hope to get one next year.”*

Following this disappointing news, he fell back on his firewood business. Having purchased a chainsaw and pickup truck with remittances, he used this equipment to cut firewood and sell it to fellow community members. This business is especially good for the wives of absent H-2B laborers who find it difficult to collect their own. While this business alone is not all that lucrative—as he said, *“I only make about 30 Quetzales per day doing this,”*—he also had two other small businesses that he ran to piece together a living. It must be noted that local wages in this community ranged from 30 to 45 Quetzales per day, making his business venture comparable to local wages.

Attached to his home, he had established one of the better-stocked and only open dry-goods stores I saw in town. In the back of this store, he also operated a small gristmill. As corn and tortillas are a traditional indigenous food that everyone in town grows, there is a demand for the gristmill. As he put it, *“I put in a corn-milling business with some of my remittances. It has a small diesel engine that grinds corn, and the women in town bring the corn, and I grind it for a price.”*

In fact, while I was conducting my interview, a young woman brought in a bowl of pre-soaked corn, and he demonstrated the milling process for me personally. For this planter, the combination of a firewood business, dry-goods store, and gristmill provided an income to support his family. Additionally, like every other family in this region, they farmed subsistence corn to supplement their diets. H-2B remittances are largely credited for funding his ventures, including much of his subsistence farmland.

While he readily admitted that earnings did not compare to his previous H-2B work, it did provide an improvement over the livelihoods of other community members. This fact was made clear when he discussed the benefits of remittances and how those without them suffer: *“August is a tough month here, and people suffer....in that month there is no work or money....people can’t buy meat or food....basically there is no work because there are no crop harvests near here.”* For this planter, however, his microenterprises seemed to ease the economic challenges experienced by those who depended almost entirely on seasonal farm labor.

A second example of microenterprise ingenuity is the planter who because of age was no longer invited to plant with an H-2B visa, and thus used his saved remittances to buy two minibuses. The remoteness of their village in the mountainous western highlands makes access

to public transportation very limited. This worker used two 15-passenger buses to transport passengers between small rural villages and the larger towns of Alta Verapaz.

However, even this business proved to have some difficulties. The roads are atrocious, full of rocks, ruts, mud, and steep mountain passes. As a result, vehicle maintenance had proven to be his biggest challenge. As he described it, *“I bought two minibuses that I use as a bus service between towns. However, I feel this was a bad investment....The roads out here are too hard, and I am always breaking down. The one bus out there...,”* he said, pointing to a rickety garage on the side of the mud-track road in front of his house, *“has been broken down for a while, and I don’t have the money to fix it right now.”*

His regrets of this venture likely arose with the deteriorating condition of his vans and little hope of having the capital to replace them without another visa trip to the US. Regardless of these challenges, he and his son ran their bus service daily, and in combination with subsistence agriculture, appeared to be making a wage at least comparable to that of other community members, but possibly without the income lulls in seasonal farm work experienced by the average citizen.

There were multiple examples of H-2B planters who were trying their hands at all kinds of different businesses with different levels of success. One planter whose visa was not renewed opened a clothing store in a neighboring town. He said, *“I invested my remittances into my own commercial business, selling clothes.”* This business, in combination with rental fees, which he collects on a building he bought with remittances, *“is enough to help us eat every month.”*

The types of microenterprises changed as I moved between different regions of the country, and the employment and or agricultural norms changed. For example, most planters originating from Guatemala’s Caribbean coast bought fishing boats as a means to earn a living

rather than land for agriculture. These planters, before H-2B, were fishermen and naturally invested in a business they knew. When I asked one of these fishermen about his retirement plans, he said, *"I'll go back to fishing with my new boat."* Another planter from the same region who purchased three fishing boats with *"three good engines"* allowed his brother to run a fishing business in his absence and planned to return to fishing when he retires or more likely is no longer invited to participate.

While in some towns dry-goods stores were abundant, I had the opportunity to interview and visit one entrepreneur who used his remittances to build a unique, by rural Guatemalan standards, general store. In a small rural community 40 minutes down a dusty dirt road, within a mile of the Mexican border, a retired planting foreman ran a very successful store built using an American model. The store, rather than having all the goods behind one counter from which customers point to the goods they want, had open aisles that customers could stroll down and handle the goods. The store resembled a gas station convenience store but had a wide range of products, from cell phones, light bulbs, and food to diapers, medicines, and plumbing and electrical supplies.

Apart from offering customers most of the products they needed on a day-to-day basis, the store was air-conditioned. It must be noted that this is an extravagance that is seen only in the larger and more urbanized regions of the country. To have climate control in a store is almost unheard of in poor rural regions. As the proprietor explained, *"I want my customers to be comfortable when they shop."* This is an extravagance that did not extend to his home, which abutted his general store.

"I don't need air-conditioning," he said, even though the region is hot and his goal was to have shoppers visit his store to escape the heat and shop. His business also had security

cameras *“just like I see in the United States.”* This business has allowed him to retire and maintain his family in relative comfort. As he explained it, *“After finishing my house, I saved money and then put it into building my business. I have not been to the US for two years; the business is how I live now.”*

The brother of the above-mentioned retired foreman and a foreman himself during an interview in the US told me that he and his wife would soon be investing in a local pharmacy. As he saw it, there was no pharmacy in town and his wife was a nurse. As a result, he felt that it would be a good business to have next to his home for them to run.

As with many planters who have already built their homes, this foreman was looking to build a better future for his family with remittances. Most know they will not be able to plant forever, or their visas will one day not be renewed. Others become fatigued with the demanding work and travel. The latter was the case for this foreman, who said, *“We are thinking of a pharmacy....I would really like to eventually stop coming (to the US) and spend a few years back home. Then I can come back later if it’s needed by the family or for kids. This visa and job requires me to travel too much, which is not good for my wife....I have been spending Christmas up here for the past six years. I have also missed my wife’s birthday almost every year.”*

The challenges for H-2B planters are clear. On one hand, you travel and make good money to build better homes, educate your children, and build businesses to improve your status in life. However, this comes with a price, being away for six to nine months every year. As this foreman succinctly put it, *“You have two hearts, one says be home and the other be in the US making money....It’s hard to quit coming here to the US.”*

The question of how much is enough is very difficult for any planter to answer. They all want a home, land, education, and eventually the business for their retirement. For some, the

business is not in the service industry but rather in agriculture. These choices are highly regional based on laborers' backgrounds and existing infrastructure. Such is the case with planters investing in coffee production.

2. Farming: Making the land profitable?

While nearly every planter invests in agricultural land, only a few invest in land as a capital venture. Most buy land to plant their indigenous corn and continue subsistence agriculture. However, in the mountainous regions of Huehuetenango, famous for high-quality coffee, I found that many H-2B planters invested in land to grow coffee as a cash crop.

Earnings from these agricultural lands bought with remittances on the whole appear to be relatively small. In most cases, this land provides food for "*our own consumption,*" as multiple planters put it. However, in the coffee-producing region of Huehuetenango, I found that some of planters with multiple years in tree planting had purchased enough land and planted it in coffee to make a modest income. As one veteran tree planter of over 10 years turned H-2A nursery worker explained, "*I bought 30 cuerdas...it takes money to manage this land in buying fertilizer and herbicides....but I can make some money with this coffee land. Normally I make about 25,000 to 40,000 Quetzales (\$3,300 to \$5,300) after expenses.*"

Several other H-2B coffee growers, while giving no specific numbers, treated their coffee as a business. It was unclear how much they earned, though many discussed the costs associated with growing coffee and the difficulties of making it profitable. "*I bought 12 cuerdas and put it in coffee production. You don't earn much with the coffee land,*" said one planter. Another planter with a slightly more positive experience explained, "*In coffee, there are lots of*

investment costs and not much profit. Coffee is good for sustaining the daily living expenses of the family only.”

From the latter planter, you get the sense that there are profits, and they cover the expenses and sustain the family but are not enough to maintain the standard of living that regular H-2B remittances can afford. However, with these small landholdings, it is clear that if local family members can work the land, there is a better chance of making money.

When outside labor is hired, this chips away at profits, as explained by a father and son, both of whom leave to work in the US every year and don't have children old enough to work the farm. They reported, *“We bought 30 cuerdas and have it all in coffee....but when we are gone, there was no one to take care of the coffee. So we have to hire people to work for us and to help maintain the coffee...So...there are a lot of expenses with the coffee, and it's hard to make too much money with it....It's the jobs in the US that really help us. The coffee prices are up and down, and we have to fertilize and pay people to help us and pick coffee.”*

While the coffee land is of variable profitability, the subsistence corn growers of Alta Verapaz see their land's profits very differently. For them, it's about growing corn to feed their families and avoiding having to buy the corn. *“I have bought 75 cuerdas of land, and I have all of it in corn,”* said one planter and went on to explain, when asked if he sold his crops, *“This corn just goes for my own consumption.”*

Those without land may have to purchase their corn. This can be a difficult prospect, considering that local wages run between 150 and 300 Quetzales per week, corn costs 140 Quetzales per quintal (100 pounds), and the average Guatemalan family of 5 consumes one quintal of corn per week (Metz 2006; Valladares 2011). This leaves few funds for purchasing

other staple foods, such as beans, with an average consumption of 8 quintales per year at a cost of 458 Quetzales in 2009 (Valladares, 2011).

When explained this way, it is easier to see the importance of owning land and growing crops. Without subsistence agriculture, you buy corn, and if you are only making local wages, this can be a tough existence. As other planters explained about non-remittance receiving families, after food purchases, there is not much money left for clothing or homes, not to mention land purchases, vehicles, or a child's education.

While subsistence agriculture is not exactly a microeconomic enterprise, it does provide a means to improve livelihoods by putting food on the table. What subsistence agriculture does not do is generate capital for purchased goods, medical services, or education. However, with increased land purchases with remittances, livelihoods are likely improved by allowing greater production of food without the land rents many laborers discussed. This effectively would free capital that might be earned in other seasonal employment.

3. Rental homes and real estate:

While multiple planters interviewed had built second homes, most used them to house parents, siblings, or children. There was also a small group that had built or bought property as an investment. In some cases, they were empty lots in their villages or sometimes in larger towns with the intent of using them to house children when they go away for higher education.

There were two specific cases of planters in two separate regions who built homes for rental businesses. One long-term foreman in the Huehuetenango region built a second home in a small city two hours from his home that he hopes one day will house his children when they pursue higher education. However, in the meantime, it is serving as a source of income. As he

described it, *“I also bought two lots in Huehue, where I built a second home that I rent out to some local people. I rent it for only 500 Quetzales per month....I could get more, but I feel I am helping them out by keeping the rent cheap.”*

Another planter, across the country in the Alta Verapaz region, built a small commercial building that he rented for a profit. As he put it, *“I rent a store location in a larger local town called Las Posas. The rental has no electricity, but it’s enough to help us eat every month.”*

Land is an important investment in Guatemala. For most, it is about subsistence farming or cash crops. However, increasingly I saw planters buying second lots either in their own communities or in larger nearby communities. These are primarily investments they hope to use at a future time. However, for many it is about investing in a tangible object that holds value. As one foreman put it, *“We don’t have money saved in the bank, but rather we invest the money in things like land. Land value only goes up.”*

4. Challenges in running microenterprise when you’re away:

For most, the conclusion of the H-2B program often means having to pull back on their previous lifestyles. While many start businesses, most cannot hope to match their previous earnings. Instead, they look to have most of the major expenses covered, such as housing, land, vehicles, business expenses, and education, so that their local business can cover their basic living expenses.

However, starting successful microeconomic enterprises when they spend between six and nine months working in the US is a difficult proposition. Whether it’s growing coffee, subsistence corn, or operating a store, in response to interview questions about microeconomic

enterprises, it was common to hear H-2B planters voice the challenges of being an absentee business owner.

A case in point is a planter from Guatemala's Caribbean coast who invested in a car mechanic shop. He explained, *"I tried starting a business with my remittance money a few years ago...I put it into a mechanic shop...but because I was not there to oversee...it went out of business."* Coffee growers had very similar complaints related to their absence forcing them to hire people and thus increasing expenses and reducing profitability. As they said, *"When we were gone, there was no one to take care of the coffee. So we have to hire people to work for us to help with the coffee. So there are a lot of expenses with the coffee, and it's hard to make too much money with it."*

The proprietors of the microbus business, the air-conditioned dry-goods store, the clothing store, or the firewood and gristmill business all are inactive or retired H-2B planters. To work in the US full time and expect wives caring for their children or other family members to run the business is not always successful. I did see cases where this was possible with one brother helping to run a business, but this is an exception rather than the rule.

The norm, however, is investment in the buildings, land, vehicles, or equipment for businesses they hope to operate upon retirement. The man with the firewood business is a good example. He had his truck and chainsaw ready when he did not receive his visa in 2013. The case of the air-conditioned store is a situation where a planter used remittances to build and stock his store. Now upon retirement he runs the store and earns an income without overhead related to building costs, rents, or other expenses.

Agriculture seems to operate very similarly. Farmers buy the land and possibly plant it in coffee, hoping that family members will do minimal care, but most don't seem to make or expect

much of an income until they are available to run their businesses full time. For most planters, it's difficult to retire from H-2B work. The money is far better than anything they could earn at home, regardless of their businesses. As one planter put it, *“With the way I work now, it's tough...we suffer with having to leave our wife and children, but we have to do it to achieve our goals...so we will keep on working and doing it.”*

The success of microenterprises, as in any part of the world, is subject to equal parts innovation, hard work, and timing. Many planters follow age-old traditions such as subsistence agriculture, which often have underwhelming results, and likely provide limited long-term impacts. Others are far more innovative and make for successful businessmen.

H. Buying better transportation:

It is common for H-2B planters to invest their remittances in some type of transportation such as a car, motorcycle, or on the Caribbean coast, a boat. However, for most these investments are considered nonessential. As previously discussed, first come homes, land, education, and later microenterprises and vehicles. As a result, the investment in a vehicle generally comes after years of working and having achieved many of these previous investments.

A significant number of planters have bought vehicles. In fact, of the 39 planters interviewed in four different regions, I found that 53% of the population had invested in some type of vehicle. Thirty-three percent invested in a car or truck, 11% in a motorcycle, and another 11% in a motorboat. It is important to realize that vehicles are significant capital investments that remittances have allowed H-2B planters to buy. Fellow community members without remittances can seldom afford these luxuries.

In rural Guatemala, it is still very common to see people commute to work by foot or bicycles. Materials are often transported by a pack animal such as a horse, donkey, or mule. For many, however, even these farm animal investments are a luxury. Crops, fertilizer, and equipment are most commonly carried on people's backs.

During a walk in one rural village, I photographed and spoke to several men and children who carried fuelwood on their backs. When asked about the weight of their loads, one man laughed and said "*a lot.*" When pushed further, he estimated his load weighed "*two quintales,*" or approximately 200 pounds. His child of approximately 10 years of age carried what appeared to be 40 pounds.

This is a frequent sight in rural Guatemala. Men and children walk to work with machetes in hand, and late in the afternoons and often on weekends they can be seen carrying hundreds of pounds of wood on their backs. Families might need to collect fuelwood two or more times per week, to fuel their cooking fires.

Joint deterioration associated with physical labor in Guatemala:

It is common in rural Guatemala to see medical problems associated with joint deterioration. When living in Guatemala in the mid-1990s, I translated for American medical teams that provided care to rural regions much like the ones I visited for this research. One of the more common complaints and treatments for many men was cortisone shots to knee joints as a result of wear associated with carrying large loads on steep mountain terrain. These men were often in their forties, but had the knees of men decades older.

Local salaries averaging around \$6 per day are incapable of allowing families to purchase vehicles to ease these physical difficulties. As one planter told me, "*I have bought a motorcycle. Down here I could never buy it...They are too expensive....Now being here I can afford it.*" Another planter reiterated the same idea that local wages cannot provide the luxury of vehicles:

“I also have a motorcycle that cost \$2,000. This stuff is hard to pay for if only working in Guatemala.”

Vehicles offer the advantage of immediately improving livelihoods for families. They ease transportation difficulties and for many improve the operation of their businesses and farms. Materials are no longer carried on their backs, and many use these vehicles to operate microeconomic enterprises, as the man cutting and hauling firewood did.

The town of Cushing in the department of Huehuetenango, which is ground zero for H-2B labor in Guatemala, now boasts over 200 vehicles. A stroll through this town is as good an advertisement as Toyota could ever hope for. Every home has a four-wheel drive truck parked outside, and some homes have two. Decades ago, this small village was remote and impoverished. Today, it is a beacon of prosperity that any citizen will tell you came from H-2B beginning in the late 1990s.

As one longtime foreman from Huehuetenango who has over 14 years working in H-2B and now H-2A recalled, *“I used to have to pay our way up to Cushing and back. It used to cost 10 Quetzales each way...now we all have cars in town.”* These cars for many are a sign of progress and source of pride. As the same foreman proudly stated, *“I own two cars, both 4x4s, one a truck and the other is an SUV.”*

Part 3: Community Impacts of Remittances:

The impacts of remittances have largely been discussed as they relate to individuals and their families. Yet, as the number of individuals within a certain community or geographic area increases, the impacts to the community become more evident. Some of the impacts are the

direct result of H-2B laborers investing in community projects such as roads, water infrastructure, and churches. Other impacts are secondary and are associated with remittance dollars funding better education, hiring local labor, and supporting commerce.

I. Better Roads:

On a community level, one of the more impressive findings was to drive a cement-paved road completely built using H-2B remanded funds. While conducting an interview with a labor recruiter in Huehuetenango, I first heard of Cushing as the place that had sent “*over 1,200 people per year.*” As this recruiter told me about Cushing and how “*the road up to the town is cemented and the community has power, cable, and internet,*” I knew I had to visit this town.

I quickly found a guide to take me to this “hidden” community. Even though Cushing is only miles off a major Guatemalan highway, it is difficult to reach, as it is located high up on a saddle between two large peaks. First one drives down a few miles of dirt farm roads before turning suddenly straight up and climbing, quite literally, into the clouds. It is at this point that their cement road begins.

To drive this road, paved as it is today, requires four-wheel drive, as the inclines in some hairpin turns reach nearly 30%. This cement road is nothing more than a single-track road that was paved by hand over the past 15 years. The paved section is roughly five miles long and climbs through a combination of upland cloud forests, coffee plantations, and sheer rock faces. Grooves are cut into the road in the steeper sections to help improve traction, which is imperative considering the torrential seasonal rains and lack of safety rails to protect drivers from the steep drop waiting a few feet or, in places, a few inches off the paved road.

Prior to remittances, the road progressed from a single-track foot trail to reach subsistence farmers. The mother of a tree planter explained during an interview how she and her husband would walk to town only a couple of times a month for supplies. This shopping trip, dropping easily a couple of thousand feet to the large towns miles below, would take all day.

Over time, the trail was converted to a dirt road as coffee became an important crop to the area and access was needed to plant and harvest the crop. It was in this condition that the road existed when an H-2B recruiter came to the region. This road provided only seasonal access because, as one planter recalled, *“The road used to be dirt, and in rainy season it was very difficult to drive to town.”*

As people from Cushing were recruited and worked as tree planters, money began to flow back to Cushing. With this money came the influx of livelihood improvements. A recruiter in the region remembers how, *“you started to see a few new houses after year one, but by year three, you saw a lot of new houses, and now they all have nice houses and cars.”*

The population of Cushing, rather than leaving their town in search of property more easily accessible for building and driving, instead opted to improve access to their town. The project started slowly as H-2B planters began pooling their money and buying cement for the project. This project, as nearly every planter from the region will tell you, was at least initially completely funded by remittances earned planting trees with H-2B visas (later illegal remittances were likely major contributors).

As materials were pooled, workdays were scheduled to build the road. During workdays, every planter in town showed up and contributed his time to the project. *“Even don May would show up and help us,”* recalled one planter of the prominent H-2B recruiter who worked

alongside the men he took to the US. *“If people can’t come because they are sick or something, they would send a son or hire someone...but most come,”* remembered another planter.

Each year they built and added a section to this road. Once the road reached town, it was continued into various parts of town to give everyone with a vehicle access. It is unclear whether the townspeople first formed a committee to manage the materials and money or if the committee came later; regardless, today they have a committee in town that oversees their road.

This committee, with the support of the town, has now instituted rules to ensure that the road is maintained. *“Now for anyone who buys a car...for their first and second cars...they have to pay 1,000 Quetzales to go toward using the road.”* This fee is collected for every car they buy as a toll and privilege to use the road. As newer planters and family members buy cars who did not pay or work on the initial road, these fees ensure their contribution toward repairing the wear and tear on the road.

Additionally, a yearly maintenance fee is also collected from every family in town with a car. *“For each car in town, each person pays 200 Quetzales per year to help pay for the maintenance,”* explained one planter. In fact, during my visit, maintenance on the road was evident in some of the older sections, and fresh sections reaching individuals’ homes were also in evidence. In a country known for rampant government corruption and public road contracts that are seldom completed, it is amazing to see H-2B planters band together to form a committee that for over a decade has built and maintained their road.

Today the steepest sections of the road to Cushing are paved, which have allowed this community to thrive even in its remote location. This success is a major source of pride, as many planters I interviewed would never consider moving down the mountain and living in the more urbanized towns. *“It’s safe up here, and we don’t have crime or problems with narcos,”*

one foreman said. *“Down there I had a man killed on the doorstep to my store...right there in front of me, narcos shot him...I moved back up here, it is safer for my daughter,”* explained a retired planter.

Instead, these planters used their newfound wealth to improve their community to suit their needs. *“We don’t leave town. Other towns are too loud and expensive and dangerous. We have most everything in town we need to buy. We get most everything off the land here,”* explained a longtime foreman. The remittances associated with H-2B helped convert an isolated village into a thriving town populated by current and retired H-2B forest workers.

In some ways, Cushing feels like a gated community that sits apart from towns down the mountain. This community provides a safe home for families whose husbands are away most of the year and is less interested in local commerce, as most of their funds are remanded from the US. *“This time of the year, about 80% to 90% of the men in Cushing are working in the United States....right now, most of the people in Cushing are wives, young children, and men over the age of 50,”* explained one planter from Cushing during an interview in the US. The town is noted for these unusual features by the surrounding population, who see not only an accumulation of personal wealth, but public investments in roads, utilities, and even schools.

II. Building Churches:

Improvements to churches are another and more typical community investment made by H-2B laborers. Both in Cushing, a largely evangelical protestant community, and in Kak’ik, a Mayan village practicing Catholicism, I encountered planters who discussed using remittances to build, improve, or maintain their community’s churches. Churches in these rural communities,

while certainly serving a religious function, are also places for local gatherings. Most of these small towns lack large community buildings and instead use their churches as places for public gathering.

The motivations behind these community investments in churches are unclear. Certainly, most if not all the planters interviewed have strong religious affiliations and backgrounds. It is common for them to display religious iconography in their homes, especially in the Catholic Mayan village of Kak'ik, and refer to the religious faith during interviews. While it is likely that their investments in their churches are a function of improving their community, it is also likely that these investments are in support of their religious affiliation. Regardless, there is a pride in their church building as an illustration of the success of their community.

Investments come in two ways that planters discussed during interviews. First, there is the direct financial support, which most attribute to the additional resources that H-2B remittances allow. This is certainly the case in the community of Cushing, where, as one planter explained, *"We all pooled our money and built a big church in town...this money all came from our remittances."*

In this case, Cushing planters all contributed funds, much as they did in the road project, to buy materials and build their church. Their church, now complete, is very large for such a small community. It is likely over 5,000 square feet and built of cement cinder blocks. The design, while simple, provides ample space for their community to gather. It is evident that the town takes pride in this accomplishment, as many planters referred to their contributions when asked about what impacts remittances had on their community.

A second type of investment also seen in Cushing, but often the sole contribution in the Mayan community of Kak'ik, is in-kind labor. In both communities, H-2B laborers discussed

volunteering their time and labor to build or maintain their churches. This in itself is not unusual as it is a common practice for most religious congregations. Instead, what I found interesting is that, especially in Kak'ik, planters saw remittances as relieving financial pressures, which freed their time to work on church projects.

Instead of struggling to earn a living between seasonal labor and subsistence agriculture, workers can give their time and labor back to their communities when home. This was the case for a young planter home from his sixth planting season. As he stated, when asked about impacts of remittances on his community, *“There are some impacts on the communities...like when we all come together and work in the church....Last year, we did a job fixing up the church and its roof, and having this money and the time to do the work makes a difference.”*

The contributions of remittances to this small Catholic church in Kak'ik are certainly smaller than the combinations of funds and labor seen in Cushing. However, the numbers of H-2B workers in Kak'ik are significantly fewer, have spent less time working in the US, and thus have less accumulated capital. As a result, most donate their time. In both towns there is a connection between remittances and improving their community's churches.

III. Hiring Local Labor and Supporting Local Commerce:

Consistent employment is something that many H-2B laborers discussed as a problem and motivation for their taking H-2B jobs. Many described how local jobs are hard to find and are seldom consistent. Many of these challenges are realized by returning H-2B laborers who, with their newfound wealth, are now in positions to hire local people.

“When I work down there, I hire people, and I give them the opportunity....I hire day workers to fix my house or property up...I like giving them work and opportunities,” explained one foreman. Returning H-2B laborers hire labor to help with farming their subsistence corn or more often in planting, weeding, or harvesting the coffee plantations they have purchased.

Often the people they hire are locals who do not own land or are poor Mayan families from nearby villages whom they bring to their farms to harvest crops. The pay rates that H-2B planters pay range from the minimal local day-labor rates (45 Quetzales per day) to some planters often paying the more favorable minimum wages (75 Quetzales per day). One planter commented, *“The salary down there is really low....But we now own coffee and hire people at those rates.”* He appeared embarrassed that he did not help the locals by paying more but justified his decision by going on to say, *“But we can’t afford to pay them more. There are the costs of planting and fertilizers, and the cost of coffee is always going up and down. We need to make a profit. If we pay more, we cannot make a profit.”*

In contrast, another planter who hires labor to work on his coffee farm opted to pay higher rates because as he explained, *“The usual day pay rate is around 50 Quetzales per day; however, many workers know you go to the US and have some money, so they will charge you the real minimum wage of 75 Quetzales per day....But we don’t mind paying more, because I know we have money and don’t mind bettering our neighbors by paying them better....It’s a way of helping them out.”* Most of the planters interviewed discussed hiring locals and how this was giving people who were unemployed, or more likely underemployed, a means to work and feed their families.

In some cases, these relationships often extended to lending money to their employees. One example is a foreman who hires Mayans from a neighboring village to harvest his coffee:

“We have Mayans that come to cut (harvest) coffee in May through April. I loan them money or front them money, and then they come and work for us. When they need food or are sick, we help them. We go and get the coffee pickers and then drop them off when the job is done.”

These jobs, however, the foreman explained, are not just done by the Mayans; they are also done by locals, because, as he explains it, *“Some people here don’t have land, and they have to pick coffee. My uncle is like that.”*

Employment also extends beyond farms to the rampant construction that follows families with remittances. H-2B planters are continually building or remodeling homes that often they contract to local labor in town. When conducting one series of interviews in Cushing, I watched a local builder work on the house of a neighbor who was away working in the US. A longtime foreman, when asked about community benefits, pointed to the man laying cinder blocks and said, *“We hired local people here in town to build our houses.”*

A community leader in a small town that sends H-2B labor and, more prominently, illegal labor explained the connection between remittances and communities this way: *“When people up there send money home to build their houses, the whole community benefits from jobs and sales.”* There are challenges with the growing dependence of some communities on remittances, though. The 2008 recession was felt in many of these communities, for as this leader went on to explain, *“Now, however, you are seeing lots of half-built homes. People up there lost their jobs...in previous years, we saw lots of new building supply stores, and now some of them are suffering because building has slowed...some people in town really have suffered from this drop in remittances.”*

While in many cases these remittances are originating from illegal immigrants, it still exemplifies the impacts that remanded money has not only on local jobs but also on businesses

that have formed around construction. An economy has been built around the construction of homes that remittances have allowed. Local building supply businesses, tile shops, and various other large and microenterprises have boomed with the influx of remittances. However, as the community leader noted in 2012, once remittances dry up, the impacts ripple out to the entire community.

For some planters, hiring locals is a means to not only farm or build homes but can also be a way to extend a helping hand. One long-term planter occasionally hires a poor local man who *“comes by with torn clothes, and I know he has a big family and a poor house...I give him little jobs...even when I don’t really need much or could do it myself.”* For this planter, it is about helping those less fortunate than himself. He has recognized his success, and while his contributions and those of others like him are limited on a macro scale, they still illustrate that remittances can provide some community services.

As a whole, the biggest impacts that remittances have on local labor are associated with construction and farming businesses. These funds translated into homes and land, help employ people, and build local commerce, which in turn supports local families in their communities. This flow of remittances in rural communities can gain significance when considering limited local employment. However, without having interviewed non-H-2B community members, it is difficult to understand exactly what impact remittances have on employment in the broader community.

Part 4: H-2B vs. Illegal Alternatives:

Illegal immigration from Guatemala is a common occurrence. It was estimated in 2006 that 10%, or approximately 1.3 million, Guatemalans are residing in North America. Seventy percent are estimated to be working illegally and remanding an estimated \$4.5 billion annually (World Bank 2006; IOM 2013). It is no secret in Guatemala that illegal immigration pays. It is difficult to speak to anyone without being told of a son, brother, father, or uncle working in the US. Visas such as H-2B provide an alternative to illegal immigration, and yet there is a fear among some opponents of H-2B that they contribute to illegal immigration (Hohman 2015).

There are certainly some attractive elements that explain why H-2B workers might choose to overstay visas and seek illegal employment. During interviews, I regularly heard planters discuss how illegal immigrants often earn better wages. *“I have heard you can earn \$150 per day in roofing, but we don’t do that work,”* explained one foreman. A first-year planter reported, *“I was offered a job in construction paying \$15 an hour.”* Illegal immigrants also live in the US for longer periods, often for years or even decades, during which time they earn and remand money back to their families. The financial incentives, at least on the surface, are more attractive, since illegal worker do not have unproductive periods when they must return home for three to six months and then pay costly visa and airlines fees to go back to work.

As a result, many illegal workers appear to build larger homes and accrue more wealth as they take advantage of these longer stays and often higher-paying jobs. In an interview with a community leader and father of an H-2B planter, he observed, *“All the houses in town that are nice are the result of remittances coming from illegals in the US. My son is the only one up there on a legal visa....Illegals stay a long time in the US, often 10 to 12 years. This is because when you go illegally, you only have one opportunity to go....many of them do well sending money home this whole time.”*

This question of why H-2B laborers don't overstay visas and take the illegal route, as it appears to offer some attractive alternatives, gained significance and was incorporated into interviews. As I asked this question throughout Guatemala, I came to understand that while many planters were offered higher-paying illegal jobs or saw neighbors profiting from them, they could also see the problems that illegal immigration posed. I furthermore had the opportunity to interview several recently deported illegal immigrants, as well as several planters who had overstayed their visas, who provided a multidimensional perspective of having lived illegally or experienced both alternatives. In the following sections, I will discuss why H-2B labor does not take the illegal route and what factors contribute to H-2B labor overstaying and becoming illegal.

I. Why Don't H-2B Planters Overstay Their Visas?

Planters regularly expressed three primary reasons as to why they did not overstay visas and take the illegal route. First, many planters return home to preserve family unity. During one of my first interviews, I asked a planter why he did not stay and take the illegal route; in response, he looked me square in the eye and asked me, "*Why do you go back home?...To see family and friends...right? Well, this is true for me too; I like being able to come back and forth to see my family....I love them and want to see them.*" Illegals, on the other hand, often make a single trip lasting multiple years and return only when they have been deported or reached some financial goal, or when serious family problems require their presence.

The visa provides an avenue for laborers to work in the US, return home to see family, and the following year go back, should jobs be available. This, in the eyes of many planters, is worth the financial costs of regular travel and down periods. The illegal alternative, as one

planter commented, *“is very sad for the family,”* as it often leads to the disintegration of families when parents leave for years at a time without a clear idea of when they will return. Illegal trips are one-way tickets that leave huge uncertainties for families left behind.

A recruiter speaking about the illegal route explained, *“Illegal families get divided more....you see more cases of broken families when you have one person in the US and one down here...this also can happen to us in H-2B, but it is less.”* The absence of fathers is especially bad, explained a community leader, when *“kids are left when they are small....You see a disintegration of the family, especially among illegals who are away for years at a time...fathers are not there to discipline children...and this causes problems.”*

This reality has not escaped the attention of H-2B laborers, since the families of illegal workers experiencing these difficulties surround them. They see firsthand failed marriages and children who end up joining gangs or failing at school because fathers are not present to ensure they make good use of the remittances they are sending. The absence of father figures is a major issue, and H-2B visas provide firm timeframes and instill certain expectations.

These expectations between the H-2B laborer and their families appear to be a catalyst that ensures both parties meet their obligations and thus seem to create tight partnerships between husband and wives. Wives know they will see their husbands in six or eight months and know that their husbands will return with more financial security. Their job is to keep their families and homes intact in their husbands' absence.

Conversely, H-2B planters know they need to maximize their remittances for their families, who are waiting for them at the end of their stay. *“With H-2B, the day I leave, I know exactly where I will be and what I will be doing. I know I will go and work hard and make money and not spend it up there, but try and save as much as possible for down there....you have*

to remind yourself of what your goals are and what you are trying to do. It's easy to spend up there...lot of things to buy," reflected a longtime planter. Similarly, another planter simply said, *"I go and I work and I come back. I don't play up there, only work for my life here."*

Illegal immigrants, in contrast, are operating on a different platform, which can lead to distant, strained, or broken families. They are in the US for years, and according to many planters interviewed, this sometimes translates into a lethargy or a false security of "will send money later." Even though many illegal workers might make more money, some planters have observed that illegal immigrants are more easily tempted by the consumer society, in which they are now living for multiple years. This can lead to a slower accumulation of capital and thus even longer trips.

As one planter observed, *"I see that illegals earn more, but I also notice that they spend more....they think because they are earning more that they can spend more....they buy more food, eat out more, and also buy more things, and they drink a lot."* Similarly, a recruiter noted, *"Those who are illegal don't care. Since they don't know when they will be going back, they say 'I will just buy something, I can make the money up next week.' The illegal guy, because there is no timeframe, does not save and send money as often. Their goals are usually more drawn out and can have the tendency to have less impact in Guatemala."*

Planters see these tendencies as a problem, which the visa programs avoid by keeping labor temporary and thus providing tighter annual responsibilities and regular connections to families. These connections both in seeing and interacting with wives and children and also renewing the goals they have, not in the US but back home, keep family units together.

A second factor that keeps H-2B planters from overstaying their visas is the fear of becoming ineligible for future visas and losing their ability to go and come with relative ease.

They know that once they cross the line, their options become limited to the illegal alternative and subject to the norms of long-term stays. As one young foreman told me, *“I like to go and come.”*

Another young foreman told me the story of his brother, who overstayed a visa and is now serving a five-year suspension. For this individual, now living back home since he was caught and deported, his options are to wait five years or make the dangerous and costly illegal trip. Additionally, trust between the individual and recruiters or employers is likely problematic, meaning he is unlikely to be invited, regardless of his suspension.

The illegal trip poses a series of risks and costs that many planters explain is a third third reason they return and keep their legal status. Safety is a major issue that multiple planters discussed as a motivating factor to take the legal route. The father of one planter who himself had traveled illegally in years past observed, *“A problem I see with the illegal route is the trip up...there is risk of death on the road through Mexico or death in the desert...it’s tough....lots die, and there are huge amounts of uncertainty for yourself and your family.”*

A veteran illegal immigrant of eight trips, many unsuccessful, said, *“The visa option is much better than what we had....it’s more secure, and you arrive in 1 day, not 20 days or more...living with hunger, fear, and possible death....It’s better on your family too...they know when you are coming back and know you are safe. You have a place to live and a job lined up too. A lot less uncertainty.”* The wife of a planter explained the attractiveness of the visa from the family’s perspective: *“I stay happy knowing that his trip is legal and knowing he will arrive safe and when he will arrive.”*

In addition to safety considerations is the cost of the alternative illegal route. *“Illegal is delicate and very dangerous. It’s very expensive too...the illegal trip costs about \$5,000...It*

costs a lot to go illegal,” explained one planter. One man who made an illegal trip in the early 2000s remembered, “Back then, it cost \$4000, or about 40,000 Quetzales....Also the Mexican police charge you lot of fees all the way through Mexico.”

These costs, over four times that of the legal H-2B trip, provide no guarantees that those paying the fees will arrive. In addition to injury or death is the very real possibility of being caught and deported before even arriving or shortly after. H-2B planters know this, as one planter pointed out, *“Our work is really hard, and the illegal people often have easier jobs...but it costs too much money to go illegally....the rate is about 50,000 Quetzales to pay for a coyote, and there is also a big risk of not making it and losing the money or even dying.”*

Many planters recognize overstaying visas and only having the illegal alternative as a poor trade. They see all the risks and impacts this has on their families and opt instead to take what many describe as a slower but more certain path to accumulate capital. Yet this slower path provides more certainties. Laborers know that when they take their loans for travel, they will have a job in the US.

When illegal immigrants take out loans, many have no such guarantees. Instead, they must risk the travel and upon arrival find places to live and later secure jobs. Certainly, there are family and illegal networks that help facilitate this process, and yet this is still not the same as flying one day and working the next. As one planter put it, *“A benefit of H-2B is you don’t lose time looking for work; instead, you arrive, and the next day you are working...you know that when you leave here tonight, you will be planting in Georgia the next morning.”*

The third and final factor that keeps many planters from overstaying visas is that some planters are simply uncomfortable with the illegal status and lifestyle. *“Illegal, you are usually scared the whole time in the US and cower and don’t go to stores during the day....you can’t*

walk down the side of the road if you can help it either. I was always looking over my shoulder,” recalled one man about his time as an illegal immigrant.

One planter said that the longer path to capital that H-2B provides was not for his son. His son left illegally, and yet when I asked the father why he had not done as his son, he simply said, *“I never liked violating the laws and wanted to be responsible to the law.”* Another planter who was offered a higher-paying job as he was about to return home explained, *“It is important to me to respect my work and company and keep my name clear.”*

Overstaying visas is not a choice most planters make lightly. In fact, I will argue that few take this route, for the reasons noted above. The visas, while often providing lower earnings, provide far more certainties. The various reasons for staying legal are tied to family, security, costs, and ensuring an open legal avenue for future travel.

The dangers of the illegal route:

During an interview in Guatemala, I had the opportunity to interview three illegal immigrants who had been deported and were back home. A key informant showing me around town spotted these friends working and eating at a small taco stand in the town square and introduced me.

The scene was surreal as we stood on the side of a dusty square only miles from the Mexican border, in a town I knew to have a strong drug cartel presence, evident in the out-of-place mansions. Yet as I was introduced to these three men, both the man operating a taco stand mounted on the front of his bicycle and the other man, eating a taco, were friendly and gracious.

We spent some time talking about legal versus illegal immigration, and I heard their stories of riding trains, literally climbing over fences, nighttime hikes through Mexican and American deserts, and panicked runs from immigration police. *“See this knee,”* said one man. *“It does not work very good now...I hurt it running from Immigration on my last trip.”* The other man, reminiscing with his friend, said, *“The thorns in the desert, they were terrible.”*

II. What Causes H-2B Planters to Overstay Their Visas?

Although most planters opt to remain legal, I encountered multiple cases of H-2B laborers who overstayed their visas. Interestingly, most of these cases are related to the loans, which H-2B laborers take out to cover travel and visa expenses. The loans, averaging just under \$1,200, are substantial capital commitments, which often require placing land, homes, or other valuables as collateral. In other cases, laborers might borrow money from family and friends, raising expectations and increasing pressure for successful trips. Yet, when circumstances arise during their trip to the US that hinder their ability to work or make sufficient money to cover these loans, many are faced with a decision to return, lose collateral, and face shame in their families.

During interviews, I encountered stories of two circumstances that account for many of the visa overstays. First, I interviewed multiple planters who, because of illnesses that reduced their productivity, were forced to overstay their visas to earn enough money to pay off their visa and travel debts. This was the case for one planter who had just recently returned from the US. As he explained it, *“I got sick and could not plant for a good portion of the time I was up there. I had a lien on my property, and I had not made enough money to pay it back. If I returned, I would lose my land, so I had to stay and find a job. I stayed illegally for eight years.”*

Tree planting is difficult work, with the inclement weather over rough terrain common to the job. If someone gets sick, whether temporarily or, in the case of one planter, a hernia, this can ruin their planting season. Labor is paid either hourly or piece rate, and few accommodations are made for workers who stay back at the hotel or sit in the truck. Many planters discussed how work was difficult and uncertain and required labor to be at their best physically if they hope to make production.

In the case of the planter above, he spent multiple weeks sick, either unable to plant or planting far too slowly to earn enough to cover both his stateside hotel and food costs but also his loan payments at home. In these situations, H-2B workers are faced with the decision to return home and not only have nothing to show for their trip but lose what little property they have. In most cases, they stay and often for multiple years because the legal route is now closed.

A second factor that can contribute to visa overstays, is problems with the employer. During an interview in Alta Verapaz in 2013, I learned about a contractor who went out of business before the H-2B contract had concluded. In this case, of the 15 men who went to plant, only a handful returned. As this planter explained, *“Most of them stayed illegally up there this year because the boss up there went out of business and did not pay them....he still owes them money...including me and some of the others that did come back.”*

Under these circumstances, H-2B laborers saw two things. First, they knew that they were shorted pay and had not earned enough to cover expenses and make a profit to justify their trip. Second, they realized that they were unlikely to receive an invitation back the following year with an employer going out of business. These laborers saw their situation for what it was, and most opted to take the illegal route since few other options were present.

It is important to remember that in Guatemala employment options are limited. Furthermore, workers who overstay their visas avoid the costly and dangerous illegal trip to the US, and working illegally is better than returning to seasonal farm labor. When I asked the two planters who returned why they did so, I learned that both returned because of their families and in the hope that they could not only recoup lost earnings but also keep their legal status for future visa trips.

The prospect of future visa trips will be tricky for these two H-2B laborers, as they turned their employer in to the US Embassy during their returning interview. It is unfortunate, but the H-2B community is small both in the US and in Guatemala. Word is likely to spread that these men have blown the whistle, and they are likely to be shunned even though fully justified in their actions.

Recruiters look for labor that doesn't complain and sticks to the company line. A veteran tree planter explained things this way: *"We are taking care of the company because we know these jobs are benefiting us. If we complain, the company gets into trouble and then we may not have visas and jobs. We are also told not to tell the embassy how many of us live in each trailer. We take care of the company."* In the case of these two planters, I believe it likely that they will not receive an invitation back from other recruiters in the region. They are speaking to lawyers who are trying to extract lost pay, and this is likely to have the unfortunate effect of getting them noticed and blackballed.

In other cases, workers overstay their visas due to short visa stays combined with unusually difficult planting conditions or poor weather. A short visa stay of only three months, which most labor will complain about due to most needing between one and two months to pay back debts, leaves little time for profit generation. If these circumstances combine with an unusually cold winter, which shortens planting times, or rough terrain, which slows production, the results can be disgruntled labor.

This was the case of the brother of a planter who overstayed his visa. *"A few years ago, he went up to work, but his visa ended early. It was too short, and the work was only OK. He was unable to pay off his debts he had taken out to get there. So he found other work and overstayed his visa."* Visa lengths are often shortened because of governmental bureaucratic red

tape, which slows the application process and leaves employers with shortened windows to plant, spray, or rake pine straw. Labor thus arrives later than either party hoped or promised and must still leave at the DOL's mandated time.

In most cases, employers do not apply for short visas, as they know that workers prefer and need these longer visas to remain profitable. Most employers, recognizing the need for longer visas, will bring workers to perform a multitude of tasks other than planting. They might first arrive and cover the growing tips of pines, to reduce deer browse, and then move on to planting, before shifting to herbicide applications later in the year.

In some cases, while illegal, employers will allow labor to take jobs with other employers for whom the visa is not applicable. These jobs might be in construction, landscaping, or nursery work. As one planter related, *"In roofing I get paid \$12/hour, actually paid by the day, which is \$150 per day but comes out to 12....This work is without the visa because it's not in our boss's name. It is illegal, but they let us do it because they know it's hard for us to make it on the short tree planting time. Not to say we don't earn with planting, because we do...but it's too short, and the pay is not great. This free time really makes the whole thing work."*

Some companies whose only business is planting have limited opportunities to move labor to other forestry-related businesses. Instead, they turn a blind eye to laborers who find other employment, as long as they leave at the specified time. New and tighter restrictions by the DOL, which wishes to know where laborers will be at all times, has likely made or is making this type of arrangement more difficult. I only encountered a few planters who admitted to having this arrangement.

Instead, the more common arrangement is contractors shifting labor to other work or applying for the laborer's visa to be transferred to another employer. However, bureaucratic red

tape makes some of these transfers uncertain and definitely slows the process. As a result, employers must diversify if they wish to keep legal labor.

Workers, in most circumstances, cannot rely on tree planting alone. The season, lasting between two and three months, is simply not long enough for workers paying their travel expenses to the US. Instead, multiple forest-related jobs are bundled to allow labor to pay for loans and earn sufficient income to make trips worth their time. If for any reason trips are too short, work hours are insufficient, or laborers become sick, they are very likely to overstay their visas and enter the illegal workforce.

Chapter 7: Research Conclusions

A key component of this research has been to better understand the motivations of immigrant workers for working under the H-2B guest worker program and the impacts these jobs have on improving their livelihoods. Previous research has largely highlighted many of the more problematic components of the H-2B guest worker program (GAO 2015; Bauer 2007; Grzywacz et al. 2013; Sarathy and Casanova 2008; Seminara 2010; SPLC 2012; McDaniel and Casanova 2003; Knudson and Amezcua 2005). These include labor abuses in recruitment and compensation, injuries sustained performing physical and repetitive labor, as well as a flawed programmatic structure that many believe places labor at a disadvantage when dealing with unscrupulous employers (McDaniel and Casanova 2003, 2005; Grzywacz et al. 2013; Liebman et al. 2013; Wilmsen et al. 2015). However, we need to consider that H-2B jobs might have some positive attributes with regard to the livelihoods of workers, their families, and communities.

It is no secret that the H-2B guest worker program provides a substantial part of the labor in the forest industry, both of Alabama and the US as a whole (Grzywacz et al. 2013; McDaniel and Casanova 2005). This labor is reliable, versatile, highly productive, and at the moment, the most cost-effective forest regeneration option. As a result, H-2B hand planters are commonly used for tree planting and have grown to fill many forest operations, such as pre-commercial thinning, selective herbicide applications, pine straw raking, and boundary line painting (McDaniel and Casanova 2005; Grzywacz et al. 2013).

However, over the past few years, a number of changes to the H-2B guest worker program have many questioning the future of immigrant labor. A combination of political pressures to not outsource American jobs has led to new DOL prevailing wage rules that by some estimates could increase labor costs by 26% to 104% (AFC 2011). Additionally, a series of high-profile lawsuits against unscrupulous employers have contributed to revisions of rules governing the recruitment, transportation, housing, and minimum working hours for labor. The result has been to increase the costs of H-2B labor for the forest industry.

The H-2B program is undergoing significant changes that could impact both the livelihoods of foreign immigrants and their communities as well as the forest industry, which uses immigrant labor almost exclusively in their forest regeneration. As a result, there is a need to explore the links between H-2B labor and livelihoods. Specifically, my research is aimed at first, identifying the interests and beliefs of forestry professionals regarding the future of immigrant labor in Alabama's forest industry. Second, this study seeks a better understanding of the reasons immigrant laborers from Guatemala take these jobs even under documented abusive situations. Third, this research aims to explore and document the links between H-2B forest labor earnings and the impacts on their livelihoods in Guatemala.

I. Forester Opinions on the Role and Future of H-2B Forest Labor in Alabama:

Interviews with foresters indicate that immigrant labor has grown to be "critical" to forest operations, as interviewees estimate they comprise between 70% and 90% of workers in forest regeneration in Alabama. However, increases in the costs of immigrant labor, as a result of the DOL's temporary 2012 and now the revised 2015 wage rules, are raising concerns about the

future use of H-2B hand-planting crews. Therefore, the questions of how these rules will impact forest regeneration, the decisions of landowners to replant forests, and the future of immigrant labor become even more relevant.

The past success and future of immigrant labor in Alabama's forest industry is closely tied to two key points. First, one must consider the versatility of hand over machine planting, even when faced with rising H-2B labor costs. Machine planting is limited to relatively flat and rock-free terrain. The topography in north Alabama becomes increasingly broken and rocky, making it difficult for machine planting. This factor ensures that some central and most northern portions of Alabama will require hand planting regardless of price if artificial regeneration is to continue.

The second factor favoring immigrant labor in forest regeneration is their competitive pricing. Prior to the 2015 DOL wage rules, most estimates placed the cost of hand planting at almost half that of machine planting, \$37 per acre for hand versus \$67 per acre (Table 7.2) (Dooley and Barlow 2013). Foresters also point out that hand planting seldom requires costly mechanical site preparation, which is commonly needed to clear debris for planting machines. Hand planting, even on sites with heavy logging residue, is possible and thus saves the landowner the additional cost of \$185 per acre for mechanical site preparation (Dooley and Barlow 2013). Consequently, hand planting has been cheaper not only as a regeneration method but has also required fewer site preparation investments. This, most foresters agree, has historically made hand planting the more attractive method.

However, the increasing costs of immigrant labor as a result of the 2015 DOL rules raise two primary outcomes in the eyes of foresters. First, foresters feel that as hand planting costs rise and the cost gap between hand and machine planting narrows, landowners will increasingly

shift to machine planting on sites not requiring costly mechanical site preparation. In fact, one reforestation contractor on the coastal plain explained, *“Here at least 30% of the regeneration is machine planting. It is a far superior planting technique with better rows and survivability.... Actually, many landowners request it.”* He felt that in the next few years, especially with the increasing H-2B labor costs and uncertainties, planting would shift toward machines on the coastal plain. This shift could lead to hand planting only being used on land where machine planting is not feasible due to site restrictions.

While it is difficult to estimate the potential acres that machine planting could occupy if hand planting declines, the future feasibility of machine planting can in part be estimated by reviewing historical planting records. Southern Costs and Cost Trend Data from 1990 found that 33% of planting was done by machine, and that back in 1986 it accounted for 44% of total acres planted in the South (Watson et al. 1987; Dubois et al. 1991). In 1998 an estimated 2.6 million acres were planted in the US, of which 79% were in the southern region (Moulton and Hernandez 2000). It is thus feasible to assume that machine planting can return to historic highs, regenerating forest on the corresponding acres, excluding other relevant factors, such as costs and land use changes.

Secondly, foresters fear that increasing planting costs will lead to a decline in the willingness of landowners to plant. Foresters are quick to note that landowners faced with declining timber prices, which fell between 20% and 30% after the 2008 recession and have yet to fully recover (Figure 5.1) (Brandeis et al. 2012), in combination with rising management costs, are opting out of reforestation. Studies have found that there is a correlation between timber prices and landowner’s willingness to replant (Sun et al. 2008; Hyberg 1989; Kline et al. 2002). Another study has pointed out that financial constraints such as income or limited capital

can make landowners sensitive to high up-front costs such as reforestation (Royer 1987). Furthermore, other studies have suggested that profitability perceptions and variables that are perceived to affect their financial rate of return, especially when combined with limited capital and high immediate costs, can turn family forest landowners away from reforestation (Doolittle and Straka 1987; Zhang and Flick 2001).

Some foresters have suggested that with increasing regeneration costs many landowners might not harvest timber or resort to smaller selective or thinning cuts. For consulting foresters who depend on planting contracts or percentages of timber sales for their income generation, this could be problematic for their businesses. As a result, foresters remain nervous about how landowners will react to an increase in planting costs resulting from the 2015 DOL wage rules. As a consultant discussing this point explained, *“I think for private landowners, I think that if H-2B goes to the numbers that they are talking about right now...it will be a lot of landowners not going to plant. They are just folding out.”*

Furthermore, foresters feel this increase in costs is likely to be especially problematic for medium- and small-acreage landowners. Small landowners, they explained, often pay for regeneration costs out of pocket and seldom see timber production as their primary management objective. This, foresters are concerned, could have many landowners considering alternative uses for their land. Interestingly, foresters are using immigrant labor crews to meet many of these small or scale-appropriate demands that mechanization and economies of scale often marginalize. This could be of growing importance as parcelization increases, with an estimated 60% of timberland owners in the US owning less than 10 acres and the mean average size of timberland in Alabama being 29 acres (Majumdar et al. 2008).

As immigrant labor costs rise, there is likely to be a shift away from hand planting to machine planting, particularly on sites not requiring costly mechanical site preparation. For landowners, and especially small landowners, there is likely to be a gradual move away from plantation-style forestry as their willingness to pay the higher regeneration costs declines. Similar findings were reported by Kline et al. (2002), who projected that regeneration by NIPFs would decline with increasing regeneration costs and low levels of cost-share programs to compensate expenses. The end result is likely to be a growing number of landowners increasingly disengaged from the traditional forest industry. For many foresters, this raises concerns about the future of forestry in Alabama. As one consulting forester noted, *“If we cannot get trees planted, our number-one industry in Alabama is going to go away.”*

For immigrant labor, the rising H-2B costs will likely mean a declining number of available visas in the forest industry. If landowners shift to machine planting or away from intensive plantation forest management, this will mean fewer planting jobs. Their services will shift to landowners in geographic regions unsuitable for machine planting who are still willing to pay the higher costs.

II. Why Do Rural Guatemalans Take H-2B Jobs?

Guatemala, a prominent source of H-2B forest labor, like many developing countries, continues to suffer what McMichael (2012) termed a depeasantisation process that is driving migrations from rural and traditional occupations toward urban centers and across borders. Agricultural occupations are becoming increasingly less rewarding as globalizing markets are driving agricultural prices down (McMichael 2012; Soubbotin 2004). Thus, in Guatemala, as is

the case around the world, increasing numbers of people have abandoned their traditional subsistence agricultural practices as well as destabilized large agricultural employers (McMichael 2012). This has led to declining local employment opportunities, which in combination with available jobs in the global North has increased numbers of people looking for outside employment.

The situation for H-2B forest labor is no different and in many cases is much worse. While Guatemala has a national poverty rate of 50%, in rural regions where forest labor originates, rates are as high as 79% (INE 2014, 2015; INE 2013). The majority of H-2B laborers share a background in subsistence agriculture combined with seasonal farm labor on larger farms. However, rising unemployment rates and an estimated 80% of the rural population employed informally mean that this population earns enough to meet little more than 50% of the National Vital Food needs (INE 2013). In fact, the populations of some of the regions where forest labor originates could be classified as living in extreme poverty, with reported wage rates of \$6 per day, or 40% less than the national minimum wage.

Migration is a necessity for many rural Guatemalans to survive. Whether it is to the African palm plantations in North Guatemala, to the sugarcane plantations on Guatemala's Pacific Coast, or even across borders to Mexico or illegally to the US, rural Guatemalans are strongly motivated to seek employment to fill the income gaps resulting from declining local employment and subsistence agriculture. I found that most forest workers admitted to having few local employment options, and many had been forced to leave their communities for several weeks or months every year to find often only informal employment paying well below the national minimum wage. As the average H-2B forest worker has less than an elementary

education, for many, urban migration often only results in bottom-level jobs with limited long-term opportunities.

For many rural Guatemalans, this results in a bleak existence characterized by little hope of escaping chronic poverty. Comments such as, “*There are no jobs here*” or “*You can’t get ahead here,*” from forest workers are common and reflect the desperation that leads many to take the illegal route to the US. In fact, it is estimated that 10% of the Guatemalan population lives in the US, of which 560,000 migrated illegally, making them the third-largest illegal population in the US (Baker and Rytina 2012; World Bank 2006; IOM 2013).

For most forest workers, the H-2B program provides a legal avenue to earn over five-and-a-half times rural monthly wages and 15% more than formal employment at the national minimum wage on a yearly basis (subtracting US travel costs and estimating for an average seven-month visa stay). The increased wages not only contribute toward alleviating poverty, but also allow labor to maintain connections with their families and communities. The H-2B program more closely resembles temporary local migrations and allows family units to remain whole, which most H-2B forest laborers highly prize.

The alternative illegal migrations, very common in many of the same communities, while providing similar if not better poverty reduction measures, often result in greater family and social problems, as trips can last multiple years. The overarching observations expressed by H-2B laborers about their illegal counterparts are that “*Illegal families get divided more,*” and the illegal route poses higher risks, uncertainties, and costs. In contrast, most forest laborers view the H-2B visa program as an opportunity to improve livelihoods, which local employment seldom affords, while maintaining regular contact with their families.

III. Is the H-2B Program Contributing to a Higher Quality of Life?

The average H-2B forest worker remands \$982 every month for an average of 7 months (Table 6.3). These remittances allow for an influx of capital that most leverage toward improving livelihoods. The impacts of these earnings are evident in many aspects of a forest laborer's life, leading to both short- and long-term improvements. Additionally, as concentrations of H-2B planters increase in a certain region, communities begin to experience positive changes that have impacts beyond the H-2B work itself.

When respondents were asked, "How do you invest your earnings?" it was common to first hear comments like "*improving our consumption,*" meaning their daily expenses related to food, clothing, and other household expenses. Remittances, while seldom changing traditional diets, certainly introduced more meats and, most importantly, relieved financial pressures, allowing for investments in other areas. Families are able to better clothe their children and modern western dress is commonly seen. This is not surprising, as Fletcher (1999) found that remittances to Mexico improved the quality and quantity of food and allowed for spending on extravagances such as modern clothing.

Remittances do not simply act as a replacement for local earnings, but rather allow for investment on the margins, involving longer-term livelihood improvements (Adams and Cuecuecha 2010). Specifically, 61% of H-2B laborers interviewed indicated they purchased land. Workers interviewed come from strong subsistence farming backgrounds, and many now own rather than rent land to continue this tradition. This land is used to improve livelihoods through a combination of subsistence farming to feed their families and cash crops such as coffee.

Probably the most visible impact, and very often a driving motivation for immigrating, is improving housing. Seventy-two percent of planters built a home with their remittances that in most cases is a drastic improvement from the mud-slat or rough-hewn wood homes they lived in before. For many, these jobs generate the capital necessary to leave their parents' home and build a new future for their families. Adams (2004) and Adams and Page (2005) found very similar motivations and results in Guatemala, as did Fletcher (1999) in Mexico, who noted, as do I, that improving housing is the primary dream.

Remittances have also been shown to contribute toward healthcare. In Guatemala, I found that remittances provided not only access to healthcare, but also better-quality healthcare. The national healthcare system in Guatemala is chronically underfunded and, as a result, offers poor services that most who can afford it will avoid if at all possible. H-2B forest laborers are no different and use their remittances to pay for private healthcare when taking family members to doctors or, in a couple of cases, paying for surgeries.

Perhaps the most important and long-term impacts toward improving livelihoods are investments in education. Forest laborers interviewed almost unanimously did not finish elementary school, as is true for a large portion of the rural Guatemalan population (GHRC 2010). Secondary education rates are even lower, as enrollment rates drop to 38% and completion is estimated to only be 10% nationally (GHRC 2010). For rural regions, from which H-2B workers are recruited, secondary enrollment rates are only 8.8% for middle school and 4.5% for high school (Diaz et al. 2008). For most families, education is a luxury that is forgone, because when children become old enough to help their families work in the fields, they are expected to contribute to their household's well-being.

In contrast, remittances relieve financial pressures and allow children to remain in school far longer than the previous generation. In fact, 54% of forest laborers invest in their children's education, and nearly 50% hoped their children either would finish high school or continue to post-graduate degrees. While the majority of those interviewed had young children, 15% of forest laborers leveraged their H-2B remittances to graduate their children from high school and in one case college. The hope for most forest laborers is to have their children join the ranks of professional employment and not, as one planter put it, "*work brutally like me.*"

Other studies both in Guatemala and around the world confirm that remittances contribute toward school retention rates and educational investment (Edwards and Ureta 2003; Yang 2005; Adams and Cuecuecha 2010). However, this is the first time that remittances from H-2B forest labor have been linked to improving education. Even more impressively, this desire to better educate their children has, in the case of one community, led to the establishment of local private education opportunities. The combination of available income afforded by H-2B remittances and children able to attend school has allowed two private schools to successfully function in what can only be described as a rural mountain-top village with very limited access, making non-government schooling highly unusual.

Other community impacts associated with H-2B remittances are also evident. These include using private funds to build roads and churches, as well as to improve infrastructure to pipe potable water around communities. The monthly influx of remittances and the frenzy of home building that follows also support local businesses and laborers who have come to depend on remittances. In Guatemala, remittances account for 11% of the GDP and dwarf both official development assistance, by 15 times, and foreign direct assistance, by nearly 5 times (IOM 2013; OECD 2014; World Bank 2006). While the vast majority of these funds are not associated with

the H-2B program, in select communities there are certainly strong connections that contribute to local livelihoods.

Finally, most forest laborers understand they cannot plant trees forever. As a result, many over time begin to invest in microenterprises. These include farming on purchased lands, dry-goods stores, in one case a bus service, and in another a gristmill. While in most instances these are small businesses that are unable to replace the capital afforded by the H-2B visa program, they do represent a step up from the bottom rungs of society, where subsistence agriculture and seasonal farm labor were the only options.

All in all, the H-2B program represents an opportunity for many poor rural Guatemalans to take steps away from poverty, both in the short term with better foods, healthcare, and housing, and in the long term with new lands and businesses, as well as educated children who might move out of poverty. Just as importantly, this program represents a legal avenue eliminating the high costs of illegal immigration, which can run into the thousands of dollars and often expose immigrants and their families to theft, abuse, long-term separations, and overall huge uncertainties. Many illegal immigrants pay exorbitant fees only to never make it across the border or be deported. In 2014, an estimated 50,000 Guatemalans were deported (GHRC 2014).

Most H-2B workers interviewed recognized this benefit and the opportunity to keep their families intact. The majority of Guatemalans will unfortunately continue to take the illegal route as American jobs represents an escape from oppressive poverty. It is thus important to recognize the importance of these legal avenues and work to create visa programs that are mutually beneficial to both employers and the workers who take these jobs.

IV. Avenues for Future Research

Interviews with foresters suggested that the new 2015 DOL rules and wage laws would likely impact reforestation costs, willingness of landowners to harvest and reforest, and possibly cause a shift to alternative regeneration methods. A landowner and forester survey would help shed light on how these new laws will impact different facets of the forest industry.

A second avenue that merits further research is related to H-2B forest workers originating from Mexico. While this study focused on Guatemala because of access issues, Mexico is the single largest source of H-2B workers. It would be interesting to duplicate this study in Mexico to evaluate the impacts of H-2B employment on Mexican families and communities. There are certainly cultural, economic, and political differences and likely a different set of contractors who recruit from Mexico that might produce new findings.

Third, a follow-up study in Guatemala to evaluate if and how the new 2015 DOL rules are impacting H-2B forest labor is needed. These laws require contractors to cover travel, visa, and housing costs, as well as guarantee working hours and higher hourly wages. Loans and uncertain seasonal working hours are major challenges for H-2B forest labor. It would be beneficial to understand how these new laws are implemented and what impacts they are having on livelihoods.

Finally, an in-depth comparison of H-2B and H-2A visa employment versus illegal immigration on generated remittances, livelihood impacts, family health and continuity, and communities is needed. Illegal immigration, and the resulting impacts of remittances, are evident and affect a much larger portion of the population. However, my research suggests that remittances from illegal immigration varied from more lucrative than H-2B to irregular. Additionally, there are multiple suggestions that illegal immigration led to declining family unity

and increased delinquency among youths in communities. It is important to understand the benefits and impacts of alternative illegal immigration compared to the legal alternatives.

Chapter 8: Policy Implications for Developing a Mutually Beneficial Relationship Between H-2B Immigrant Workers and the US Forest Industry

For most H-2B forest laborers, the ultimate goals are to work long enough to build homes, buy land, educate their children, and possibly start a small business for when they retire. On the flip side, forest managers and landowners need labor that is willing to fill manually oriented positions, be productive, and provide cost-effective management operations. There is a clear need on both sides of this relationship, and it is important to implement policies that do not introduce sudden cost increases that make H-2B labor less attractive to forest managers or, conversely, ignore practices or abuses that undermine the laborer's ability to earn a fair income.

I. Implications of Changing H-2B Rules for Forest Workers and the Forest Industry:

In 2012 and again in April of 2015, the DOL implemented a series of rules for H-2B labor they termed the "Final Rule" (Table 7.3) (DOL 20 CFR Part 655 2015). The rules in 2012 raised many concerns within the forestry community due to exorbitant compensation rates that could raise reforestation costs between 26% and 104% (AFC 2011). Eventually, this rule was removed following a series of legal cases. In 2015, a similar rule was promulgated and implemented that has once again raised concerns in the forest industry. In the following section,

I outline the implications of select rules from both the perspective of H-2B labor and the forestry community, filtered through my research findings and professional experience.

The first provision of concern is a new rule proposing that employers compensate workers for travel and visa expenses to and from the US. Several researchers have pointed out that H-2B laborers are burdened with high travel costs necessary to work in the US (Bauer 2007; Sarathy and Casanova 2008; McDaniel and Casanova 2003). My field research in 2012 and 2013 found that in most cases Guatemalan workers still paid for all their travel and visa processing expenses, often totaling around \$1,200 per trip. Interestingly, while workers seldom complained about paying these travel expenses, they did regularly discuss the time it took to depreciate their travel investments before earning income free and clear.

On average, I found forest laborers to have visa trips of seven months. Most planters indicated it takes them roughly two months to pay off the cost of their trips, with interest rates often high, before accumulating capital. For those with visa stays of average length or more, their trips proved to be lucrative and contributed positively toward local livelihoods. However, when I encountered planters who only came up for a three- or four-month planting season, most experienced limited economic benefits. In these cases, funds did little more than replace locally earned income with some funds left over to repair existing homes rather than build or buy land. Therefore, if laborers are to pay for their travel, visa work trips of seven months or longer are needed.

However, new 2015 DOL rules propose having employers reimburse workers for travel and visa costs. From the perspective of H-2B workers, this is certainly a positive ruling. It would allow workers to profit regardless of the length of visa and would certainly increase the positive impacts associated with remittances. For example, I encountered a few H-2A laborers

who had their travel expenses covered, and the success of these laborers was very evident. In general terms, they tended to have better homes, more land, nicer clothing, and more importantly, assumed lower risks that are associated with the loans H-2B laborers take every year from local money lenders.

A second change to the H-2B rules being implemented in 2015 is the guarantee of regular working hours. The new rules require employers to guarantee a total number of hours corresponding to three-quarters of the workdays in a 12-week period or at least a 35-hour workweek. In my research, I found that H-2B workers often discussed the need to have fair weather to ensure successful work trips. In many cases, the risks associated with these visa trips are placed on the workers, as they are only paid when physically working in the field. Inclement weather and travel time between tracts is a cost that has traditionally been borne by workers, who still must manage their living costs regardless of earnings.

This rule change certainly is a positive for the workers, as it will ensure that contractors have lined up adequate employment. It also shifts much of the risk associated with inclement weather and lost planting time, common to long travel periods, onto employers. This might have an unintended consequence of employers pushing workers to plant during poor weather conditions, which could create some potential for abuse.

The 2015 Final Rule aims to ensure that (1) Americans are not overlooked in the hiring process and that (2) wages are raised to attract a domestic workforce. Based on both my research and professional experience, I believe this to be a misguided effort. The new rule, as before, ensures that contractors advertise available positions before being able to apply for visas. Nonetheless, the new rule forces employers to continuously offer positions to domestic employees even late in the application process. Employers at this point have already paid many

of the expenses of securing visas and would also have to forfeit visas if there are domestic applicants.

In my research, contractors regularly complained that each time a domestic application arrives, the DOL scratches a visa off their application. The reality, contractors state, is that many of these applicants never show up to work or last only a few days, creating labor shortages for contractors. Both my own experience and research by McDaniel and Casanova (2005) confirm that the American workforce is largely unwilling to fill these tough, manually-oriented bottom-level jobs. Yet the political pressures keep pushing rules that make recruitment more lengthy, uncertain, and ultimately costly. These efforts and costs, from the H-2B worker's perspective, are better spent on covering their travel costs and ensuring full working periods.

Associated with the process of attracting a domestic workforce is a continued push to raise the prevailing wages paid for forestry work. In 2012, and once again in 2015, some counties in Alabama saw H-2B tree planters being paid up to \$18 per hour, compared to a previous wage of between \$9 and \$10 per hour. Considering the fact that the federal minimum wage of \$7.25 is well below half that amount, this makes these wages significantly higher than similar landscaping, farm, or unskilled construction labor rates. In fact, H-2A prevailing wages for farm labor are only \$10.59 in Alabama and do not exceed \$13.80 nationally (DOL 2016).

It should be noted that these other jobs do not require a nomadic lifestyle of living in hotels, common to forestry. As a result, to attract domestic labor with local families and homes, higher wages are justified. The 2015 wage rule appears to have been driven by political concerns that Americans are being overlooked and thus wishing to attract domestic labor by raising rates to a level that compensates for both the physical nature and the required mobility of the job.

Interviews with contractors and foresters, however, found that even with the higher wages in 2012, very few US workers stuck with these jobs for more than a day or two. Once the physical aspects of the work and the need to travel far from home became clear, tree planting became unattractive to domestic workers. The realities are that regeneration work is not only tough and physical, but has also become dominated by contractors that work either statewide or more often across the entire southern US. This shift was first described by Guldin (1983) and was a factor in driving manual labor reforestation prices down as labor became more specialized and competition grew to a regional or national scale.

As a result, workers have to be willing to live a nomadic lifestyle, residing in different hotels from one week to the next. A foreign labor force that lives in the US for the sole purpose of work is well suited to this job. Efforts to raise wage rates only drive the cost of H-2B labor up, while the current forest-planting wages of between \$9 and \$11 are in most cases adequate and should rise more gradually to avoid shifts away from hand planting. While natural resource lobbying groups are making efforts to use surveys to determine local prevailing wages, at this moment wages still remain high, likely in the hopes of attracting domestic labor.

Another factor that is likely to raise the cost of H-2B labor is a confusing rule that leads many in the natural resource community to believe that contractors will be responsible for paying housing costs. This is a concern for many contractors, because of the nomadic nature of the job and the cost of hotels. The Forest Resource Association (2015) has estimated, based on a high and unrealistic single occupancy rate, that this could cost contractors nearly \$75 million a year (occupancy is more likely to be 2 to 4 per room, bringing rates down to under \$19 million). While the H-2A visa program has similar rulings, labor in these cases is less mobile, and farmers often have onsite housing that workers can use when they return every season. In the case of

forestry, hotels are the norm and the only viable option for workers who seldom spend more than a few days in a single county.

From the H-2B worker's perspective, this is certainly a positive ruling. It once again reduces their costs in the US and would increase the capital they accrue that would result in the higher remittances rates and livelihood impacts I saw with H-2A labor. However, this benefit must be weighed against pushing H-2B hand-planting rates closer to the cost of alternative machine planting or making regeneration less attractive to landowners.

Employer deductions for equipment and local travel are also addressed in the 2015 DOL rules. While these deductions are ethically questionable, removing them will probably have little impact on reforestation costs. Few contractors, if any, charge for equipment rental, and about a third charge labor for use of the company vehicles to shop, do laundry, or take care of other personal needs. For planters, these fees averaged about \$92 per month. These costs would add roughly 2% to planting costs but could help improve the image and ethical issues surrounding H-2B labor (Table 7.1).

II. Applying the Appropriate Rules to Ensure a Mutually Beneficial Relationship:

Using data gathered during my study in Guatemala in combination with a 2014 forest cost and cost trends report (Barlow and Levendis 2015), I have developed rough estimates as to the anticipated increases in bare-root hand-planting costs for select 2015 Final Rules. In applying all the selected rules of new prevailing wages, travel compensation, housing compensation, and removal of deductions, I have estimated this could raise hand-planting labor costs anywhere from 47% to 125%, with an average increase of 86% or \$32 per acre (Table 7.1,

Figure 7.1). An increase of this magnitude, I estimate, will raise the cost of hand planting with H-2B labor above that of machine planting (Figure 7.1).

This, of course, raises many concerns about the future use of immigrant labor where machine planting is a viable option. While at this moment the 2015 Final Rule remains in place, it is likely that current congressional pressures and lawsuits will cause portions or many of these laws to be retracted, as in 2012. In that case, I believe there is room to discuss the merits of select rules, which would simultaneously improve workers' livelihoods and keep them employed in the forest industry, while keeping planting costs attractive and viable for smaller landowners.

A good place to start is by discouraging the increased hourly wages aimed not at improving immigrant labor's situations, but rather to attract domestic labor. It is important that policy makers understand forestry jobs are seldom of interest to domestic workers. Instead, policy makers should focus their attention on wage rates for immigrant workers entering the resort and service industries, which are another large employer of H-2B labor (DOL 2015). These jobs are much more likely to be attractive to domestic workers, as they generally do not require physical labor in inclement weather and provide opportunities for upward mobility in larger corporate structures.

The proposed increase in the prevailing wage rates in the 2015 wage rule has the potential to raise rates between 26% and 104%, which translates into an increase of between \$10 and \$39 per acre (Table 7.1). These new wages alone have the potential to raise the labor costs for hand-planting bare-root seedlings over that of machine planting in some areas.

Instead, I would encourage rules that result in smaller per-acre price increases; such rules are less likely to have strong opposition and yet have the potential to address questionable or abusive concerns. I would begin with implementing the 2015 Final Rule of having employers

compensate H-2B workers for their travel and visa expenses. These expenses would raise the cost per Guatemalan laborer to just under \$1,200 per man. The travel costs for Mexican immigrants would potentially be less, at approximately \$998 per man, as contractors charter buses (confirmed through two interviews with labor contractors using Mexican labor in 2015 and 2016) rather than buying costly airline tickets (this also assumes similar in-country passport and visa processing expenses as Guatemalans) (Table 7.1).

Applying this law to Guatemalan workers would roughly translate to a 6.4% increase in bare-root hand-planting labor costs per acre, or \$2.40 per acre (Table 7.1). For Mexican labor, the increase would be slightly lower at 5.4%, or \$2.00 per acre. Contractors, by reimbursing travel expenses, would have the dual effect of, first, increasing workers' seasonal earnings and, second, reducing abusive cases arising from unscrupulous lenders and contractors. This rule also takes steps toward a more balanced relationship, as workers are not encumbered by debt and are freer to leave unscrupulous contractors.

Second, I would encourage rules that disallow employers to charge deductions for tools and transportation, as it would incrementally increase monthly remittances for labor and, more importantly, remove an ethically questionable practice. Few domestic employees would suffer having to pay employer-owned transportation to reach a job or shop for living necessities when on the road. It is already questionable that many are not paid for their travel time between work sites. To add their paying for the transportation is difficult to defend. The costs to employers and ultimately to landowners would likely be no more than an extra 2%, or \$0.74 per acre, and would result in labor earning an additional \$92 per month (Table 7.1).

The three-quarter rule is a good alternative to having employers pay for H-2B workers' housing. The cost of housing would further raise planting labor costs per acre by 13% and thus

narrow the gap to alternative regeneration methodologies (Table 7.1, Figure 7.1). Yet the three-quarter rule would minimize the need for labor paying housing costs during inactive periods. It would be an acceptable trade that would push employers toward further improving the efficiency of their operations.

The compensation for housing is a cost that could be applied in following years once the effects on both workers and forest costs of the suggested travel compensations, deductions, and three-quarter rules have been realized. I do believe it to be a fair rule for at least the nights during which laborers are actively working. However, there is concern that large and sudden per-acre price increases could decrease planting, shift regeneration toward alternative methods, and ultimately limit opportunities for H-2B labor. This could be counterproductive by encouraging more illegal immigration to the US for workers.

It is important to keep in mind that the H-2B program has been and, with the implementation of proper policies, could continue to be a mutually beneficial relationship between H-2B workers and the forest industry. While there certainly have been abuses of labor and programmatic policies have placed workers at a disadvantage to employers, changes could be made to remove or minimize common sources of labor abuse. However, contractor oversight and monitoring to ensure adherence to implemented laws is critical. Previous research has suggested that the DOL has offered poor oversight with few field personnel (Sarathy and Casanova 2008). Furthermore, there is some evidence that seldom have visas been denied to contractors who did not uphold current policies (Seminar 2010). As a result, laws will only be as effective at reducing abusive working conditions and ensuring a more mutually beneficial relationship as the governmental agencies charged with ensuring their adherence.

III. Impact of Rising H-2B Costs on Timber Profitability and Management:

To better understand the economic impacts of increased hand-planting costs associated with the DOL's 2015 H-2B rules on forestry profit potentials, I ran a basic analysis to estimate the changes in net present value of timber (NPV). The NPV, estimated by using the difference between the current value of future incomes at today's timber prices against the present value of all costs at a certain discount rate, is a tool used by professional foresters to evaluate investment returns in forestry. The analysis*, using a growth and yield model, was run on a loblolly pine stand (*Pinus taeda*) planted on a cutover site and grown on a 30-year rotation. The forest profit analysis only used the most basic forest management activities (costs) of planting, chemical site preparation, and herbaceous release and relied on 2015 management costs and timber prices.

The results, assuming the previously estimated per-acre increases in hand-planting costs, found that the NPV of timber will only decrease between 2% and 5%, depending on the new wage rate that is applied. The average decrease in the NPV, using an average of the proposed high and low wage rates, will be about 4% across Alabama. The impacts of rising H-2B labor costs brought on by the new DOL H-2B rules are likely to be negligible on timber profitability from a purely long-term economic perspective.

In fact, the costs of mechanical site preparation needed on some machine-planting sites had a far greater impact, causing a 25% decrease in NPV using the previous cost and profit assumptions. From this perspective, the concerns of many foresters, discussed in previous chapters, appear to be unmerited and an overreaction to cost hikes. However, many forest management decisions made by family forest landowners are seldom made from a purely cost-benefit economic perspective.

The perceptions of profitability instead appear to have a greater impact on the family forest landowner's decision to regenerate (Straka 2015). The variables that affect or are perceived to impact their timber's rate of return, such as limited capital (other uses for timber revenues other than reinvestment into regeneration), high up-front costs, and the long-term prospects for timber prices, turn many landowners away from regeneration (Doolittle and Straka 1987; Zhang and Flick 2001; Straka 2015). Furthermore, timber is a long-term investment, and many landowners have a high-risk perception for an investment in which most revenues occur at the end of long timber rotation, where anything from fire to storms, insects to markets can turn profits into losses (Straka 2015).

Similarly, a study by Arano et al. (2004) found that factors such as low expected returns, risk, lack of capital, high regeneration cost, and lack of government cost-share programs were common reasons family forestland owners do not regenerate. Other landowners think that timber will grow back on its own or that the expected rate of returns is low when weighed against the high immediate costs (Royer and Kaiser 1983). As a result, landowners' willingness to regenerate declines as regeneration costs increase.

Financial constraints, associated with landowner's income, also play a significant role in their willingness or ability to regenerate. Specifically, Royer (1987) found family forestland owner's decision to regenerate is particularly sensitive to variables such as high up-front costs, income, and capital limitations. When considering the recent increases in planting costs, it is not surprising that foresters, and especially consulting foresters working with NIPFs, reacted with concern. From their perspective, immediate increases to regeneration costs will increase the difficulty of convincing landowners to regenerate, especially given the correlation between landowner willingness to reforest and timber prices (Sun et al. 2008; Hyberg 1989).

As noted in Chapter 5, timberland investment management organizations (TIMO) foresters will probably continue to plant and will either accept the lower rates of return or find ways to recover costs in other operations during the long rotation period. Some ill-advised cost-recovery activities, especially among smaller landowners likely to be interested in keeping costs low, are cause for concern. For example, one forester noted that his way to keep regeneration costs down and landowners engaged in planting during the 2012 price increase was to reduce the number of seedlings planted per acre from 600 to 400. This certainly reduces up-front costs, but risks leaving little to no margin of error for poor seedling survival. With fewer trees planted, landowners run the risk of either having to replant if they have a less-than-ideal survival or risk having too few trees during their rotation. Low stocking densities can result in unwanted volunteer species as well as invasive plant concerns. Additionally, understocked plantations have a tendency to produce trees with an abundance of limbs that are not shed until much later in the rotation. This leads to knots and a decrease in timber quality, which could lead to lower future timber values.

The ramifications of increasing planting cost, while likely to have a negligible bearing on future NPV of timber, is likely to impact both NIPF owner willingness to plant as well as timber quality. While industry will continue to plant, and likely follow proper silvicultural practices, family forestland owners are more likely to experience a decline in their willingness to plant as prices increase. The increasing number of these small landowners, as a result of the growing trend toward timberland parcelization (Hatcher et al. 2013), will affect future timber supplies and possibly the future of the forest industry.

*** Methodology for estimating the impacts of rising H-2B labor costs on the net present value of timber:**

To estimate the impacts of rising H-2B labor costs on the profitability of timber, I began by using Virginia Tech's Tauyield growth and yield model (Amateis et al. 2001) to grow a common loblolly pine stand on a previously cutover site with a site index of 70 and applying current planting rates of 491 trees per acre for a 30-year rotation (Barlow and Levendis 2015). Modeled timber harvest consisted of a selective 5th row thinning at year 15, a selective thinning at year 25, and a final harvest at year 30. Thinnings occurred when stand reached a basal area of 100 square feet per acre and were thinned to a target basal area of 70 square feet per acre.

Using the generated timber volumes, I next used the Forestry Investment Financial Analysis Tool (Barlow et al. 2014), and assuming average 2015 timber prices (Timber-Mart South 2015) and the latest management cost trends (Barlow and Levendis 2015), I ran an analysis with only the most basic forest management activities of planting, chemical site preparation, and herbaceous release.

IV. Only Losers in Rising Regeneration Costs:

As H-2B labor rates increase, the cost of hand planting will increase, leading to either a shift to alternative regeneration methods or away from regeneration completely. Either way, there will likely be more than one loser. The forest landowner is likely to lose an inexpensive, versatile, and highly productive regeneration method. This could lead toward decreasing reforestation as the growing number of small landowners delay or limit planting, which could contribute to declines in future forest productivity.

The second loser might be H-2B immigrant workers, who lose a legal avenue to earn over five times local wages in Guatemala (or Mexico) and the opportunity to take steps toward raising their families out of poverty in both the short and long term. As the costs of H-2B labor rise and foresters either shift toward machine planting or declines in overall planting occur, fewer workers will have the opportunity to legally work in the US. Most of these laborers come from

the bottom rungs of Guatemalan (or Mexican) society, and these jobs present their only real chance of escaping chronic poverty. One predictable outcome is increased illegal immigration.

For these immigrant workers, the loss of the H-2B income will mean pulling their kids out of school, as schooling costs are no longer affordable or their children's labor is needed to sustain their families as they return to previous norms. Improvements to livelihoods such as housing, medical care, and even nutrition are likely to suffer for those who have yet to complete homes or set up microenterprises to compensate for lost income. Impacts on a community level are also likely, especially for regions with high concentrations of H-2B labor. Investments in improvements such as roads, utilities, and churches are likely to slow and rely solely on illegal remittances.

For many H-2B forest workers, illegal immigration might become more attractive, as it is certainly a common option in rural Guatemala. This exposes these workers to increased risks inherent to illegal immigration and is likely to leave families without father figures for multiple years. Families lose a father to retain income streams, and in the US, this contributes to the growing number of illegal immigrants coming to fill the bottom-level jobs that visas like H-2B were created to fill. Removing or limiting a legal avenue is a real tragedy, and we should instead work to ensure that we reach a mutually beneficial relationship, in which impoverished families have an opportunity to work fair jobs to improve incomes and industries have workers willing to fill bottom-level jobs at a fair wage.

REFERENCES:

ActionAid. 2004. Power Hungry: Six Reasons to Regulate Global Food Corporations. Johannesburg: ActionAid International. Pg. 11.

Adams, J. C., T. R. Clason. Loblolly Pruning and Growth Characteristics at Different Planting Spacings. in. Outcalt, Kenneth W., ed. 2002. Proceedings of the eleventh biennial southern silvicultural research conference. Gen. Tech. Rep. SRS-48. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 622 p.

Adams, R. 2006. Remittances and poverty in Ghana. Policy, Research working paper; no. WPS 3838. Washington, DC: World Bank.

Adams, R and A. Cuecuecha. (2010), Remittances, Household Expenditure and Investment in Guatemala, *World Development*, 38(11):1626-1641

Adams, R. 2004. Remittances and Poverty in Guatemala. Policy Research Working Paper 3418. World Bank, Washington, DC.

Adams, R. and J. Page. 2005. Do International Migration and Remittances Reduce Poverty in Developing Countries? *World Development* 33(10): 1645-69.

Airola, J. 2007. The use of remittances income in Mexico. *Int Migr Rev.* 41(4):850-860

Alabama Forestry Commission (AFC). 2011. New Federal Regulations Could Impact Forest Landowners. Available online at: http://www.forestry.alabama.gov/Federal_Regulations.aspx; last updated Nov. 30, 2011.

Alabama Forestry Commission. 2006. Forest Resource Report 2006. Montgomery, AL: Alabama Forestry Commission. Available online at: <http://www.forestry.alabama.gov/PDFs/AFCAnnualReport2006.pdf>

Alexander III, C. J. R., B. V. Saucier, C. V. Baldwin, D. R. Bower. Effects of initial spacing and thinning on lumber grade, yield and strength of loblolly pine. *Forest products journal.* v. 44.11, 12.

Alig, R.J. and B.J. Butler. 2004. Area change for forest cover types in the United States, 1952 to 1997, with projections to 2050. Gen. Tech. Rep. PNW-GTR-613. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 106 p.

Amateis, R. L., P. J. Radtke, and H. E. Burkhart. 2001. Tauyield: A Stand-Level Growth and Yield Model for Thinned and Unthinned Loblolly Pine Plantations. Virginia Tech. Forest Modeling Research Cooperative. Available online at: <http://www.fmrc.frec.vt.edu/tauyield.htm>

Amuedo-Dorantes C., T. Sainz, and S. Pozo. 2007. Remittances and healthcare expenditure patterns of populations in origin communities: evidence from Mexico. *Integration & Trade* 27:159-184.

Arano, K.G., I.A. Munn, J.E. Gunter, S.H. Bullard, and M.L. Doolittle. 2004a. Modeling landowner participation in a proposed reforestation program. *Small-scale Forest Economics, Management and Policy* 3(2):177-190.

Arno, K.G., T.L. Cushing and I.A. Munn. 2002. Forest management expenses of Mississippi's nonindustrial private forest landowners. *Southern Journal of Applied Forestry*. 26(2): 93–98.

Ascencio, F. L. (2004). Current trends in migrants' remittances in Latin America and the Caribbean: An evaluation of their social and economic importance. Submitted at the Regional

Seminar "Migrants' Remittances: An Alternative for Latin American and the Caribbean?" July 26-27, 2004. Caracas Venezuela.

Attali, J. 1991. *Millennium: Winners and Losers in the Coming World Order*. Times Book, New York, NY.

Bacon, D. 2004. Be Our Guests. *The Nation*, September 27, 2004.

Bair, L. S and R. J. Alig. 2006. Regional cost information for private timberland conversion and management. Gen. Tech. Rep. PNW-GTR-684. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 26 p.

Baker, B., and N. Rytina. 2012. Estimates of the unauthorized immigrants population residing in the United States: January 2012. Homeland Security, Office of Immigration Statistics, Policy Directorate.

Barlow, R. and W. Levendis. 2015. Cost and Cost Trends for Forestry Practices in the South. Special Report. Available online at: www.forestlandowner.com.

Barlow, R. R. Bowen, J. Brown, and J. Cooke. A Guide to Analyzing Forestry Profit Potential. FOR-2007. Alabama Cooperative Extensions System.

Barreda, C. 2007. Guatemala: Crecimiento Economico, Poberaza Y Redistribucion. Albedrio: Revista Electronica de Discusion y propuesta Social. Available online at: www.alberdio.org.

Bauer, M. 2007. Close to slavery: Guestworker programs in the United States. Montgomery, AL: Southern Poverty Law Center. Available online at: https://www.splcenter.org/sites/default/files/d6_legacy_files/downloads/Close_to_Slavery.pdf

Beach, R. H., P. K. Subhrendu, Y. Jui-Chen, M. C. Brian and R. C. Abt. 2002. Empirical Studies of Non Industrial Private Forest Management: A Review and Synthesis. Working Paper 02_05. June 2002. Research Triangle Institute.

Benmamoun, M. and K. Lehnert. 2013. Financing Growth: Comparing the Effects of FDI, ODA, and International Remittances. *Journal of Economic Development*. Vol. 38:2 , June 2013.

Berg, B. L. and H. Lune. 2012. *Qualitative Research Methods for the Social Sciences*. Ed. No 8. Pearson Education, Inc. , Upper Saddle River, NJ.

Bernard H.R. and G. W. Ryan. 2010. *Analyzing Qualitative Data; Systematic Approaches*. Sage Publishing Inc. Thousand Oaks, CA.

Brandeis, T. J., A. Hartsell, J.W. Bentley, and C. Brandeis, C. (2012). *Economic Dynamics of Forests and Forest Industries in the the Southern United States*. United States Department of Agriculture Forest Service. Southern Research Station. Technical Report SRS-152.

Bryant, R. L. and S. Bailey. 1997. *Third World Political Ecology*. Rutledge Inc. New York, Ny.

Carvalho, K. H. A., M. L. Silva, and N.S. Soares. 2009. Competitiveness of Brazilian Wood Pulp in the International Market. *Cerene, Lavras*, 15(4): 383-390.

Catanzarite, L. 1998. Immigrant Latina representation and earnings penalties in occupations. *Res. Soc. Strat. Mobil.* 16: 147-179.

Catanzarite, L. and M.B. Aguilera. 2002. Working with co-ethnics: Earnings penalties for Latina Immigrants at Latina jobsites. *Soc. Probl.* 49(1): 101-127.

Central Intelligence Agency. 2015. Guatemala. In *The World Factbook*. Available online at: <https://www.cia.gov/library/publications/the-world-factbook/geos/br.html>

Chami, R. C. Fullenkamp, and S. Jahjah. 2003. Are Immigrant remittances flows a source of capital for development? IMF working paper 03/189, International Monetary Fund, Washington DC.

Chanda, N. 2003. Yale Center for the Study of Globalization. Available online at: <http://www.ycsg.yale.edu>. Last updated on: 2015.

Chen, S. and A. Ravallion. 2008 *The developing world is poorer than we thought, but no less successful in the fight against poverty*, World Bank, August 2008.

Chen, G. and C. Wu. 2006. *Will the Boat Sink the Water? The Life of China's Peasants*. New York: Public Affairs.

Citizendium. 2010. Milpa agriculture. Citizendium: The citizens Compendium. Available online at: http://en.citizendium.org/wiki/Milpa_agriculture. Last updated on: Feb. 21, 2010.

Clarke, G. and S. J. Wallsten. 2003. Do remittances act like insurance? Evidence from a natural disaster in Jamaica. Mimeo. Development Research Group, The World Bank.

Classbase web. 2012. Education System in Guatemala. Education database. Available online at: <http://www.classbase.com/countries/Guatemala/Education-System>.

Cloudforestconservation 2015. Community Cloud Forest Conservation. Available online at: <http://www.cloudforestconservation.org/community/qqqchi.php>

Cornelius, Wayne. 1990. Labor Migration to the United States: Development Outcomes and Alternatives in Mexican Sending Communities. Washington, D.C.: Commission for the Study of International Migration and Cooperative Economic Development.

Countryquest. 2003. Central America, Guatemala. Microsoft Encarta Encyclopedia. Available online at: http://www.countriesquest.com/central_america/guatemala.htm

Cox Edwards, A., and M. Ureta. 2003. "International Migration, Remittances, and Schooling: Evidence from El Salvador." *Journal of Development Economics* 72(2): 429–61.

Creswell, J. W. 2013. *Qualitative Inquiry & Research Design; Choosing Among Five Approaches*. 3rd Ed. Sage Publications Inc. Thousand Oaks, CA.

Curtin, P. 1997. Africa and Global Patterns of Migration. in *Global History and Migration*, Boulder: Westview Press.

Davis, M. 2006. *Planet of Slums*. London: Verso.

Díaz Camposeco, M., M. Thomas, and W. Krenmayr. 2008. Huehuetenango en cifras. Huehuetenango: Centro de Estudios y Documentación de la Frontera Occidental de Guatemala (CEDFOG).

Dooley, E. and Barlow, R. 2013. Cost and Trends of Southern Forestry Practices 2012 FOR-2001. Alabama Cooperative Extension System. Available online at: <http://www.aces.edu/pubs/docs/F/FOR-2001/FOR-2001-low.pdf>

Doolittle, L., and T.J. Straka. 1987. Regeneration following harvest on nonindustrial private sites in the South: A diffusion of innovations perspective. *Southern Journal of Applied Forestry* 11(1):37-41.

Dubois, M., K. McNabb, and T. J. Straka. 1997. Cost and Trends for Forestry Practices in the South. *Forest Landowner* 56(2) 7-13.

Dugger, C. W. 2004. Supermarket Giants Crush Central American Farmers. The New York Times. May 9:6

Edwards, A., and M. Ureta. 2003. International migration, remittances and schooling: Evidence from El Salvador. *Journal of Development Economics*, 72, 429–461.

Egan, A. and D. Taggart. 2009. Public perceptions of the logging profession in Maine and implication for logger recruitment. *North. J. Appl. For.* 26 (3), 93-98.

European Union External Action Service. 2013. Guatemala Mid-term Review of CSP 2007-2013. Available online at: http://eeas.europa.eu/guatemala/docs/2010_midterm_guatemala_summary_en.pdf

Food and Agriculture Organization (FAO). 2011. State of the World's Forests 2011. Rome, Italy: Food and Agriculture Organization of the United Nations. 164 p. <http://www.fao.org/docrep/013/i2000e/i2000e00.htm>. [Date accessed unknown].

Food and Agriculture Organization (FAO). 2010. FOA/WFP Crop and Food Security Assessment Mission to Guatemala. February 23, 2010. World Food Program, Rome Italy.

Flanagan, R. J. 2006. Globalization and Labor Conditions: Working Conditions and Worker Rights in a Global Economy. Oxford University Press Inc. Oxford, NY.

Fletcher, P. L. 1999. La Casa De mis Suenos: Dreams of Home in A Traditional Mexican Community. Westview Press, Boulder Co.

Forest Resource Association (FRA). 2015. FRA Public Policy Priorities. Available online at: http://www.forestresources.org/page.asp?content=fra_policy_priorities&g=FRA. Last updated on Nov. 11, 2015.

Global Education Fund. 2015. Guatemala. Available online at: <http://www.globaleducationfund.org/guatemala/>

Goldring, Luin. 1990. Development and Migration: A Comparative Analysis of Two Mexican Migrant Circuits. Washington, D.C.: Commission for the Study of International Migration and Cooperative Economic Development.

Gabel, I. 2008. The political Economy of Remittances: What Do we Know? What Do We Need to Know?" Political Economy Research Institute Working Paper, pg. 184. University of Massachusetts-Amherst, Available online at: <http://www.peri.umass.edu/236/hash35b36e26901/publication/324/>.

Grzywacz J G, H. J. Lipscomb, V. Casanova, B. Neis, C. Fraser, P. Monaghan, Q. Vallejos. 2013. Organization of work in agricultural, forestry and fishing sector in the US Southeast: implications for immigrant workers' occupational safety and health. *American Journal of Industrial Medicine*. 56:925–939 (2013)

Guatemala- Health. 2010. Encyclopedia of the Nations.. Available online at: <http://www.nationsencyclopedia.com/Americas/Guatemala-HEALTH.html>>. Last updated Nov. 28, 2010.

Guatemalan Human Rights Commission (GHRC). 2010. Fact Sheet; Education in Guatemala. 3321 12th St. NE Washington, DC.

Guatemala Human Rights Commission (GHRC). 2014. Conditions Facing Guatemalan Deported from the US: Concerns and Recommendations for a rights-based approach. The Guatemalan Humans Rights Commission/USA. October 2014. Available online at: https://www.raicestexas.org/styles/raices_texas/defiles/Migration-Report-Final.pdf

Guerena, A and R. Zepeda. 2013. The Power of Oil Palm: Land Grabbing and Impacts Associated with the Expansion of Oil Palm Crops in Guatemala: The Case of the Palmas Del Excan Company. Oxfam America Research Backgrounder Series. Available online at: <http://www.oxfamamerica.org/publications.power-of-oil-palm-guatemala>.

Guldin, R. W. 1983. Regeneration costs for land-owners using hand vs. machine planting. *South. J. Appl. For.* 7:104-108.

Hanson, G.H. and C. Woodruff. 2003. Emigration and educational attainment in Mexico, Mimeo., University of California at San Diego.

Harris, T. G., J Siry, and S. Baldwin. 2003 . How competitive is the southern timber industry? An examination of Georgia's pulp and paper sector. In: 2003 SOFEW Proceedings. Mississippi State University, Mississippi. Available at: <http://sofew.cfr.msstate.edu/papers/0204harris.pdf>

Harvey, D. 2005. A Brief History of Neoliberalism. Oxford, UK: Oxford University Press.

Hatcher, J.E, T.J. Straka, and J.L Greene. 2013. The size of forest holding/parcelization problem in forestry: A literature review. *Resources* 2(2):39-57.

Held, D. McGrew A. G.. Goldblatt D. and Perraton J. 1999. Global Transformations: Politics, Economics and Culture. Stanford University Press. Stanford, Ca. p. 2

Hildebrandt, N., and D. McKenzie. 2005. The Effects of Migration on Child Health in Mexico. Policy Research Working Paper 3573. World Bank, Washington, DC.

Hodges, D. G., A. J. Hartsell, C. Brandeis, T.J. Brandies, and J.W. Bentely. 2012. Recession Effects on the Forest Products Industries of the South. *Forest Products Journal*. Vol. 6(8):614-624.

Hohman, L. 2015. House GOP Seeks Flood of Foreign 'Guest Workers'. In: Wind Exclusive. November 9, 2015. Available online at: <http://www.wnd.com/2015/11/house-gop-seeks-flood-of-foreign-guest-workers/>

- Honekopp, Elmar. 1997. Labor Migration from Central and Eastern Europe. Old and New Trends. IAB Labor Market Research Topics. 23.
- Howard, J. L. 2003. U.S. Timber Production, Trade, Consumption and Price Statistics; 1965-2002. United States Department of Agriculture; Forest Service, Forest Products Laboratory. Research Paper FPL-RP-615
- Hui, O. J. 1995. Chinese Indentured Labour', in Cohen (1995) The Cambridge Survey of World Migration. Cambridge, Cambridge University Press.
- Human Development Report. 2007. United Nations Development Program, November 27, 2007, p.25.
- Hyberg, B. T., and D. M. Halthousen. 1989. The Behavior of nonindustrial private forest landowners. Can. J. For. Res. 19: 1014-1023.
- IADB-MIF. 2004. Sending Money Home: Remittances to Latin America and the Caribbean. Inter-American Development Bank, Multilateral Investment Fund. Washington D.C., May, 2004.
- IFAD. 2012. Enabling Poor Rural People to Overcome Poverty in Guatemala. International Fund for Agriculture Development. Factsheet. May 2012. Available online at: http://www.ifad.org/operations/projects/regions/pl/factsheet/guatemala_e.pdf
- Instituto Nacional de Estadística (INE). 2015. Encuesta Nacional de Empleo e Ingresos 2-2014. Gobierno de Guatemala, April 2015.
- Instituto Nacional de Estadística (INE). 2014. Encuesta Nacional de Empleo e Ingresos 2-2013. Gobierno de Guatemala, March 2014.
- Instituto Nacional de Estadística (INE). 2013. Caracterización estadística República de Guatemala 2012. Gobierno de Guatemala, November 2013.
- Instituto Nacional de Estadística (INE). 2013. Caracterización Departamental; Huehuetenango 2012. Gobierno de Guatemala, November 2013.
- Instituto Nacional de Estadística (INE). 2013. Caracterización Departamental; Alta Verapaz 2012. Gobierno de Guatemala, November 2013.
- Internal Revenue Service (IRS). 2014. Aliens Employed in the U.S. – Social Security Taxes. Available online at: <https://www.irs.gov/Individuals/International-Taxpayers/Aliens-Employed-in-the-U.S.--Social-Security-Taxes>. Last updated on: Dec. 16, 2014.
- International Crisis Group. 2014. Corridor of Violence: The Guatemala-Honduras Border. Latin American Report No. 52. June 4, 2014.

Internal Revenue Service (2014). Aliens Employed in the U.S. – Social Security Taxes. Available online at: <https://www.irs.gov/Individuals/International-Taxpayers/Aliens-Employed-in-the-U.S.—Social-Security-Taxes>

IOM. 2013. Migration Key Economic Activity for Guatemala: IOM Migration Profile. July 16, 2013. IOM.

IOM. 2013. World Migration Report 2013: Migrant Wellbeing and Development. International Organization for Migration. Geneva Switzerland.

IOM (2007). Remittance survey 2007. Working Papers on Migration.

Jencks, C., L. Pearlman, and L. Rainwater. 1988. What is a good job? A new measure of labor market success. *Am. J. Sociol.* 93(6): 1322-1357.

Johnson, T.G. 2001. United States Timber Industry- An Assessment of Timber Product Output and Use, 1996. USDA For. Serv. Gen. Tech. Rep. SRS-45.

Johnson, S., M. Adams. and M. Miyake. 2003. China's imports drive tropical timber trade: trends in tropical timber markets, 2002-2003. In UNECE/FAO Forest Products Annual Market Analysis 2002-2004.. *Timber Bulletin*, 56 (3): 99-108. Available online at: www.unece.org/trade/timber/docs/fpama/2003/2003FPAMA-whole-doc-webversion.pdf

Keegan, C. E., C. B. Sorenson, T. A. Morgan, J. M. Daniels, and S. W. Hayes. Impact of the Great Recession on the Forest Products Industry in the Western United States. In: *Moving from Status to Trends: Forest Inventory and Analysis Symposium 2012*. Available at: <http://www.nrs.fs.fed.us/pubs/gtr/gtr-nrs-p-105papers/02keegan-p-105.pdf>

Kenwood, A. and L. Lougheed. 1989. *The Growth of the International Economy, 1820-1960*, Allen and Unwin: London UK.

Kline, J.D., B. J. Butler, and R. J. Alig, 2002. Tree planting in the South: What does the future hold? *Southern Journal of Applied Forestry*. 26(2): 99–107.

Knudson T. and H. Amezcua. 2005. The pinero: Men of the pines. *The Sacramento Bee*, November 13-15. Available online at : <http://dwb.sacbee.com/content/news/projects/pineros/>.

Kvale, S. and S. Brinkmann. 2009. *Interviews: Learning the Craft of Qualitative Research interviewing*, 2nd ed. Sage. Publications Inc. Thousand Oaks, Ca. p. 130-140.

LeCompte M.D., and J. Schensul. 1999. Designing & Conducting Ethnographic Research. P. 61-82 in *An Overview of Research Design*. AltaMira Press. Walnut Creek.

Liebman A.K., M. F. Wiggins, C. Fraser, J. Levin, J. Sidebottom J and T. A. Arcury. Occupational health policy and immigrant workers in the agriculture, forestry, and fishing sector. *Am J Ind Med.* 2013;56:975–984.

- Lindstrom D.P., and E. Munoz-Franco. 2006. Migration and maternal health services utilization in rural Guatemala. *Soc Sci Med.* 63(3):706–21.
- Lopez-Cordova. 2006. Globalization, migration and development: the role of Mexican migrant remittances. Buenos Aires: Institute for the Integration of Latin American and the Caribbean; 2006. Working Paper 20.
- Lopez-Cevallos D.F. and C. Chi. 2012. Migration, Remittances and health care utilization in Ecuador. *Rev. Panam Journal of Public Health.* 31(1): 9-16.
- Lucas, R. and O. Stark. 1985. Motivations to Remit: Evidence from Botswana. *Journal of Political Economy* 93: 901–18.
- Majumdar, I., L. Teeter, and B. Butler. 2008. Characterizing Family Forest Owners: A Cluster Analysis Approach. *Forest Science* 54(2) 2008.
- Maluccio J. A., G. Carletto, M. Stewart. 2014. Migration, the Financial Crisis and Child Growth in rural Guatemala. Preliminary Draft June 2014. Middlebury College, Middleberry VT.; The World Bank.
- Martin, P. 2006. Managing Labor Migrations: Temporary Workers Programs for the 21st Century. Presented at the International Symposium on International Migration and Development. Turin, Italy, 28-30 June 2006.
- Martin, P., M. Abella, and C. Kuptsch. 2006. Managing Labor Migration in the Twenty-first Century. Yale University Press, New Haven, London.
- Massey, D., J. Durand, and N.J. Malone. 2002. Beyond smoke and mirrors: Mexican immigration in an era of economic integration. New York, NY: Russell Sage Foundation.
- Massey, D. S., R. Alarcón, J. Durand, and H. González. 1987. Return to Aztlan: The Social Process of International Migration from Western Mexico. Berkeley and Los Angeles: University of California Press.
- Massey, D. S. 1999. Why does immigration occur: A theoretical synthesis.” Pp. 34-52 in *The Handbook of International Migration*, edited by c. Hirschman, P. Kasinitz, and J. DeWind. New York: Russel Sage Foundation.
- Massey, D., and E. Parrado. 1998. Inter- national Migration and Business Formation in Mexico. *Social Science Quarterly* 79(1): 1–20.
- Mathes, C. C. 2012. The Department of Labor’s Changing Policies Toward the H-2B Temporary Worker Program: Primarily for the Benefit of Nobody, 80 *Fordham L. Rev.* 1801 (2012), Available online at: <http://ir.lawnet.fordham.edu/flr/vol80/iss4/8>

- McDaniel, J., and V. Casanova. 2005. Forest management and the H-2B guest worker program in the Southeastern US: An assessment of contractors and their crews. *Journal of Forestry*, 103 (3), 114-119.
- McDaniel, J. and V. Casanova. 2003. Pines in lines: tree planting, H-2B guest workers, and rural poverty in Alabama. *Southern Rural Sociology*. 19 (1), 73-96.
- McDougall, D. 2007. Success in a Slum. *Guardian Weekly*, March 16-22:29
- McMichael, P. 2012. *Development and Social Change; A Global Perspective*. 5th ed. Sage Publications Inc. Thousand Oaks, CA.
- Metz, B. E. 2006. *Ch'orti'-Maya Survival in Eastern Guatemala: Indignity in Transition*. University of New Mexico Press. Albuquerque, NM.
- Ministerio de Educación and SESAN, 2008. Tercer Censo Nacional de Talla en Escolares del Primer Grado de Educación Primaria del Sector Oficial de la República de Guatemala, 4 al 8 de agosto de 2008, Resumen Ejecutivo, Informe Final.
- Moak, J. E. 1982. Forest Practices Cost Trends in the South. *Southern Journal of Applied Forestry*. Vol. 6(3) August. Pp. 132(3).
- Moseley, C. and Y. Reyes. 2007. Comparing job quality in logging and forestry services in Oregon. *J. of Forestry* September pg: 293-300.
- Moseley, C. 2006. Procurement contracting in the affected counties of the Northwest Forest Plan: Twelve years of change. USDA For. Serv., Pacific Northwest Research Station, Portland, OR. 36 p.
- Multilateral Investment Fund of the Inter-American Development Bank. (MIB-IADB) 2003. *Survey of Remittances Recipients in Central America*. Report by: Bendixen & Associates. Washington, D.C.
- Multilateral Investment Fund of the Inter-American Development Bank (MIB-IADB). 2010. Report by: Center for Latin American Monetary Studies, Mexico City, Mexico.
- Novak, J. L. 2011. Draft for Review: Alabama Agriculture and H.B. 56. Timely Information Agriculture and Natural Resources. Agricultural Economic Series DAERS 2011-11 - 1
- OECD. 2014. Aid at a glance charts; Guatemala. Available online at: www.oecd.org/countries/guatemala/aid-at-a-glance.htm. Last updated: March 27, 2015.
- USAID. Situation Analysis, Guatemala, Education. Online: <http://www.usaid.gov/guatemala/education>

- O'Neal, B., and R. Shaffer. 2006. Hispanic logging workers safety in the South. Forest Resources Association Technical Release 06-R-17. Available online at: www.loggingsafety.com/app/index.php?r=view&i=622: last updated Jul. 12, 2009.
- Orozco, M. 2009. Migration and remittances in times of recession: Effects on Latin American and Caribbean Economies. *Sistema Economico Latinoamericano*. May 2009. SP/Di N 5-09.
- Oxfam. 2004. Like machines in the fields: Workers without rights in American agriculture. Available online at: <http://www.oxfamamerica.org/files/like-machines-in-the-fields.pdf>. Last updated June 27, 2011.
- Paringaux R. P. 2001. The Deliberate Destruction of Agriculture: India: Free Markets, empty Bellies. *Le Monde Diplomatique*, September: 1-9.
- Plant, R. 1998. Indigenous Peoples and Poverty Reduction: A Case Study of Guatemala. Indigenous Peoples and Community Development Unit: Inter –American Development Bank, Sustainable Development Department.
- Potts, L. 1990. *The World Labour Market: A History of Migration*, London: Zed Books.
- Rand, E. 2009. 11 Arrested in Orlando Visa Fraud Scam. CBS News. Dec. 7, 2009. Available online at: http://www.cbsnews.com/stories/2009/12/07/cbsnews_investigates/main5929881.shtml
- Reichert, J. S. 1981. The Migrant Syndrome: Seasonal U.S. Wage Labor and Rural Development in Central Mexico. *Human Organization* 40:56-66.
- Ritchie, J., J. Lewis, and G. Elam, 2003. Qualitative Research Practice; A Guide for Social Science Students and Researchers. p. 77-108 in *Designing and Selecting Samples*. SAGE Publications. London. United Kingdom.
- Robinson, W I. 2007. Theories of Globalization. In. *The Blackwell Companion to Globalization*. Blackwell Publishing Inc.
- Royer J.P. 1987. Determinants of reforestation behavior among southern landowners. *Forest Science* 33(3):654-667.
- Royer, J.P., and H.F. Kaiser. 1983. Reforestation decisions on harvested southern timberlands. *Journal of Forestry* 81(10):657-659.
- Rural Migration News. (2006). Braceros: History, Compensation. April, Vol. 12 (2).
- Rural Poverty Portal. 2014. Rural Poverty in Guatemala. International Fund for Agriculture Development. Available online at: <http://www.ruralpovertyportal.org/country/home/tags/Guatemala>. Last updated on: 2014.

Saenz de Tejada, S. 2009. Assessing the impact of the financial crisis in high-migration communities in the western highlands of Guatemala: A qualitative study. Report submitted to the World Bank, Guatemala City, Guatemala.

Sarathy, B. and C. Casanova. 2008. Guest workers or unauthorized immigrants? The case of forest workers in the United States. *Policy Science*. 41: 95-114.

Sarathy, B. 2006. The latinization of forest management work in southern Oregon. *Journal of Forestry*, 104, 359-365.

Seminara, D. 2010. Dirty Work: In-sources American jobs with H-2B guestworkers. Background. Center For Immigration Studies.

Shah, T. 2015. Recent H-2B Program Changes Require Careful Planning by Employers. Franczek Radelet Attorney and Counselors. *JD Supra Business Advisor*. Available online at: <http://www.jdsupra.com/legalnews/recent-h-2b-program-changes-require-90410/>

Smith, W.B., P.D. Miles, C.H. Perry, and S. A. Pugh,. 2009. Forest resources of the United States, 2007. Gen. Tech. Rep. WO-78. Washington, DC: U.S. Department of Agriculture Forest Service, Washington Office. 336 p.

Smith, W. D, M. R. Strub. 1991. Initial Spacing: How Many Trees to Plant. in *Forest Regeneration Manual*. M.L. Durhea and P. M. Daugherty. Chapter 15. P. 281-289. Kluwer Academic Publishers. Printed in the Netherlands.

Soubbotin, T. P. 2004. *Beyond Economic Growth: An Introduction to Sustainable Development*. 2nd ed. The World Bank. Washington, DC. CH. 12 (p. 83)

Southern Poverty Law Center (SPLC). 2015. \$20 million settlement agreement reached in labor trafficking cases coordinated by SPLC on behalf of exploited Indian guest workers. July 13, 2015. Available online: <https://www.splcenter.org/news/2015/07/14/20-million-settlement-agreement-reached-labor-trafficking-cases-coordinated-splc-behalf>

Srivastava, R. 2003. An Overview of Migration in India, Its Impacts and Key Issues. *Migration Development; Pro-Poor Policy Choices, ASIA*

Straka, T. J. 2015. Loans for Reforestation: Family Forest Owners and Timber Supply. *Forestry and Natural Resources*. June 2015. FNR 108. Clemson Cooperative Extension

Sun, X., I.A. Munn, C. Sun, and A. Hussain. 2008. How promptly nonindustrial private forest landowners regenerate their lands after harvest: a duration analysis. *Can. J. For. Res.* 38: 2109-2117.

Suny Levin Institute (2014) *Globalization 101*. Available Online at: www.globalization101.org. [Last updated in 2015.](#)

Taylor, J.E., and J. Mora. 2006. Does Migration Reshape Expenditures in Rural Households? Evidence from Mexico. Washington, DC: World Bank; Policy Research Working Paper 3842

Taylor, J. E., J. Mora, and R. Adams. 2005. Remittances, Inequality and Poverty: Evidence from Rural Mexico. Research Program on International Migration and Development. DECRG. Mimeo. World Bank.

Texas Forest Service 2015. Reforestation: Overview of Pine Plantation Methods. Available online at: http://texasforests.tamu.edu/uploadedFiles/FRDSF/FMIS/Overview_of_Pine_Planting_Methods.pdf.

Thompson, T. 2002. Big Mexican Breadwinner: The Migrant Worker. The New York Times, March 25: A3

Timbermartsouth. 2015. Price Ranges for Standing Timber (stumpage) for Alabama 4th Quarter, 2015.

Timbermartsouth. 2013. Timber Mart-South: South-wide Average Prices. Available online at: <http://www.timbermart-south.com/prices.html>

Tinker, H. 1974. A New System of Slavery: The Export of Indian Labour Overseas, London: Oxford University Press.

United Nations. 1997. Human Development Report. New York: Oxford University Press.

UNICEF. 2012. At a Glance: Guatemala. Available online at: http://www.unicef.org/infobycountry/guatemala_statistics.html. Updated Dec. 26, 2013.

USAID. 2015. Guatemala; Education; Situation Analysis. Retrieved from <https://www.usaid.gov/guatemala/education>. Updated June 17, 2015.

US. Department of Labor (DOL). 2016. Adverse Effect Wage Rates – Year 2016. Available online at: <https://www.foreignlaborcert.doleta.gov/adverse.cfm>

U.S. Department of Labor (DOL). 2015. Final Rule. 20 CFR Part655. Available online at: http://www.dol.gov/whd/immigration/H2BfinalRule/H-2B_NPRM.pdf.

U.S. Department of Labor (DOL). 2015. Office of Foreign Labor Certification: H-2B Temporary Non-Agricultural Labor Certification Program – Selected Statistics, FY 2014 YTD. Available online at: http://www.foreignlaborcert.doleta.gov/pdf/H-2B_Selected_Statistics_FY2014_Q4.pdf

U.S. GAO. 2015. Report to Congressional Committees: H-2A and H-2B Visa Programs; Increased Protections Needed for Foreign Workers. GAO-15-154.

U.S. Department of Homeland Security. 2011. Characteristics of H-2B Nonagricultural Temporary Workers: Fiscal Year 2010 Report to Congress. August 1, 2011. Available online at: <http://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/H-2B/FY10H-2BNonagriculturalTempWorkers.pdf>

U.S. Immigration and Customs Enforcement (ICE). 2014. FY 2014 Removals by Citizenship. Retrieved from: www.ice.gov/removals-statistics

U.S. State Department. 2013. Guatemala 2014 Human Rights Report. Country Reports on Human Rights Practices for 2014. United States Department of State. Bureau of Democracy, Human Rights and Labor.

USDA Forest Service. 2001. (Unpublished Data). State and Private Forestry, Cooperative Forestry. Washington Office.

Valladares, D., 2011. Guatemala: High Staple Food Prices Drive Up Hunger. Inter Press Service News Agency. January 25, 2011. Available online at: <http://www.ipsnews.net/2011/01/guatemala-high-staple-food-prices-drive-up-hunger/>

Wear, D.N., and J.G. Greis., 2012. Southern forest future project: summary report. Gen. Tech. Rep. SRS-168. Asheville, NC: US Department of Agriculture, Forest Service, Southern Research Station.

Wear, D.N., and J.G. Greis., 2002. (eds.) Southern forest resource assessment. Gen. Tech. Rep. SRS-53. Asheville, NC: US Department of Agriculture, Forest Service, Southern Research Station. p. 635.

Wear D. N., D. Carter, and J. Prestemon. 2007. The US South Timber Sector in 2005: A Prospective Analysis of Recent Change. Southern Research Station, Asheville, NC.

Whiteman A. 2003. Historical trends and outlook for the North American forestry sector: implications for the Great Lake forest area. Great Lakes Forestry Alliance, Second Sustainable Forest Management Summit, Sault Ste Marie, Ontario, Canada, 9-11 June.

Wilmsen, C., D. Bush, and D. Barton-Anonio. 2015. Working in the Shadows: Safety and Health in Forestry Services in Southern Oregon. *Journal of Forestry*. 113(3): 315-324.

Wilkenson A. 1989. *Big Sugar: Seasons in the Cane Fields of Florida*. (Alfred A. Knopf). BOOK.

Wondon, Q., D. Angel-Urdinola, G. Gonzalez-Konig, D. Ojeda Revah, and C. Siaens. 2002. Migration and Poverty in Mexico's Southern States. Regional Studies Program, Office of the Chief Economist for Latin America and the Caribbean, World Bank, Washington DC.

Woodruff, C. and R. Zenteno. 2007. Migration Networks and Microenterprises in Mexico. *Journal of Development Economics* 82, 509-528

World Bank. 2014. Migration and Development Brief 23; Migration and Remittances Team, Development Prospects Group. October 6, 2014. The World Bank.

World Bank. 2013. Migration and Development Brief 20; Migration and Remittances Team, Development Prospects Group. April 29, 2013. The World Bank.

World Bank. 2009. Guatemala Poverty Assessment; Good Performance at Low Levels. March 18, 2009. Central America Department, Poverty Reduction and Economic Management Unit. Latin American and the Caribbean Region. Report No. 43920-GT.

World Bank. 2006. Global economic prospects: economic implications of remittances and migration. The World Bank, Washington D.C. USA.

World Bank. 2006. The US-Guatemala Remittance Corridor; Understanding Better the Drivers of Remittances Intermediation. The International Bank for Reconstruction and Development/The World Bank, Washington, D.C. 20433, U.S.A.

World Health Organization. 2014. Country Cooperation Strategy at a Glance; Guatemala. WHO/CCU/14.03/Guatemala. Updated May 2014.

Worldmark Encyclopedia of Nations. 2007. Guatemala. Available Online at: <http://www.encyclopedia.com/topic/Guatemala.aspx>. Last updated on: Dec. 3, 2015.

Yang, D. 2005. International migration, human capital and entrepreneurship: Evidence from Philippine migrants' exchange rate shocks. World Bank. Research working paper 3578. April 2005. World Bank, Washington, DC.

Yang, D., and H. Choi. 2005. Are Remittances Insurance? Evidence from Rainfall Shocks in the Philippines. Research Program on International Migration and Development. DECRG. Mimeo. World Bank.

Zarsky, L. 1997. Stuck in the Mud? Nation-states, globalization, and environment. Globalization and Environment, OECD Proceedings. OECD, Paris.

Zhang, D., and W. A. Flick. 2001. Sticks, carrots, and reforestation investment. Land Economics 77(3):443-456.

Zhang, Y., D. Zhang, and J. Schelhas .2005. Small-scale non-industrial private forest ownership in the United States: rationale and implications for forest management. Silva Fennica 39(3): 443-454.

APPENDIX A:

Questionnaire:

Objective 1: *Identify stakeholder interests and beliefs regarding the future of immigrant labor in Alabama's forest industry.*

Forester Questions:

Introductory Statement:

I appreciate you taking the time to speak to me regarding immigrant labor in the forest industry. This project will be evaluating the interests and beliefs of foresters, landowners, and labor contractors regarding immigrant labor in South. I have prepared a few questions that should take no more than an hour to discuss the role of immigrant labor in southern forestry.

Do you mind if I tape record this session? The recording is for note taking purposes only and once the recording has been transcribed it will be destroyed. Your name will not be tied to this interview in any way. At any point, should you want me to turn off the recorder, it will be done.

The role of immigrant labor in Forestry:

Current:

1. What can you tell me about immigrant labor in forestry in the South?
 - a. Percentage of jobs they perform:
 - i. Percentage of your planting by hand?
 - ii. Percentage of spraying by hand?
 - iii. Other jobs they perform?
 - b. In what type of work is immigrant labor most important?
 - i. Planting?
 - ii. Herbicides?
 - iii. Other?
2. What can you tell me about the effects that immigrant labor has on forest operation costs? Such as...
 - a. Reforestation? Herbicide?
 - b. Other?
 - c. Do you anticipate any changes in these patterns? (That is, lessening of importance in some areas, increasing in others)

Past:

3. What can you tell me about forest operations before immigrant labor?
 - a. Who planted trees?
 - b. How were trees planted?
 - c. Was there hand application of herbicides? If so who did it?
 - d. What can you tell me about the price structure of forest operations before immigrant labor?

Future:

4. What can you tell me about what forestry in the South would be like without immigrant labor?
 - a. What alternatives do you see to immigrant labor for forest operations?
 - b. How prominent was hand planting?
 - c. How did tree-planting production prior to H-2B labor compare to today?
 - d. How did the prices compare to today?
5. At what point would immigrant labor no longer be a viable option in forest management?
 - a. What do the price margins between investment in management and timber prices look like?

Prevailing wage:

6. Have you heard discussion regarding the new prevailing wage for tree planting? If so, what can you tell me about the proposed increasing in the prevailing wages for H-2B labor?
 - a. How would these increases affect the forest industry in Alabama?
 - b. Have you seen any changes to forest operations prices?
7. Tell me about how an increase in planting or spraying costs would affect your clients? or forest management activities?

Immigration Law:

8. Can you tell me about the new immigration law?
 - a. Have there been any impacts on forest management?

Conclusion:

9. What can you tell me about landowner perceptions about immigrant labor in forestry?
10. Who do you contract to plant your trees?
11. Would you be willing to give me a reference to forest operations contractors you contract?

H-2B Contractors Questions:

1. How important is immigrant labor to forestry in the South?
 - a. What percentage of your planting and spraying is done by hand?
 - b. What jobs do you contract immigrants to perform?
2. In what type of work is immigrant labor most important?
 - a. Planting?
 - b. Herbicides?
 - c. Pre-commercial thinning?
3. Are there any other areas where immigrant labor has become important?
4. Do you anticipate any changes in these patterns? (that is, lessening of importance in some areas, increasing in others)
5. What role does immigrant labor play in forest management in Alabama and the South?
 - a. Planting?
 - b. Herbicides?
 - c. Pre-commercial thinning?
6. How important is immigrant labor to forestry in the South?

- a. What percentage of your planting and spraying is done by hand?
- b. What jobs do you contract immigrants to perform?
- 7. What was done in forest operations before immigrant labor?
 - a. Who planted trees?
 - b. Was there hand application of herbicides? If so, who did it?
- 8. What can you tell me about the price structure of forest operations, like tree planting, before immigrant labor?
 - a. How prominent was hand planting?
 - b. How did tree-planting production compare to today?
 - c. How did the prices compare to today?
- 9. At what point would immigrant labor no longer be a viable option in forest management?
- 10. What can you tell me about what motivates landowners to plant trees?
- 11. What alternatives do you see to immigrant labor?

Operations:

- 12. Describe the process of recruiting and importing H-2B labor.
 - a. How do you find and contract your labor?
- 13. How long do H-2B laborers work for you? (Whole 9 months?)
- 14. What do you see as your biggest challenges in working with H-2B labor?

Prevailing wage increases impacts:

- 15. What do you think about the recent discussion about increasing the prevailing wages for H-2B labor?
 - a. How would these increases affect your business?
 - b. How would these increases affect the forest industry in Alabama?
 - c. Have you noticed a change in reforestation or spraying costs?
- 16. Would an increase in prevailing wages have any effect on your contracts?
- 17. What can you tell me about the impacts the new law requiring contractors to pay visa and travel expenses will have on your business?

Immigration Law Impacts:

- 18. What can you tell me about the new immigration law and its impacts on your business? Industry?
 - a. Has the length of time H-2B laborers stay changed?
- 19. Has the immigration law impacted the willingness of workers to work under the H-2B program?
- 20. What do they do after their forestry work is complete?
- 21. Has the immigration law affected their ability to find jobs for the remainder of their visa stay?

Labor Source:

- 22. What are the typical backgrounds of the laborers you contract?
- 23. Do people return year after year?
 - a. What percentage return for second year? Third year? More?
- 24. Where do they go after forestry work?

25. How do they augment the H-2B job?

Conclusion:

26. Would you be willing to let me interview your H-2B laborers? (Interviews will largely focus on understanding the reasons for working in the United States and how money sent home improves their well-being and livelihoods.)
27. Can you identify any other forest operations contractors hiring H-2B labor? Can you provide a reference?

Objective 2: *Describe the impacts of forestry-related remittances to the livelihoods of immigrant labors, their families, and their communities.*

H-2B Laborer Questions (Stateside and Guatemala):

Observations (for international interviews conducted in the home):

1. Size of house (approx. ft²)
2. House construction type and roofing type
3. Indoor plumbing (number of bathrooms)
4. Overall appearance of the structure and surrounding landscape
5. Overall appearance of interviewee's clothing and his family
6. Number of cars and their estimated age and condition
7. Television and electronics
8. Kitchen (open fire or modern appliances)

Interview:

General Information:

1. Where are you from?
2. How many years have you been working in the US?
3. Has all that time been under the H-2B program?
4. What type of work have you done in the US?
 - a. If not, in what capacity and what type of work?
5. Tell me about why you decided to start working in the United States.
6. Describe how you were able to begin working in the United States.
 - a. Describe the process you go through to secure your visa.
7. Why did you choose to work under the H-2B visa program?
8. What work did you do in Guatemala before working under H-2B?
9. What can you tell me about your experience of working in H-2B in forestry?
 - a. Work that you expected?
 - b. Earnings?
 - c. Nature of the labor?
 - d. Any unexpected items?

Recruitment:

10. Please tell me about how you found out about the job and were recruited.

11. How much did the H-2B visa process cost?
 - a. Were there any recruitment fees?
12. Tell me about who and how you pay for your visa and travel expenses to the United States.
13. What advice would you give to new recruits interested in H-2B visa program or working in the United States?
14. What plans do you have for your children with respect to working in the United States?
 - a. Do you encourage them to follow in your footsteps?

Remittances

15. Can you talk to me about why you send remittances home?
16. How much do you estimate you earn in one year? After expenses? How much is sent home?
17. Can you please explain how your family uses this money?
 - a. Children's education?
 - b. Local business?
 - c. Food?
 - d. Home?
 - e. Transportation?
18. Talk to me about how you see remittances used in your community.
19. Please explain how you send and pickup the remittances you send.
20. How do you send your money?
 - a. How much does it cost you?
21. What do you see as the biggest difference between your family and families who don't have income from remittances?
22. Has this job changed life for you or your family? How?
23. What are your long-term plans for working in the US or H-2B? Goals?
 - a. When do you retire?
 - b. How much is enough?
 - c. What motivates you to return or remain?
24. What would you do if you did not work for the H-2B program?

Visa Transfers:

25. Please describe a typical work year in the United States
 - a. What types of forest work?
 - b. How long with each?
 - c. Where do you go?
 - d. How long do you spend in the US every year?

Prevailing wage legislation:

26. How are you paid for your work?
 - a. Piece rate?
 - b. Prevailing wage?
 - c. Which do you prefer?
27. What do you think about the recent discussion about increasing the prevailing wages for H-2B labor?

- a. Are you aware of the proposed increases in prevailing wages?
- b. How does this affect your job?
- c. Do you think the increase is a good or bad thing?

Immigration Law Impacts:

28. What can you tell me about the new immigration law and its impacts on your work?
 - a. Has the new immigration law had any affect on your job?
 - b. How has this law affect your willingness to work under the H-2B program?
 - c. How will this law affect your decisions to work in the US next year?

Conclusion:

29. Can you identify other people in your community working under the H-2B or H-2A program?
30. Can you identify families who do not have family members working in the United States?

Education:

31. What is the highest level of education you have received?
32. Tell me about the plans for your children's education.

Community Leader/School Teacher Interview:

Interviews with Local Leaders:

1. What effects on your community have there been from people traveling to the US to work there?
2. Please tell me in general about the community members who receive remittances in your town?
 - a. As in age?
 - b. As in do they have families?
 - c. Educational background?
 - d. Place in the community?
 - e. Labor background?
3. What differences do you notice between remittance and non-remittance receiving families?
 - a. Adults' education
 - b. Children's education
 - c. Businesses
 - d. Quality of life
 - e. Health

Interview with Federal/Government Officials or NGO Leaders:

4. Please describe what impact remittances have on this country. Are they positive or negative?
 - a. Is this something that Guatemala wants to encourage?
 - b. What pitfalls do you see?
5. What do you see as the future of immigrant labor in the United States?

6. What impression do you have about the H-2 programs and other legal avenues for Guatemalans working in the United States?
7. What impact are the recent immigration laws having on remittances?

Non-Remittance Receiving Family Interviews:

Observations (for international interviews conducted in the home):

1. Size of house (approx. ft²)
2. House construction type and roofing type
3. Indoor plumbing (number of bathrooms)
4. Overall appearance of the structure and surrounding landscape
5. Overall appearance of interviewee's clothing and his family
6. Number of cars and their estimated age and condition
7. Television and electronics
8. Kitchen (open fire or modern appliances)

Interview:

1. Do you receive remittances from the United States or anywhere else?
2. What can you tell me about people in this community that work in the United States?
3. Can you explain why you have not worked in the United States?
4. What benefits or problems do you see to working in the United States?

APPENDIX B:

Table 4.1: Summary of forester and labor contractor interviews conducted in Alabama in 2012 for understanding the importance of immigrant labor in forest regeneration

Population	# of interviews
Foresters	10
H-2B forest labor contractors	6
Total	16

Source: Primary data

Table 4.2: Codebook for H-2B forest labor as outlined by Brodbeck 2016 for developing first order themes

Operational definition	First Order (Themes)	Second Order	Third Order
<p><i>Worker characteristics including a combination of worker demographics and work description & history under the H-2B program.</i></p> <p><i>The idea is to understand who he is, what he is doing, and the type of work he is engaged in.</i></p>	H-2B Labor characteristics	Demographics	Age Education level Where from Previous employment
		Visa & earnings	Years with H-2B Type of job under H-2B Visa length Earning (piece rate, hourly etc.) Planting production Deductions
<p><i>Worker reasoning for working under the H-2B program including their decisions and how their current position (as a result of their job) compares to non-visa families</i></p>	Factors affecting decision to work in the US	Why do they go?	Poverty Lack of local opportunities Self/family improvement
		Differences between non-visa community members	Status in community Helping others Economics
<p><i>What impacts have remittances had on families and communities, including a combination of physical objects such as homes, land, and vehicles as well as educational and social remittances? Data include a combination of interview and observation data including physical descriptions of homes.</i></p>	H-2B livelihood impacts	Remittances	Monthly remittances (\$)
			Home Land purchase Vehicle Business Living expenses Animals
			Spending decisions (adjust excl.)

		Children's education	Use remittances to pay edu. Goals for kid's edu. Follow in father's footsteps
		Social remittances	Land use Time value Landscaping Business Education value
		Physical home description	Home size Type of construction Floor type Plumbing Landscaping Appliances Build-time
		Community impact of remittances	Local labor/jobs Community projects funded Town descriptions
<i>Data related to how H-2B works including costs, recruitment, and work descriptions.</i>	Challenges & realities under the H-2B program	Visa costs	Who pays for visa expenses Who pays for travel expenses Loans
		Recruitment	How learn of job? Recruitment fees
		Work description	Types of work (planter, crew boss) Pride in work Challenges Inclement weather
		Plans for retirement	Worker rights Progression in the job
<i>Data related to legal considerations of working under H-2B including their decision to stay legal.</i>	Laws and Regulations	Why stay legal?	
		Laws and exploitation	Prevailing wage law Immigration law Job complaints

Source: Primary data

Table 4.3: Summary of immigrant labor interviews collected in 2012 and 2013 in Guatemala differentiated by role, department, and community

Total				37	4	3	2	3	49
	Guatemala	Guatemala				3			3
	Zunil	Santiago		2				1	3
	Izabal	Caribe		6					6
	Alta Verapaz	Kak'ik		9	3				12
		Bonita		1	1				2
		Unknown		2					2
	Huehuetenango	El Zerco		2			2		4
		El Citio		3				2	5
		El Cushing		12					12
	Department	Community		H-2B Labor	H-2B Family	Gov. Officials	Illegals	Others	Total interviews

Source: Primary data

Table 4.4: Demographics of H-2B forest labor interviewed in Guatemala in 2012 and 2013

Characteristic	Average	Range
Age Average < 25 26 to 35 36 to 45 > 46	n = 34 * 37 years* 21% 35% 21% 24% <i>* Average is 35 years when subtracting retired planters</i>	21 - 65 years
Ethnicity Mayan Ladino	n = 40 37% 63%	
Education Average < 3 rd grade 3 rd to 6 th grade High school	n = 28 5.2 years 32% 64% 4%	3 - 12 years
Previous Employment Agriculture Labor/Subsistence Fishing Construction Sales Bank Factory	n = 37 70% 8% 8% 8% 3% 3%	
* Variability in “n” is the result of the question not being asked due to time constraints or in some cases sensitivity.		

Source: Primary data

Table 4.5: Characterization of participation of Guatemalan immigrant forest labor in the H-2B program in 2012 and 2013 in the US

Characteristic	Average	Range
Years in H-2B	n = 37	
Average	6 years	1 - 15 years
< 5	54%	
6 to 10	30%	
> 11	16%	
Visa Length (Months)	n = 28	
Average	7.2 months	3 - 12 months
< 5	14%	
6 to 9	79%	
> 10	7%	
H-2B Work Performed	n = 37	
Planter	76%	
Foreman	19%	
Pine Straw Spreader	5%	

Source: Primary data

Table 6.1: Pine seedling planting production and earnings of Guatemalan H-2B immigrant forest labor in 2012 and 2013 in the US

Characteristic	Average	Range	Sample (n)
Planting production (seedlings per day)	3,186	2,500 - 4,000	12
Payment rate per thousand trees planted	\$31	\$26 - \$35	9
Earnings per day (production x payment)	\$98	\$78 - \$124	12

Source: Primary data

Table 6.2: Visa, recruitment, and travel costs to the US for H-2B forest labor from Guatemala in 2012 and 2013

Visa & travel costs	Average	Range	Sample (n)
Air travel	\$988	\$888 - \$1052	3
Visa	\$136	\$100 - \$150	7
Passport	\$38	0	2
Recruitment fees	\$224	\$13 - \$700	6
<i>Total visa & travel costs</i>	\$1,178	\$1000 - \$1776	8

Source: Primary data

Table 6.3: Remittances and investments in Guatemala by H-2B forest labor, collected in 2012 and 2013

Characteristic	Average	Range
Monthly Remittance (\$US)	n = 23 \$982	\$512 - \$1750
Remittance Investment Types		
Housing	n = 35	
Invest in Housing	89%	
<i>Housing Investment Types</i>		
Build New House	72%	
Home Addition/Improvements	17%	
No Home Investments	11%	
Build Second Homes	11%	
Land Purchase (house lots & ag)	n = 38	
Invest in Land	61%*	0.2 - 15 acres
Average Acreage (Acres)	3.72	
	*No data for 21% of respondents	
Vehicles	n = 36	
Invest in Vehicles	53%	
<i>Vehicles Types</i>		
Car/Truck	31%	
Motorcycle	11%	
Boat	11%	
No Vehicle of Any Kind	47%	
Microenterprise (small businesses)	n=38	
Started Businesses	50%	
<i>Business Types</i>		
Agriculture	42%	
Dry-Goods Store	37%	
H-2 Labor Recruitment	11%	
Fishing	5%	
Transportation	5%	

Source: Primary data

Table 6.4: Educational investments, types, and goals of H-2B forest laborers in Guatemala, collected in 2012 and 2013

Educational investments	n = 39
Invest in children's education	54%
Don't have children	23%
Don't invest in children's education	5%
No data	18%
Types of education invested in	n = 21*
High school/college	29%
Private elementary school	14%
Public school	57%
	* Only reflects pop. investing in edu.
Current educational level of children	n= 39
< High school	10%
High school	5%
College	3%
To be determined (young children still in school)	36%
No children	23%
No data	23%
Parents' Career Goals for Children	n = 39
Become a professional	36%
Work in the US	15%
Become a professional and work in US	5%
No data	44%
Parents' Educational Goals for Children	n = 39
< High school	5%
High school	13%
> High school	36%
No goal	5%
No data	41%

Source: Primary data

Table 7.1: Estimated impacts of select 2015 Department of Labor H-2B rules on loblolly bare-root seedling planting costs on a per acre basis

2015 interim rule	Percent increase in reforestation cost (labor only)	Increased per acre reforestation cost (to be added to the current labor only rate of \$37.17/ac *)
<i>Wage Rule Increase (dependent on low to high estimates of regional hourly wages)</i>	**26% - 104%	\$9.7 - \$38.7
<i>Travel and Visa Costs for GUA Labor</i>	***6.4%	\$2.4
<i>Mexican Labor</i>	****5.4%	\$2.0
<i>Housing Costs (Based on 4/room occupancy rate)</i>	*****13%	\$4.8
<i>Travel Deductions</i>	*****2.0%	\$0.74
<i>Cumulative Low Cost</i>	46.9%	\$54.6
<i>Cumulative High Cost</i>	124.9%	\$83.6
<i>Cumulative Average Cost</i>	85.9%	\$31.9
<i>Please note these are rough approximations based on research findings and industry planting costs</i>		
* Hand-planting cost of labor only based on 2014 Alabama cost trends survey (Barlow and Levendis 2015)		
** Based on estimates by AFC (http://www.forestry.alabama.gov/Federal_Regulations.aspx)		
*** Rough estimates based on workers planting for 80 days averaging 3100 seedlings/day or 496 acres/man/season and a travel cost of \$1178/yr		
**** Mexican estimate based on costs of contractors who bus labor into the US. In-country visa and related expenses assumed to be the same as Guatemala		
***** Based on an avg. hotel cost of \$80/night and occupancy rate of 4/room		
***** Estimate based on research findings of avg. travel deduction of \$23/week and assuming a 4-month planting season		

Source: Dooley and Barlow 2013; Barlow and Levendis 2015

Table 7.2: Breakdown of hand vs. machine forest planting costs on a per acre basis
(based on Cost and Cost Trends Reports by Barlow and Levendis 2015; Dooley and Barlow 2013)

Planting activity	Per acre cost
Hand planting (bare root seedlings)	
Labor costs	\$37.17
Seedling costs (500 trees/ac)	\$29
Chemical site preparation	\$44.35
TOTAL	\$110.52
Machine planting	
Labor costs	\$66.96
Seedling costs (500 trees/ac)	\$29
Chemical site preparation	\$44.35
Mechanical site preparation (1 st alternative)	\$185
Site prep burn (2 nd alternative)	\$38
TOTAL (depending on site prep)	\$178.31 - \$325.31

Source: Dooley and Barlow 2013 & Barlow and Levendis 2015

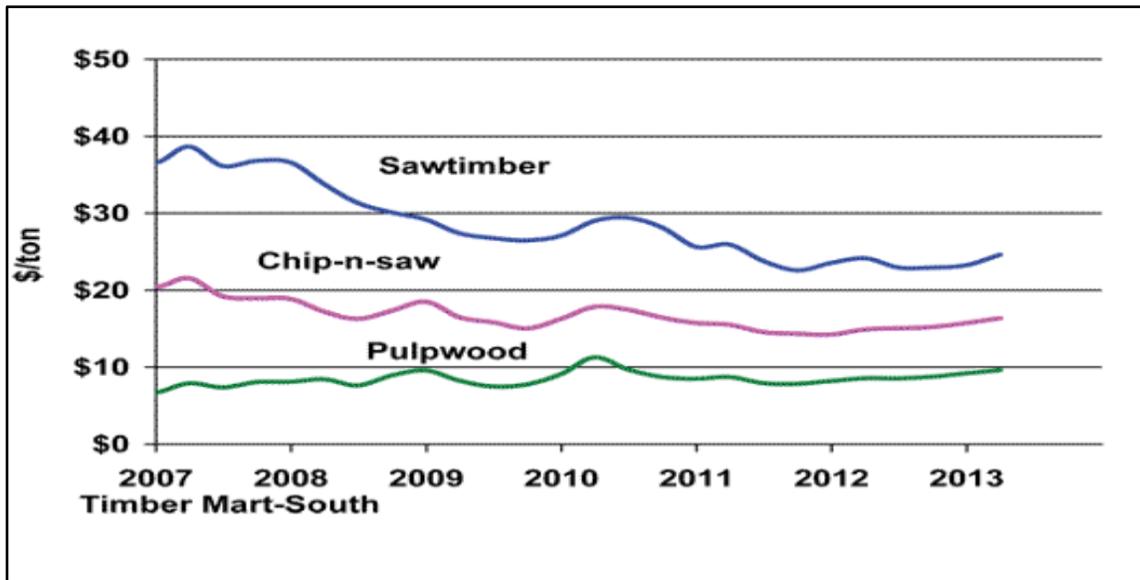
Table 7.3: Key changes between the 2009 and the new 2015 H-2B rules

Issue/provision	2009 Ruling	2015 Ruling
Prevailing wage	Current average ~\$9-11/hr.	\$11-18/hr. based on average earnings of forest workers by county (each county will have different wage)
Guarantee of hours	None	Employer must guarantee a total number of hours corresponding to $\frac{3}{4}$ of the workdays in a 12-week period.
Pay deductions	Employer must disclose deductions at the time of hiring and deductions must be reasonable and meet the Fair Labor Standards Act.	Other than deduction required by law, the employer must provide workers free of charge with any tools, supplies, and equipment needed to perform their jobs.
Visa expense	Not an employer obligation	Employer is required to reimburse the full cost of visa and related expenses, to be paid at the completion of first week of work.
Travel costs	Employer has no travel cost obligations, unless of early termination of employees, then they must cover return trip.	Employers will cover both inbound and outbound travel costs and all associated living expenses.
Compliance with employment-related laws	Employers must comply with employment-related laws, including health and safety.	In addition, employers will not confiscate or hold immigration documents belonging to workers.

Source: U.S. DOL 2015. Final Rule. 20 CFR Part655

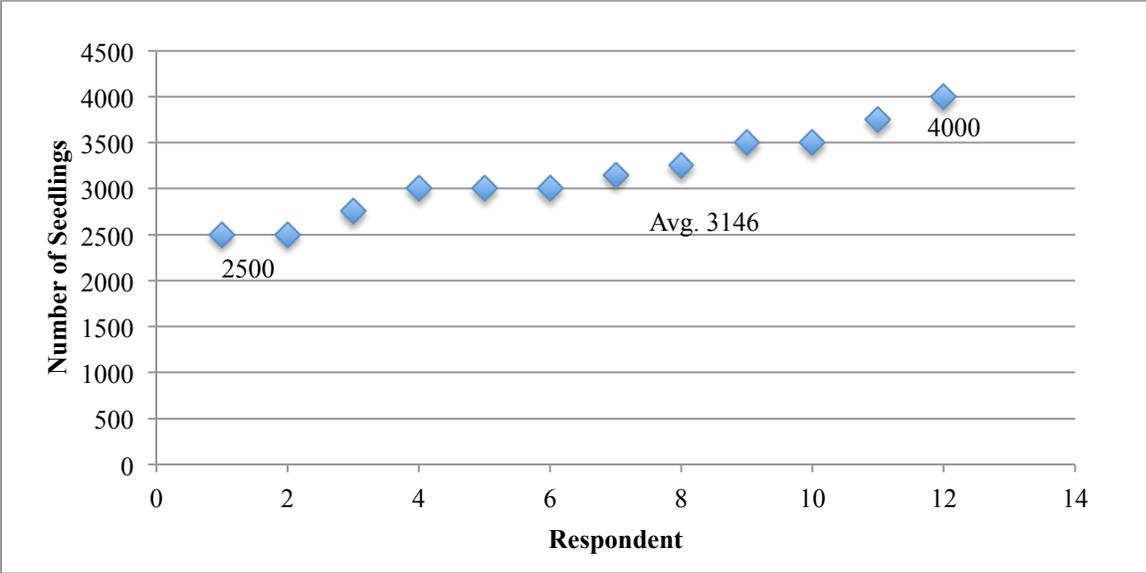
Appendix C

Figure 5.1: South-wide pine stumpage prices: 2007 – present



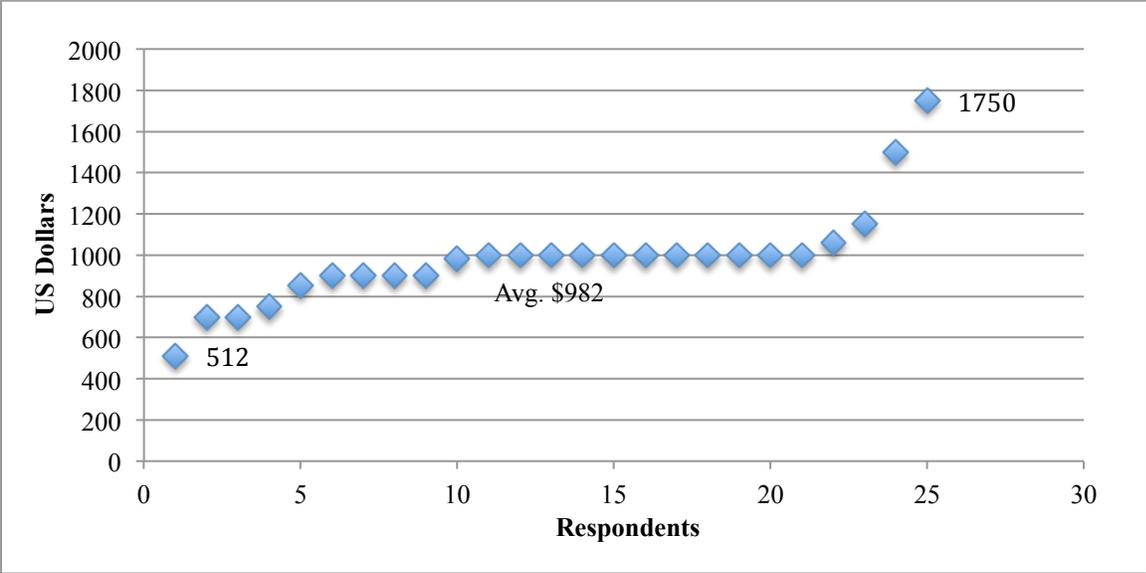
Source: Timber Mart-South 2013

Figure 6.1: Number of pine seedlings planted by H-2B Guatemalan forest workers per day reported in 2012 and 2013



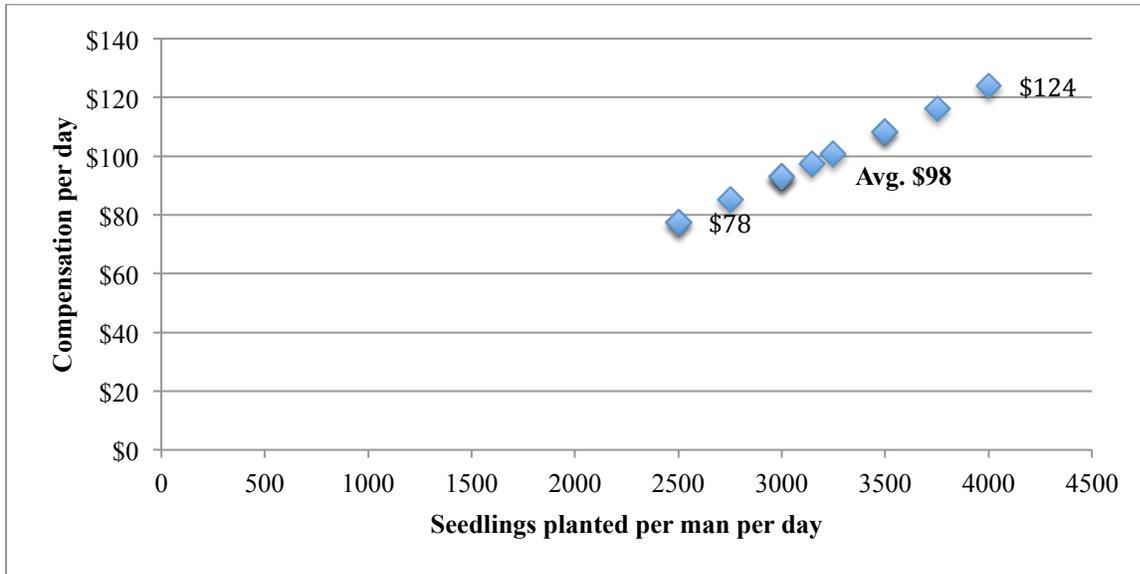
Source: Primary data

Figure 6.2: Average monthly remittances to Guatemala from H-2B workers employed in the forest industry in 2012 and 2013



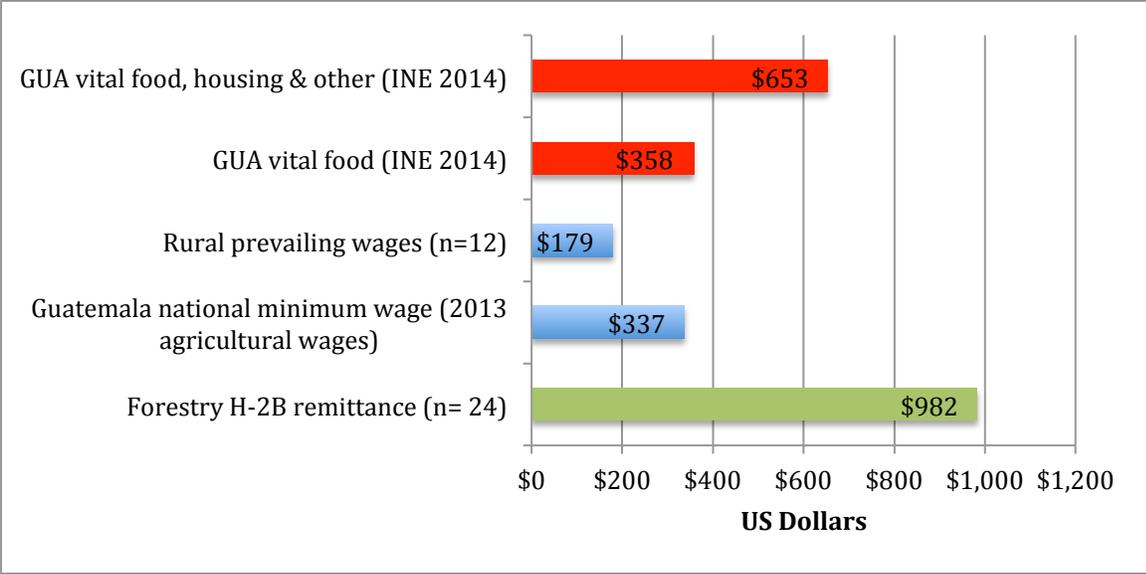
Source: Primary data

Figure 6.3: H-2B forest planting compensation per man per day based on self-reported 2012 and 2013 daily planting averages, assuming an average compensation rate of \$31 per 1,000 trees planted



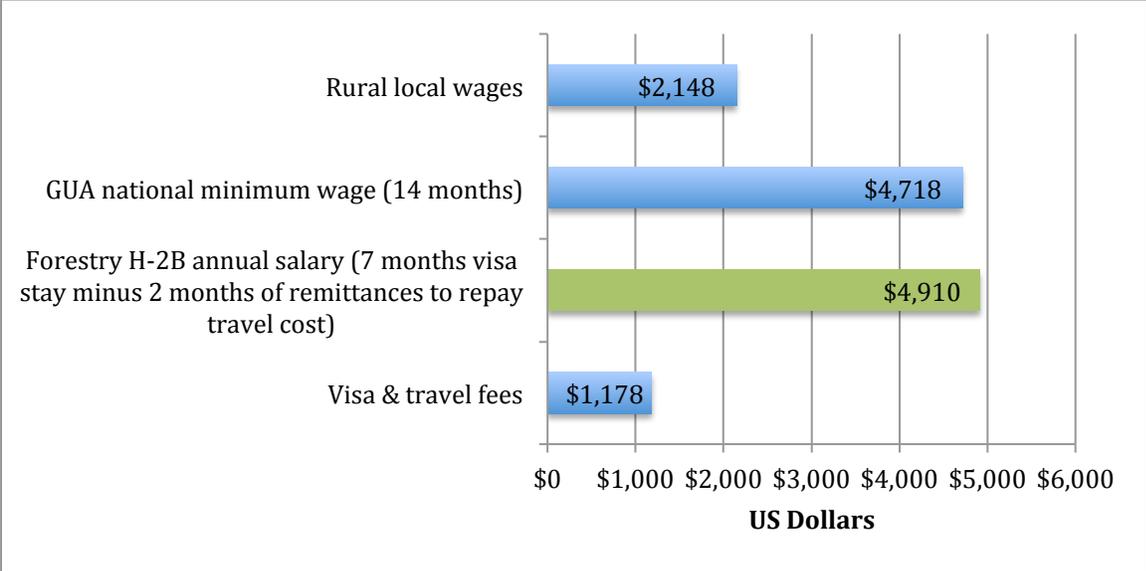
Source: Primary data

Figure 6.4: 2013 monthly earnings comparison of H-2B forestry remittances to the Guatemalan national minimum wage, rural prevailing wage in immigrant labor home communities, and the Guatemalan government’s estimates for vital food needs



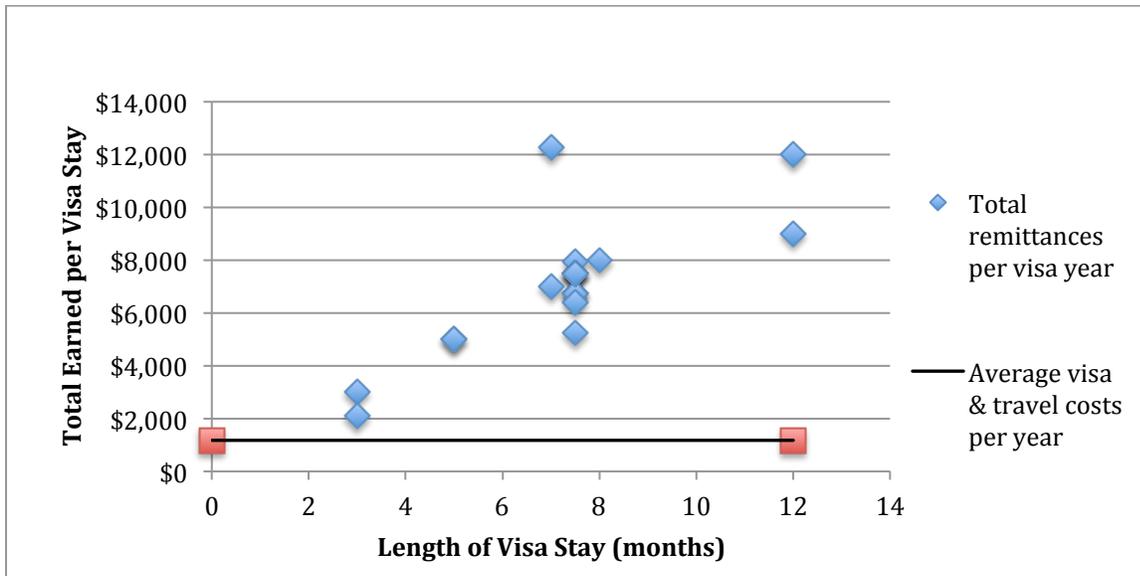
Source: Primary data, INE 2014 & Wageindicator.org 2014

Figure 6.5: Annual earnings comparison of H-2B forestry remittance to the Guatemalan national minimum wages, rural prevailing wage in immigrant labor home communities, and the Guatemalan government’s estimates for vital food needs



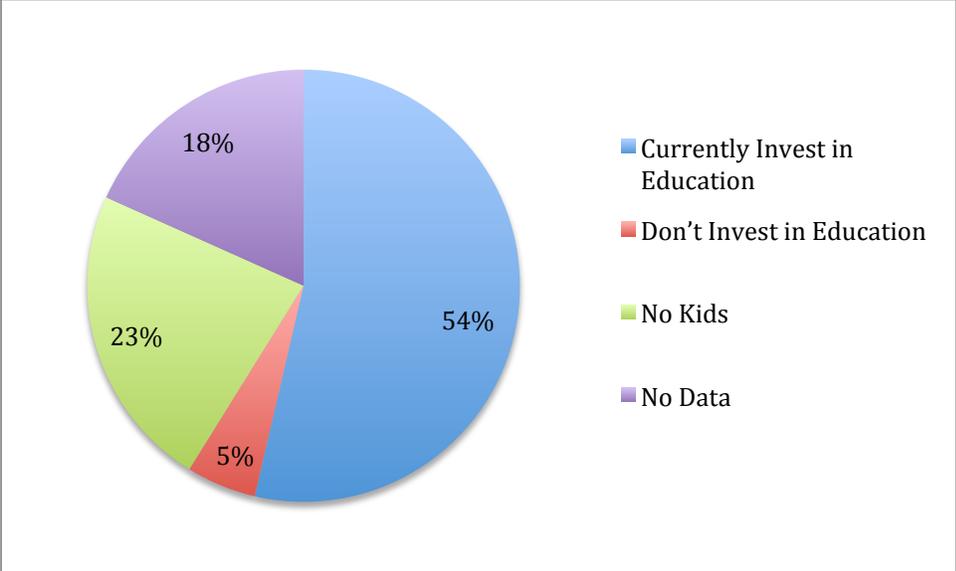
Source: Primary data & Wageindicator.org 2014

Figure 6.6: Total annual H-2B forestry remittances per Guatemalan worker vs. worker's length of visa stay in the US



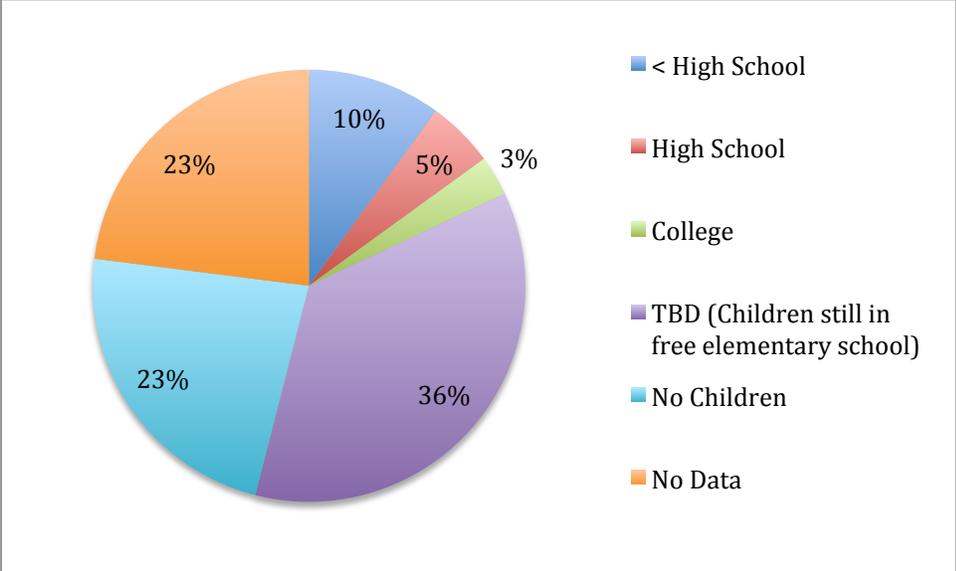
Source: Primary data

Figure 6.7: Percent of H-2B forest workers investing in their children’s education in Guatemala in 2012 and 2013



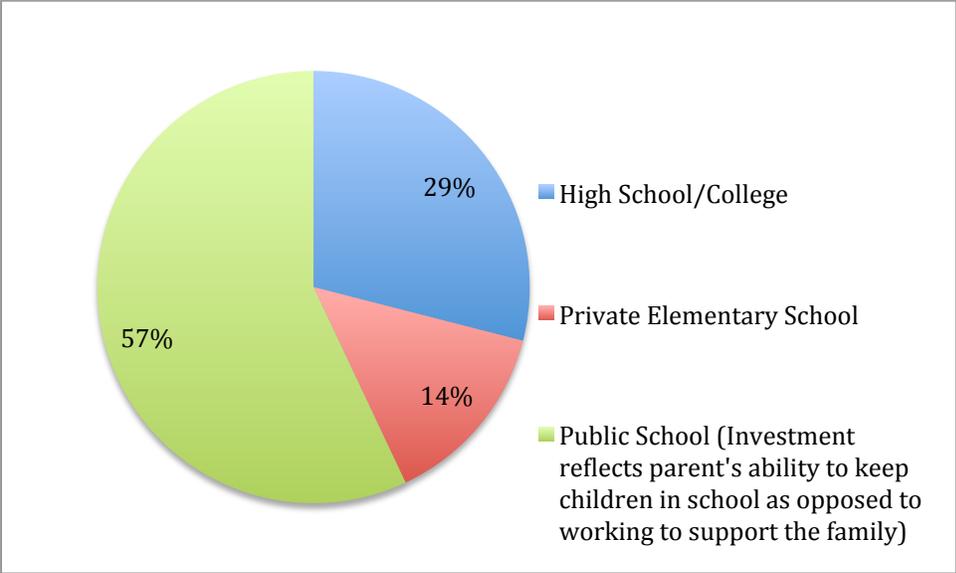
Source: Primary data

Figure 6.8: Current educational level of H-2B forest workers' children in Guatemala in 2012 and 2013



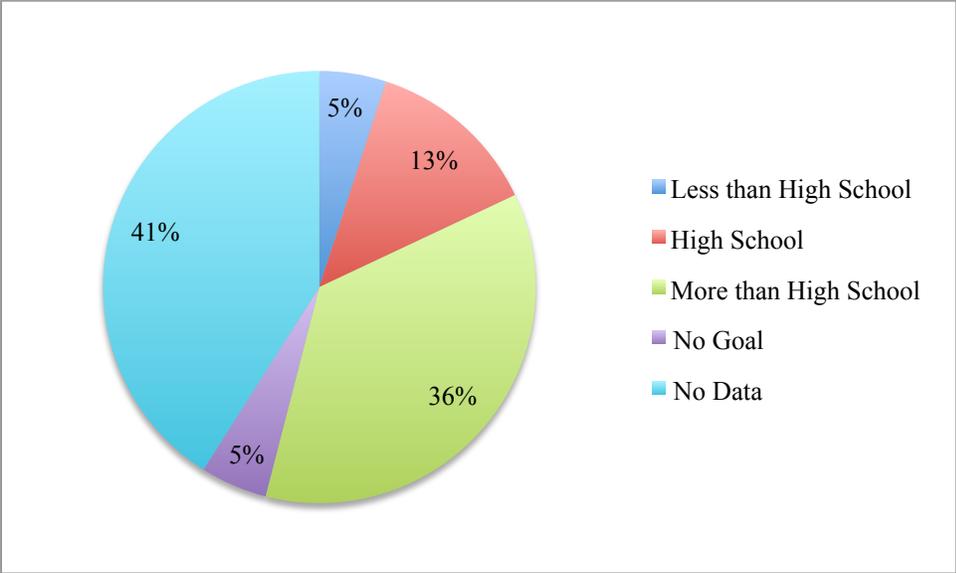
Source: Primary data

Figure 6.9: Educational investment types of Guatemalan H-2B forest workers in 2012 and 2013 (figure only reflects population currently investing in education)



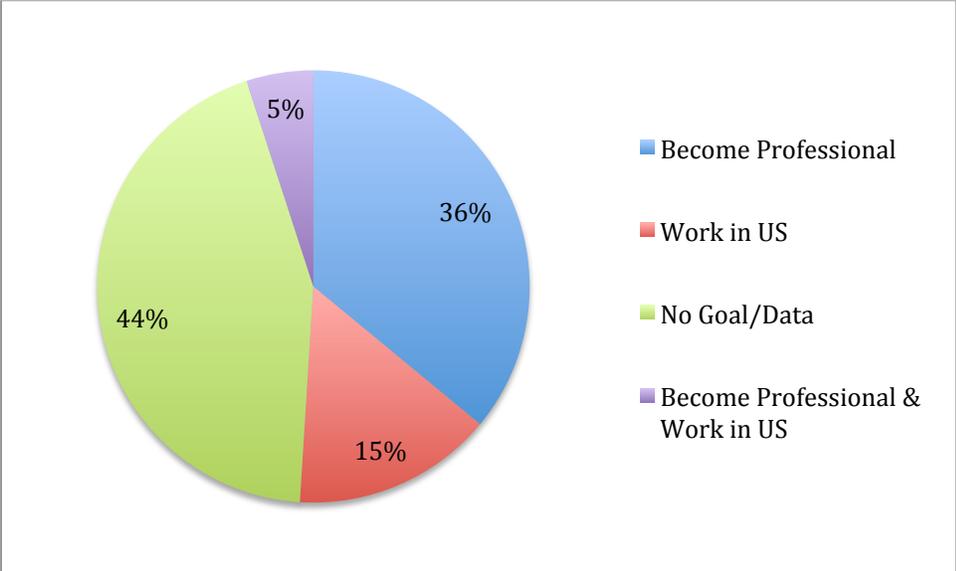
Source: Primary data

Figure 6.10: Guatemalan H-2B forest workers' educational goals for their children in 2012 and 2013



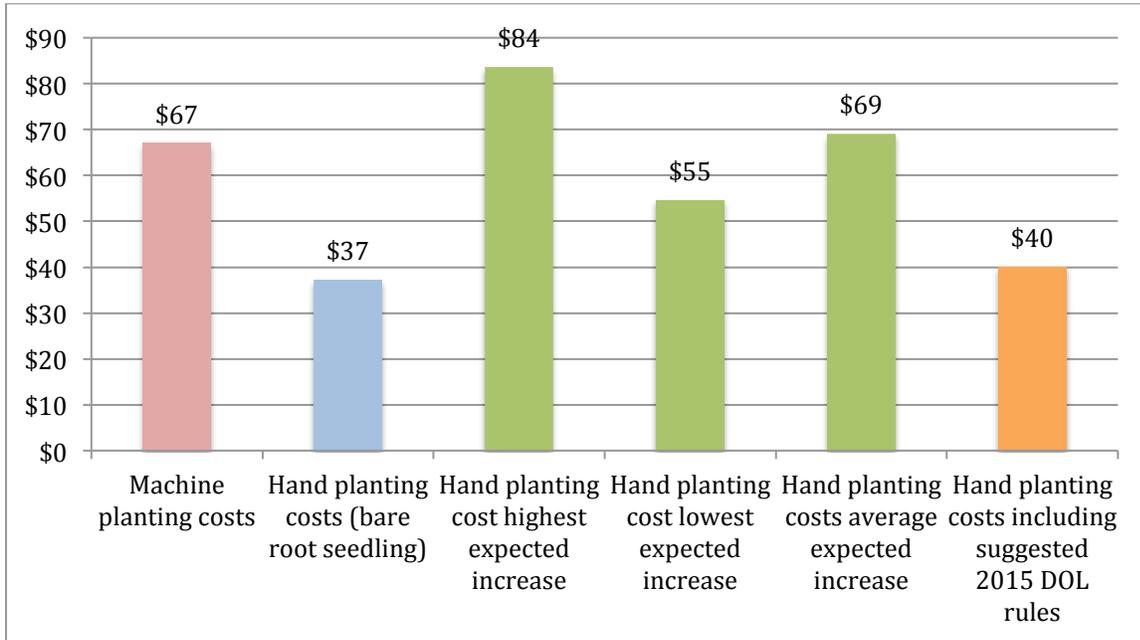
Source: Primary data

Figure 6.11: Guatemalan H-2B forest workers' career goals for their children in 2012 and 2013



Source: Primary data

Figure 7.1: Estimated impacts of researcher suggested and all new 2015 DOL H-2B Rules on per acre forest planting costs



Source: Primary data, Dooley and Barlow 2013, Barlow and Levendis 2015