

Human Organization, Vol. 67, No. 1, 2008  
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0018-7259/08/010037-12\$1.70/1

## *Migration to the Maya Biosphere Reserve, Guatemala: Why Place Matters*

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Most migration research examines international migration or urbanization. Yet understudied rural migrants are of critical concern for environmental conservation and rural sustainable development. Despite the fact that a relatively small number of all migrants settle remote rural frontiers, these are the agents responsible for perhaps most of the tropical deforestation on the planet. Further, rural migrants are among the most destitute people worldwide in terms of economic and human development. While some research has investigated deforestation resulting from frontier migration and frontier development, this article explores the necessary antecedent to tropical deforestation and poverty in agricultural frontiers: emigration from origin areas. The data come from a 2000 survey with community leaders and key informants in 16 *municipios* (municipalities) of migrant origin to the Maya Biosphere Reserve (MBR), Petén, Guatemala. A common denominator among communities of migration origin to the Petén frontier was unequal resource access, usually land. Nevertheless, factors driving resource scarcity were widely variable. Land degradation, land consolidation, and population growth prevailed in some communities but not in others. Despite similar exposure to community and regional level push factors, most people in the sampled communities did not emigrate, suggesting that any one or combination of factors is not necessarily sufficient for emigration.

**Key words:** rural-rural migration, Guatemala, Latin America, population, environment

### Introduction

The most conspicuous shortcoming of current research on deforestation is the failure to explicitly examine the antecedents to deforestation on the agricultural frontier. Given the dominant roles of migrant colonists in land clearing, this means understanding the decisions of farm families to migrate to the frontier. Yet of the work on internal migration in developing countries, almost all is on *rural-urban* migration, most based upon survey data obtained only in destination areas (SEGEPLAN 1987). In effect, rural-rural migrants have been largely ignored in the migration and development literatures, even though they are the key migrants in studies of population-environment relationships (Bilsborrow and Geores 1992).<sup>1</sup> Thus, two critical questions

remain unanswered: 1), who migrates from rural areas of origin; and 2), among these, who chooses the agricultural frontier as their destination?

Regarding factors leading to emigration from rural communities in general, Wood, (1982), Bilsborrow et al. (1987), Massey (1990), Findley and Li (1999), and others argue for a broad, structural approach that both takes into account a range of economic and noneconomic factors embodied in perceived "place utility" (Wolpert 1965; Wolpert 1966; Bible and Brown 1981) and also incorporates structural or community-level factors that measure the context within which migration decisions are made. Empirical studies have implemented these approaches effectively (Lee 1985; Bilsborrow et al. 1987; Brown and Sierra 1994; Findley 1994; Laurian, Bilsborrow, and Murphy 1998).

Migration to agricultural frontiers has been researched in the Ecuadorian Amazon (Pichón 1996), Honduras (Stonich 1993), Mexico's Yucatán Peninsula (Haenn 1999), and Guatemala's Petén (Schwartz 1995). A variety of hypotheses have been posited in the land use and political ecology literatures focusing on macro-level economic and political factors, with little in the way of analyses at community and household levels, where decision makers actually operate (Stonich 1989; Southgate 1990; Barbier 2000). While skewed land distribution in origin areas is frequently a migration push, access to free land is a common migration pull (Rudel 1995; Clark 2000). Environmental factors affecting internal migration

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*David Carr is currently assistant professor of Geography at the University of California, Santa Barbara. The following sources of funding were instrumental in the development of this research article: UCSB Senate Faculty Research Grant, National Institutes of Health Career Development Award (K01: HD049008), National Science Foundation Geography and Regional Science grant (BCS-0525592), UCSB Faculty Career Development Award, The Mellon Foundation, Social Science Research Council, Fulbright-Hays Foundation, NASA, The Rand Corporation, Institute for the Study of World Politics, University of North Carolina Royster Society of Fellows, The Carolina Population Center, and The Nature Conservancy.*

include timing of rainfall (Henry and Schoumaker 2004) and drought (Ezra and Kiros 2001), and other factors relating to environmental change (Pebley 1998; Bates 2002). Socio-economic factors found associated with agricultural internal migration include land ownership (VanWey 2003) and relative deprivation—which is often linked to land ownership in rural settings. The effects of migration networks are also increasingly emerging in the literature as key determinants of timing and location of migration, as illustrated, for example, in recent studies from Mexico (Verduzco 1995; Davis, Stockolov, and Winters 2002; Curran and Rivero-Fuentes 2003).

Despite some agreements on common trends in the emerging literature, explanations of migration have often failed to recognize that the conditions sufficient for emigration do not necessarily lead to migration, much less to the frontier. Indeed, the vast majority of people in (rural) places do *not* move, and of those who do, most *do not* choose the frontier as their destination. Therefore, examining the modest population that emigrates, and why they choose to migrate to the frontier, is essential to understanding colonist deforestation and has significant implications for identifying policies to address its root cause—geographies of spatial inequalities.

## Background

Guatemala's highly unequal resource distribution—resulting in a lack of technological access and knowledge, land, and alternative employment opportunities for small farm families—is a common denominator of areas of high emigration. Cultivable land per capita in the country fell from 1.7 to 0.8 hectares between 1950 and 1979 (the date of the last agricultural census before fieldwork). During this time over 150,000 new sub-subsistence farms were created under 1.5 acres (SEGEPLAN 1987). Compounding problems of skewed land distribution, in many areas—most notably the highlands and Verapaces—political violence displaced hundreds of thousands of peasants during the 1980s (Aguayo et al. 1987; Morrison and May 1989). Further, the extreme concentration of landholdings and underemployment, combined

with the highest rural fertility rate in Central America,<sup>2</sup> led to fragmentation of farm plots and rural poverty, stimulating emigration (Bilsborrow and Stupp 1997). Despite these processes, most rural Guatemalans have remained in their origin areas, while most of those who migrate go to the United States or to Guatemala City rather than to the frontier. Little is known about this minority that has migrated to the frontier, let alone why they chose such a destination. This article investigates this phenomenon through data collected in both migrant origin and destination areas.

Approximately half of all men and women emigrated temporarily from origin communities at some time during the 1990s (Table 1; Carr 2000). Most traveled to Guatemala City and to local towns and plantations, with a minority choosing the United States as a destination. Seasonal emigrants tended to work in southern Petén and Alta Verapaz, rather than the northern Petén where day labor is less lucrative (Carr 2000). Approximately 10 percent of origin area adults permanently emigrated during the 1990s. The peak of emigration coincided with the period of greatest immigration to the Sierra de Lacandón National Park (SLNP): the height of the civil war in the 1980s and 1990s. Despite representing the areas of highest emigration to the SLNP, an equal number migrated to Guatemala City as to the Petén. Two out three emigrants chose one of these two destinations (Carr 2000). Factory and service employment was a migration pull to Guatemala City while land availability emerged as the main pull to Petén (Carr 2000).

## Methods

In 1999 and 2000 I carried out a survey in areas of migrant origin to the Maya Biosphere Reserve (MBR), employing *municipio* (municipality—similar to a U.S. county) and community-level questionnaires, to gain insights into the factors underlying migration to a core conservation zone of the MBR, and a site of rapid colonization during the 1990s, the SLNP.<sup>3</sup> I interviewed community and municipal leaders and other informants (the latter randomly selected) in Spanish and Q'eqchi Maya in 28 communities in 16 municipios

**Table 1. Migration Pushes and Pulls (1989-1999)**

**Percent of adult seasonal Migrants**

**Approximate Mean**  
50%

**Percent of adults permanently out-migrating**  
**Men**

**Approximate Mean**  
10%

**Push factor**

Lack of jobs  
Poor access to education  
Lack of land  
Natural disasters  
Environmental degradation

**Pull factor**

Wage labor  
Educational opportunities  
Land availability  
Decreased vulnerability  
Better quality land

**Principal Destinations**

Guatemala City, US  
Guatemala City  
Petén  
Petén  
Petén

of highest emigration to the SLNP (Map 1). Municipios were selected from 1993 Guatemala census data and were corroborated as key regions of emigration to the SLNP by my 1998 household and community surveys in the SLNP (Carr 2003, 2005). Data were collected on topics similar to those undertaken previously in destination communities in the SLNP, but included additional questions on immigration and emigration, perceived reasons for people leaving, and main destinations. Five to 10 informants were interviewed in each of the 28 communities. Two to three days were spent in each community and interviews were conducted individually for approximately 1-2 hours each. Independent measures were used to assess the accuracy (validity) and reliability of informant statements, including asking the informant similar questions repeatedly and corroborating data with other informants.

Common to all source regions for frontier migration was insufficient access to resources, especially with regards to land but also including other forms of capital, due to unequal land concentration, population growth, and land degradation (Carr 2000). Nevertheless, while the factors examined are the same, their values differed in each place. This spatial heterogeneity is crucial to understanding household responses in terms of land use or migration, and when, where, and how these responses take place. This paper describes examples from three municipios of migration origin to illustrate why simplified narratives explaining frontier migration such as land degradation, population growth, or poverty in origin areas insufficiently describe the real causes of frontier emigration and why, ultimately, place matters. Case studies are presented from three municipios of high emigration to the SLNP: Morales, Izabal in the Southeast; Nueva Concepción, Escuintla in the Pacific Littoral; and Fray Bartolomé de las Casas, Alta Verapaz, in the Verapaces. These municipios serve as three examples of how distinct, local processes in diverse geographical locations ultimately fostered emigration to the frontier and elsewhere as well as other, alternative responses.

### Emigration from Three Municipios: Why Place Matters

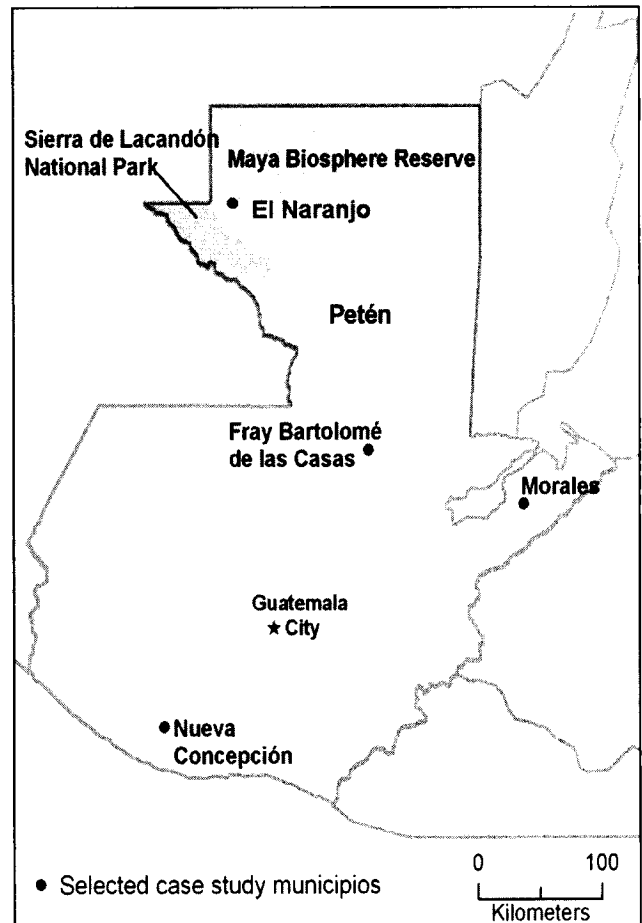
#### Southeast: Land Consolidation, Violence, and Hurricane Havoc in Morales, Izabal

*When the banana company leaves, I don't know what we're going to do.*

Informant from Morales

Emigration from the municipio of Morales (Figure 1) can largely be traced to processes of land consolidation by large plantation owners as an underlying factor and environmental change as a precipitating direct cause. Plantations offer wage labor for some, but little land is available for small farmers. Like other banana-producing regions in the department of Izabal, Morales's population and export-producing economy grew during the middle decades of the 20<sup>th</sup> century. Initially a magnet for rural laborers, plantation expansion increasingly

Map 1. Guatemala and the Origin Communities to the Petén Frontier



pushed colonist small farmers out of the land market, leaving plantation work as one of the few viable options for wage income. Though population growth has been a factor in the subsequent fragmentation of farm plots, plantation expansion has left virtually no productive lands for small farm families. This process of land consolidation set the conditions for massive emigration of peasant families from the municipio in recent decades. However, these conditions were necessary but insufficient for many migrants, and migration for many was ultimately triggered by a series of devastating floods.

#### Community Characteristics

A member of the town council, a health promoter, and several other residents of La Democracia and the mayor's family in La Colina spoke about their respective communities in Morales. Both places exemplify notable economic and demographic processes unleashed by intense land concentration. In both communities, land consolidation has left families dependent on renting small plots and working as day laborers on the local banana plantation. The plantation

**Figure 1. Southeastern Coastal Plains: Morales**



is part of a complex owned today by a large international fruit export company and previously owned by the United Fruit Company from 1890 to 1960. Household economies in both communities are almost entirely dependent on the local banana plantation. La Democracia, a community of approximately 3,000 people, exists primarily as a source of labor for the plantation. Conversely, the village of La Colina (approximately 1,500 people) is located several kilometers to the south of the plantation, in the foothills near the Honduran border. Land here is too hilly to have been coveted by the banana plantation and has largely been consolidated in the hands of cattle ranchers. Still, virtually all of the households in both communities have a member who is working or has worked in the local banana plantation. As one man commented "when the banana company leaves, I don't know what we're going to do." Indeed, few other options are available. The nonagricultural sector provides jobs for fewer than 10 percent of the residents.

Residents of both communities are predominantly Ladinos from the nearby departments bordering Honduras to the south (see Map 1). The mayor's wife in La Colina explained that young families used to come to find plots from Jutiapa (a department located to the west of Morales). "But now," she laments, "most of the land in the surrounding area is in banana plantations and cattle ranches." As a result, farmed land must be rented from these largeholders. Approximately half of the households in each community rent land from the banana plantation or from large landholders in surrounding communities. Most sow maize and other subsistence crops on one or two hectare plots. Only a handful enjoy as many as three hectares. Further pressuring poor households, a one *manzana* parcel (0.7 hectares) costs between Q10,000 and 20,000, in the range of \$1,500 to \$3,000 dollars, pricing land ownership of even the most modest farm out of reach of the majority. Renting is a more viable option, though its cost, at Q300 (approximately \$40 USD) per *manzana* per harvest, represents a substantial portion of yearly revenues.

### Migration Patterns

Approximately a third of the men migrated to the United States during the ten years prior to interviews and approximately 10 percent of the women migrated to Guatemala City during the same period. In the first case, men usually work for two or three years and return. In the second case, women labor for several months to a year, often as domestics workers. A small fraction of men also travel to Guatemala City for several months at a time to work in construction.

Permanent emigration flows are much smaller. Fewer than 10 percent of the households in the two communities emigrated permanently during the 1990s. The United States represented the main destination for permanent migrants. A small group of migrants also remains in Guatemala City, especially if they have family and friends already permanently established there. The third most common permanent destination is the Petén.

Since the majority do not emigrate, an important question is "Who does migrate?" One informant summed up migration this way: "Risk-takers migrate, and they go where they will be paid." Another man summed up migration from La Colina by saying: "People leave to improve their economic situation, the lack of land, or work since the banana plantation pays so poorly."

### Why People Left

Informants from both communities cited land consolidation, scant employment opportunities, and low wages as the primary structural, or underlying, factors for emigration. But the primary direct cause more recently has been the devastation left by flooding. Indeed, erosion and soil deposition from flooding are cited as the principal motives for emigration from both communities. Flooding has eroded topsoil on some farms and buried crops beneath a thick layer of recently deposited muck on others.

Some of the comments relating to environmental reasons for migrating included the following: "Because of the natural disasters, there's no more good land and land has to be sought elsewhere...natural disasters have placed the community in crisis." "There is no land and no money...the land has been degraded from the disasters." "Poverty has increased here because of Hurricane Mitch in 1997 and many went to the United States as a result." Similarly, La Colina, located on the Moyuta River, which drains the Verapaz mountains, was severely flooded following the downpours of Hurricane Mitch and many people have yet to recover from the economic losses. Locals lamented that their crops were destroyed and that erosion had necessitated the heavy use of fertilizers and herbicides. Even perennials such as mangoes were ripped from the topsoil by the hurricane-force winds and gushing water.

Ironically, when floods are uncommonly severe, emigration is reduced. For example, immediately following Hurricane Mitch emigration was suddenly stemmed. Locals explained that there was "plenty of work in plantations repairing buildings, fences, and drainage pipes and people had little money to migrate to the United States." Further, as crops

were severely damaged or destroyed, and news reached the United States of the disaster, family members in the United States increased remittance payments. Now, several years after Hurricane Mitch, reparation work has dried up and some farms remain severely damaged. Thus, in recent years, migration has picked up once again. Initially a reason for staying, the aftermath of Mitch has reminded people of the fragility of their environment and has encouraged families from La Democracia to migrate to the United States and to Guatemala City, far from the reach of the Montagua River's crest. Lastly, in addition to floods, political violence was a precipitating factor for emigration among some households during the 1980s. Since these migration flows were concentrated to the Petén, I discuss this phenomenon in the following section.

### Where People Went

According to a senior resident of La Democracia, there are three types of migrants: Migrants to the capital are wage earners, US migrants are urban wage earners and agricultural workers, and migrants to Belize and Petén are "only agricultural laborers." Other informants agreed with this assessment. Another man, for example, related that "people that go to the Petén are farmers, they are not professional workers." A third mentioned, "in the city there is no work if you are not a professional (unskilled—without a trade)." Conversely, "In Petén they are people that like to work the land and that don't want to work in towns." However, some of the informants mentioned that now the majority who go to Petén do not settle there permanently since the land is already occupied. Rather they go "near the Belize border, only in summer...to clear land for maize and frijol because it rains too much here. Many people now go there from October to January. They have friends there now and they rent land for a third maize harvest from cattle ranchers." Most agree that those who go to the Petén are often landless, which suggests another characteristic of emigrants to the Petén.

The United States has been the primary destination of migrants from both communities. Community leaders estimate that members of approximately one-third of the families from each community left for the United States during the 1990s alone. It is typical for people to remain in the United States for up to three years. This northward migration flow has been a boon to household economies. According to one informant: "The economy is better off because you can feel the effect of the remittances, the dollars that come from there." The destination of US-bound migrants from La Democracia has been primarily Los Angeles while La Colina's migrants have settled in Washington, DC, New York City, and Los Angeles.

Many of the families that left owned small farms and sold them to the plantation owners or to successful small farmers, catalyzing the land consolidation process. Locals explained that sometimes support from family and friends is insufficient for successful migration to the United States and money is loaned from a professional lender and repaid later through monthly remittances. Informants in both communities agreed

that those who go to the United States have money to pay for the trip as well as family who help them undertake the risky voyage and find work once there. As one plantation hand concluded: "Those who go to the US have money and make much more money once they are there. It is much better there. The agriculture is more 'grown-up' in the US."

La Democracia and La Colina differed from other communities in the study in that few households have migrated to Guatemala City. A mere 5 percent have migrated to the national capital—usually for a few months or up to a year. Men work mainly in construction while women work domestic jobs. Informants lamented that, "In Guatemala City it is difficult to find work." Another informant mentioned that some go to Guatemala City, but added there is "lots of vice."

The civil war emerged as a push for some migrants to the Petén during the 1980s. During these years, some men were identified—usually falsely according to the informants—as rebel insurgents. In the late 1980s, fifteen families from La Colina and four from La Democracia migrated to the Naranjo road because of violence. According to community members, almost all of the migrants who left because of violence went to the SLNP frontier. An attractive pull factor to the frontier would appear to be its remote location, far from trouble. Yet migration to the frontier was not without its war-time risks. The Lacandón forest was the site of intense skirmishes between guerrillas and government forces. Therefore, it is possible that migration to the SLNP for some was for the purpose of joining forces with other rebel groups or with others who had been identified (falsely or not) as rebel insurgents. The Comunidades Populares en Resistencia (CPR), a major resistance movement against the war-time government, formed several small communities controlling vast areas of the northern SLNP. It is unclear which of these two factors, violence or land, was the primary motivation for migration to the Petén among those identified as insurgents.

It appears that acquiring land was the main motive for some, since informants agreed that an important pull factor to northern Petén was the vast land suddenly made available by the newly-opened Naranjo road in the mid 1980s. A town official from La Colina noted that until four or five years ago some families migrated to the Petén frontier area of the SLNP. But this migration stream ceased, according to the official, because "there is no more land in the Naranjo area. "We know this," he contended, "because people leave to investigate and return." Another assented, adding that "few go to the Naranjo area now because a few years ago some families went there and returned informing us that there was no more land there...people no longer go there because it is becoming as bad there as it is here...with the construction of the roads, the land prices have gone up."

Emigration from the municipio of Morales can largely be traced to processes of land consolidation by large plantation owners as an underlying factor and ecological change as a precipitating direct cause. Violence also was a direct factor for a small number of families to move to the SLNP frontier in the 1980s. Informants in both communities anticipate that these trends will continue, meaning that both land and work

Figure 2. Pacific Coast: Nueva Concepción



will be scarce for their children. As one man said, "Today, if there were no plantation here, people would have no place to turn for work... people have left because they have nothing." Another noted that their children will have to depend on a good health center with family planning if there is to be enough work for everyone in town. This man is cautiously optimistic that there could be sufficient work for today's children when they are adults since "unlike before when young women would start having children at fourteen, now couples plan before having so many children." If that is so, he believes, there will be enough work on the banana plantations for the next generation. On the other hand, he considered, "they will be better off if they can get nonagricultural jobs." He may have a point. Steadily declining fertility may help keep the supply/demand ratio for labor from bloating in favor of employers in small communities in Morales such as has occurred in La Democracia and La Colina. Nevertheless, dwindling opportunities for the small farm household from past, and possibly future, land consolidation in Morales, may make curbing population pressures moot.

### Pacific Littoral: Population Growth, Land Fragmentation, and Environmental Degradation in Nueva Concepción, Escuintla

*The kids grow like weeds and then there is no land.*

Informant from Nueva Concepción

In stark contrast to Morales—and an anomalous case for rural Latin America—land consolidation has been virtually absent in Nueva Concepción (Figure 2). In 1954, this municipio realized Socialist President Jacobo Arbenz's dream of land redistribution following his alleged US-backed assassination (Premo 1981). Large plantations were splintered and doled out in 28-hectare parcels to colonist families. Agricultural colonists flooded the municipio, many coming from eastern regions (e.g., Izabal, Zacapa, Jalapa) where farmland had

become scarce in a region dominated by the United Fruit Company. Since this rare land redistribution event took place, large land owners have not consolidated holdings in this municipio, glorified in its early years as the "breadbasket of Central America" (SEGEPLAN 1987). Small farms have yet to be gobbled up by large plantations. What has changed the size and distribution of landholdings in Nueva Concepción instead is subdivision through two generations of large families. Today the average farm size reported in three communities and by municipio officials is between two and five hectares. This dramatic plot fragmentation has spurred—and has continued in spite of—mass migration to the United States and to the frontier.

### Community Characteristics

Community leaders and key informants in three communities sampled in Nueva Concepción municipio provided information for this case study. Santa María and El Paraíso are larger communities with populations hovering between 2,000 and 3,000, depending on seasonal migration. Las Brechas IV is much smaller with approximately 350 people. All three communities are approximately half Catholic and half Evangelical and are largely comprised of Ladinos, descendants of the first colonists from the southeastern departments (e.g., Jalapa, Jutiapa, Izabal) who came to the municipio in the mid-1950s during the period of land reform. In Santa María and Las Brechas, 90 percent of the community owns no land of their own and nearly three-quarters work in nonagricultural jobs or on sugar cane plantations. Informants note the marked difference in the landless rate today compared to zero percent in 1955 and 40 percent as little as twenty years ago.

Virtually everyone works in agriculture in the three communities and average farm size for those who have access to land (nearly half the households) ranges from 5.0 manzanas in the more remote Las Brechas to 0.5 hectares in Santa María and El Paraíso. Most rent land on large sugar cane plantations, typically growing one manzana of maize for subsistence to complement sporadic labor in local plantations or seasonal migration. One source of employment and land for rent is a sugar plantation outside the community that encompasses seventy caballerías (over 3,000 hectares).

Land prices reflect the high population density, good volcanic soils, and well-connected transportation routes of the region. In the larger and more connected villages of Santa María and El Paraíso, one manzana of land can fetch in the range of 30,000 *Quetzales*, while in the more remote Las Brechas, the price is still a hefty Q15,000. In other words, what was free in 1954 is today valued at \$60,000 to \$120,000 USD for a 28 manzana (20 hectares) farm, far too much for an average household to afford.

### Migration Patterns

Facilitated by proximity to the Pan-American highway and Guatemala City, most of the men and a minority of the women have emigrated temporarily from the three communities. The principal destinations of the temporary migrants



in the three communities are Guatemala City and the United States. A third temporary migration option is work in the nearby city of Tiquisate.

Permanent migration was less common but substantial nonetheless. In Las Brechas and El Paraíso permanent emigration was higher than in Santa María. Approximately one quarter of households migrated permanently to the United States, Guatemala City, or Petén during the 1990s in the first two communities, compared to only ten percent in Santa María.

As in Morales, emigration peaked from the municipio during the 1980s. In Las Brechas, for example, locals claimed that it is possible that most of the permanent emigration from the village since the 1950s occurred during the 1980s alone. Still, locals estimated that approximately 10 percent of the entire village migrated (some permanently others temporarily), specifically to Los Angeles and Miami during the 1990s.

### Why People Left

Informants in the three communities concurred that a crucial emigration push in recent decades has been the population growth. Community leaders estimated that women have five to seven children or more on average. As one small farmer exclaimed, with twelve or fourteen children there is not enough land for everyone. "It is hard to support so many," echoed one young woman. Yet this sentiment is not shared by all. One older woman piped in with pride "I was yearly with my births, each year I was raising a new [child]."

But Alejandro, a local banana farmer, feels his brother's experience was fairly typical. Alejandro's brother was lured from his native department of Jalapa by the offer of free land in the 1950s. Alejandro's brother obtained a title in 1954. But, he explains, "there wasn't enough land for so many children." Thus, his brother was compelled to move the family to Petén in the mid-1980s.

As in Morales, a second reason cited for emigration was flooding, most recently and severely from Hurricane Mitch. Yet informants complained that despite public works funded by the government, the local river floods not only following major hurricanes but also with each rainy season. Similarly, in El Paraíso, residents cite heavy rains and erosion as the primary reason for emigration. As a result of erosion from floods and nutrient degradation from many years of intensive cropping, locals in the three communities reported the necessity of adding fertilizer to maize crops. Doing so helps increase production from thirty to forty *quintales* per *manzana* to sixty *quintales* per *manzana*—roughly the average yield of SLNP farmers without fertilizer. Lastly, some note that violence, during the period of greatest emigration in the late 1980s and early 1990s, was also a factor in several households leaving communities in each of the three *municipios*.

### Where People Went

As mentioned above, most permanent migrants have gone to the United States, but the Petén is a close second. Unlike most communities surveyed, many of the migrants to

the United States from the three communities in Nueva Concepción have remained for several years and apparently have no intention of returning home. Perhaps the fact that young adults in these communities come from migrant families who settled the region only recently diminishes their attachment to Nueva Concepción as their home. Nonetheless, they seem to be faring well and are considered heroes for succeeding in the United States, as evidenced by the trucks and other expensive items purchased from remittances sent home. As one man crowed, "Look at this truck, look at those new additions on the houses. All this money comes from friends and relatives living in the US! We have nothing here. We could not afford this."

Locals claimed that people used to send children to Guatemala City for school while others went to the Petén to acquire land. Migration to Guatemala City is usually temporary, informants explained, though it can become permanent when children go to school there and remain because they have found work or have married a capitalino/a. As one informant noted "there is no fun or good education in Petén... which is [another reason] why people go to the capital." Another man echoed this response. He acquired almost 100 hectares in the Petén as a rubber tapper in the late 1950s but returned after a few years because "the conditions were very rough there." But, he insists, "Petén is vast and remains a font of open land. If I were young I would go again." In the Petén, he continued, "there are offices that grant land and people have lots of family and friends." Informants in the three communities related that young adults with a recently formed household are more likely to go to Petén than are young single men and women. Migrants to the United States or Guatemala City almost always have friends or relatives in the destination area, whereas for migrants to the Petén this is not always the case. Because of the absence of social networks, some opine that migration to the Petén is as risky as to the United States, just for different reasons.

Of the migrants to the Petén, many settled in La Libertad, the municipio where the SLNP is located, during the mid-1980s to the mid-1990s. These were years of intense political violence but, perhaps of more significance, these years also coincided with the coming of age of the second generation of landholders following the municipio's 1954 land redistribution. Indeed, respondents claimed that the 1980s and 1990s were times of high emigration to Petén because "people left for lack of land." Nevertheless, one man claimed, "It is more difficult in Petén... because the conditions are unfavorable and uncomfortable." He continues that "in El Paraíso there is a tractor, in Petén they ploughed by beast, but it is more ample for cattle to roam... and for the children. There is life in Petén." He continued "Petén is better for those who have nothing here. If you have a farm here, you live ok. It is difficult for those without land because they have to rent. It is better to go to Petén than to rent because there is lots of idle land but it lacks access."

In sum, informants concurred that, unlike the dominant narrative describing the situation in Morales and pervasively



Figure 3. Verapaces: Fray Bartolomé de las Casas



throughout Latin America, land consolidation by large land owners was not a factor in emigration from La Nueva Concepción. Sporadic employment, land degradation, flooding, and violence were all important push factors. But many pointed to the rapid coming of age of children and the challenge to find land for them as a major reason for emigration from the region. As one man stated, “The kids grow like weeds and then there is no land.” He continued, “For young people, it is better for them to go to Petén.” In Nueva Concepción it appears that many children “growing like weeds,” not land consolidation, was largely responsible for emigration.

### The Verapaces: A “Gold” Rush of Maize, Violence, and Emigration in Fray Bartolomé de las Casas

*Some had one caballeria of land, others had half of a caballeria. People fled troops from both sides.*

Informant from Fray Bartolomé de las Casas

In Fray Bartolomé de las Casas, relieving pressures through frontier colonization was not a sustainable solution (Figure 3). Population growth and land consolidation transformed this region from a colonization frontier to a region of net emigration within two decades. Fray was part of a planned colonization scheme sponsored by the government in the 1960s to encourage settlement of the Franja Transversal del Norte Region of northern Quiché and Alta Verapaz (Milián et al 2002; Katz 2000; Beavers 1995; Jones, 1990). In a maize gold rush, Q’eqchi’, from municipios to the east, along with a small number of Pocomchi’ and Ladinos from Baja Verapaz and the South, settled this portion of eastern Alta Verapaz starting in the 1950s, but mainly in the 1960s and 1970s. With the intervention of The National Institute for Agrarian Reform (INTA) a portion of several contiguous municipios (San Luís, Petén, Cahabón Alta Verapaz and Chisec, Alta Verapaz) was cleaved to form Fray. INTA granted 32 manzana (approximately 20 hectares) farms to early settlers. But by the late 1970s unsettled land was scarce and land consolidation

by cattle ranchers was well under way. These processes set the conditions for emigration that was ultimately precipitated in some communities by violence.

### Community Characteristics

Community leaders in three communities in Fray Bartolomé de las Casas—El Limonero, Fuerte Campesino, and San Juan el Mirador—participated in interviews. Informants in all three agreed that population pressure on the land has increased in recent years and land consolidation by cattle ranches and coffee and cardomom plantations is acute. Only a small fraction of farmers have title to their land in the three communities. Though land titling has intensified in recent years, most farmers remain squatters. For those who are landless, renting costs from 1,000/1,500 Quetzales per manzana, more than double the price in the early 1990s, and much more expensive than in the SLNP (yet still less than in other, longer-settled areas). Households farm maize and frijol for subsistence and some rice is grown in a few lowland areas.

### Migration Patterns

Similar to Morales, landlessness due to land consolidation contributed to emigration starting in the 1980s and continuing to this day. But the war was directly responsible for the timing of the most dramatic emigration flows from many parts of the municipio. The municipal mayor complemented the accounts from community leaders of the villages El Limonero, Fuerte Campesino, and San Juan el Mirador in relating the following story of migration in Fray Bartolomé de las Casas:

An early wave of emigration from the municipio began in the late 1970s to the mid-1980s with the Ixcán in northern Quiché as a popular destination. But Ixcán filled with settlers in a matter of several years’ time and then rapidly depopulated in the 1980s following widespread violence in the region (Jones, 1990). The next destination for landless farm households became the Ruta a Naranjo, adjacent to the SLNP. According to the municipal mayor, migration there started in earnest around 1987 and was substantial until very recently. Today, as the frontier has become largely closed, some still migrate seasonally to the region to work as farm laborers. The municipal mayor explained that people in Fray understand that on the road to Naranjo each community has a certain number of persons and that they don’t accept further colonization beyond the agreed limit. He noted that, in this regard, the SLNP-area communities are not spontaneously formed at all, as it may appear from the outside, but quite rigidly organized. The mayor estimated that during the past 10 years perhaps one-fifth of the households emigrated permanently from the municipio. Informants in the three communities agreed with the mayor that southern Petén and the Naranjo region in northern Petén were primary areas for permanent emigration, as well as the municipal capital, Cobán. Unlike Nueva Concepción and Morales, neither Guatemala City nor the United States were mentioned as common destinations.



## Why People Left

From 1980 to 1995, a precipitating factor for emigration was the civil war that hit Fray Bartolomé de las Casas particularly hard. As a result, many people left, with the majority going to the Naranjo area. In that time, the mayor explained, people had sufficient land but were compelled to sell it to flee the violence. Fuerte Campesino exemplifies the impact violence had on emigration from some of the communities in the municipio. Esaú, a farmer from Fuerte Campesino explained that his village emptied out almost completely in the 1980s. Many left precisely in 1988, Esaú explains, "when land was sold to large farmers." He continues: "Some had one caballeria of land, others had half a caballeria. People fled troops from both sides." Of the original 60 families in Fuerte Campesino only five remained. Esaú relates that "people fled to all regions of the country, to Guatemala City, to the south, and to Petén." Esaú explained that the five families who remained in the village suffered through tough times:

We were surrounded by the army. They would come into the village and label us as guerrillas. They interrogated us. They would ask if we were giving food to the guerrillas and sometimes they pretended to be guerrillas to make sure we were telling the truth.

In San Jose informants concurred that during the late 1980s and early 1990s, and particularly in 1988, violence pushed many residents to permanently emigrate. At that time many left for the Petén. According to one man, "in the north the land is better" which, he claims, is why so many continued to journey to the Petén even after the political violence softened in the area in the early 1990s.<sup>4</sup>

More recently, since the war left the region in the early 1990s, a new reason for migration has emerged: soil degradation. According to the informants in the three communities, farmers complain of the poor soil that now produces only with chemical fertilizers when once natural fertilizer used to be sufficient. But even chemical inputs are no panacea. As one El Limonero maize farmer related, since ten years ago, purchased fertilizers have been necessary and these have "burned the soil." Similarly, in Fuerte Campesino, a man noted how soil degradation and poverty have ignited a vicious cycle: "People need money before they can rent land to make enough money from crops to buy inputs." He lamented that he didn't even make enough "to spread 'poison' on [his] crops," and that only by doing so would he make enough to buy his own farm. Even in San Jose, where there is relatively abundant farmland, soil quality has worsened and informants complained that most lack the money to apply inputs, especially renters who typically farm just one manzana in subsistence maize cultivation.

## Where People Went

Whereas the Petén was the place to escape violence in the 1980s, recent migrants have ventured to the Petén to acquire a farm or a bigger and better farm than the one presently owned. One informant noted that the "poor land [in Fray] doesn't

produce without fertilizer" while "in Petén you don't need fertilizer." Thus, migration to the Naranjo area in the Petén has occurred not only because of the violence but, as one community leader explained, "to make more money selling crops because in Fray it didn't pay enough. Maize in Fray is just for subsistence." This is largely because land availability allows for increased production even though farmers make somewhat less per pound of crop sold in Petén. He notes that, "even without land, laborers make more money there, up to Q40/day." That is why, he explained, "even with land in Fray, people go for ten or twenty days to Petén to work."

Informants in each community agreed that those who venture to the Petén often do so with the notion of acquiring their own farm and many travel there permanently whereas work in the capital is almost always temporary. They further concurred that people who go to Guatemala City, even temporarily, tend to be better educated or have some job skills appropriate for the urban environment. Conversely, those who settle the Petén frontier tend to be less educated and to have few skills besides subsistence farming and manual labor on ranches and large farms. One informant summed up this sentiment by explaining that "for poor farmers without land Petén is the best place but if they are educated it is better to go to Guatemala City to find work." In Fuerte Campesino, he continued, "people without land are the ones that go to Petén most. But," he explained, "some leave because they want more land."

In Fray Bartolomé de las Casas, a maize "gold rush" filled the region in less than a generation. As land became scarce through rapid immigration and land consolidation, civil war violence erupted in the region, catalyzing massive emigration to the next frontier of Petén. More recently, many farm plots have become degraded over time sufficiently to render them barely adequate for subsistence. This has occurred even though land availability is much better than in other areas of the country. But lack of temporary jobs in the area and, therefore, lack of capital to purchase inputs, has contributed to soil fertility declines.

It is the farmers who have been least able to cope with these changes that were most likely to migrate to the Petén. As the municipal mayor bemoans, "Now people from away have come here to look for land because there is no more land available in other parts of the country but it is all taken here too and our own poor are moving out." Unfortunately, as in Fray by the 1980s, the colonization frontiers of the Petén no longer offer an adequate escape valve for land-impoorished families.

## Conclusion

A common denominator among communities of migration origin to the Petén frontier was unequal resource access, usually land. Despite the common thread of resource inequalities, resource access became skewed and scarce for the majority in different municipios for different reasons. Population growth and environmental degradation were factors of varying magnitude in spurring emigration from



each of the three municipios presented here. Whereas these conditions were sufficient for emigration, violence was a catalyst in the 1980s that sent substantial flows of migrants searching for land and peace in several villages throughout the regions in the study, but most notably in Fray Bartolomé de las Casas. Lastly, land consolidation was a major force in Morales and Fray Bartolomé de las Casas, but was entirely absent in Nueva Concepción, suggesting that any one factor—land degradation, land consolidation, or population growth—may be sufficient to erode living standards and compel emigration.

Despite these conditions, most people in the communities studied did *not* emigrate, suggesting that any one or combination of factors is not *necessarily sufficient* for emigration. And of those who did, only a minority settled the open forests along the Petén's expanding agricultural frontiers. Rural-frontier migration was relatively rare even in the sampled regions of high emigration to the Petén frontier. Yet this rare occurrence was responsible for most of the deforestation that has eliminated nearly half of the Petén's once vast forests since the 1960s. Other sources of forest clearing, growing cattle ranching, and substantial commercial logging and petroleum extraction in the region, are linked to peasant migration and to road construction, which allows peasants access to forested areas. While these other land change processes ultimately may overtake small-scale farming as the primary direct cause of deforestation, consistent with forest transition theory (e.g., Mather 1992; Rudel 2002) small farmers nearly always cleared the forest first following road construction.

Similar processes operating in rural areas throughout the developing world are prerequisite to the driving demographic force behind most of the planet's deforestation. Population and land use researchers could fruitfully pursue this line of research, to the benefit of policy aimed at rural development and forest conservation.

Policy prescriptions must be sensitive to place. Despite the common denominator of resource access inequalities, inequalities evolved for different reasons in different places. Therefore, blanket prescriptions implemented in origin areas encouraging smaller family size through promoting reproductive health, land redistribution, or relieving pressures through colonization may be doomed to failure on their own, especially in places where those are not the primary problems.

#### Notes

<sup>1</sup>In many developing countries, rural-rural migration is far more important than commonly supposed. In a recent review of existing data by the UN, of the 14 developing countries which have census data on internal migration, in which both the origin and destination are classified as rural or urban (censuses from 1966 to 1995), rural-urban migration was largest in only 2 countries and rural-rural in 3 (urban-urban being largest overall). Rural-rural flows were larger than rural-urban in 10 of the 14 countries (UN, 2001, p. 66).

<sup>2</sup>6.1 births per woman, according to the Guatemalan National Institute of Statistics (1999). *Encuesta Nacional de Ingresos y Gastos*. Guatemala.

<sup>3</sup>Using data from the 1993 population census, I defined migrants as persons living in the municipio of La Libertad, the county in which the SLNP is situated (occupying most of the municipio's territory) at the time of the census who had ever lived in another municipio. Most migrants to the municipio of La Libertad during the decade prior to the census migrated to the SLNP.

<sup>4</sup>Unlike Fuerte Campesino and San Jose, El Limonero was not largely depopulated from the war. On the contrary, El Limonero was formed by 400 returned refugees who were displaced from other war-torn regions of the country. Former President Lucas sold a farm, and returnees from the Mexican states of Campeche, Quintana Roo, and Chiapas arrived there under the auspices of the UN High Commissioner for Refugees. They were given the option to move there or to La Unión Maya Itzá in the SLNP. An informant from El Limonero claimed that he didn't like La Unión because it is far from Flores, whereas El Limonero is much closer to the municipal capital of Fray (10 km.). He explained that "in [the refugee camp] in Campeche we were shown maps and village plans and we could go to whichever we wished. It is better here because it is not difficult to transport our produce. Up there [in the SLNP] it is difficult to bring [produce] to market in Flores."

#### References

- Aguayo, S., H. Christensen, L. O' Doherty and S. Varese  
1987 Social and Cultural Conditions and Prospects of Guatemalan Refugees in Mexico. Geneva, United Nations Research Institute for Social Development.
- Barbier, E. B.  
2000 Links between Economic Liberalization and Rural Resource Degradation in the Developing Regions. *Agricultural Economics* 23(3): 299-310.
- Bates, D.  
2002 Environmental refugees? Classifying Human Migrations Caused by Environmental Change. *Population and Environment* 23(5): 465-77.
- Bible, D. S. and L. A. Brown  
1981 Place Utility, Attribute Tradeoff, and Choice Behavior in an Intra-urban Migration Context. *Socio-Economic Planning Sciences* 15(1): 37-44.
- Bilsborrow, R. E., T. M. Mc Devitt, S. Kossoudji and R. Fuller  
1987 The Impact of Origin Community Characteristics on Rural-urban Emigration in a Developing Country ( Ecuador). *Demography* 24(2): 191-210.
- Bilsborrow, R. E. and M. Geores  
1992 Rural Population Dynamics and Agricultural Development: Issues and Consequences Observed in Latin America. Ithaca, NY, Cornell International Institute for Food, Agriculture and Development.
- Bilsborrow, R. E. and P. Stupp  
1997 Demographic Processes, Land, and Environment in Guatemala. *Demographic Diversity and Change in the Central American Isthmus*. L. R. Bixby, A. Pebley and A. B. Mendez. Santa Monica, Rand: 581-624.
- Beavers J.  
1995 Tenure and Forest Exploitation in the Peten and Franja Transversal del Norte Regions of Guatemala. World Bank, Guatemala and Natural Resource and Management Study.

- Brown, L. A. and R. Sierra  
1994 Frontier Migration as a Multi-stage Phenomenon Reflecting the Interplay of Macroforces and Local Conditions: The Ecuador Amazon. *Papers in Regional Science* 73(3): 267-288.
- Carr, D.L.  
2000 Un Perfil Socioeconómico y Demográfico del Parque Nacional Sierra de Lacandón. *In Nuevas Perspectivas de Desarrollo Sostenible en Petén*. Eds. J. Grunberg y S. Elias. Guatemala City, Guatemala: Facultad Latinoamericana de Ciencias Sociales (FLACSO). p. 93-106.  
2003 Migración Rural-Rural y Deforestación en Guatemala: Método de Entrevistas. 10 Tiempos de América: Revista de Historia, Cultura y Territorio. Centro de Investigaciones de América Latina (CIAL), Universitat Jaume I. Pp. 19-27.  
2005 Population, Land Use, and Deforestation in the Sierra de Lacandón National Park, Petén, Guatemala. *The Professional Geographer*. 57(2): 157-168.
- Clark, C.  
2000 Land Tenure, Delegitimation, and Social Mobility in Tropical Petén, Guatemala. *Human Organization*. 59(4): 419-427.
- Curran, S. and E. Rivero-Fuentes  
2003 Engendering Migrant Networks: The Case of Mexican Migration. *Demography* 40(2): 289-307.
- Davis, B., G. Stecklov and P. Winters  
2002 Domestic and International Migration from Rural Mexico: Disaggregating the Effects of Network Structure and Composition. *Population Studies* 56(3): 291-309.
- Ezra, M. and G. Kiros  
2001 Rural Emigration in the Drought Prone Areas of Ethiopia: a Multilevel Analysis. *International Migration Review* 35(3): 749-771.
- Findley, A. M. and F. Li  
1999 Methodological Issues in Researching Migration. *The Professional Geographer* 51(1): 50-67.
- Findley, S. E.  
1994 Does Drought Increase Migration? A Study of Rural Migration from Mali during the 1983-1985 Drought. *International Migration Review* 28(539-53).
- Haenn, N.  
1999 Community Formation in Frontier Mexico: Accepting and Rejecting New Migrants. *Human Organization* 58(1): 36-43.
- Henry, S. and B. Schoumaker, C.  
2004 The Impact of Rainfall on the First Emigration: A Multi-level Event-history Analysis in Burkina Faso. *Population and Environment* 25(5): 423-460.
- Instituto Nacional de Estadística  
1999 Encuesta Nacional de Ingresos y Gastos. Guatemala.
- Jones, J. R.  
1990 Colonization and Environment: Land Settlement Projects in Central America. Tokyo, United Nations University Press.
- Katz, E. G.  
2000 Social Capital and Natural Capital: A Comparative Analysis of Land Tenure and Natural Resource Management in Guatemala. *Land Economics*, Vol. 76, No. 1 (Feb., 2000), pp. 114-132
- Laurian, L., R. E. Bilsborrow and L. Murphy  
1998 Migration Decisions among Settler Families in the Ecuadorian Amazon: The Second Generation. *Research in Rural Sociology and Development* 7: 169-195.
- Lee, S. H.  
1985 Why People Intend to Move: Individual and Community-Level Factors of Emigration in the Philippines. Boulder and London, Westview.
- Mather, A. S.  
1992 The Forest Transition. *Area* 24(4): 367-379.
- Milián, B., G. Grünberg, and M. Cho-Botzoc  
2002 La Conflictividad Agraria en las Tierras bajas del Norte de Guatemala: Petén y la Franja Transversal del Norte. FLACSO-MINUGUA-CONTIERRA, Guatemala City, Guatemala.
- Massey, D. S.  
1990 Social Structure, Household Strategies, and the Cumulative Causation of Migration. *Population Index* 56(1): 3-26.
- Morrison, A. R. and R. A. May  
1989 Escape from Terror: Violence and Migration in Post-Revolutionary Guatemala. *Latin American Research Review*.
- Pebly, A. R.  
1998 Demography and the Environment. *Demography* 35(4): 377-389.
- Pichón, F. J.  
1996 Land-Use Strategies in the Amazon Frontier: Farm-Level Evidence from Ecuador. *Human Organization* 55(4).
- Premo, D. L.  
1981 Political Assassination in Guatemala: A Case of Institutionalized Terror. *Journal of Interamerican Studies and World Affairs* 23(4): 429-456.
- Rudel, T. K.  
1995 When Do Property Rights Matter: Open Access, Informal Social Controls, and Deforestation in the Ecuadorian Amazon. *Human Organization* 54(2): 187-194.
- Rudel, T. K., D. Bates and R. Machinguashi  
2002 A Tropical Forest Transition? Agricultural Change, Emigration, and Secondary Forests in the Ecuadorian Amazon. *Annals of the Association of American Geographers* 92(1).
- Schwartz, N.  
1995 Colonization, Development and Deforestation in Petén, Northern Guatemala. *The Social Causes of Deforestation in Latin America*. M. Painter and W. H. Durham. Ann Arbor: University of Michigan Press: 101-130.
- SEGEPLAN  
1987 Agricultura, Población y Empleo en Guatemala. Guatemala City, SEGEPLAN (Secretaría General del Consejo Nacional de Planificación Económica).
- Southgate, D.  
1990 The Causes of Land Degradation along "Spontaneously" Expanding Agricultural Frontiers in the Third World. *Land Economics* 66(1): 93-101.

Stonich, S.

1989 The Dynamics of Social Processes and Environmental Destruction: A Central American Case Study. *Population and Development Review* 15(2): 269-297.

Stonich, S.

1993 I am Destroying the Land!: The Political Ecology of Poverty and Environmental Destruction in Honduras. Boulder, Co, Westview Press.

Verduzco, G.

1995 La Migración Mexicana a Estados Unidos: Recuento de un Proceso Histórico, in *Estudios Sociológicos*, Vol. XIII, No. 39, Sept.-Dec., El Colegio de México, México, pp. 573-594.

VanWey, L.

2003 Land Ownership as a Determinant of Temporary Migration in Nang Rong, Thailand. *European Journal of Population* 19(2): 121-145.

Wolpert, J.

1965 Behavioral Aspects of the Decision to Migrate. *Papers and Proceedings of the Regional Science Association* 15: 159-169.

Wolpert, J.

1966 Migration as an Adjustment to Environmental Stress. *Journal of Social Issues* 22: 92-102.