Title

NHADS SURVEY

Table of Contents

CHARTS

MAPS

TABLES

TEXT BOX

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Reports, Analysis, and Photographs
by
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EXECUTIVE SUMMARY

Haiti has not always ranked near last place on the international scale of development. In 1788 Haiti, then the tiny French colony of Saint Domingue, was the 'jewel of the Antilles;' the richest colony in the world, wealthier even than the British colonies in North America or all the Spanish American colonies put together; the source of over two thirds of French colonial income. After one of the most spectacular independence struggles in history, Haiti became the first sovereign "Black" nation in the modern world and the second colony in the Western Hemisphere to break away from imperial Europe. Following Independence Haiti had moments of glory, most notably the Kingdom of Dessalines and Christophe. But over time, Haiti deteriorated to its current status of poorest country in the western hemisphere, far behind its nearest rival Honduras. Today Haiti has no functioning State. Infrastructure and services meant to promote agriculture, industry and commerce do not exist. The only role the Haitian State fulfills is taxation, teaching, and police security. Even these services are feebly provided.

1. INTRODUCTION

The survey focused on the Commune of Jean Rabel which covers 467 km^2 of territory and has an estimated population of 130,330 residents, 278 people per km^2. The area is generally considered among the poorest in Haiti. Infrastructure in the form of a few roads and schools are in horrific condition. The population is primarily dependent on agriculture. There are few salaried jobs outside of those financed by foreign NGOs and a hand full of teaching, police and political positions with the State. The Commune is almost entirely deforested. Erosion is advanced. Agricultural technology is not more complex than machetes and hoes—no plows. Most people travel by foot, pack animal or when voyaging to distant cities, by the few buses and pickup trucks that make up the public transportation system—financed entirely by private entrepreneurs.

The survey was initiated by three development organizations working in the area: PISANO (Projet Integre de Securite Alimentaire), AAA (Agro-Action Allemand) and ID (Initiative Developpment). The goals of the survey were to, **1)** give a demographic overview of the Commune, **2)** provide nutritional, health, socio-economic, and agricultural data which can be used to target development programs to appropriate areas, **3)** provide baseline data with which the sponsoring organizations can evaluate the impact of their own development activities.

A one-in-twelve systematic random sampling design was employed: Virtually all houses in rural Jean Rabel were counted and marked, one in twelve houses were chosen for inclusion in the survey. The total sample size should have been 1,721 households, but due to a larger than anticipated population size and a shortage of additional funds, the total number of houses sampled fell 235 short of the mark—for a total of 1,586 houses sampled.

Three data bases were generated from the information gathered: **1)** a data base for general demographic variables, **2)** a data base for general household, socio-economic, agricultural and animal husbandry variables, and **3)** a data base for nutritional and health status of young mothers and children under six years of age. With regard to future development and

research efforts, perhaps the most novel and useful feature of the survey was the documentation of household locations, names of residents and the recording of longitudinal and latitudinal coordinates using GPS (Global Positioning System) devices. All data gathered in the survey can be post-stratified by whatever geographically associated criteria is desired, including ecological, hydrological, topographical and meteorological factors, proximity to dispensaries, hospitals and villages, availability of public transportation, proximity to markets, and proposed project area.

The survey instruments--the questionnaires--were designed by the survey coordinator in consultation with senior staff from PISANO, AAA and ID. The nutritional questionnaire was designed in close collaboration with nutritional specialists from ID and PISANO. Formulation of questions in Haitian Creole was accomplished by the survey coordinator with guidance from ID, PISANO, AAA staff and the survey interviewers. In total, there were 752 variables. Questionnaires took experienced interviewers an average of 30 minutes to administer. Nutritional inquiry included weighing and measuring children.

The survey was largely carried out on foot. There was only one vehicle, used primarily to transport surveyors to distant field sites and to carry supplies. Interviewers slept in the field in school houses and churches. The total time spent in the field was 12 weeks.

All employees except for the coordinator (a US Doctoral candidate in anthropology) were from the Commune of Jean Rabel or surrounding area. General and nutritional interviewers were selected based on written evaluation, interviews, educational level and work experience. Most interviewers had attained the Haitian equivalent of a high school diploma.

Training of general interviewers and supervisors was carried out by the survey coordinator. Nutritional interviewers were trained by a medical doctor and a nutritionist working for PISANO.

Originally a team of 29 supervisors, interviewers, assistants and local guides were employed. A coordinator, a general supervisor, two helpers, three team supervisors, and 12 interviewers made up the permanent survey staff. Ten local guides and advisors were temporarily hired in each Habitation. Early on in the project, a team of 8 house counters was also formed, trained and incorporated into the survey process.

Interviewers were grouped into six teams of three people; two interviewers per team, one local assistant. Each supervisor coordinated two teams and was responsible for recording the longitude and latitude of selected households. A local guide was assigned to each team supervisor.

2. DEMOGRAPHICS AND FAMILY ORGANIZATION

The survey places the Jean Rabel population at 130,923 inhabitants, 21,149 more inhabitants than previously estimated from 1982 census data. Forty-six percent of the population is under 15 years of age. There are no significant differences in sex ratios.

Based on completed fertility rates, women in Jean Rabel appear to bear an average of more than 7 children each, 1.8 children more than the 5.2 Haitian Total Fertility Rate reported in 1996. The number of partners appears low; when only individuals over forty years of age are considered it can be seen that fully 65 percent of males and 71 percent of females bear children with only one partner. Approximately 50 percent of couples legally marry, the rest engage in what is called *plasaj*, or in anthropological terminology, “consensual union.” Over 10 % of male household heads report having more than one wife at the time of the interview--62 % of households were reportedly headed by males.

There is a clear division of domestic labor in rural Jean Rabel based on age and sex. Men in are primarily responsible for care of livestock and gardens. Men also monopolize the few available wage opportunities. Women are primarily responsible for domestic activities like childcare, cooking and taking care of the household. Women are heavily involved in marketing. Children make their greatest contributions to family subsistence by performing simple but time consuming tasks like fetching water, caring for livestock and assisting their parents.

Eight percent of all sampled households reportedly have at least one mother, father or spouse of a household member in a foreign country. More than 90% of migrant voyages involve illegal entry into the United State, Bahamas or the Dominican Republic. Over 50% of Jean Rabel out-migrants (migrants remaining within in Haiti) go to Port-au-Prince and 27.9% go to nearby Port-de-Paix.

Some 39.5 percent of people sampled were identified as either Adventist (*adventis*), Pentecostal (*de die*), or Baptist (*batis*), the remainder were identified as Catholic. More than 50 percent of the sample population over the age of 18 reportedly never attended school, an observation that may be skewed by the tendency for educated individuals to migrate to urban areas.

3. THE TYPICAL HOUSEHOLD, GOODS AND SERVICES

The house is typically of waddle and daub construction (83%),1 has a dirt floor (87%), a thatch roof (82%), two rooms (75%), one to six doors (85%), one to four window openings (64%), 32% have no window openings at all, and 53%t of houses are painted. Inside one most often finds at least one bed (70%) and one usually finds a dinner table with chairs and in more affluent houses, a cupboard with a glass face. Goods are stored in the rafters of the house. Almost all houses have an outside kitchen and half of all houses have a "toilet"—75% of which are simply holes in the ground without any type of enclosure or roof, located some 15 to 30 meters from the back door.

The most important sources of household income were identified as agriculture, followed by livestock, marketing and charcoal production (in that order). Of all households in Jean Rabel, 4.4 % report at least one member deriving income from fishing. The average amount of land reportedly owned per household was 1.13 *carreau* (1 *carreau* =1.29 hectares)—similar to the national average of 1.5 hectares. Almost one third of respondents, 413 households, reported owning no land; 87.7% of households own 2 *carreau* or less; and a mere 1.1% of households claimed to own more than 5 *carreau* of land. Only 15% of households report having a radio; televisions are non-existent; and less than 1% of house-holds have any form of electricity—i.e. car battery, solar panel or generator. Five percent of households report members owning a bicycle. Motorcycles are present in less than one percent of households and private cars are, like televisions, essentially non-existent. Animal and foot traffic are the primary modes of transportation: Thirty-five percent of household respondents told interviewers they own at least one donkey, eight percent report owning a horse and seven percent of householders own a mule--the Mercedes Benz of rural Haiti.

1 Waddle and daub simply mean sticks woven together and plastered with mud, lime or cement. Most kitchens are constructed in this way but without being plastered.

4. FAMILY ORGANIZATION

Approximately 50 percent of couples legally marry, the rest engage in what is called *plasaj,* or in anthropological terminology, "consensual union." Over 10 % of male household heads report having more than one wife at the time of the interview--62% of households were headed by males.

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5. MARKETS, COMMERCE and CREDIT

This section has been included in the present report because it is vital to understanding subsistence strategies in Jean Rabel and it underscores points made in the recommendations at the end of the report. Development projects destined for success must consider the fact that people in Jean Rabel are strongly oriented toward the market. The farmer, marketer and artisan's willingness to change behavior and adopt new practices is linked to anticipated changes in income. Development options not perceived as profitable will fail. However, understanding what people in Jean Rabel interpret as "profitable" depends on a knowledge of the market relations, channels, and outlets in which the decision making process is embedded. Understanding and anticipating decisions depends on unveiling relationships that may seem altruistic at first glance but that closer inspection often reveals as part of rational survival strategies.

A description of the rotating market system and credit is the best way to illustrate how the Jean Rabel market system functions. As elsewhere in Haiti, rotating markets are the axis of economic activity. Markets are held in villages on specified days of the week. In these markets farmers sell their crops and animals. People also rely on markets for weekly food purchases and use the opportunity to socialize. Credit is integral to the market system; specifically borrowing money from friends or relatives and getting merchandise on credit. Other forms of credit are discussed but less important.

6. AGRICULTURE

The primary crops planted in Jean Rabel are corn, beans, sweet potato, manioc, peanuts, millet, squash, plantains, sugar cane and squash. Fertilizers and pesticides are almost non-existent. Selling produce in markets takes precedence over storage techniques, which is usually restricted to sacks and gourdes. Seeds and cuttings are almost always purchased rather than conserved from the previous harvest. The biggest problems farmers have in there gardens are lack of water, lack of seeds, insects and roving livestock—in that order.

There are three general types of soil identified by farmers in Jean Rabel: 1) *te sech,* dry land, by far the most common type of soil 2) *te gra*, literally 'fat land,' fertile soil that holds water well, and 3) *te wouze,* irrigated land. There is also State land, usually very dry soil (*arid),* on which farmers tether animals and sometimes plant peanuts. Most farmers plant an average of 3 gardens per household, the same as the national average. Garden size averages .59 *carreau* about 50% larger than the national average of .5 hectares (1 *carreau* = 1.29 hectare). Farmers

usually own garden plots but also access land through sharecropping arrangements and to a lesser extent renting. Plots used for gardens are spread out, averaging the distance of a 45 minute walk from homesteads.

Farmers use both paid and unpaid garden labor to an equal degree. There are basically two types of unpaid labor: 1) family labor which simply refers to use of household labor or immediate family members, such as sons, daughters, spouses and siblings, and 2) reciprocal labor groups, known as *konbit*, which involves farmers who come together to perform a particular task. People who use a *konbit* are expected to participate when other members need help in their gardens. Their are four types of paid labor 1) *jounalie*, a paid half day labor performed by an individual, b) *plum*, a paid half day labor performed by a group c) *kwadi*, labor performed by an organized group that is paid by the task and d) *jeran*, a full-time farm hand who shares in the harvest or sale of livestock

7. TREES

Except for a few mountainous areas and small clusters of trees around houses and springs, the Commune of Jean Rabel is entirely defor-ested. Most people in Jean Rabel lament the loss of trees but understand that it is a con-sequence of poverty and lack of environmental regulatory con-trol. All over Haiti cutting trees to saw boards and make charcoal is a final recourse in the face of hard times, drought and starvation. In the survey, charcoal production was identified as the fourth leading source of household income.

Trees are divided into fruit and wood trees. The most common types of fruit trees are mango and avocado of which more than 50% of households claim to own at least one of each. Wood trees are important in Haiti. Virtually everyone in rural Jean Rabel depends on wood or charcoal for cooking fuel and virtually everyone depends on domestic production for lumber supplies. Wood tree species ranked as the sixth, seventh, ninth and eleventh most common of all trees owned (Lila, Oak, Eucalyptus and Mahogany, respectively). In the survey we found 8.7% of respondents planting trees for charcoal.

8. LIVESTOCK

n the survey, we found the most common animals owned to be chickens followed by goats, sheep, hogs, cattle and then turkey and guinea fowl. Livestock is important as a source of food, income and capital savings for people in the Commune of Jean Rabel Families in the area use smaller animals, like poultry, to meet daily food needs and to cover expenses. Goats and cows are sometimes milked for home consumption.

Similar to land holdings, larger ani-mals represent important savings that can be used to pay school tuitions, finance agricul-tural and migratory ventures, compensate for failed harvests, and cover expenses related to unforeseen emergencies like sicknesses and funerals. Many people in Jean Rabel also slaughter animals in association with religious ceremonies, particularly on the 25th of December and the 6th of January, occasions when Haitian traditions call for people who *sevi lwa* (serve the spirits) to make sacrifices.

The biggest problem identified by respondents is feed scarcity. For the most part, feeds are purchased only for pigs, the animal which yields the highest investment returns. Poultry are fed to keep them domestic, *pou yo pa al lwenn* (so they do not go far).
Cows, horses, donkeys and mules are fed natural grasses, planted grasses and garden refuse. Particularly valued as reserve feed for browsing animals are the stalks left over from corn and

millet harvests. Animals that graze are not free ranged but tethered. People tether livestock on their own land and on State lands.

The need to tether animals creates the possibility that someone will steal the animal, dogs will kill it or it will strangle on its cord. Problems not associated with tethering animals are disease and lack of water. Veterinary services and medicines are relatively rare; being used by no more than 30% of livestock owners, most commonly with hogs followed by pack animals and then cows.

Like land, there are several ways people in Jean Rabel can come into ownership of livestock: They can inherit it, purchase it, *gade* it (here defined as "tenured in"), or they can breed it. The primary means of 'ownership' is purchased followed by tenured animals. Very few livestock owners in Jean Rabel depend on breeding to replenish stock.

9. HEALTH CARE, NUTRITION AND CONTRACEPTIVES

In the survey, we interviewed one woman from every sampled household. The preferred female respondent had at least one child under six years of age. In cases where there were more than one resident female with children under 6 years of age, interviewers were instructed to choose the youngest qualified mother. Both the mother and her oldest child in the 0 to 6 year age range were weighed and measured for height and brachial circumference—interviewers tried to select the oldest child in an effort to bias the sample toward higher ages, diminishing representation of still nursing children (especially those under 6 months of age, who are exclusively breast feeding, insulating them from nutritional deficits suffered by older children). Out of the total sample of 1,586 households, the interviewers questioned 798 mothers between the ages of 15 and 55 with children under 6 years of age (122 women giving ages over 55 were eliminated from the analysis).

Inquiry focused on vaccinations, illnesses, treatments, and maternal and child nutritional status-- as measured by height, weight and brachial circumference. There were also questions regarding feeding and weaning practices, knowledge of health care and use of contraceptives. In the absence of mothers with young children, interviewers were instructed to skip all questions regarding children and child nutrition and simply choose the youngest mother to answer general household, nutrition and contraceptive questions. The research demonstrated that women in Jean Rabel have good knowledge of nutrition, medical care and contraceptives. However, malnutrition, especially chronic malnutrition is pronounced in the area, and contraceptive use is low.

10. RECOMMENDATIONS

Malnutrition is the most immediate and greatest threat to people in Jean Rabel, particularly children. But the survey data demonstrates—and the author's own experience suggests-- that most people in Jean Rabel have a good grasp on the importance of a balanced diet. The continued prominence of 'witch doctors' and folk remedies probably has more to do with low competency levels of personnel who staff clinics than lack of knowledge among the of Jean Rabel (see Text Box 9.1). And the use of birth control methods to reduce fertility is known to be a consequence of development in the form of competitive wage opportunities open to women. In short, the causes of malnutrition, under use of medical services, and high fertility is not ignorance but poverty and underdevelopment. Further, long-term prospects for economic development are undermined by prioritizing the amelioration of immediate needs like malnutrition while disregarding basic economic principles. Perhaps the most damaging

activity in this regard is the now long-standing practice of flooding local markets with supplemented produce from developed countries—'food aid.'

To promote health while at the same time encouraging development, organizations should act like small State governments, integrating programs as fully as possible into the local economy. In achieving sustainable and integrated local development the following recomendations are made:

1) Link 'food for work' programs to domestic production.

2) Control local market fluctuations.

3) Help people gain access to both local and foreign markets.

4) All projects should be designed, promoted and executed on the basis of competitive market principles.

5) Expenses should be linked to returns.

6) Create an agricultural school for adult farmers.

7) Link services to profits for the participants.

8) Provide access to credit for sound productive ventures that can yield profits and stimulate the local economy.

9) Launch pilot projects targeted at developing rural infrastructure by competitively including local groups and individuals.

10) Create competitions for development projects.

11) Promote tourism

12) Sponsor a newspaper.

13) Involve the local population by creating a Jean Rabel Round Table and a Constitution of Development.

PREFACE

HISTORICAL BACKGROUND

The mountainous country of Haiti covers one third (27,750 km^2) of the second largest island in the Caribbean, Hispaniola—making Haiti itself about 9/10ths the size of Belgium or the US state of Maryland. The first European to visit the island was Martin Alonso Pinzon the senior captain under Christopher Columbus' command who landed on the northwest coast in November 1492, weeks ahead of the admiral (Morrison 1942).[1] At the hands of Spanish conquerors the native population of some 500,000 Tainos (sometimes called Arawaks) subsequently experienced slaughters, enslavement and epidemics. Tainos who did not perish from disease or violence either fled or interbred with their new masters. By 1550 the Taino culture had vanished from the island (Rouse 1992).

Map a 1.1: The Caribbean

In the following two centuries the eastern part of Hispaniola sank to the status of a neglected backwater of the Spanish empire. The western portion of the island, however, evolved into a flourishing domain of the French. Descendants of rogue western Europeans, predominantly French, became buccaneers—literally "barbecuers"—who lived mostly on La Tortue, an island off the northwest coast. The buccaneers hunted wild cattle unleashed by the earliest European visitors and sold the smoked meat to passing ships. In their turn, the descendants of buccaneers became prosperous coffee and sugar planters on the western Hispaniola mainland.

The French government eventually took an active interest in the prosperity of the diaspora. In 1697, France and England temporarily settled some colonial conflicts, and in the process forced Spain to include in the Treaty of Ryswick the ceding over of the already Francophone portion of the island. By 1788, the tiny French colony of Saint Domingue had become the 'jewel of the Antilles,' the richest colony in the world, wealthier even than the British colonies in North America or all the Spanish American colonies put together and the source of over two thirds of French colonial income. Meanwhile, the western portion of the island, the Spanish colony of San Domingo, had assumed the role earlier filled by the French buccaneers, supplying beef to passing ships, and even more importantly, its now rich French neighbor (Stepick 1982a; James 1938).

In 1789, everything changed. With revolution in imperial France came opportunities for colonial succession. Not unlike their North American counterparts only a decade before, Saint Domingue colonists became revolutionaries. But Saint Domingue was not North America. The population was different: The French Planter class of Saint Domingue depended on a large slave population for its success in agriculture, and planters had mixed their fortunes as well as their loins with the African immigrants. On the eve of the French Revolution in 1789, the Saint Domingue population included an estimated 559,000 slaves, 28,000 mulattos and free blacks—many of whom were wealthy landowners—and 36,000 white planters, artisans, slave drivers and small land holders. Divergent interest groups sitting on very prosperous soil were ingredients for conflict (Segal, 1975; Lundahl, 1983; Williams, 1971; Geggus, 1982).

To the explosively diverse interests and castes in Saint Domingue was added the final ingredient, militarization. On the heels of the French Revolution followed what 20th century rhetoric would have termed World War. Wealthy Saint Domingue turned into battle ground. During some 13 years of war, Spanish, British, and French troops took turns driving each other from one side of the island to the other. Each of the imperial powers exploited the 'indigenous' populations to their advantage. White *colons*, mulattos and slaves—those already in rebellion and those not yet in rebellion alike—were organized, armed and trained in the arts of 'modern' warfare. But the residents of the island were not mere dupes of colonial generals. Each of the "exploited" interest groups used their position at every opportunity to further their own political and economic goals. In the 13 years spanning 1791 to1804 there were literally hundreds of revolts and declarations of revolution. Allies and enemies constantly realigned. In the putrid environment of war epidemics flourished, yellow fever and malaria cutting short the lives of tens of thousands of men.

In 1803, the war between the European powers ended in stalemate. In Saint Domingue, however, war left the third largest and perhaps the most experienced army in the world. By this point an almost entirely black army. The inevitable occurred. In 1804 the generals in the colony of Saint Domingue declared independence, inaugurating Haiti as the first sovereign "Black" country in the modern world and the second colony in the Western Hemisphere, second to the US, to gain independence from imperial Europe.

Since gaining independence, the history of the western portion of Hispaniola had fleeting moments of glory. There was a fifteen year period between 1804 and 1822 when a kingdom prospered and thrived in the North of Haiti. But the kingdom declined, palaces and fortresses deteriorated to ruins that today look more like remnants of ancient Rome than vestiges of a past no more distant than a colonial American farm house. [2] The middle 19th century saw the rise and fall of another kingdom. Latter 19th century was a period of intense internecine warfare when ragtag Haitian armies backed by urban politicians and conspiring western businessmen repeatedly sacked the capital city Port-au-Prince. Foreign gunboats often showed up in Haitian harbors to force the payment of indemnities.

In much of Haiti little has changed in the past 194 years, except perhaps for the worse. While the Haitian elite classes clashed with each other and struggled for an international identity, the people in the countryside evolved into a nation of 'peasants,' small farmers barely producing more than needed for subsistence and whose interest in the world market did not extend beyond the price of machetes. The population expanded, technology stagnated, and the quality of the once rich soil declined. By all accounts, the people increasingly suffered. In 1915 when the United States invaded Haiti initiating 19 years of military occupation, the marine medical personnel estimated that 75% of the Haitian population suffered from yaws, tuberculosis, and/or malaria (Ford, 1965). In 1941 James Leyburn wrote:

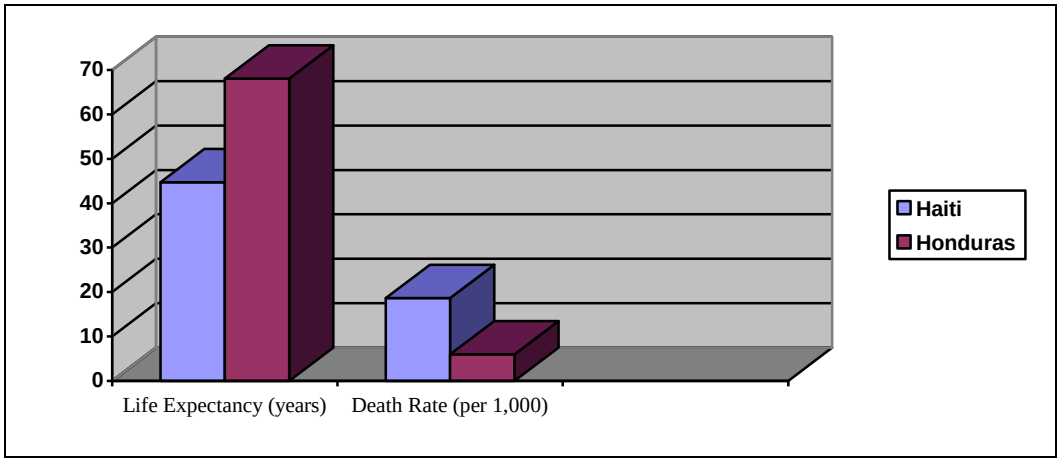
> Nature was opulent enough at the beginning of Haitian independence. . . . But generations of farming by people without knowledge of fertilization or soil conservation have worn out much of the land. Trees have been cut to provide lumber and clearings for more farms; in the rainy seasons torrents have coursed down the mountainsides, washing away soil and exposing the earth to the rays of a tropical sun. Because the country is overpopulated every available acre is put to use, and to overuse, thus still more depleting the land. It is a vicious circle for the next generation must extract yet more from the earth and so weaken it further. [Leyburn, 1941 p.199].

For whatever reason, Haiti is today in trouble. Between 1980 and 1992 real income for the average Haitian family declined by 30% (OPS/OMS 1996). In the years 1986 to 1997, the per capita GDP went from US$419 to US$225, a decline of nearly 50 percent. In 1997 the GDP grew at negative 8.4 percent while seventy percent of the Haitian population went unemployed.

Haiti continues to be primarily a country of small farmers. Seventy-four percent of the Haitian population is rural and 66% of the labor force is involved in agriculture; but 1997 growth in the agricultural sector was negative 2.7 percent (World Almanac 1995; Chantler 1997). Twenty percent of the land is arable; but 6 to 15,000 hectares of this are lost every year to erosion (World Almanac 1995; Richardson 1997).

Haitian life expectancy in 1996 was 44.7 years, more than 20 years lower than the next lowest national life expectancy in the Caribbean basin—Nicaragua's at 65.5 years (Compton's 1996). Contrasting Haitian morbidity rates with Honduras, Haiti's rival for poorest country in the western Hemisphere, punctuates the point. Despite having equally youthful populations—46% of the Haitian population is under 15 years of age, versus 43 percent for Honduras—the Haitian Death rate is three times that of Honduras (19 versus 6 deaths per 1,000 people), and the average Haitian can expect to live only about two thirds as long as the average Honduran (45 for Haitians versus 68 years for Hondurans; Compton's 1996).

Chart a 1.1: Life Expectancy and Death Rates: Haiti vs Honduras



There are an estimated 7.2 million people living in Haiti; a dense 260 people per square kilometer. At 5.82 births in 1996, the Total Fertility Rate was 20% higher than Guatemala, its nearest Caribbean counterpart with regard to fertility. If Haitian women continue to bear children at this rate, the population will exceed 10.5 million inhabitants by the year 2018. Even if Haitian women immediately limit fertility to 2 children per woman, an unlikely scenario, there will be over 9 million inhabitants by the year 2018—a population density of 327 people per square kilometer, 18% higher than contemporary India.[3]

Chapter 1

INTRODUCTION

1.1 Chapter Overview

The survey focused on the Commune of Jean Rabel which covers 467 km^2 of territory and has an estimated population of 130,330 residents, 278 people per km^2. The Jean Rabel area is generally considered among the poorest in Haiti. Infrastructure in the form of a few roads and schools are in horrific condition. The population is primarily dependent on agriculture. There are few salaried jobs. The Commune is almost entirely deforested. Erosion is advanced. Agricultural technology is no more complex than machetes and hoes—no plows. Most people travel by foot, pack animal or when traveling to distant cities, by the few buses and pickup trucks that make up the public transportation system—financed entirely by private entrepreneurs.

The survey was initiated by three development organizations working in the area: PISANO (Projet Integre de Securite Alimentaire), AAA (Agro-Action Allemande) and ID (Initiative Developpment). The goals of the survey were to **1)** give a demographic overview of the Commune, **2)** provide demographic, nutritional, health, socio-economic, and agricultural data which can be used to target development programs to appropriate areas, **3)** provide baseline data with which the sponsoring organizations can evaluate the impact of their own development activities.

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Positioning System) devices. All data gathered in the survey can post-stratified by whatever geographically associated criteria is desired, including ecological, hydrological, topographical and meteorological factors, proximity to dispensaries, hospitals and villages, availability of public transportation, proximity to markets, and proposed project area.

1.2 The Survey Area: The Commune of Jean Rabel

The survey target region is the Commune of Jean Rabel which covers 467 km^2 of territory and has an estimated population of 130,330 residents, 278 people per km^2. The Commune is divided into seven Commune Sectionals, in turn divided into a total of 109 Habitations and over 800 *lokalities.* Commune Sectional is the smallest Haitian territorial unit with political representation; Habitation is the smallest territorial unit recognized by the Haitian government. The territorial unit called *localite* or *katie* is not officially recognized (see Appendix B).

Map b 1.2: Haiti

Table a 1.1: Number of Sections, Habitations and Localities; Commune of Jean Rabel

Commune Sectional	Habitations	Localities (identified by PISANO)[4]
Lacoma	15	114
Guinaudee	17	76
Vielle Hatte	13	81
La Montagne	14	71
Dessources	20	81
Grande Source	19	71
Diondion	11	101

The commune of Jean Rabel is mountainous to the south, transforming in a quick two or three kilometers to foothills and then coastal plains punctuated occasionally by rocky low-slung mountain ridges. Rainfall varies from 800 mm at higher altitudes to 400 mm at lower elevations (PISANO 1998). All of Jean Rabel is largely deforested. In the mountains there are pockets of large trees such as avocados, and colonial introductions such as mangos and bread fruit.[5]

Figure 1 *In the mountains., House with mango trees in background. Pize, Lacoma.*

Many areas along the coast resemble desert. There are cacti, thorny xerophytic vegetation, and scrubby descendants of the ancient Acacia forest that blanketed the northwest coast in pre-colonial times. Scenes of erosion are one of the most spectacular features of the landscape. At higher altitudes one can find single bodies of earth, some encompassing hectares of land, slipping down mountain sides. At lower altitudes, freshly cut ravines, some a spectacular ten and fifteen meters deep, cut across otherwise flat plains.

Figure 2 *On the plains. Passerby standing in front of a severe erosion, a geologically sudden ravine in Sauval, Guinaudee.*

Figure 3 *Women on their way to Ma Wouj market. Grand Source, Dessources.*

The 278 people per km^2 are mostly scattered throughout the countryside in small thatch roofed shacks. Common sights are women and children walking to and from distant water sources carrying buckets on their heads; burdened donkeys followed by dark-skinned market women; groups of uniformed school children trekking to and from ramshackle school houses; men walking along with machete in hand and weeding rocky garden plots with long hoes.

Figure 4 ***As complex as local technology gets in rural Jean Rabel: A wooden sugar mill, the most modern part of which is a nail. Daty, Guinaudee.***

The area is generally considered one of the poorest areas in Haiti. There are no paved and few dirt roads. There is no electricity, no indoor plumbing, no sewers, no rescue service, and except for the village of Jean Rabel, no telephones and no police. After the few positions in law enforcement and politics, the only jobs to be had are as pastors, school teachers and nurses, some of whom are paid by the State and Catholic Church but most of whom are paid by foreign NGOs (Non Government Organizations). Virtually everyone in Jean Rabel is dependent on small scale livestock and agricultural production. Fifty percent of the population live on less than $50 a year—an average of 13 cents a day (Stepick 1982a; CARE 1996). A testament not only to poverty but to independence from the world economy, and in more recent years, dependence on handouts from developed countries.

Government activity in rural Jean Rabel is feeble. In the survey described in this text, we asked respondents in Jean Rabel what the State does for them: 84.9% of the 1,524 people who replied said "nothing." As indicated above, rural infrastructure is no more than an occasional dirt road, invariably in horrific condition, that depends for maintenance on the good will of foreign NGOs. Health care is entirely dependent on foreign aid. State schools are present but in poor condition. Private schools, mostly associated with churches receiving foreign support are greater in number and importance than State schools. There are allegedly seven state agricultural agents and technicians, but few farmers are aware of their existence.

Figure 5 *Teleco (telephone companty) made possible by foreign aid and technical support. JR Village.*

The presence of the State in Jean Rabel is primarily manifest in law enforcement. In rural areas the *kazek* and his assistants (*ed kasek*) have taken over the role of the former *chef seksyon*, mediating disputes, levying fines and when necessary, arresting people (see Appendix A for a description of the political system). The denizens of rural Jean Rabel universally recognize the authority of the *kazek* and his decisions are backed up by the national police and the legal system. When a person has committed a crime, the *kazek* or one of his/her aids is notified. A group of men is assembled and the person is caught, tied up and led to the nearest tribunal for judgement. In the case of serious crimes, people in Jean Rabel have no faith in the State legal system, complaining that all too often criminals are simply set free. Vigilante justice is often the rule (see Text Box 1: Vigilante Justice).

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Text Box a 1.1: Vigilante Justice

Figure 6 *An accused thief (right) who was beaten in a crowded rural market for trying to pick another man's pocket. The Kasek (left) saved him from the mob. Here the 'accused' is being released from jail.*

Regarding dangerous criminals, people all over Haiti have no faith in the State legal system complaining that all too often criminals are simply set free. In the case of severe crimes, such as murder, a crowd often puts the accused to death. Severe crimes appear rare in the Jean Rabel area, but nevertheless, at least two accused criminals have been killed by mobs since the author came to the region in 1995.

In the first instance a thief, Jean-Robert, who was suspected of robbing at least 12 stores and several houses—including the author's tent—was apprehended in Mole St Nicholas. A group of 'polis nasyonal' saved Jean-Robert from a mob armed with sticks and stones. He was put in jail but escaped the first night by bending back the bars in his cell window. Two months later Jean-Robert was caught again, this time breaking into a house with his brother in nearby Bombardopolis. The people of 'Bombard,' already having been the victim of Jean-Robert deprivations on 4 separate occasions, had no intention of repeating the mistake made by their neighbors in Mole St Nicholas. A crowd hacked, beat and stoned the men to death, reportedly burning the corpses

The second instance occurred late in a mid April night 1998, in the Jean Rabel Habitation of Fond Ramadou. For reasons that are not clear a man, Ti Mango, macheted to death a woman, her husband and their daughter. A son escaped to report the crime. The kazek assembled a posse and located Ti Mango in the distant house of a bokor (spiritual healer/witch doctor). They bound his hands and began marching him the six hour trek back to the crime scene. People along the route turned out by the thousands. Ti Mango was beaten and stoned. By the time he passed the authors house in Ma Wouj, some five hours into the trek, people report Ti Mango's blood drenched face was unrecognizable. He never reached Fond Ramadou, but died from his wounds shortly after passing Ma Wouj.

Figure 7 *Jean Rabel's new Police Station. The policemen did not mind the picture being taken, but none wanted to be in it—perhaps a prudent policy.*

In Jean Rabel vigilante justice is not restricted to civilians. In 1996 a man jailed in Jean Rabel for stealing was found dead in his cell from severe contusions. The Police claimed the man had "beaten himself to death." The man's family and friends were not convinced. Angry crowds gathered in front of the police station demanding the officer responsible be turned over to them. The policeman first hid out in the headquarters of a local organization. Employees of the organization then secreted the officer out of the village by covering him with a sheet and sitting on him as their car passed through road blocks of angry vigilantes. The entire Jean Rabel police force subsequently evacuated the village for three months.

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1.3 The Survey

1.3.1 The Sponsors

The survey for Jean Rabel was initiated by three development organizations working in the region. The primary financier of the survey is **PISANO** (Projet Integre de Securite Alimentaire), a German government organization working exclusively in the North West Department of Haiti, and specifically in the Commune of Jean Rabel. PISANO's development activities are targeted to transform the technological and administrative infrastructure in eight Habitations. Projects launched by PISANO include constructing of roads and irrigation works, providing potable drinking water, and alleviating nutritional crises through 'food for work' programs. Fortifying its material and technological contributions, PISANO has trained local leaders in the administrative skills needed for the implementation and maintenance of concrete and sustainable local infrastructures. PISANO has complemented its efforts with an aggressive educational campaign aimed at improving health and sanitation in the eight Habitations were it works.

Figure 8 *PISANO headquarters, Port-de-Paix*

The second financier is **AAA** (Agro Action Allemande), a German NGO. AAA has projects extending beyond the survey boundaries, from the island of La Tortue to the far reaches of the Communes of Jean Rabel, Mole Saint Nicholas and Baie de Henne. "Food for work" road construction and erosion control projects by AAA played a major role in averting famine during the 1996-97 drought. Long-term projects by AAA focus on improving agricultural production.

Figure 9 *AAA Headquarters, Boukan Patriot,*

The third survey partner is a French NGO (Initiative Developpment), with activities also extending beyond the survey boundaries. **ID** is an organization primarily concerned with health care, but also involved in providing much needed drinking water, and assistance in animal husbandry and education. With regard to health care, ID's presence in the Far West is unrivaled. ID maintains the only hospital in the region, a state of the art dental facility, and a network of 19 health care clinics. Associated with ID's clinics is a system of 150 local health care volunteers that penetrates into the most remote areas of the region,

Figure 10 *ID Clinic, Boukan Partiot,,Vielle Hatte*

successfully providing life saving vaccinations to a majority of the population and serving as a pillar for the 'early-warning food crisis' system implemented in 1996 by CARE.

1.3.2 Scope and Objectives

The survey was initiated by the sponsors with three primary objectives in mind:

1) give a demographic overview of the Communes,

2) provide demographic, nutritional, health, socio-economic, and agricultural data which can be used to target development programs to appropriate areas,

3) provide baseline data with which the sponsoring organizations can evaluate the impact of their own development activities (name of household head, name of the community and the longitudinal and latitudinal coordinates of the household were recorded so that the same households can be re-visited in future surveys).

1.3.3 The Data

Three data bases were generated from the information gathered in the survey: 1) a data base for general demographic variables, 2) a data base for general household, socio-economic, agricultural and animal husbandry variables and 3) a data base for nutritional and health status of young mothers and children under six years of age,

Table b 1.2: Summary of Data

Demographic and Household Data	**General Household, Socio-Economic Agriculture and Animal Husbandry Data**			**Nutritional and Healtth Data**
Location *katie* *locality* *habitation* *lat & lon coords* Age Religion Birth place Education Occupation Marital status Maternal status Number of children born Number of children deceased Number of paternal partners Migration Mortality *maternal* *Infant* *Child*	Months of *hunger* *buying* *selling* Sources of income Alternative income Source and distance to water House type and tenure Disposal of waste Technology Fishing Contact w/ NGOs Opinions on development Opinions on government	Gardens *quantity* *soil type* *location, distance, tenure* *title* *crops* *labor source* *amount planted* *amount harvested* *amount sold* *seed origin* *fertilizer and pesticide use* *storage* *fallow cycles* *problems*	Animals *quantity* *tenure* *feed* *supplement use* *medicine use* *quantity sold* *seasons* *reasons* *quantity killed* *seasons* *reasons* *ranked problems*	Frequency of illness Treatments Clinic use Breast feeding Weaning Supplements Mother=s (chldrn<6) *name* *weight* *age* *brachial circum* *number chldrn <6* Children <6 *name* *height* *weight* *age* *brachial circum* *illnesses* *vaccinations* *food (24 hrs)*

1.3.4 The Design

The survey design was a systematic random sample of 8.33% of households in the Commune of Jean Rabel. A household was defined as a building in which people sleep. Household members were defined as people who sleep in the house full-time (*tout tan*).[6] Virtually all households in the region were counted and marked; 1 in every 12 houses were systematically chosen for interviews; longitudinal and latitudinal coordinates of the selected households were subsequently recorded using Global Positioning System (GPS) devices (see Appendix D for a test of coordinate accuracy). There were two very important results achieved by using the particular sampling design described above:

1) The generation of a representative random sample, distributed throughout the Jean Rabel countryside in direct proportion to population density and
2) A data base with which users can post-stratify sampled households by whatever geographically associated criteria is desired, including ecological, hydrological, topographical and meteorological factors, and proximity to dispensaries, hospitals and villages, availability of public transportation, proximity to markets, and proposed project area.

In summary, the survey data can be used to provide representative random samples for small and previously undefined areas—approximately the size of 1.5 Habitations.[7]

1.3.5 The Sample Size and Habitations

Originally the survey was meant to visit 1,667 households, but this number was reduced to 1,586 because of unforeseen complications and costs. Further the actual population of the Commune of Jean Rabel turned out to be larger than anticipated. The larger population size meant that another 155 houses should have been surveyed, meaning that in total, 235 of a population of 2,823 households should have been surveyed but were not. These houses and the Sections and Habitations where they are located are listed in **Table 1.3** below (see Appendix C for delineation of the village of Jean Rabel). In summary, the total sample size is 1,586 households; of this figure only 46 households were either vacant or interviewers where never able to locate the necessary respondents for at least one of the questionnaires.

Table c 1.3: Number of Houses Counted but not Interviewed by Section and Habitation

Section	Habitation	Number of Houses Counted but not Interviewed
1eme Section: Lacoma	Kaletan	228
	Pechaud	215
	Gombo	371
2eme Section: Guinaudee	Loubier	72
3eme Section: Vielle Hatte	Bassin Bleu	77
	La Reserve	127
	Kan Pledo/Repo	51
	Fond Wouj	342
	Vielle Hatte	328
	Grande-Falaise	265
	Kapin	179
	Trasel	22
	Bord Mer	19
5eme Section: Dessource	Dessources	225
	Yawe	87
	Gwenbe	69
6eme Section: Grande Source	Nan Sau	63
7eme Section: Diondion	Gwo Sab	83
Total		2,823

Below is a list of all Jean Rabel Habitations and the Habitation in which the household is located—as indicated by the household respondent. Missing variables caused by elimination of responses identifying Localitie or Section as Habitation. Twenty Habitations identified by PISANO did not appear in the survey.

Table d 1.4: Habitations Sampled by Section

Habitation	1st	2nd	3rd	4th	5th	6th	7th	Tot	Habitation	1st	2nd	3rd	4th	5th	6th	7th	Tot
1. Lacoma	48	3						51	45. Ka Gdt.				20				20
2. Cabaret	50							50	46. Godette				12				12
3. Gauthier	10	4						14	47. Desabe				7				7
4. Barbe Pan.	16	2						18	48. Labelle	1			38				39
5. Gombo	6							6	49. Boule				8				8
6. Derriere	3							3	50. Kademe					10			10
7. Port-Alcu	14							14	51. Cartron					6			6
8. Dubois	61						1	62	52. Iri					4			4
9. Vyon	3							3	53. Leblanc					10			10
10. Laplace	13							13	54. Galata					1			1
11. Desjardin	2							2	55. Beldorin					12			12
12. Raymond	79							79	56. Cimitiere					13			13
13. Atrelle	39							39	57. Coicou					4		5	9
14. Fn. Latm.	1	3						4	58. Man Noel					15			15
15. Café Paul	2	20						22	59. 1068					9			9
16. Loubier		14						14	60. Porrier					15			15
17. Sapotelle		4						4	61. Kase-Pie					2			2
18. Sauval		38	1					39	62. Mondo					6			6
19. Ka Philip	2	20						22	63. Nan Saut				1		3	2	6
20. Boucan P.	38	14						52	64. Beauvoir						3		3
21. Jn. Valois		3						3	65. Biron						7		7
22. Guinaudee		73						73	66. Grnd. Src.						2		2
23. Fond Noir		16						16	67. Dige						9	6	15
24. Pechaud	1	10						11	68. Fnd. Mme	1					7		7
25. Guillette		1						1	69. Jansome						14	2	16
26. La Plaine		9						9	70. Meteyer						5		5
27. Mayumbe		1						1	71. Nan Rchr.						2		2
28. Colette		15	6					21	72. Debauche						6		6
29. Lalande		3						3	73. Du Conge						9		9
30. La Source			11					11	74. Petite Src.						5		5
31. Fnd Zmb.			13					13	75. Nan Bpst.						2		2
32. Mont Pan.		1	5					6	76. Pellier						7		7
33. Basn Bleu			23	2				25	77. Bombel						3		3
34 La Resrve			40					40	78. Lesalom						1		1
35 Campledo			12					12	79. Gro Sab							11	11
36. Foubi			7					7	80. Nan 18 (x)							4	4
37. Repos			2					2	81. Fnd. Ram.	1						26	27
38. Kademe				16				16	82. Diondion							17	17
39. Lali				5				5	83. Baguette							23	23
40. Nan Jules				31				31	84. Bingo					1		2	3
41. Bois Ven.				1				1	85. Vie Te						1	24	25
42. Plaisir				12				12	86. Coraille	1						8	10
43. Jens				12	1			13	87. Coicou				1			3	3
44. Rido				5	1			6	88. Grand Src.						2	11	13
									Total	**392**	**254**	**120**	**171**	**110**	**87**	**145**	**1279**

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

1.3.6 Geographical Stratification

In the analysis presented in this text, the Commune of Jean Rabel is stratified only according to the political sub-division Section Communal. No attempt was made to stratify according to ecological zones because a similar survey carried out by CARE in 1994 found little variation between such regions. However, the possibility for post-stratifying is, as mentioned above, limitless. The recording of longitudinal and latitudinal coordinates means that the data can be stratified geographically according to virtually any criteria subsequently deemed interesting.

1.3.7 The Questionnaire

The general questionnaire which focused on demographics, socio-economics, agriculture and animal husbandry was designed by the survey coordinator in collaboration with senior staff from PISANO, AAA and ID. The nutritional questionnaire was designed in collaboration with nutritional specialists from ID and PISANO. Formulation of questions in Haitian Creole was accomplished in collaboration with staff from ID, PISANO, AAA and the survey interviewers. In total, there were over 752 variables. Questionnaires took experienced interviewers an average of 30 minutes to administer

1.3.8 Organization, Selection of Interviewers and Training

All employees except for the coordinator (a US Doctoral candidate in anthropology) were from the Commune of Jean Rabel or surrounding area. General and nutritional interviewers were selected based on written evaluation, interviews, educational level and work experience. Most interviewers had attained the Haitian equivalent of a high school diploma. Training of general interviewers and supervisors was carried out by the survey coordinator. Nutritional interviewers were trained by a medical doctor and a nutritionist working for PISANO.

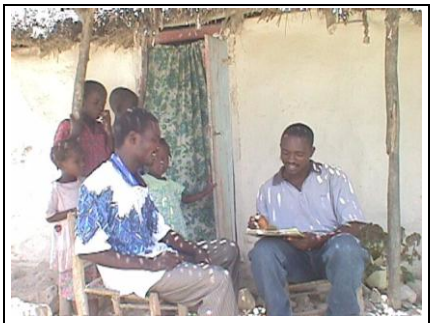


Figure 11 ***Supervisor Emile Pharrel interviewing man in La Plen, Guinaudee***

Originally a team of 29 supervisors, interviewers, assistants and local guides were employed. A coordinator, a general supervisor, two helpers, three team supervisors, and 12 interviewers made up the permanent survey staff. Ten local guides and advisors were temporarily hired in each Habitation.[8] Early on, a team of 8 house counters was also formed, trained and incorporated into the survey process.

Interviewers were grouped into six teams of three people; two interviewers per team, one local assistant. Each supervisor coordinated two teams and was responsible for recording the longitude and latitude of selected households. A local guide was assigned to each team supervisor.

Table e 1.6: Survey Administrative Organization

Coordinator & General Supervisor Two Permanent Helpers **[Team of Eight House Counters]**					
Team Supervisor 1 . Local Assistant		**Team Supervisor 2** Local Assistant		**Team Supervisor 3** Local Assistant	
Team A	Team B	Team C	Team D	Team E	Team G
1) General Interviewer 2) Nutrition Interviewer 3) Local Assistant	1) General Interviewer 2) Nutrition Interviewer 3) Local Assistant	1) General Interviewer 2) Nutrition Interviewer 3) Local Assistant	1) General Interviewer 2) Nutrition Interviewer 3) Local Assistant	1) General Interviewer 2) Nutrition Interviewer 3) Local Assistant	1) General Interviewer 2) Nutrition Interviewer 3) Local Assistant

1.3.8 The Survey Process

1) The first task in carrying out the survey was to count houses. House counts were originally made by the supervisors and local assistants; three weeks into the survey this task was taken over by an 8 person team of house counters.[9] House counters marked houses and compiled lists of the houses.

2) From the compiled house-count lists the survey coordinator systematically and randomly selected 1 in every 12 households for interviews.

3) Selected households were then visited by team supervisors. The supervisors notified residents of the impending interviews, explained the purpose of the interviews and recorded longitudinal and latitudinal coordinates of selected households.

4) Households were subsequently visited by interview teams--a general and a nutritional interviewer accompanied by a local assistant. Each interviewer administered the respective questionnaire. [10]

5) Households in which members were absent were revisited--leaving a total of less than 5 percent absenteeism for Jean Rabel.

6) A third of all households were again visited, this time by the coordinator and assistants. The purpose of this fourth visit was to evaluate the performance of the supervisors and interviewers. Longitudinal and latitudinal coordinates where cross-checked for accuracy. Household members were consulted to check the accuracy of selected responses.[11]

1.3.9 Coding, Transcription and Review of Questionnaires

Data was coded daily in the field by the interviewers. Virtually all the coded questionnaires were then checked and corrected by assistants and the coordinator at the survey headquarters in the village of Jean Rabel.[12] Virtually all questionnaires where also checked for inconsistencies and misunderstandings with regard to how questions were asked and how responses were recorded, providing an additional means of monitoring and controlling the performance of interviewers.

1.3.10 Data Analysis and Equipment

SPSS software package was used to enter data, generate graphs and charts, and to apply statistical tests. EPI-INFO software was used to calculate the nutritional indicators Weight for Height (WHZ), Height for Age (HAZ) and Weight for Age (WAZ). Word 7 and Microsoft Publisher were used to enter text and format the final version of the report. Global Positioning System (GPS) devices were used to determine longitudinal and latitudinal coordinates of sampled households. SECA body meters were used to measure heights and SECA solar scales were used to measure the weights of sampled individuals.

Chapter 2

DEMOGRAPHICS AND FAMILY ORGANIZATION

Figure 12 ***There are 60,225 people under the age of 15 in Jean Rabel. Here school is out in Nan Vincent, Vielle Hatte. As a Haitian might say;'se pa de ti moun, non' (its not just a couple of kids, no).***

2.1 Chapter Overview

The survey places the Jean Rabel population at 130,923 inhabitants, 21,149 more inhabitants than previously estimated from 1982 census data. Forty-six percent of the population is under 15 years of age. There are no significant differences in sex ratios.

Based on completed fertility rates, women in Jean Rabel appear to bear an average of more than 7 children each, 1.8 children more than the 5.2 Haitian Total Fertility Rate reported in 1996. The number of partners appears low; when only individuals over 40 years of age are considered it can be seen that fully 65 % of males and 71 % of females bear children with only one partner.

Eight percent of all sampled households reportedly have at least one mother, father or spouse of a household member in a foreign country. More than 90% of migrant voyages involve illegal entry into the United State, Bahamas or the Dominican Republic. Over 50% of Jean Rabel out-migrants remaining in Haiti go to Port-au-Prince and 27.9% go to nearby Port-de-Paix.

Some 39.5% of people sampled were identified as either Adventist (*adventis*), Pentecostal (*de die*), or Baptist (*batis*), the remainder were identified as Catholic. More than 50% of the sample population over the age of 18 reportedly never attended school, an observation that may be skewed by the tendency for educated individuals to migrate to urban areas.

2.2 Population Total and Structure

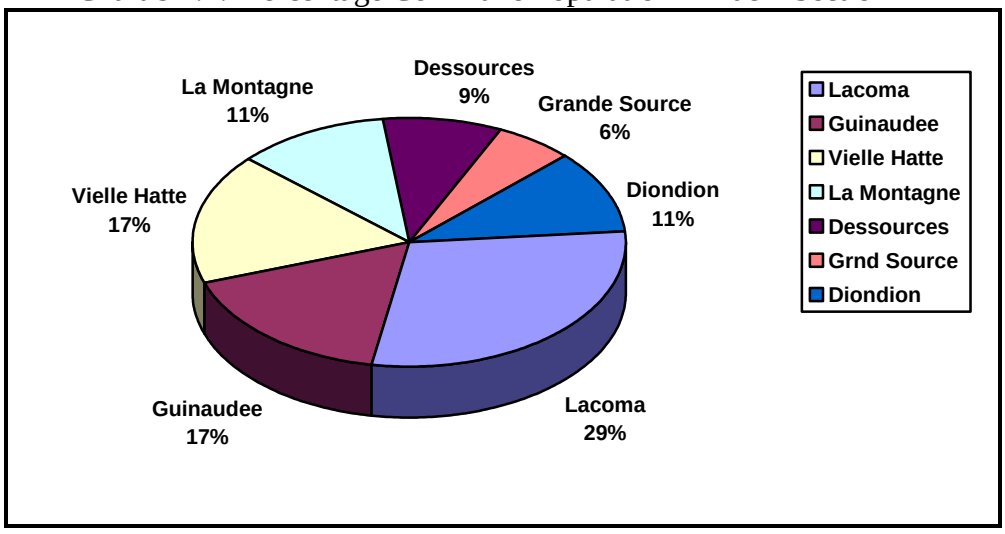
Based on extrapolations from the 1981 census, Jean Rabel was thought to have 109,180 inhabitants. The survey places the figure at 130,923 inhabitants, or 21,149 more inhabitants than originally thought.[13] This figure was arrived at by adding the total number of houses survey staff counted (21,855) to a tentatively estimated 500 households in the village of Jean Rabel and 100 uncounted households in Guinaudee. The total (22,455) was multiplied by the mean household size (5.83).[14]

Table f 2.1: Population by Section[i]

Section	Census Based Estimate		Survey Estimate	
1eme Section: Lacoma	27,392	25.1%	37,207	28.5%
2eme Section: Guinaudee	22,282	20.4%	21,781	16.7%
3eme Section: Vielle Hatte[ii]	10,237	9.4%	21,653	16.6%
4eme Section: La Montagne	10,377	9.6%	14,552	11.2%
5eme Section: Dessource	10,802	9.9%	11,456	8.8%
6eme Section: Grande Source	7,269	6.7%	7,363	5.6%
7eme Section: Diondion	12,507	11.5%	13,870	10.6%
Village of Jean Rabel	8,314	7.6%	2,915	2.2%
Total	**109,180**	**100%**	**130,923**	**100%**

i The last census was conducted in 1981-82; most contemporary estimates are calculated from census estimates using a 2.5 % growth rate.
ii The reason for the great difference between census based and present estimates of the Vielle Hatte population probably has to do with the definition of the Jean Rabel village boundaries. Note the village is considerably larger in the previous estimate. See Appendix C for delineation of Village boundaries.

Chart b 2.1: Percentage Commune Population in Each Section



The population of Jean Rabel is much like the rest of Haiti, young. Forty-six percent of the 8,825 residents in the sample are under 15 years of age. Fifty-seven percent is under 20 years of age.

Chart c 2.2: Population by Age

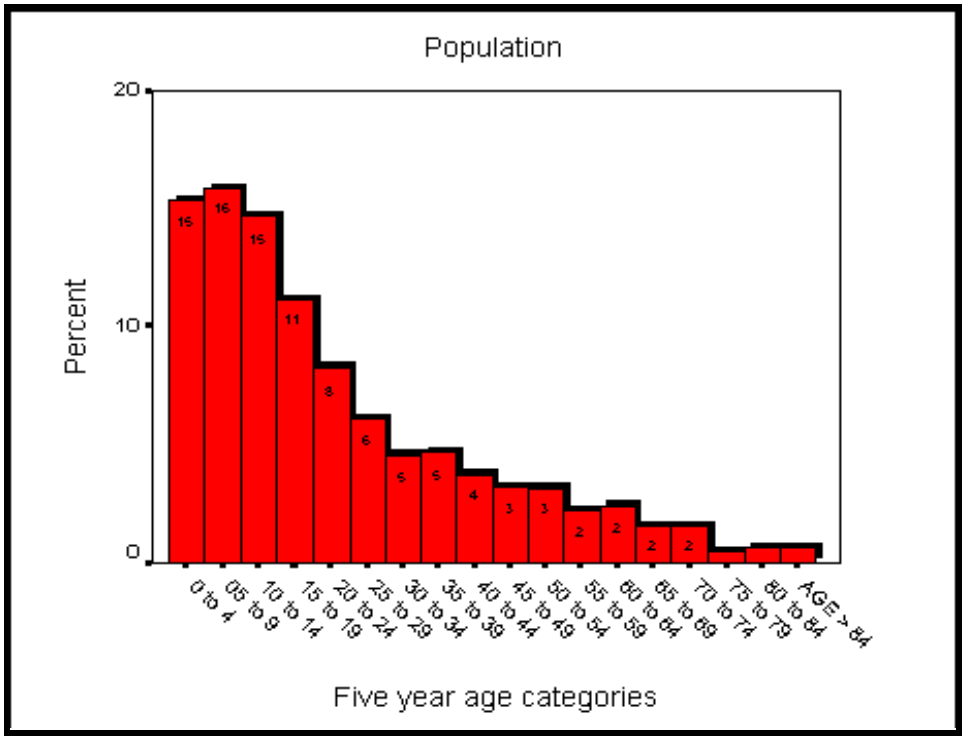
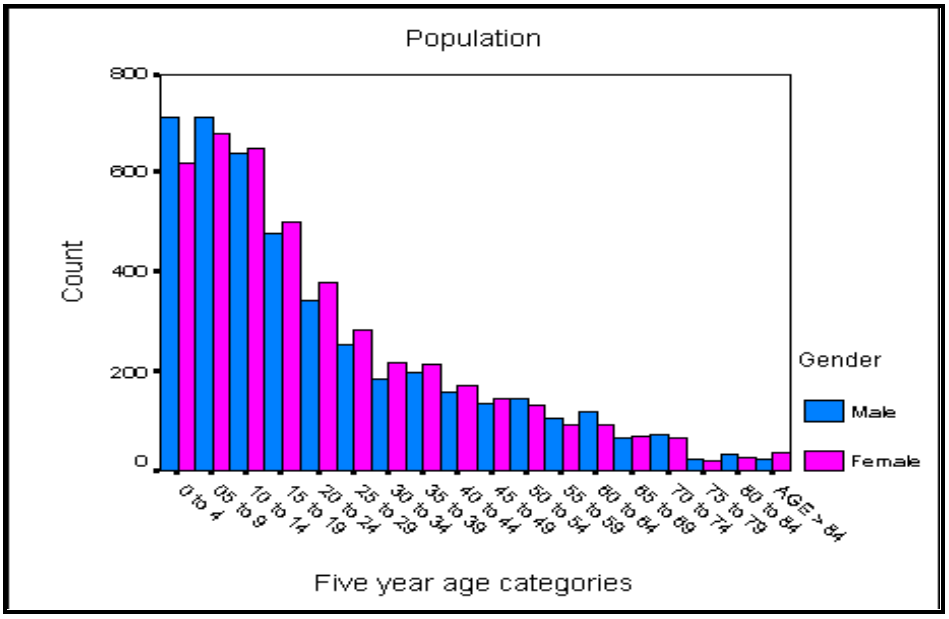


Chart d 2.3: Population by Age and Sex

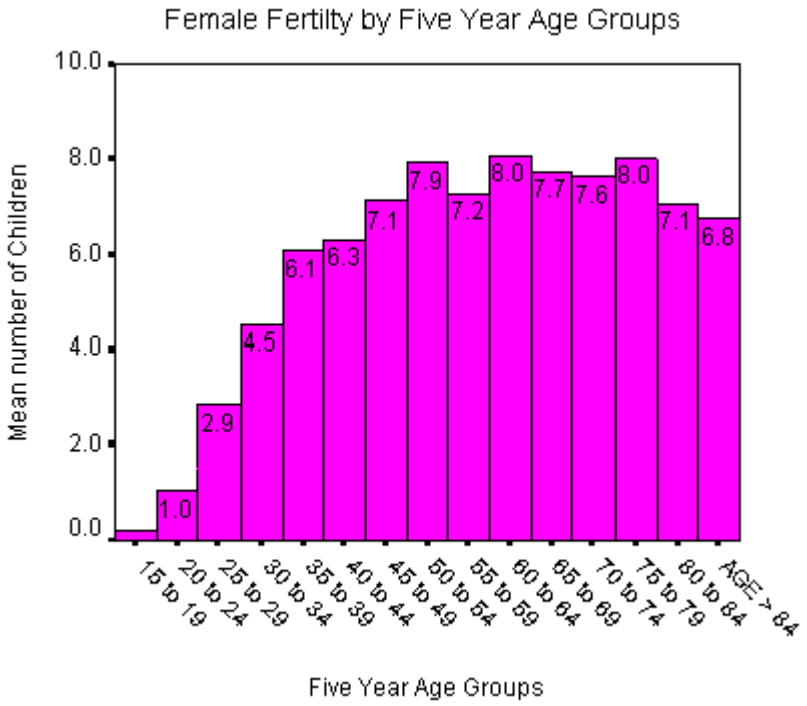


In all of Haiti there are significant differences in sex ratios caused by differential rates of sex-specific migration. In 1982, Allman and May found that adult male sex ratios are low for virtually all of Haiti, and in Port-au-Prince were low as 647 males to every 1,000 females. Whether these trends have changed is unlikely; migrants to the Dominican Republic and the Bahamas continue to be mostly male. Migration to the United States, while approaching a balance, also favors males. However, as evidenced by Chart 2.3 above, no significant difference in sex ratios were found for the Commune of Jean Rabel, suggesting that male versus female migration is equivalent.[15]

2.3 Fertility

Based on Completed Fertility Rates, women in Jean Rabel appear to bear an average of more than 7 children each, considerably more than the 5.2 Total Fertility Rate reported for all of Haiti in 1996.[16] Declines in completed fertility of the youngest age cohorts seems to indicate declining fertility (the low completed fertility level of women aver 85 can probably attributed to memory loss).

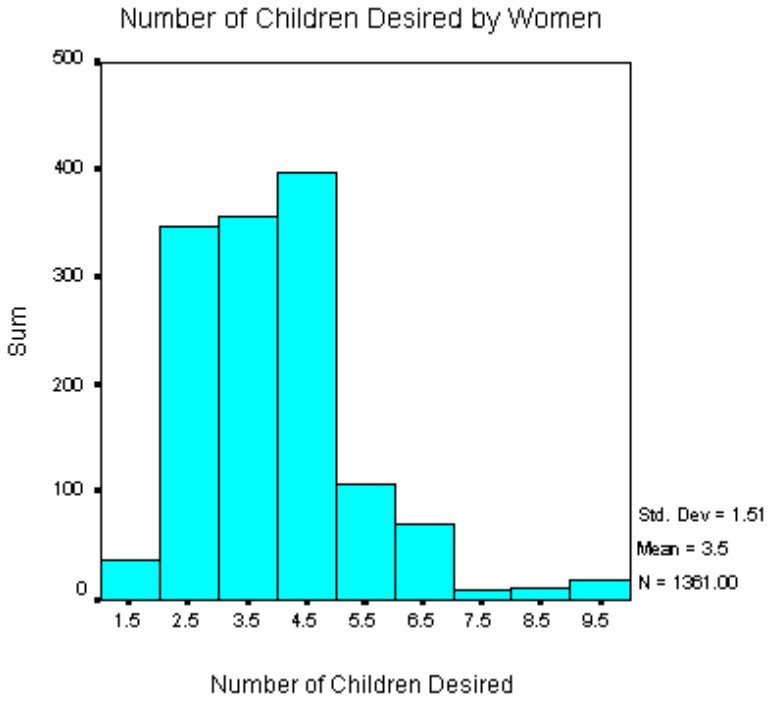
Chart e 2.4: Female Fertility in Five Year Age Groups n = 2,442



The mean number of children desired is 3.5; the mode is 4.5 children. What this indicates is not clear. The concept of desired number of children is controversial. On the one hand, some researchers suspect respondents are prone to report what they think the

researcher wants to hear, i.e. they do not want many children. Further, responses often reflect the number of children the respondent actually has. In the survey, the mean number of children for women 20 years old and over is in fact 5 with a standard deviation of 3.5 children.

Chart f 2.4.5: Number of Children Desired



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Text Box b 2.1: Pronatal and Antinatal Politics, Attitudes and Customs

Demographers often talk in terms of pronatal and antinatal political and legal policies. Pronatal policies are laws that favor high birth rates such as anti-abortion laws or tax exemptions for parents. Examples of antinatal policies are permitting abortion or tax penalties for large families. Similarly, anthropologists use the terms pronatal and antinatal to describe customs and practices that promote or discourage birth rates. Examples of pronatal customs are respect for people with children, disapproval of childless adults and practices that permit or encourage childbirth even in the absence of husbands.

Politically, it is difficult to categorize Haiti. On the one hand, foreign based NGO's are allowed to promote and supplement birth control in deliberate attempts to stem population growth. On the other hand, abortion is illegal. Culturally, Haiti is emphatically pronatal. One of the first questions all Haitians ask a stranger is how many children they have. Responses to childlessness almost invariably go as follows; "pou ki sa ou pa gen pitit?" (why don't you have children?) "ou sipoze fe pitit" (you are supposed to make children) "ou sipoze fe anpil pitit" (you are supposed to make lots of children) "ou sipoze fe pitit jen" (you are supposed to make children when you are young). Childless people, especially women, are pitied, even scorned as "millet" (mules), and sometimes suspected of being "lougawou" (witches).[17] *With parenthood comes adulthood and respect. As one young man said to the author; "when you do not have children you are nothing. But when you have a child, everyone respects you" (le ou pa gen ti moun ou pa anyen. Min le ou gen ti moun tout moun respekte ou). People who have not yet borne*

children are considered children themselves, no matter what their age. Among males, large numbers of children with multiple women is a source of great pride. For females, even in affluent families, premarital pregnancies are expected and no shame accrues to women who have children with different partners. Abortion is considered by many Haitians, especially rural Haitians, to be the greatest of all sins. Young girls contemplating this course of action are told that it will rot their vaginal canals, making them disgusting to men. There is even a widespread belief called 'perdisyon' which rationalizes pregnancies in the absence of husbands by allotting for the possibility that gestation of a fetus can go on for several years.

While young girls are the primary object of pronatal attitudes—being they are the potential mothers—they do not always go along with the norms . All too common in Jean Rabel are stories of pregnant school girls tying bands around their stomachs to hide unwanted pregnancies or taking drugs to induce abortions. In the summer of 1997 a 15 year old girl died in the village of Jean Rabel when she attempted to abort a pregnancy by taking 15 doses of cloroquin washed down with straight rum. The researcher once took a 16 year girl who was having seizures to the hospital; she had managed to conceal her pregnancy for 8 months by tying bands around her stomach, an act the doctor said very nearly cost her life. There was another instance in 1997 when, in the same village, a young girl went full term with a pregnancy, giving birth to the infant in secret on the beach. She abandoned the baby but already suspicious relatives found the newborn and with the help of a UN medic saved it (interestingly the medic subsequently adopted the child over the objections of the grandparents).

Figure 13 ***Girl with toddler. Kitchen in background. Myumbe, Guinaudee***

Community reaction to abortion and abandonment is always gossip and sometimes outrage. By law, women are supposed to be imprisoned for aborting pregnancies. In practice, courts are usually content with fining the girl's parents. However, in an instance that occurred several years ago outside Jean Rabel, a 15 year old girl who had aborted a fetus was tied to a post in the market while a man stood by with a loud speaker announcing her crime.

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Taking only adults over 24 years of age, the average man in Jean Rabel appears to father children with 1.43 women; the average Jean Rabel woman conceives offspring with 1.35 men. Depending on one's perspective such an average may or may not be indicative of promiscuity. Further, the data may be skewed by the fact that many of the people in the sample are young and only just beginning their reproductive careers. However, if only individuals over forty years of age are considered, it can be seen that fully 65 percent of males and 71 percent of females bear children with only one partner.

Table g 2.2: Number of Partners (age > 40)

Number of Partners	GENDER	
	Male (n=758)	**Female** (n=714)
1	65.3	71.3
2	23.9	20.0
3	7.5	6.7
4	2.0	1.0
more than 4	1.3	.9
Total	100.0	100.0

In a country that only half-heartedly embraces birth control (see Contraceptives) and where there is no shame attached to extra-marital births or to having children with a sequence of different partners, the figure for lifetime parental partners is surprisingly low. Readers may draw their own conclusions.

2.4 Emigration[18]

Eight percent of all sampled households reportedly have at least one mother, father or spouse of a household member in a foreign country.

Table h 2.3: Mother, father, spouse or child in another country

	Count	Percent
No	1,430	92.0
Yes	124	8.0
Total	1,554	100.0

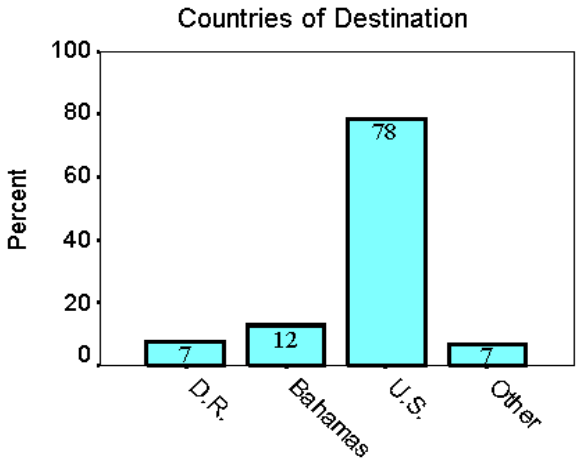
Households that have one member overseas usually have more. Thirty-three percent of the 124 households identified as having a member outside of Haiti reported at least one additional emigrant household member overseas. The mean number of 'mother, father or spouse' of household members in a foreign country—for households reporting at least one member outside of Haiti—is 1.59 emigrants.

Table i 2.4: How many 'mother, father or spouse' of household members outside of Haiti?

n	Minimum	Maximum	Mean	Std. Deviation
124	1	7	1.59	1.13

The country of primary destination for Jean Rabel emigrants is overwhelmingly the United States, followed by the Bahamas and then the Dominican Republic.

Chart g 2.5: Migration Abroad[19]



There are several types of *raket* (illegal enterprises) through which people in Jean Rabel arrive overseas. The premier *raket* is the *kante* (boat) which is familiar to overseas television and newspaper audiences. Illegal boat traffic predominates during times of relaxed US immigration restrictions.ii The traffic continues during other times, primarily being directed toward the Bahamas where low wage employment is, according to people in Jean Rabel who have made the journey, readily available—albeit the Bahamian police spend a lot of time deporting Haitians. The most capable migrants—or luckiest—gain citizenship by purchasing birth certificates of deceased Bahamians or eventually managing to enter the United States.

Another kind of *raket* involves fake visas and passports which urban based Haitian *raketeers* have become adapt at counterfeiting--and US immigration officials have, according to the many Haitians who land in Miami detention centers, become equally adapt at detecting. Still another kind of *raket* involves getting a marine passport and then swapping places and identification with legal Haitian residents after arriving in the port of Miami. The legal resident simply returns to the United States from Haiti on a jet while the 'illegal immigrant' must make do until he can secure US residency.

The primary means by which Jean Rabel immigrants were reported to have arrived overseas is illegally on *kantes* (65%), followed by legally with visas (15.5%) and then illegally in the mariner *raket* (11.5%). By "other," interviewers most often meant they were unable to determine means of arrival—respondents were sometimes confused by the concept of a visa, and/or if a voyage was legal.

Table j 2.5: Primary Mode of Emigration

Mode of Emigration	Count	Percent	Cumulative Percent
Boat Traffic	80	65.0	65.0
Visa	19	15.5	80.5
Marin	14	11.5	92.0
Other	9	8.0	100.0
Total	122	100.0	100.0

ii One such instance was just prior to the inauguration of President-elect Bill Clinton when 35,000 Haitian "boat people" were intercepted by the US cost guard. Most of these people were returned to Haiti.

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Text Box c 2.2: An Ill Fated *Boat People* Voyage

In May 1996, at eight o'clock in the evening, a twenty foot fiberglass boat equipped with two outboard motors left a small fishing village on the far Northwest coast of Haiti. The boat was over-loaded with 54 Haitian passengers. At the helm was a Bahamian Captain leading the passengers to Nassau, Bahamas, where most hoped they would eventually make their way into the United States. They did not get far. Before even clearing the seven mile straight that separates mainland Haiti from the Island of La Tortue, the boat capsized. It was ten o'clock at night.

Figure 14 ***Bay of La Tortue on a calm day.***

Despite choppy three foot waves, the Captain and seven crew members swam for the island. At one o'clock in the morning four of the original eight reached the fishing camp of e man who recounted this story. The other four swimmers had drowned—one of whom was the girl-friend of the Captain.

At two a.m. a fifteen foot dingy began the search for the 47 passengers left clinging to the capsized boat. At daybreak they found the vessel and managed to make two rescue trips to the island before losing track of the boat altogether. In all, 29 of the original 54 passengers disappeared.

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2.5 Migration to Places within Haiti

Thirty percent of all households reportedly have at least one mother, father or spouse of a household member living in a city or Commune outside of Jean Rabel.

Table k 2.6: Mother, father, spouse or child in Commune or town in Haiti

	Count	Percent
No	1,078	69.8
Yes	467	30.2
Total	1,545	100.0

The primary destination within Haiti is by far Port-au-Prince. This finding is reflective of the fact that, despite plans to decentralize Haiti—an objective incorporated in the current constitution-- Port-au-Prince continues to be the most important city in the country for several reasons:

- most imported goods enter the country through Port-au-Prince
- it has the only major international airportiii
- nearly all factories are located there
- virtually all the bourgeoisie have a house there

iii The author took liberty of excluding the Cape Haitian airport from the category of "major," large jets can not land there and it is not a major point of entry for passengers.

- the vast majority of all government expenses for goods and services are focused there
- it is the nation's capital where almost all political and NGO activities are planned, head-quartered and orchestrated

Perhaps as a consequence of all the preceding factors, Port-au-Prince is what is known as a "primate city" meaning it is at least twice the size—in this case, five times the size—of the next largest city, Cape Haitian. Quite literally all roads lead to Port-au-Prince; although these roads are often impassable to all but four wheel drive vehicles and modified trucks. (Roads connecting provincial hubs to each other are, where they exist, in worse condition).

The next most important destination for Jean Rabel out-migrants is Port-de-Paix, a city with a population of approximately 50,000 inhabitants. Port-de-Paix is important to the people of Jean Rabel for reasons similar to those given for Port-au-Prince:

- it is the capital and hub of the Department du Northwest where the major regulatory and legal institutions are head quartered.
- there are many high schools in Port-de-Paix
- most importantly, it is the only significant port on the Northwest coast. Goods enter directly from Miami and the customs house is inexpensive and easy to pass through—in Port-de-Paix one can receive merchandise on the day of arrival, in Port-au-Prince some items can take months to *dedwane* (pass through customs)—this observation is based on personnel experience and experiences of foreign missionaries who have lived in Haiti for decades.

Table l 2.7: Out-migration to places within Haiti

Destination	Count	Percent	Cumulative percent
Port-au-Prince	234	53.1	53.1
Port-de-Paix	123	27.9	81.0
Other cities	69	15.6	96.6
Other	15	3.4	100.0
Total	441	100.0	100.0

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Text Box d 2.3: Migration and Development: An Application of the Boserup Model

As explained by what is known as the Boserup model, after its formulator the economist Esther Boserup, people experiencing declining living standards have three choices:

1) *They can leave the region, i.e. migrate*

2) *They can lower population levels through birth control, abortion , infanticide and in some instances, warfare.*[20]

3) *They can increase production through technological intensification, which includes not only tools and techniques but roads, communication, irrigation systems and very importantly, the administrative technology needed to orchestrate and maintain these works.*

Boserup argues that it is declining living standards often associated with population growth that stimulates technological innovation: When people who can not migrate are faced with diminishing resources they must lower population growth and increase production through technological intensification.

If the Boserup model is useful, it helps to explain why contemporary Haiti, including rural Jean Rabel, is a technological backwater. Between 1970 and 1991, a total of approximately 100,000 Haitian boat people reached the U.S. mainland (Rocheleau 1984; Saint-Louis 1988; New York Times 1991);[21] in the same period, more than 800,000 elite and middle class Haitians emigrated to the U.S., France, and Canada (Haiti had a population of approximately 6.5 million during the 1980s). Entry was achieved legally, by applying for immigrant status, and illegally, by skipping out on non-immigrant visas.[22]

Emigration tapped Haiti of its most vital resource; people who are skilled, educated, and socially positioned to effect technological change. According to Rotberg (1971:243), by the middle 1960s about 80 percent of Haiti's most qualified physicians, lawyers, engineers, teachers, and other professionals had already fled to the United States, Canada, or Africa. This trend did not abate, but continued during the 70s, 80s and 90s, reaching into the middle and working classes to scoop out a sizeable portion of Haiti's human capital.

The people we surveyed may be poor, but the Jean Rabel area has made its contribution to the migration of educated elites. In a sample of 8 male farmers with more than three carreau of irrigated land we found the following: they had 74 children, 42 of whom were in the United States or Canada, and only 19 of whom remain in the area.[23] All the rest live either in Port-au-Prince or other larger towns such as Gonaives, Saint Marc, or Port-de-Paix. Virtually all the children had either finished high school, or were still in school. More than half had attended a University. Four are lawyers and three are medical doctors.

Figure 15 ***Haitian vessel off the Northwest Coast of Haiti***

The financial investment in and subsequent departure of the children of the wealthiest farmers means that communities lose 1) capital wrought from and which would be, under different circumstances, reinvested in the communities from which it came 2) leadership from the people who are most educated and best connected to urban social, commercial and political elites, and 3) the heirs to the most productive lands who would otherwise have the greatest interest in local development. The upshot is that economic development can not be expected from a society continually receiving a systemic lobotomy via financial di-vestment and the migration of the individuals naturally positioned and groomed to be the custodians of technological intensification .[24]

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Other important destinations identified by householders in rural Jean Rabel are Gonaives and St Marc, both large seaside ports that

a) have populations greater than 50,000,

b) have many high schools and

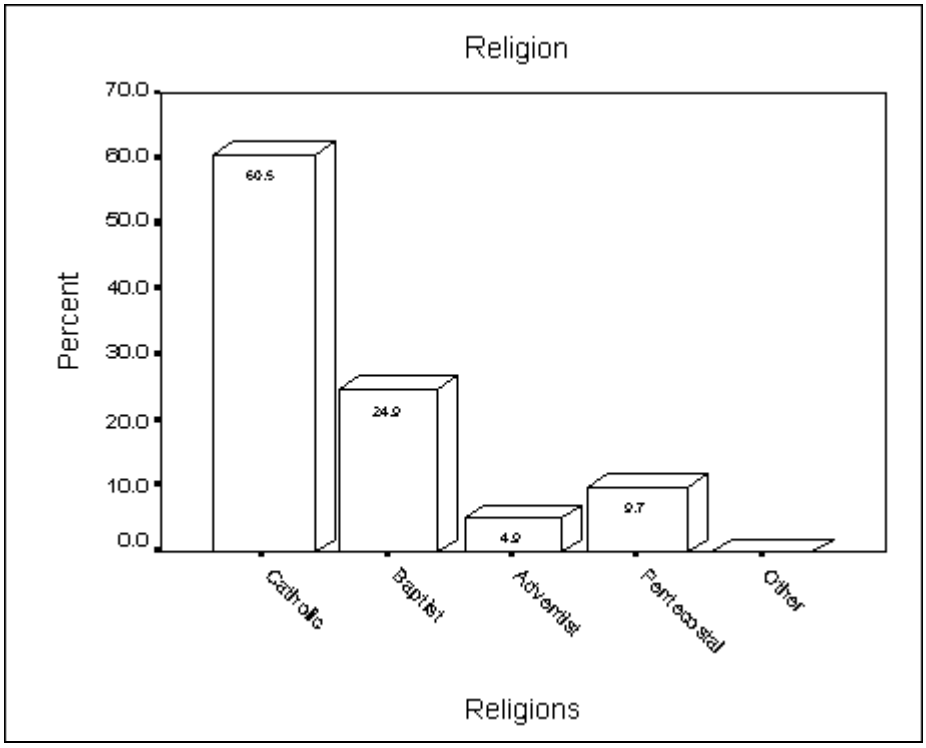
c) are on the route to Port-au-Prince

Anse Rouge is a town of approximately 10,000 people. It is much closer to Jean Rabel than either Gonaives or St Marc but it too is situated on the coast, has several high schools and is on the route to Port-au-Prince. The final two destinations of any importance identified by people in Jean Rabel are La Tortue and Cape Haitian. La Tortue is a long island (approximately 7 kilometers wide and 37 kilometers long) that parallels the Northwest. The people of La Tortue are apparently better off than most mainland Haitians; fishing and farming are still reportedly very productive on the island. Cape Haitian is simply another large city. The fact that only 3 of 441 households with emigrants reported Cape Haitian as the destination reflects the poor road system and strong easterly winds that make the second largest city in Haiti remote for people in the Far-west.

2.6 Religion

Catholicism is the Haitian State religion. However, in the past 30 years Protestant religious orders backed by missionaries and funds largely donated by US churches have driven the population identifying themselves as Catholic down from 95 to 65 percent. In Jean Rabel, Protestant missionaries have been especially active. Congruently, some 39.5 percent of people sampled were identified as either Adventist (*adventis*), Pentecostal (*de die*), or Baptist (*batis*). No attempt was made to distinguish 'voodoo' adherents (*moun ki sevi lwa*) from those who claimed to be Catholic or Protestant (see Chart 2.6 on following page).[25]

Chart h 2.6: Religion



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Text Box e 2.4: Blood on the Altar: The Jean Rabel Massacre

Currently, Catholic NGO presence in Jean Rabel is weak. CARITAS (the development arm of the Church) supports a credit program, but in 1995 it apparently shut down. Other activities by the Church are invisible. However, it was not always like this. In the early to mid 1980s the Catholic Church was very active in Jean Rabel. Under the leadership of a dynamic young priest named Jean-Marie Vincent schools and irrigation projects sprung up in remote localities of Jean Rabel. The Priest helped small farmers organize large work groups, hold rallies, discuss their problems and search for solutions to their poor living conditions.

It was not long before farmer clubs called "gwoupman," organized by the priest, began pressing for access to the irrigated gardens that stretch out below Jean Rabel. The situation heated up. The gwoupman began intimidating non-gwoupman into joining the movement and in some instances simply seizing land belonging to powerful families. In many areas non- gwoupman farmers reacted by forming "anti-gwoupman" organizations. Big land owners reacted by throwing people off land and destroying houses. There were beatings, house burning and the killing of livestock—most of which farmers report was perpetrated by the 'gwoupman' themselves.

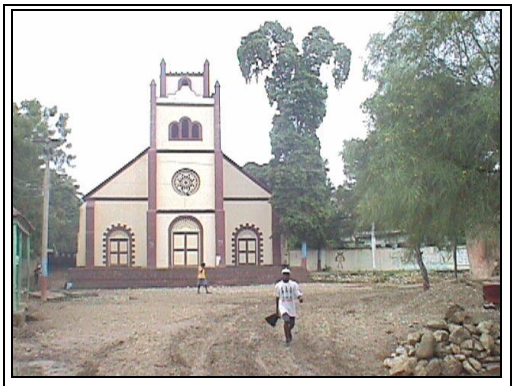

Figure 16 ***Catholic Church in village Jean Rabel.***

On July 24, 1987 a "gwoupman" and an "anti-gwoupman" clashed—farmer against farmer. Reports vary widely, even from people who were involved in the conflict. But the basic facts are the same. Hundreds of men battled with machetes. The groupman farmers were decimated. Most of those who died were killed on the field. Others however, were bound and led to the village of Jean Rabel where they were slaughtered in the streets. Soldiers stationed in Jean Rabel simply watched. Reports of the dead vary from 117 to 300 people.

Since the 'massacre' the Catholic church in Jean Rabel has done little in the way of development. The dynamic young priest was subsequently assassinated during the reign of the 1991-1994 military junta and the 'gwoupman' have been relatively quiet. Today, scattered throughout the countryside, one still finds buildings and irrigation projects that were erected under the direction of the priest. But the buildings are eerily vacant and the irrigation works in crumbling disrepair. During the survey, we found people who had been wounded in the massacre. One man had both hands chopped off. Another man had miraculously survived having his throat cut. In areas where people were involved in the violence farmers were particularly suspicious and difficult for interviewers to deal with.

Figure 17: ***Abandoned School house built by Father Jean-Marie Vincent.***

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The people living in rural Jean Rabel display paradoxical attitudes toward religion. On the one hand there is the large movement toward Protestantism and many adherents seem sincere, abstaining from drinking and smoking and trying to convert friends and family. On the other hand, people in rural Jean Rabel often change from one Protestant group to another and sometimes return to the Catholic church. Further, when one becomes intimate with Protestants, it often turns out they are much more liberal in

their behavior than admitted. It is not uncommon to learn that a Protestant pastor has more than one 'wife.'

2.7 Education

More than 50 percent of the sample population over the age of 18 reportedly never attended school. People who are familiar with Jean Rabel may have difficulty believing this figure. Most children currently attend school, even if only a few years of primary education. The seeming distortion of the figure is best explained by 1) the relatively recent surge in the numbers of rural primary schools—an apparent response to USAID primary school feeding programs--and 2) the fact that most people, even those who attended 8 or 9 years of school, are functionally illiterate and hence report, or are reported, as never having attended school. It is important to emphasize that people who do manage to attain higher levels of education and seek employment must migrate to large villages, like *bouk* of Jean Rabel, or cities such as Gonaives and Port-au-Prince—indeed, this is not simply the common practice for households that can afford it, it is the rule. Young people who have migrated in pursuit of an education often remain in the cities. Thus, there is a selective process which biases the data: Those who get an education usually leave rural areas; those who do not get an education are more likely to stay.

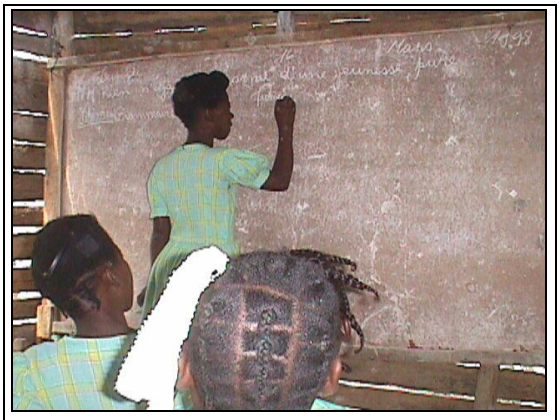
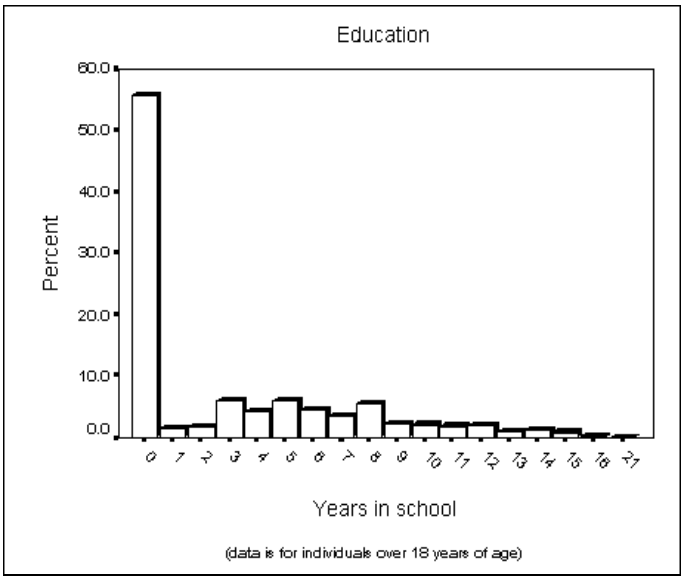


Figure 18 ***Typical school room in rural Haiti***

Chart i 2.7: Education



The Haitian school system has 15 classes. The first two are roughly equivalent to US kindergarten, leaving thirteen grades:

1) enfantine 1
2) enfantine 2
3) prime 1
4) prime 2
5) elemente 1
6) elemente 2
7) mwayen 1
8) mwayen 2
9) 6 eme
10) 5eme
11) 4eme
12) 3eme
13) Segund
14) Rheto
15) Philosphe

Most rural schools arrive at *mwayen 2*, the sixth grade, which is the end of primary school. Students who are able to continue their education must then go to large towns such of Anse Rouge, Port-de-Paix, Gonaives, St Marc or Port-au-Prince. The village of Jean Rabel has a *lise,* National High School, which is the only one in the Commune to offer the final class, *philosphe*—it was not offered this year reportedly because of a shortage of students. All the private secondary schools in the Village of Jean Rabel offer *rheto* but none reach *philosphe.* Most

Figure 19 ***Going to school. Mon Bourik, Guinaudee.***

rural secondary schools do not reach beyond 4eme, the ninth grade. Table 2.8 below lists the number of schools in Jean Rabel by Section.

Table m 2.8: Schools by Classes Offered and Type

		Section Communal (%)								
		1st	2nd	3rd	4th	5th	6th	7th	Village	Total
State School	Primary	8	6	2	2	1	1	2	3	25
	Secondary	1	0	0	0	0	0	0	1	2
Private School	Primary	55	27	29	16	17	5	14	10	173
	Secondary	1	2	1	0	0	0	0	6	10

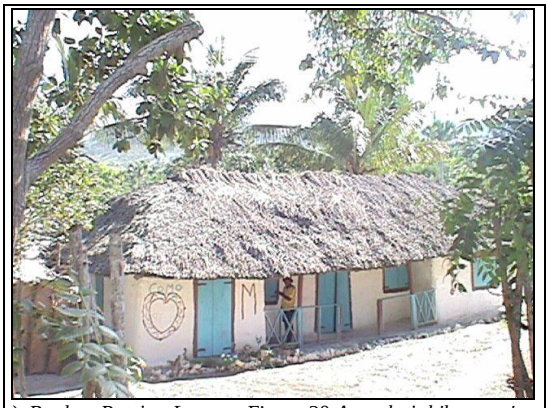
Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion
Source: Bureau of the Magistrar, Jean Rabel

Chapter 3

THE TYPICAL HOUSEHOLD, GOODS AND SERVICES

3.1 Chapter Overview

The typical Jean Rabel house is of waddle and daub construction (83%),[26] has a dirt floor (87%), a thatch roof (82%), two rooms (75%), one to six doors (85%), one to four window openings (64%)--32% have no window openings at all--and 53% of houses are painted. Inside one most often finds at least one bed (70%) and one usually finds a dinner table with chairs and in more affluent houses, a cupboard with a glass face. Goods are stored in the rafters of the house. Almost all houses have an outside kitchen and half of all houses have a "toilet"—75% of which are simply holes in the ground without any type of enclosure or roof, located some 15 to 30 meters from the back door.



) Boukan Patriot, Lacoma Figure 20 *A palatial 'kay pay' (thatch roofed house). Home to a Hougan (spiritual healer and magic practitioner*

Figure 3 ***In the absence of charity, rural aitians often build outhouses from local materials. Porrier, Grande Source.***

The most important sources of household income were identified as agriculture, followed by livestock, marketing and charcoal production (in that order). Of all households in Jean Rabel, 4.4% report at least one member deriving income from fishing. The average amount of land reportedly owned per household was 1.13 *carreau* (1 *carreau* =1.29 hectares)—similar to the national average of 1.5 hectares. Almost one third of respondents, 413 households, reported owning no land; 87.7% of households own 2 *carreau* or less; and a mere 1.1% of households claimed to own more than 5 *carreau* of land. Only 15% of households report having a radio; televisions are non-existent; and less than 1% of house holds have any form of electricity —i.e. car battery, solar panel or gener-ator. Five percent of house-holds report that a member owns a bicycle. Motorcycles are present in less than one percent of households and private cars are, like

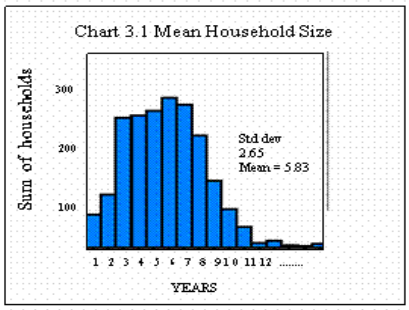
Figure 2 ***People often migrate to small garden houses during planting season. Gwo Sab, Diondion.***

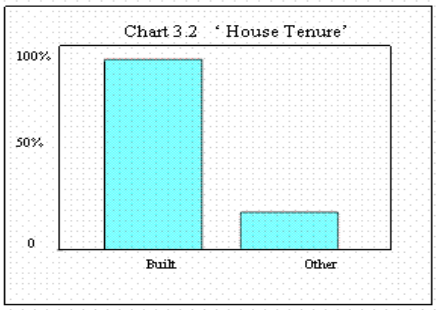
televisions, essentially non-existent. Animal and foot traffic are the primary modes of transportation: Thirty-five percent of household respondents told interviewers they own at least one donkey, 8% report owning a horse and 7% percent of householders own a mule--the Mercedes Benz of rural Haiti.

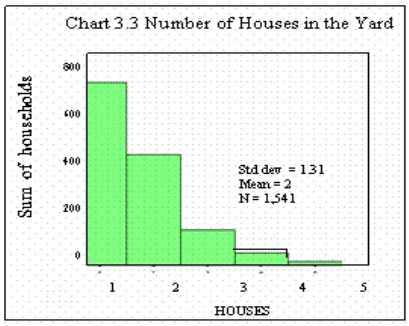
7.15 THE TYPICAL HOUSEHOLD

The average household in rural Jean Rabel has 6 residents, was built by its owner, has been inhabited for 19 years and is in a *lakou* (compound) with one or more other households, usually closely related relatives. Most households are headed by males, but a large minority, 38 percent, are headed by women.

Figure: *Family in Mo Vann, Lacoma*







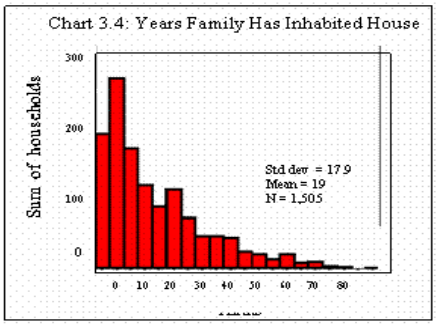


Chart k 3.2: House 'Tenure'

Chart m 3.4: Years that Family has inhabited House

Figure 5 ***Tin-Roof house, Nan Labou, Diondion. Kitchen not visible***

3.2 Houses, Contents, Kitchens and Toilets

The house itself is typically of waddle and daub construction (83%), has a dirt floor (87%), a thatch ro of (82%), two rooms (75%), one to six doors (85%), one to four window openings (64%), 32 percent have no window openings at all and 53% of houses are painted. Inside one most often finds at least one bed (70%) and one usually finds a dinner table with chairs and in more affluent houses, a cupboard with a glass face. Goods are stored in the rafters of the house. Almost all houses have an outside kitchen and half of all houses have a "toilet"—75 % of which are simply holes in the ground without any type of enclosure or roof, located some 15 to 30 meters from the back door.

Figure 21 ***Thatch-roof house, Nan Dije, Grand Source. Note kitchen to right of house.***

3.3 Household Income

The most important sources of household income were identified as agriculture, followed by livestock, marketing and charcoal production (in that order). The information on household income was obtained by asking respondents to report the three primary sources of household income. The percentage of the 1,526 that responded identified specific categories as summarized in chart 30 below:

Chart n 3.5: Sources of Household Income

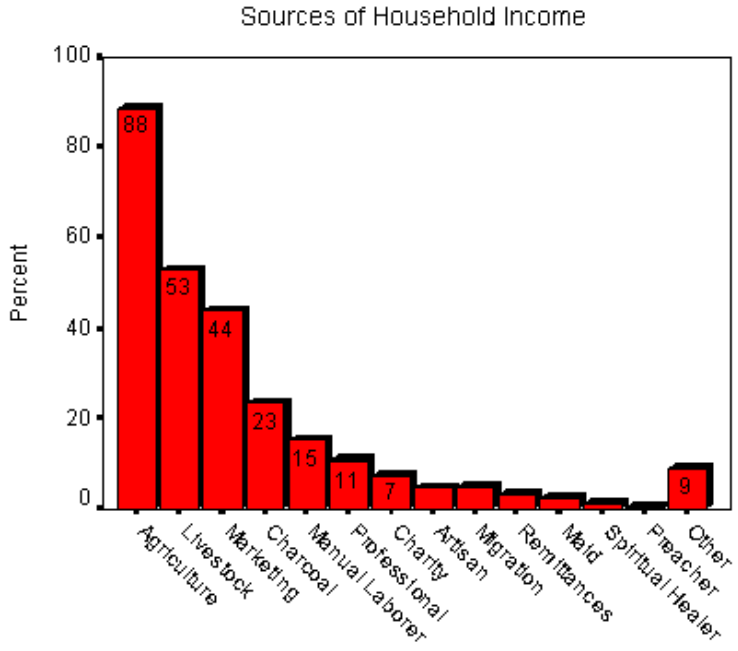


Table n 3.1: Household Income by Section

Income Activity	Section (%) : Total n = 1,521						
	1st n = 449	2nd n = 274	3rd n = 181	4th n = 205	5th n = 127	6th n = 98	7th n = 185
Agriculture	87.1	87.3	86.2	97.6	85.8	92.9	81.6
Livestock	50.6	52.2	48.1	59.5	48.8	62.6	49.7
Marketing	41.2	42.5	47.0	42.9	45.7	44.4	47.6
Charcoal	41.4	24.4	11.6	10.7	8.7	13.1	17.8
Manual Labor	10.9	4.0	19.9	22.0	17.3	21.2	16.8
Professional	8.9	8.0	13.8	9.3	9.4	18.2	14.1
Charity	7.6	6.2	8.8	7.8	12.6	4.0	5.4
Artisan	2.0	10.2	6.1	2.5	8.7	4.0	2.2
Migration	4.7	4.7	4.4	9.3	4.7	1.0	3.2
Remittances	2.7	4.7	2.8	.5	2.4	4.0	7.6
Maid	1.8	2.5	3.9	2.9	3.1	0	2.7
Spirit	2.0	0	.6	1.5	.8	3.0	.5
Preacher	.2	1.5	0	0	.8	1.0	.5
Other	8.3	11.7	9.4	11.7	7.1	2.0	13.0

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

A category not included in Chart 10 is fishing: 4.4 % of all households in Jean Rabel report at least one member derives at least some income from fishing:

Table o 3.2: Households with Members who Fish by Section

Section (%)							
1st n = 449	2nd n = 274	3rd n = 181	4th n = 205	5th n = 127	6th n = 98	7th n = 185	Total n = 1,521
4.6	2.1	5.4	.5	1.7	0	13.3	4.1

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

3.4 Land Ownership

The average amount of land reportedly owned per household was 1.13 *carreau* (1 *carreau* =1.29 hectares).

Table p 3.3: Average Amount Of Land Owned By Household

Total households	Minimum	Maximum	Mean	Std Deviation
1,392	.00	12.00	1.13	3.2

Almost one third of respondents, 413 households, reported owning no land; 87.7 percent of households own 2 *carreau* or less; and a mere 1.1 percent of households claimed to own more than 5 *carreau* of land. This should not, however, be interpreted to mean that land is concentrated, the largest landholder in the sample owned only 12 *carreau* (for more information on land owned see Agriculture).

Table q 3.4: Total Land Owned By Household

Land in *Carreau*	Households		
	Count (n =)	**Percent**	**Cumulative Percent**
0	413	29.7	29.7
0 to 1	1,007	42.0	71.7
1 to 2	223	16.6	87.7
2 to 3	135	7.4	95.1
3 to 4	52	2.3	97.4
4 to 5	20	1.5	98.9
over 5	16	1.1	100.0
Total	1,392	100.0	100.0

(1 *carreau* = 1.29 Hectares; see Agriculture for Land Owned by Section)

3.5 Communication and Electricity

Only 15% of households report having a radio. Televisions are non-existent. Less than one percent of households have any form of electricity—i.e. car battery, solar panel or generator (see Usufruct in section on Agriculture for further discussion of land ownership). [27]

Table r 3.5: Possession Of Communication And Power Supply Appliances

Appliance	Percent 'Yes'	Total Count
Radio	**9.8**	1,417
Television	**0**	1,387
Generator	**0**	1,386
Solar Panel	**0**	1,386
Car Battery	**.5**	1,486

3.6 Transportation

Five percent of households report members owning a bicycle. Motorcycles are present in less than one percent of households and private cars are, like televisions, essentially non-existent. Animal and foot traffic are clearly the primary modes of transportation: Thirty-five percent of household respondents told interviewers they own at least one donkey, eight percent report owning a horse and seven percent of householders report owning a mule--the Mercedes Benz of rural Haiti.

Figure 22: ***Man on a mule, the Mercedes Benz of rural Jean Rabel.***

Table s 3.6: Possession of Transport Vehicles

Vehicle	Percent 'Yes'	Total Count
Bicycle	**4.7**	1,399
Motorcycle	**0.8**	1,396
Car	**.0**	1,374
Donkey	**35.1**	1,543
Horse	**8.4**	1,522
Mule	**6.7**	1,514

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Text Box f 3.1: Communication and Public Transport

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People of the Commune of Jean Rabel frequently voyage to the cities of Port-au-Prince, Gonaives and Port-de-Paix. When going the thirty odd kilometers to Port-de-Paix, there is a rough two to three hour dirt road. Public transportation to Port-de-Paix is provided entirely by four wheel drive tap-taps (pick-up trucks), of which there are five in Jean Rabel that make the trip. Despite being a bumpy and usually dusty voyage, the ride is relatively safe as the vehicle can not go over 15 kilometers an hour and there are few mountains.

Figure 21 ***Taptap coming from Port-de-Paix***

Figure 22 *Truck stuck in Guinaude* mud

Three tap-taps five kamions (buses), and five freight trucks make the trip to Gonaives and Port-au-Prince. The road is almost as difficult as the Port-de-Paix road. But it is dangerous as well. Since the survey began at least eight vehicles wrecked on this road. Several people have died and many people have been seriously injured. In one instance a front wheel of a tap-tap coming from Gonaives dropped off the road. The small truck was perched precariously on the edge of a steep hill. The driver, still in the truck, ordered everyone to disembark. But the weight of the passengers was what held the truck on the road. As the last passenger, a woman, prepared to get off, the truck tumbled into the valley below. Fortunately no one was killed. The chauffeur lost a finger, the woman lost an arm.

Figure 23 ***Camion in the village of Jean Rabel.***

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Chapter 4

FAMILY ORGANIZATION

Figure 24 ***Young family. Bord-de-Mer, Diondion.***

4.1 Chapter Overview

Approximately 50 percent of couples legally marry, the rest engage in what is called *plasaj*, or in anthropological terminology, "consensual union." Over 10 % of male household heads report having more than one wife at the time of the interview--62% of households were headed by males.

There is a clear division of domestic labor in rural Jean Rabel based on age and sex. Men are primarily responsible for care of livestock and gardens. Men also monopolize the few available wage opportunities. Women are primarily responsible for domestic activities like childcare, cooking and taking care of the household. Women are heavily involved in marketing as well. Children make their greatest contributions to family subsistence by performing simple but time consuming tasks like fetching water, caring for livestock and assisting their parents.

4.2 Marital Patterns

In Jean Rabel approximately 50 percent of couples legally marry, the rest engage in what is called *plasaj,* or in anthropological terminology, "consensual union."

Table t 4.1: Marriage versus Consensual Union (age >24 n=4,927)

Conjugal Unions	Male	Female	Both
Consensual Union	40.4	43.8	42.1
Married	41.8	37.0	39.3
Single	14.6	10.6	12.6
Widowed	2.9	8.5	5.8
Divorced	.1	.1	.1
Total	100	100	100

Figure 25 ***Family in Myumbe, Guinaudee***

Children born to *plasaj* marriages have certain, and in many cases full rights to inherit property from their parents. If the father is legally married, "outside" children receive one third the property that "inside" children have a right to. The father must recognize (i.e. baptize) his offspring, and in the event that he is already married, recognition depends on the consent of his legal wife—often not given. If the father is not legally married, all recognized children are entitled to equal inheritance. All children have equal rights inher-itance from their mothers.

Over 10 % of male household heads report having more than one wife at the time of the interview—62% of households were headed by males.

Table u 4.2: Number of 'Wives' for Male Household Heads

Number of Wives	Male Respondents	Percent
0	124	12.8
1	734	75.7
2	98	10.1
3	6	.6
4	1	.1

'Polygyny' in Haiti differs from the "extramarital affair" that is frequent in urban areas in that (1) it is totally public and (2) explicit efforts are made to produce offspring in all of the unions. Polygyny is directly dependent on a man's financial status: men who command unusually large amounts of resources are more likely to be polygynous than men who are poor. Any Haitian man wishing to have a 'wife' must build her a house and make regular financial contributions to the household budget. Haitian women emphatically do not approve of polygyny. [28] The prevalence of polygyny in Jean Rabel is probably best explained by the interaction of the following four variables:

- Differential male wealth: A minority of men, and far fewer women, have access to salaries, highly productive agricultural land, and scarce technology (like fishing nets) while most other men have meager access to income. Consequently, women are sometimes forced to choose between being the second or third wife of a man who can support her or suffering with an otherwise unattached man who has nothing to give.
- Access to capital: Women often depend on men for access to cash that can be used in market ventures. The best way to assure that money is forthcoming is to have an intimate sexual relationship with a man wealthy enough to supply capital. .
- Access to supplies: it is not enough that a market woman have money, she must have the right contacts as well. Competition among market women for access to ever dwindling sources of produce means that farmers and fisherman alike are obliged to sell and advance products to women they know or are related to. If a man does not favor the women in close contact with him he risks suffering the scorn of the cook, cloths washer, marketer and lover. Again, the best way for a woman to assure that a man gives her priority in the distribution of goods is to fill these roles—i.e. have an intimate sexual and domestic relationship with the man.
- Value of female labor and marketing activities: From a Haitian man's standpoint, woman are not simply sexual commodities, but valuable partners in meeting everyday domestic and economic challenges. In rural Jean Rabel people are fond of saying "gason pa ka viv san fi" (men can not live without women—you almost never hear 'women can not live without men') and "gason pa gen kay" (a man does not have a house). Houses are indeed for women. Paying for and building a house for a wife is the single most important act in solidifying a consensual union.

4.3 Women

In rural Jean Rabel women are primarily responsible for domestic activities: cooking, house-cleaning and washing clothes by hand . Women, as well as children, are responsible for securing water and firewood (see Children below)—both time consuming and arduous tasks in rural Jean Rabel. Respondents reported that going to and returning from the nearest water source takes an average of 70 minutes. In some areas it takes over 3 hours. Cooking and preparing meals always takes several hours. It involves things like starting and tending a fire, snapping beans, peeling plantains and sweet potatoes, pounding spices and coffee, washing

Figure 26 *Woman and family. Mo Van, Lacoma*

meat with sour oranges or limes. If the fire is good—i.e. there is charcoal or seasoned hard-wood--rice and sweet potatoes can be boiled in about an hour. Beans take two hours. If meat is cooked, preparing the meal can take another hour. If the fire is bad—green or inferior wood—cooking can take several hours.

Figure 27 *Market women in village of Jean Rabel.*

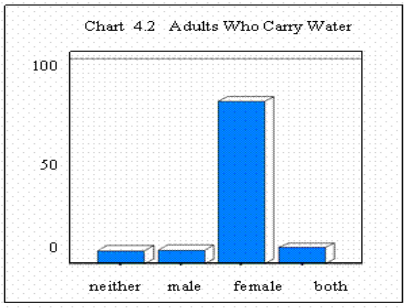
Women also help with planting and harvesting. The few wage opportunities open to women are health care—in which 'nursing' is exclusively a female occupation--and to a far lesser extent, teaching. In marketing, women reign. Virtually all women who are mothers sell some commodity. Women completely dominate most sectors of the market, particularly in goods like tobacco, garden produce, and fish. The most economically active women are skillful entrepreneurs on whom other market women heavily depend. Usually specialists in a particular commodity, these *madanm sara* travel to Port-au-Prince, Gonaives or other cities, buying in bulk at one market and redistributing the goods, often on credit, to less wealthy Haitian market women in another. In Jean Rabel, women identified themselves primarily as students and as engaged in agriculture (*kiltivateur*) and marketing.

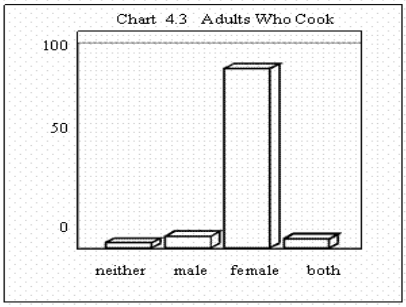
Chart o 4.1: Female Occupations

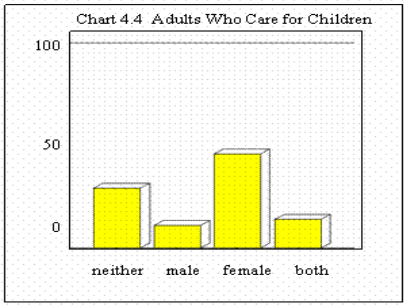
48

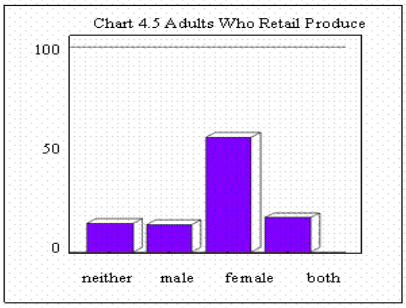
Charts 2.6 - 2.10: Women

Development practitioners aiming to improve living standards in rural Haiti should consider differences in female roles as marketers and commercial intermediaries. The charts below illustrate percentages of males vs females engaged in specific domestic activities. The charts also reveal the prominent role of females in marketing activities. doing housework.









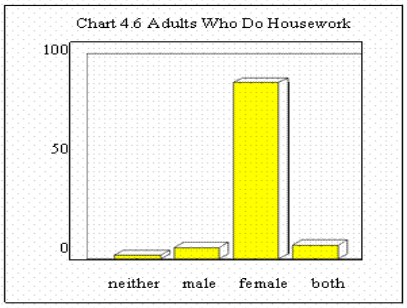


Chart p 4.2: Adults Who Carry Water

Chart q 4.3: Adults Who Cook

Chart r 4.4: Adults Who Care for Children

Chart s 4.5: Adults who Retail Produce

Chart t 4.6: Adults Who do Housework

4.4 Men

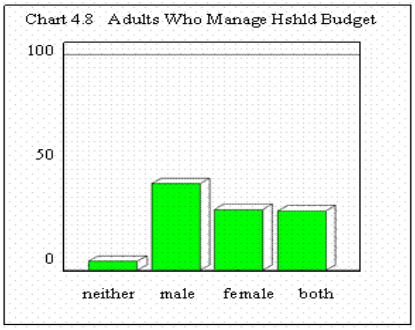
Men in rural Jean Rabel are primarily responsible for care of livestock and gardens. Men monopolize the job market: only men are jewelers, carpenters, masons, mechanics, and chauffeurs. Most doctors, teachers, politicians and spiritual healers are men. Virtually all pastors are male and it would be a rarity to find a school without a man as director. In Jean Rabel, we found men engaged in the activities listed below:

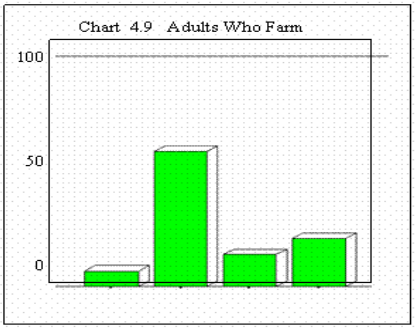
Figure 28: *Men " kap bay blag" (shooting the bull) at cock fight outside Caberet, Lacoma.*

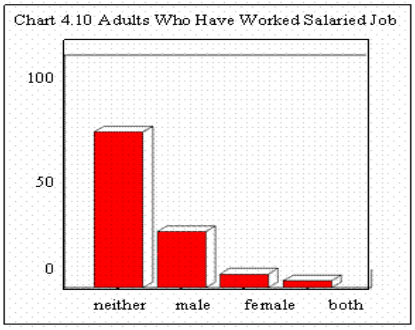
Chart u 4.7: Male Occupations

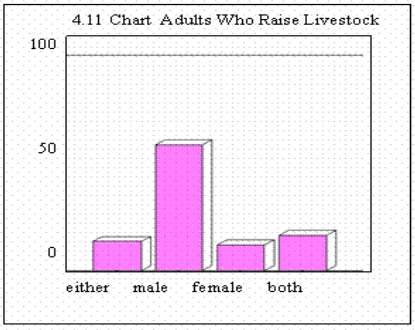
Charts 2.12 - 2.16: Men

On this page we present tasks householders identified as primarily performed by males: Managing the household budget, farming, working salaried jobs, raising livestock and marketing livestock. An exception is the marketing of livestock which is revealed here as a feminine occupation—a surprise to the author. In Haiti men usually, but not always, kill animals; Women most often do the butchering.









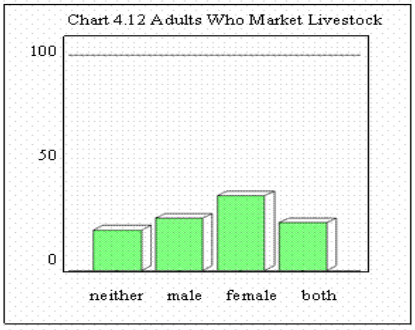


Chart v 4.8: Adults Who Manage Household Budge

Chart w 4.9: Adults Who Farm

Chart x 4.10: Adults Who Worked Salaried Jobs

Chart y 4.11: Adults Who Raise Livestock

Chart z 4.12: Adults Who Market Livestock

Children

51

Charts 2.17 - 2.22: Children

Children are also an important and often neglected factor that should be considered in the development planning stages. Haitian children make their greatest contributions to family subsistence by performing simple but time consuming tasks. Boys are generally responsible for chores associated with livestock, like watering animals and moving them from one location to another—a task which can involve walking for several hours. Boys also help their fathers with garden work and sometimes with participate in strenuous activities like charcoal production Girls generally care for younger children and help their mothers with cooking and marketing. Boys and girls, but especially girls, go for water and look for firewood. Both boys and girls are important helpers during planting and harvests.

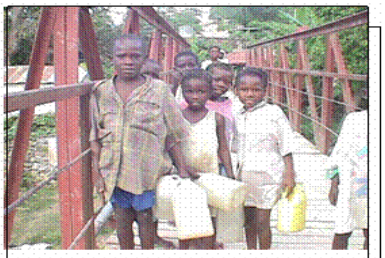
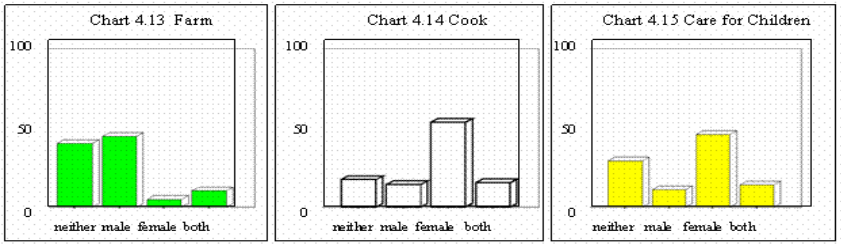
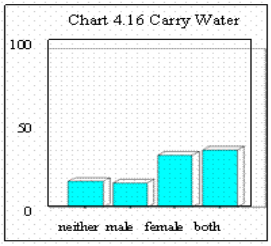
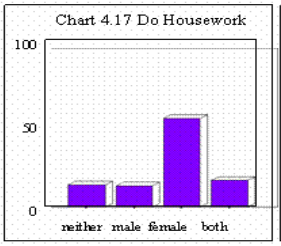


Figure 6 *Children from Lot Ko Dlo, Vielle Hatte, going to the village of Jean Rabel for water.*







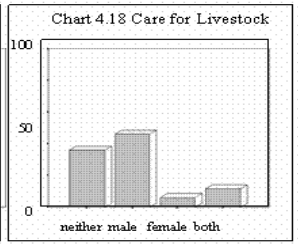


Chart aa 4.13: Children who Farm

Chart bb 4.14: Children who Cook

Chart cc 4.15: Children who Care for other Children

Chart dd 4.16: Children who Carry Water

Chart ee 4.17: Children who Do Housework

Chart ff 4.18: Children who Care for Livestock

Chapter 5

MARKETS, COMMERCE and CREDIT

Figure 29 ***Woman selling spices, soap and oil in Lacoma market. Lacoma, Lacoma..***

5.1 Chapter Overview

This section has been included in the present report because it is vital to understanding subsistence strategies in Jean Rabel and it underscores points made in the recommendations at the end of the report. Development projects destined for success must consider the fact that people in Jean Rabel are strongly oriented toward the market. The farmer, marketer and artisan's willingness to change behavior and adopt new practices is linked to anticipated changes in income. Development options not perceived as profitable will fail. However, understanding what people in Jean Rabel interpret as "profitable" depends on a knowledge of the market relations, channels, and outlets in which the decision making process is embedded. Understanding and anticipating decisions depends on unveiling relationships that may seem altruistic at first glance but that closer inspection often reveals as part of rational survival strategies.

A description of the rotating market system and credit is the best way to illustrate how the Jean Rabel market system functions. As elsewhere in Haiti, rotating markets are the axis of economic activity. Markets are held in villages on specified days of the week. In these markets farmers sell their crops and animals. People also rely on markets for weekly food purchases and use the opportunity to socialize. Credit is integral to the market system; specifically borrowing money from friends or relatives and getting merchandise on credit. Other forms of credit are discussed but less important.

5.2 Rotating Market Systems

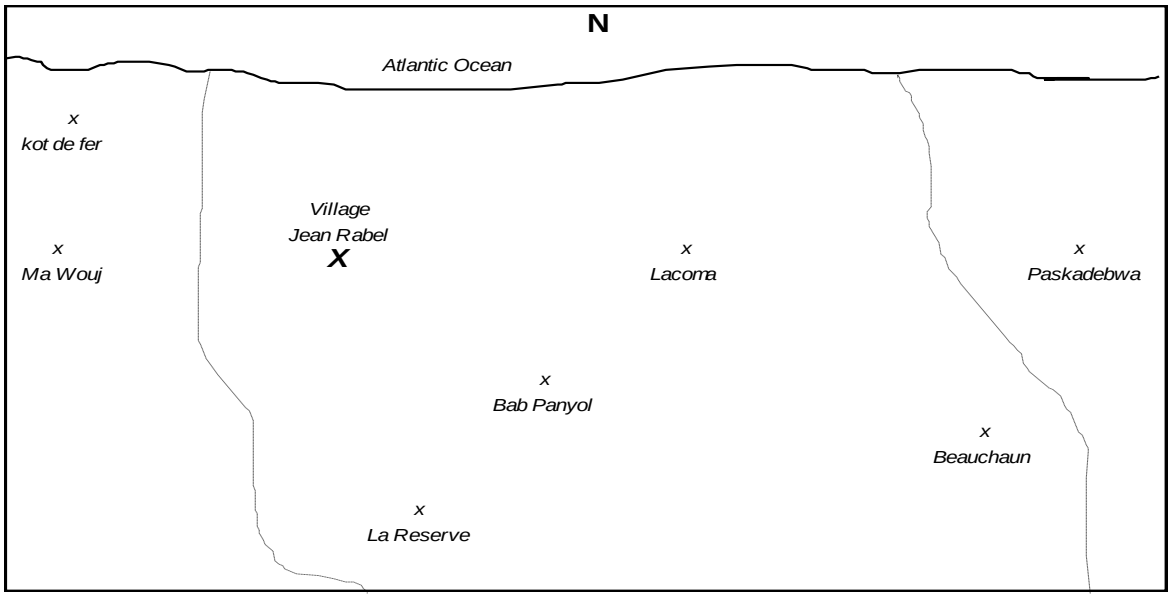
In a rotating system, market days are distributed throughout the week and among villages in a particular region. A direct advantage is that for most rural inhabitants there is a market within reasonable walking distance at least two days of the week. In Jean Rabel, as elsewhere in Haiti, rotating markets are the axis of economic activity. In the markets farmers sell their crops and animals. People rely primarily on markets for weekly food purchases and for many people, the market serves a social function—an opportunity to see friends, drink, and attend cock fights.

Figure 2 ***Market scene in Beauchaun, Lacoma***

Table v 5.1: Regional Distribution of Market Days in and Around Jean Rabel:

	Sun	Mon	Tues	Wed	Thur	Fri	Sat
Jean Rabel Village				++++++			++++++
Lacoma			++++++				
Bab Panyol					++++++		
Beauchaun						++++++	
La Reserve			++++++		++++++		
Paskadebwa		++++++			++++++		
Ma Wouj	++++++		++++++		++++++		
Kot de Fer						++++++	

Map c 5.1: Market Villages



Kot de Fer, Ma Wouj and Paskadebwa fall outside the Commune of Jean Rabel; [- - - -] = Commune boundaries
|_____| ~ 10 kilometers

5.3 Credit

A description of credit in Jean Rabel is the best way to illustrate the market system and how it functions. In Jean Rabel, there are four ways to obtain credit: borrow money from a loaning institution like a bank or cooperative; borrow money from a loan shark (*eskont*); borrow money from a friend or relative; and get merchandise on credit. Of the 1,420 people in the survey responding to the question regarding credit, 454 reported having borrowed a mean of 1,360 gourdes (US$80.00) in the past year. The average rate of interest was 10% per month.

5.3.1 Banks and Cooperatives

There is a State agricultural bank which loans money to 'committees'-- groups of people who engage in joint ventures or distribute the money among members for personal projects. However, according to the secretary in Jean Rabel's BAK (*Biro Agrikil Kominal* = State Agricultural extension office) the bank quit loaning money in the area because of high default rates.

There are four private loaning institutions in Jean Rabel: Three cooperatives and what is known as the CLAJ (Christian Literature and Artistic Association of Jean Rabel). The presence of lending groups is a recent and sudden phenomenon that appears largely as a response to widespread rumors that UNOPS and ID have funds slated for lending: All three 'cooperatives' launched loaning operations in the past year. One is presided over by the Mayor, one by the Commune representative in the Chamber of Deputies, and one by a village based agricultural cooperative known for anticipating the allocation of development funds. The only long standing lender is the CLAJ, founded according to its secretary "sometime" in the past 7 years.

Money is loaned by all the mentioned groups at 10% interest per month, except for the agricultural cooperative which charges 2% monthly—both violations of Haitian law which limits interest rates to 22% annually. The mayor's group claims to have ten outstanding and unsecured loans but does not yet have a policy regarding what it will do if people do not repay the loans. The CLAJ claims to have 350,000 gourdes (US$ 20,588) in outstanding loans it never expects to collect. The Deputies group was not consulted regarding outstanding loans; and the agricultural cooperative claims not to have a problem with repayment. (Readers can draw their own conclusions.)

These groups also have a service known as *kes popile*, which means people can deposit funds. The mayor's group reports paying 4% interest per month on funds deposited, the CLAJ claims to pay 3% per month and 4% for money deposited for a year or longer. The agricultural cooperative pays nothing.

According to IDs agronomist who specializes in credit, many people in Jean Rabel reportedly borrow money from a cooperative in nearby Ma Wouj (in the Commune of Mole St. Nicolas). This cooperative recently began receiving support from several local NGOs. Loans are secured with property deeds and a legal 21% interest rate is charged.

5.3.2 Loan Sharks

Private individuals sometimes *eskont* (loan) money at the reported rate of 20% per month—not an attractive deal to most people in Jean Rabel: "w-ap travay pou met kob la" (you are working for the owner of the money). There is also what is known as a *pran kout ponya* (take a blow from a fist). Desperate individuals borrow money for a specified period of time at flat 100% rate of interest. The actual lending time varies according to the deal makers. Both *eskont* and *kout ponya* occur but are reportedly rare.

5.3.3 Lending Among Friends

Borrowing from a friend or relative is common. The scarcity of capital encourages people in Jean Rabel not to stow money away but rather "put money to work." Men and women alike will give money over to a female friend or family member so that she can *fe komes* (buy and sell). The woman is expected to share profits with the lender, but demands vary and most people understand the risks and costs involved. The priority is that money does not sit gathering dust but works to maintain the survival of the lender's family and friends. In this way, the *lajan-sere-pa-fe-pitit* ('stashed money bears no children') attitude of people in Jean Rabel can be explained as an investment in the social relations that assure survival in an impoverished and highly market oriented economy.

5.3.4 Merchandise on Credit

Credit in the form of merchandise advanced by wholesalers to intermediaries and in turn, by intermediaries to retailers, is an important element of the Jean Rabel market system. Wholesalers advance money to buyers who purchase small quantities of produce from farmers. The wholesalers then sell the produce in bulk to buyers in Port-au Prince. On the other hand, wholesalers will often advance merchandise to retailers, *madanm sara* (small retailers), who sell small quantities of the product in the market or out of the home.

Madam sara are always women. Food rather than money is taken as the profit. Most women only sell one or two sacks of produce a week and the benefit is no more than a *mamit* (about the size of a large coffee can). Women who can muster the money to buy sacks of produce stand to double their profits. Table 5.2 below gives a list of produce, the quantity of *mamits* per sack and the May 1998 prices for produce on credit versus purchasing for cash. Note that retailers also sell *mamits* on credit, increasing their profits as well as their risks:

Table w 5.2: Prices for Sacks of Produce: Credit versus Cash[29]

Produce	Mamits* per Sack	Price in Haitian Gourdes			
		Sack		Mamit	
		Cash	Credit	Cash	Credit
Corn	8-9	250g	260g	30.0g	33.0g
Cracked Wheat	17-18	150g	160g	10.0g	12.0g
Flour	29-22	420g	440g	20.0g	23.0g
Rice	16-17	600g	620g	35.0g	37.0g
Sugar	17-18	470g	490g	30.0g	35.0g

- Mamits are divided into *godes:* 1 *mamit* = 4 *gode kat* or 6 *gode sis*

Chapter 6

AGRICULTURE

Figure 30 *Men threshing millet outside of Caberet, Lacoma.*

6.1 Chapter Overview

The primary crops planted in Jean Rabel are corn, beans, sweet potato, manioc, peanuts, millet, squash, plantains, sugar cane and squash. Fertilizers and pesticides are almost non-existent. Selling produce in markets takes precedence over storage techniques, which is usually restricted to sacks and gourdes. Seeds and cuttings are almost always purchased rather than conserved from the previous harvest. The biggest problems farmers have in their gardens are lack of water, lack of seeds, insects and roving livestock—in that order.

There are three general types of soil identified by farmers in Jean Rabel: 1) *te sech,* dry land, by far the most common type of soil 2) *te gra*, literally 'fat land,' fertile soil that holds water well, and 3) *te wouze*, irrigated land. There is also State land, usually very dry soil (*arid)*, on which farmers tether animals and sometimes plant

peanuts. Most farmers plant an average of 3 gardens per household, the same as the national average. Garden size averages .59 *carreau* about 50% larger than the national average of .5 hectares (1 *carreau* = 1.29 hectare). Farmers usually own garden plots but also access land through sharecropping arrangements and to a lesser extent renting. Plots used for gardens are spread out, averaging the distance of a 45 minute walk from homesteads.

Farmers use both paid and unpaid garden labor to an equal degree. There are basically two types of unpaid labor: 1) family labor which simply refers to use of household labor or immediate family members, such as sons, daughters, spouses and siblings, and 2) reciprocal labor groups, known as *konbit*, which involves farmers who come together to perform a particular task. People who use a *konbit* are expected to participate when other members need help in their gardens. Their are four types of paid labor, 1) *jounalie*, a paid half day labor performed by an individual, b) *plum*, a paid half day labor performed by a group c) *kwadi*, labor performed by an organized group that is paid by the task and d) *jeran*, a full-time farm hand who shares in the harvest or sale of livestock

6.2 Crops

The chart and table below illustrate the percentage of Jean Rabel respondents mentioning a crop when asked to report the five crops they most commonly plant:

Chart gg 6.1: Crops

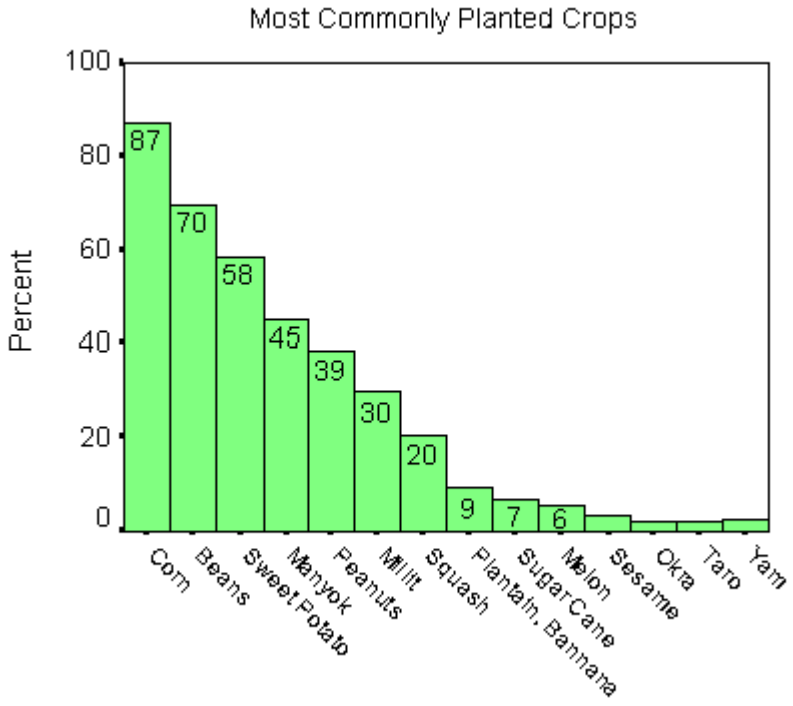


Table x 6.1: Crops by Section

Crops	Section Communal (%)							
	1st n =447	2nd n = 287	3rd n = 185	4th n = 206	5th n = 130	6th n = 99	7th n = 185	Total n = 1,539
Corn	87.2	88.9	87.0	92.7	83.8	91.9	84.3	87.9
Beans	69.6	67.9	64.9	79.1	62.3	82.8	74.1	70.8
Sweet Potato	50.6	63.8	57.8	69.4	61.5	70.7	54.1	59.1
Manyok	51.9	54.7	31.4	30.6	46.2	51.5	37.8	44.9
Peanuts	37.8	27.2	51.4	33.0	38.5	22.2	64.3	39.1
Millit	56.4	28.2	21.6	30.1	1.5	36.4	11.4	32.1
Squash	16.3	36.6	14.6	10.7	8.5	19.2	32.4	20.6
Plantain	3.4	12.2	6.5	2.4	6.9	27.3	16.8	8.7
Sugar Cane	4.0	8.7	2.7	4.9	7.7	18.2	13.5	7.2
Melon	6.5	8.7	7.6	1.5	0.8	2.0	10.3	6.0
Sesame	1.3	5.2	1.1	1.5	0.8	4.0	11.4	3.4
Yam	3.8	2.1	0.0	2.4	1.5	5.1	2.7	2.6
Okra	2.0	5.9	1.6	0.0	0.0	2.0	4.3	2.5
Maskriti	2.0	3.1	0.5	1.0	0.0	0.0	3.2	1.8
Egg Plant	0.7	1.4	0.0	1.5	0.0	1.0	1.6	0.9
Potato	1.3	0.0	1.1	0.0	0.0	1.0	0.5	0.6
Carrot	0.4	0.7	0.0	0.0	0.0	2.0	1.1	0.5
Tomato	0.9	0.0	0.0	0.5	0.0	0.0	0.5	0.4
Echalot	0.0	0.3	0.5	0.0	0.0	0.0	1.1	0.3
Militon	0.4	0.0	0.5	0.5	0.0	1.0	0.0	0.3
Taro	1.3	1.4	0.0	1.0	1.5	6.1	5.9	2.0
Rice	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Other	10.7	1.7	7.0	3.4	3.1	2.0	2.7	5.5

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

According to farmers in Jean Rabel, manioc and sweet potatoes are, not unlike pre-colonial times, the most important crops in surviving times of drought and scarcity.[30] Manioc can be stored in the ground for up to 3 years and multiple varieties of sweet potatoes ripen at intervals of from 2 to 6 months, providing a reliable supply of staples. Corn, also a pre-colonial crop, is very important with regard to subsistence because it can be stored easily in a *jakout* (sack).[31] Other crops are quickly sold in the market.

6.3 Planting Gardens

In Jean Rabel *te sech*, dry land, is by far the most common type of soil, making rain fall the most critical agricultural factor. Farmers prepare fields in January and February and then wait for the rain. If and when the rain comes, usually in March or April, the farmers plant. The critical objective is to spread risks across an uncertain season, expanding options in the face of variable rainfall patterns. Farmers in Jean Rabel can only plant when it rains, usually in Spring and Fall, but as Chart 6.2 below demonstrates, the goal is to harvest at all times.

Table y 6.2: Regional Planting Cycles (p = plant, h = harvest)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Beans				p		p			p		h	
Pigeon peas	p h	p	p								h	H
corn	h			p				h	p			
peanuts			h	h						p	p	
millet				p	p						h	h
manioc	p h	p h	p h	h	h	h	h	h		h	h	h
sweet potat	p h	h	h	h	h	h	h	h		p h	p h	p h
plantains	h	h	h	p h	p h	p h	h	h		h	h	h
squash	p h	p h	p h	p h	p h	p h	p h	p h	p	p h	p h	p h

Figure 31 ***Picking beans in Gwo Sab, Diondion.***

The first step a Jean Rabel farmer takes in making a *te sech* garden is to clear the land.[32] This usually means cutting with a machete the grass and small brush. Although we did not collect data on the matter, it is known that farmers often *bwa nef* (burn) the debris along with any remaining weeds and grasses.[33] The soil is then *tchake* (turned with hoes). Gardens are usually *sakle* (weeded with machete) twice before the first harvest.

Gardens are commonly inter-cropped. On fertile rain fed soils beans are planted with corn and millet; squash is often added as well; and during the fall planting season, sweet potatoes are also planted. On exhausted low-land soils farmers plant millet alone. In the mountains chick peas are mono-cropped. On the driest soils peanuts are planted with sparse inter-cropping of chick peas and sesame. Where the soil holds water or is irrigated, the rule is plantains and bananas inter-cropped with taro and sugar cane.

6.4 Sources for Seeds and Cuttings

Jean Rabel farmers mostly buy seeds and shoots for planting. Farmers report most often purchasing seed (92.4%), followed by conserving it from the last harvest (4.1%), getting it from ONGs (1.9%) and getting it given to them by a relative or neighbor (1.5%).

Table z 6.3: Source for Seed and Cuttings (units of analysis = crops)

Source	Count	Percent	Cumulative Percent
Purchased	3,362	92.4	92.4
Last harvest	150	4.1	96.5
ONG	68	1.9	98.4
Gift	55	1.5	99.9
Other	3	.1	100.0
Total	3,638	100.0	100.0

Table aa 6.4: Sources for Seeds and Cuttings (units of analysis = crops)

Type of Tenure (n =5,850)	Section (%)				
	Last Harvest (n =429)	Purchased (n =5,038)	NGO (n =74)	Gift (n =298)	Other (n =11)
Egg Plant (n = 10)	20.0	70.0	.0	10.0	.0
Echalot (n = 3)	33.3	66.7	.0	.0	.0
Plantain (n = 133)	4.5	94.7	.0	.8	.0
Okra (n = 31)	35.5	54.8	.0	9.7	.0
Sesame (n = 49)	20.4	79.6	.0	.0	.0
Squash (n = 298)	35.6	45.0	.0	19.5	.0
Sugar Cane (n = 99)	3.0	92.9	2.0	2.0	.0
Carrot (n = 4)	.0	75.0	.0	25.0	.0
Manyok (n = 676)	10.7	80.3	.1	8.6	.3
Corn n = (1,343)	2.7	94.1	2.0	1.2	.0
Melon (n = 82)	31.7	46.3	.0	22.0	.0
Militon (n = 4)	25.0	75.0	.0	.0	.0
Sweet Potato (n = 890)	8.5	76.7	.3	13.7	.7
Peanuts (n = 544)	3.1	96.1	.2	.2	.4
Millit (n = 512)	4.3	94.5	.8	.4	.0
Potato (n = 4)	.0	100.0	.0	.0	.0
Beans (n = 1,074)	2.6	92.6	3.4	1.4	.1
Maskriti (n = 23)	4.3	95.7	.0	.0	.0
Taro (n = 29)	10.3	89.7	.0	.0	.0
Tomato (n = 4)	25.0	75.0	.0	.0	.0
Yam (n = 38)	18.4	81.6	.0	.0	.0
Total n = (5,850)	7.3	86.1	1.3	5.1	.2

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

Chi-Square = 280 p < .000

Table bb 6.5: Source for all Seeds and Cuttings by Section (units of analysis = crops)

Source	Section (%)							
	1st n = 1,682	2nd n = 1,097	3rd n = 627	4th n = 747	5th n = 480	6th n = 410	7th n = 802	Total n = 5,845
Purchased (n=5,023)	87.1	82.9	86.9	81.4	89.8	85.4	89.2	85.9
Last Harvest (n =432)	6.8	8.3	7.3	7.6	5.2	8.5	7.9	7.4
Gift (n = 304)	5.5	8.1	3.7	5.2	3.3	5.4	2.9	5.2
ONG (n = 74)	.4	.6	1.1	5.6	1.7	.7	0	1.3
Other (n = 12)	.2	.1	1.0	.1	0	0	.1	.2
Total (n = 5,845)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

Chi-Square = 280 p < .000

Figure 32 ***Plantain trees growing along river in Bazin, La Montagne***

6.5 Insecticides and Fertilizers

The use of commercial insecticides and fertilizers is reportedly rare. Below is a listing of the 14 most common crops planted in Jean Rabel and the frequency with which farmers reported using fertilizer and pesticide on each. Overall, only 2 percent of crops were reportedly sprayed with pesticide and only .6 percent were fertilized (see Table 25 below).[34]

Table cc 6.6: Crops by Pesticide and Fertilizer Use (units of analysis = crops)

Crops	Pesticide Use		Fertilizer Use (%)	
	Yes (%)	Sample Size (n=)	Yes (%)	Sample Size (n=)
Plantain	1.5	134	2.2	134
Okra	0.0	35	0.0	35
Sesame	0.0	48	0.0	50
Squash	0.0	313	0.3	313
Sugar Cane	0.0	100	0.0	101
Manioc	1.2	684	0.0	687
Corn	3.7	1,356	1.0	1,367
Melon	1.2	85	0.0	85
Sweet Potato	0.7	900	0.1	902
Peanuts	0.7	549	0.4	550
Millet	5.4	514	1.4	514
Beans	1.4	1,079	0.4	1,081
Taro	0.0	30	0.0	30
Yam	2.5	40	2.5	40
Total	2.0	5,867	0.6	5,889

6.6 Fallow Cycles

The almost complete absence of any governing institution providing capital, technical and organizational assistance means that most Jean Rabel farmers are compelled to practice traditional agriculture with ever shortening fallow cycles. Swidden agriculture has essentially disappeared as many plots are worked exhaustively. [35]

Table dd 6.7: Fallow by Section (units of analysis is households)

Section	Sample Size	Yes (%)
1. Lacoma	430	30.9
2. Guinaudee	261	22.2
3. Vielle Hatte	174	14.9
4. La Montagne	205	13.2
5. Dessources	116	22.4
6. Grande Source	97	29.9
7. Diondion	175	23.4
Total	1,458	23.3

(Only 1st versus 3rd and 4th Sections exhibit statistically significant differences at $p < .05$)

Table ee 6.8: Reasons for Fallow (units of analysis is households)

Reasons for Fallow (n = 341)	Percent	Cumulative Percent
Refresh	44.6	44.6
No Seed	24.3	68.9
Reforest	13.2	82.1
No Help	1.8	83.9
Other	16.1	100.0
Total	21.5	100.0

Figure 33 ***Corn drying in the sun. A kitchen is in the background. La Plen, Guinaudee.***

6.7 Storage

The primary problems people report with storing crops are the same found among farmers everywhere in the world: insects (92%), rodents (79%) and rot (64%). These problems are compounded by the cost of erecting dependable storage facilities and the fact that people in Jean Rabel are always in the need of cash. The upshot is that most farmers sell their products quickly in local markets. Unfortunately, this fact was not captured by the survey. Instead questions focused on how crops were stored and the problems with storage. We found that virtually all farmers in Jean Rabel store crops in sacks, gourdes or barrels. However, this is emphatically short-term storage, a fact illustrated by the finding that 94.2 percent of Jean Rabel farmers buy seed for planting (see Table 23).

6.8 Garden Types and Sizes

The mean garden size in Jean Rabel is .59 *carreau* (see Table 6.9); about 50% larger than the national average of .5 hectares (1 *carreau* = 1.29 hectare). However, 75.5 percent of all gardens are .5 *carreau* or smaller:

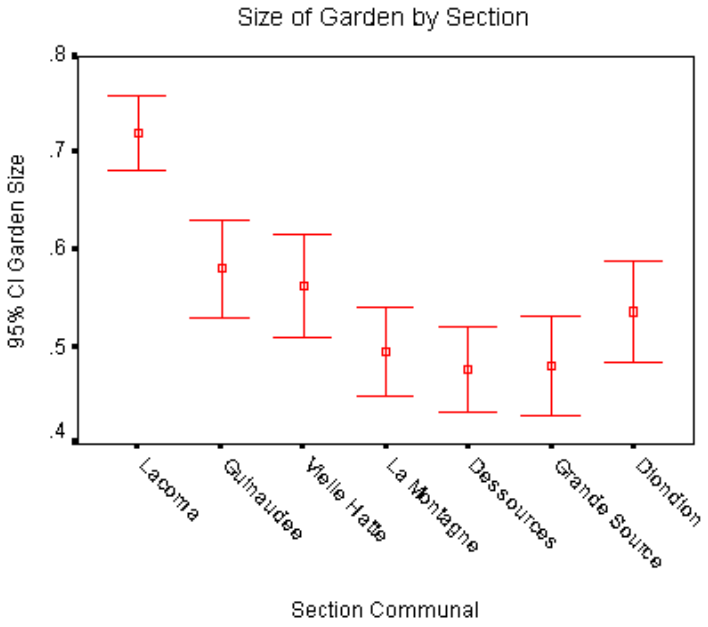
Table ff 6.9: Garden Size by Section (units of analysis are gardens)

Section	Sample Size	Mean Garden Size
Lacoma	1,256	.72
Guinaudee	617	.58
Vielle Hatte	396	.56
La Montagne	486	.49
Dessources	269	.48
Grande Source	245	.48
Diondion	441	.54
Total	3,710	.59

(Mean garden size for Section 1st statistically different at $p < .05$)

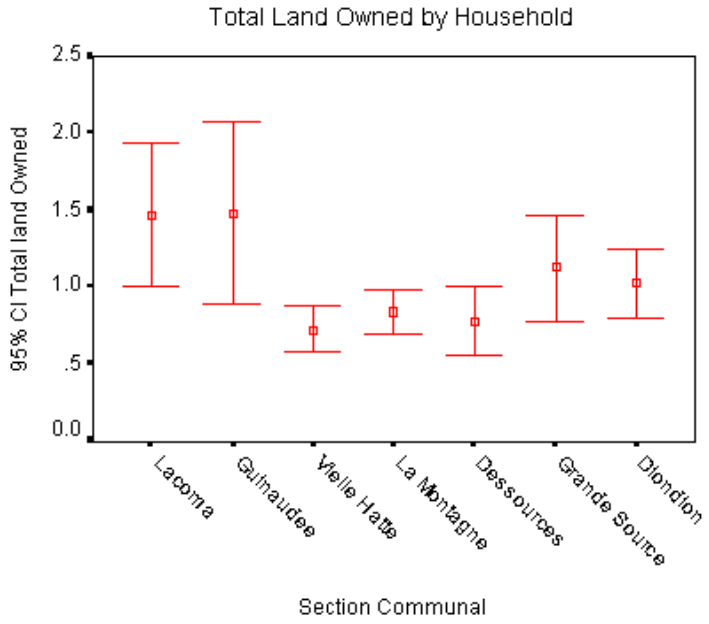
Perhaps because of a greater availability of land, garden sizes in Lacoma are larger than for any other Section.

Chart hh 6.2: Size of Garden by Section



The same relationship is not apparent for amount of land owned by section; the amount of land owned for Lacoma is significantly different ($p<.05$) only with regard to Vielle Hatte and La Montagne.

Chart ii 6.3: Land Owned



(See Households for more information of land ownership per household).

As mentioned above, there are three general types of soil identified by farmers in Jean Rabel: 1) *te sech*, dry land, 2) *te gra*, literally 'fat land,' fertile soil that holds water well, and 3) *te wouze*, irrigated land. There is also State land, but unfortunately data regarding the use of State land was not collected. Out of the 3,730 gardens we inquired about, only 40 were irrigated and 133 were identified as 'fat.' The remaining 3,557 gardens were reportedly dry land.

Table gg 6.10: Size of Gardens by Soil Type (units of analysis = gardens)

		Type of Land (%)			
Land in *Carreau*		**Irrigated**	**Fertile**	**Dry**	**Total**
.01 to .50		62.5	76.7	75.6	75.5
.51 to 1.0		10.0	15.8	18.6	18.4
1.1 to 1.5		5.0	3.0	1.8	1.9
1.51 to 2.0		10.0	.8	2.3	2.4
2.1 to 2.5		2.5	0	.2	.2
Over 2.5		10.0	3.8	1.4	1.5
Total	Count	40	133	3550	3723
	Percent	100	100	100	100

6.9 Gardens Per Household

The average number of gardens per household in rural Jean Rabel was estimated to be three. A very few houses visited (2.5%) had no gardens at all, and over 25% of households reported having more than 3 gardens, the national average (Ronco 1987; see Chart 5.3 on following page).

Chart jj 6.4: Number of Gardens (units of analysis = households)

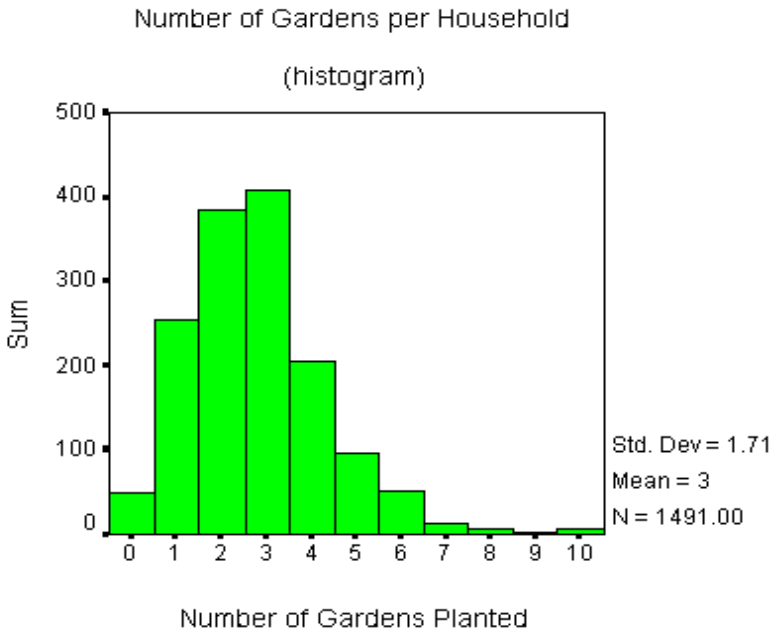


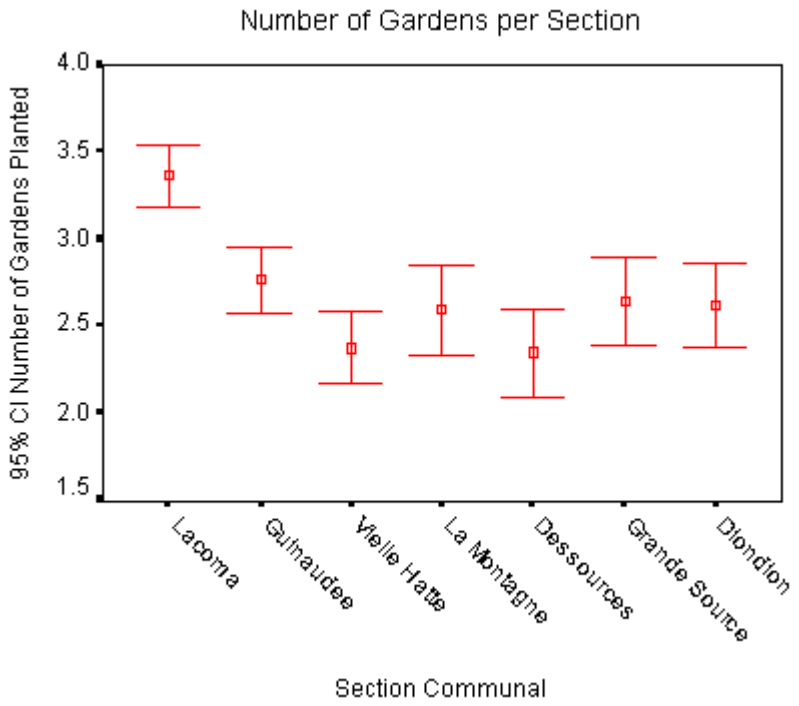
Table hh 6.11: Mean Number of Gardens Planted by Section (land measured in *carreau*)

	Section							
	1st n = 435	**2nd n = 266**	**3rd n = 176**	**4th n = 204**	**5th n = 119**	**6th n = 98**	**7th n = 183**	**Total n = 1,381**
Mean Gardens per Household	3.36	2.76	2.38	2.59	2.34	2.64	2.62	2.81

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

As with average size of garden, Lacoma exhibits a greater number of gardens per household than the other six Sections of Jean Rabel ($p < .05$).

Chart kk 6.5: Gardens by Section (units of analysis = households)



6.10 Distance to Gardens

Gardens are usually spread out from each other.[36] The average distance from the farmer's house to gardens is a 46 minute walk, but some 45% of gardens are farther away than 90 minutes.

Table ii 6.12: Distance From House to Garden (units of analysis = gardens)

	n	Minimum	Maximum	Mean	Std. Deviation
Minutes	3,723	0	480	46.01	67.02

Table jj 6.13: Distance to Garden by Type of Land (units of analysis = gardens)

Distance in Minutes		Type of Land			
		Irrigated	Fertile	Dry	Total
0 to 45		50.0	71.4	54.5	55.0
46 to 90		0	0	.5	.5
91 to 135		32.5	15.8	21.5	21.4
136 to 180		10.0	6.8	11.9	11.7
181 to 225		5.0	5.3	6.7	6.6
over 225		2.5	.8	5.0	4.8
Total	Count	40	133	3,550	3,723
	Percent	100.0	100.0	100.0	100.0

6.11 Garden Tenure

Table 6.14 below sums up the types of land tenure--i.e. how farmers got access to gardens-- for all garden plots for which information was reported. From studying the chart it is clear that in Jean Rabel there are basically three ways to access a garden plot: own it, sharecrop it or rent it. Less important means of accessing land are borrowing and being employed by the land owner (farm hand).

Table kk 6.14: All Types of Land Tenure (units of analysis = gardens)

Types of Land Tenure	Count (n=)	Percent	Cumulative Percent
Owned	2,485	67.1	67.1
Sharecropped	710	19.1	86.2
Rented	410	11.0	97.2
On Loan	81	2.2	99.4
Employed by Owner/Farm Hand	5	.1	99.5
Other	20	.5	100.0
Total	3,711	100.0	100.0

In some Sections, most notably Dessources, Vielle Hatte and Grande Source, renting is far more important than sharecropping. This is an unexpected and here inexplicable finding:

Table ll 6.15: Section by Tenure (units of analysis = gardens)

	Section (%)							
Type of Tenure	1st n = 1,260	2nd n = 657	3rd n = 396	4th n = 486	5th n = 269	6th n = 249	7th n = 444	Total
Owned	70.0	64.3	57.8	74.1	60.5	74.7	65.3	67.0
Sharecropped	23.7	23.4	23.7	15.0	9.7	6.4	13.5	19.2
Rented	5.3	9.4	14.4	8.0	25.3	15.7	18.5	11.0
On Loan	1.3	2.7	2.0	2.9	3.7	2.4	1.8	2.2
Employed by Owner	.2	.8	0.0	0.0	.1	0.0	0.0	0.0
Other	.5	2.0	.7	.9	.5	0.0	0.0	0.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

Chi-Square = 280 $p < .000$

6.12 Owning Land

There are two ways by which people in Jean Rabel own land: they inherit it or buy it (gifts were eliminated from the analysis).[37] [38] Buying land is reportedly more common than inheriting land.[39] For the 2,266 gardens reportedly owned by respondents, we found that 63.3% were bought and 36.7 % were inherited by the owner.

Table mm 6.16: Purchasing vs Inheriting Garden Plots (units of analysis = gardens)

Tenure	Count	Percent	Cumulative Percent
Inherited	831	36.7	36.7
Purchased	1,435	63.3	100.0
Total	2,266	100.0	100.0

6.13 Titles of Ownership

Informal means of dividing up and registering land ownership makes legal titles problematic; 63.4% of all owners of gardens report having a title.

Table nn 6.17: Title to Inherited and Purchased Plots (units of analysis = gardens)

Section	Legal Title to Owned Gardens	
	Number of Gardens Owned	Yes (%)
1. Lacoma	784	57.5
2. Guinaudee	372	68.5
3. Vielle Hatte	206	63.6
4. La Montagne	328	68.0
5. Dessources	143	68.5
6. Grande S	171	70.8
7. Diondion	245	59.6
Total	2,249	63.4

As can be seen in Table 33 below, people who claim to have a title are overwhelmingly those who bought land; people who inherited parcels of land generally do not report having a title.[40]

Table oo 6.18: Legal Title by Ownership of Garden Plots (units of analysis = gardens)

Title	Inherited (n=816)	Purchased (n=1,429)	Cumulative Total (n=2,245)
No	89.0	6.4	36.4
Yes	11.0	93.6	63.6
Total	100.0	100.0	100.0

(Chi-Square = 1527.607, p < .000)

There is a statistically significant difference (chi. sq. p<.01) between types of gardens and the probability the owner has title: It appears the better the land the more the likelihood an owner will have a title.

Table pp 6.19: Legal Title by Type of Land (units of analysis = gardens)

Legal Title	Type of Land			
	Irrigated (n=27)	**Fertile (n=113)**	**Dry (n=2,363)**	**Total (n=2,503)**
No	25.9	30.1	42.7	42.0
Yes	74.1	69.9	57.3	58.0
Total	100.0	100.0	100.0	100.0

(Chi-Square = 9.980, p =.007; Includes land given as 'gift')

The relationship between productive land type and the tendency to have title is not strong, if it even exists (Lamda = .000). Nevertheless, it is difficult to ignore that 74.1 % of all irrigated land is reportedly titled. It appears this relationship is not a consequence of land value but rather land purchase: People with title to irrigated and fertile land are almost
invariably the same people who bought those plots.

Table qq 6.20: Tenure by Type of Land and Legal Title (units of analysis = gardens)

				Type of Garden Plot			
				Irrigated	Fertile	Dry	Total
Legal Title	'Yes'	Tenure	Inherited	3	11	82	96
			Purchased	17	64	1,253	1,334
	'No'	Tenure	Inherited	4	21	712	737
			Purchased	0	2	90	92

Whatever the case may be, further investigation into irrigated and fertile land is made impossible in the present analysis by the small number of landowners with irrigated and fertile garden plots.[41]

*6.14 Renting and Sharecropping (*demwatie*)*

People without land can gain access to gardens through renting and sharecropping arrangements. Rent is simply cash paid in advance for the use of a parcel of land. Share cropping, called *demwatie* in Haiti, involves a landowner giving a farmer the right to work a parcel of land in exchange for one third of the harvest. Of all gardens we gathered data on, 11.0% were rented and 19.1% were sharecropped (see Table 35 above). Table 36 below demonstrates no statistically significant difference between type of garden and whether it was sharecropped or rented, although detecting such a difference is made difficult by the small number of irrigated and fertile garden plots.

Table rr 6.21: Sharecrop and Rent by Type of Land (units of analysis = gardens)

Tenure	Type of Land			
	Irrigated (n=98)	**Fertile (n=98)**	**Dry (n=98)**	**Total (n=98)**
Sharecrop	57.1	55.6	63.8	63.6
Rented	42.9	44.4	36.2	36.4
Total	100.0	100.0	100.0	100.0

(Chi-Square = .783 p = .676)

6.15 Garden Labor

There are basically three ways farmers in Jean Rabel meet garden labor demands:

1) Family; which simply refers to use of household labor or immediate family members i.e. sons, daughters, spouses and siblings.

2) Paid labor:
   a) *jounalie*; a paid half day labor ($US1.40) performed by an individual
   b) *plum*; a paid half day labor performed by a group ($US1.40 per person)
   c) *kwadi*; labor performed by an organized group that is paid by the task
   d) *jeran*; a full-time farm hand who shares in the harvest or sale of livestock

3) Reciprocal labor groups, known as *konbit* in Haiti, which come together to perform a particular task. People who use a *konbit* are expected to participate when other members need labor. The host must provide a meal; workers earn days of labor from the other participants. A member of a *konbit* may sell days owed him by other members for 25 gourdes a head ($US1.40).

In the survey, respondents were asked how they met agricultural labor demands. The question was left open in the sense that the interviewer accepted as many responses as given; the question was closed in the sense that responses were anticipated to fall into seven categories, the seventh being "other." The category "other," with less than 5% of responses, was eliminated--most of these were explained as the respondent himself working the garden, having someone else sharecrop the garden or friends helping in gardens. The seven categories are listed in Table 6.22 below.

Table ss 6.22: Garden Labor by Section (units of analysis = households, see above)

Type of Labor	Section (%)							
	1st n = 435	**2nd n = 266**	**3rd n = 176**	**4th n = 204**	**5th n = 119**	**6th n = 98**	**7th n = 183**	**Total n = 1,381**
Family	30.9	23.0	24.0	24.2	25.9	25.9	18.5	25.7
Kwadi	31.2	38.5	28.3	35.0	29.3	27.8	29.5	32.2
Konbit	18.0	15.7	21.1	22.6	21.0	19.6	21.9	19.4

Jounalie	13.1	12.4	14.2	6.7	13.7	15.2	13.5	12.4
Plum	6.4	9.3	12.4	11.1	9.8	11.4	15.7	9.9
Farm Hand	.4	1.2	0	0.5	0.5	0	0.8	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

The number of farmers that report using family and *konbit* labor versus paid labor, including those farmers using both:

Table tt 6.23: Paid versus Unpaid Labor by Section (units of analysis = households)

Type of Labor	Section (%)							
	1st n = 435	2nd n = 266	3rd n = 176	4th n = 204	5th n = 119	6th n = 98	7th n = 183	Total n = 1,381
Paid	87.2	89.7	77.7	84.9	67.2	65.6	84.5	82.9
Unpaid	82.1	68.8	71.4	73.2	64.7	65.6	69.1	73.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

The number of farmers that report using exclusively either paid or unpaid labor:

Table uu 6.24: Use of Exclusively Paid vs Unpaid Laborers (units of analysis = gardens)

Labor	Count	Percent
Unpaid labor only	173	12.4
Paid labor only	321	23.0

6.16 Problems in Gardens

Seventy-four percent of respondents identified the unavailability of water for irrigation and unreliable rainfall as the biggest problems in gardens. Efforts by farmers to irrigate on their own are rare. There are no irrigation pumps in Jean Rabel and virtually all irrigation works in the area are associated with current or past development projects.

When water was eliminated from the responses, insects (56.8%), lack of seeds (18.4%), and roving livestock (8.5%) were identified as the major agricultural problems. Roving livestock is an especially vexing problem.[42] Conflicts over gardens ravaged by livestock are common and sometimes violent (see Table 24 below; see also Livestock).[43]

Table vv 6.25: Biggest Problem with Crops (units of analysis = gardens)

Problem	Count	Valid Percent	Cumulative Percent
Insects	213	56.8	56.8
No Seeds	69	18.4	75.2
Foraging Animals	32	8.5	83.7
Infertility	11	2.9	86.6
Erosion	9	2.4	89.0
Flooding	6	1.6	90.6
No Help	5	1.4	92.0
Other	30	8.0	100.0
Total	375	100.0	100.0

Table ww 6.26: Biggest Problem with Crops by Section (units of analysis = garde

Problems	Section (%)							
	1st n = 419	2nd n = 261	3rd n = 173	4th n = 204	5th n = 115	6th n = 92	7th n = 175	Total n=1439
No Water (n=1,068)	67.3	72.0	80.9	77.0	82.6	76.1	77.7	74.2
Flooding (n= 6)	0.0	0.0	.6	1.5	0.0	0.0	1.1	.4
Insects (n =213)	22.0	16.9	9.2	11.8	9.6	6.5	11.4	14.8
Infertility (n = 11)	1.2	0.0	.6	2.5	0.0	0.0	0.0	.8
Erosion (n = 9)	.7	1.5	0.0	0.0	0.0	1.1	.6	.6
Foraging (n = 32)	.5	3.1	2.9	1.0	3.5	5.4	3.4	2.2
No Help (n = 5)	0.0	1.0	.9	2.2	0.0	.3	0.0	0.0
No Seeds (n= 69)	4.8	3.8	5.2	4.9	2.6	8.7	5.1	4.8
Other (n = 26)	3.6	2.7	.6	.5	.9	0.0	.6	1.8
Total (n = 1,439)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

Chapter 7

Trees

Figure 34 ***Teenager picking coconuts. Bord-de-Mer, Diondion***

7.1 Chapter Overview

Except for a few mountainous areas and small clusters of trees around houses and springs, the Commune of Jean Rabel is entirely deforested. Most people in Jean Rabel lament the loss of trees but understand that it is a consequence of poverty and lack of environmental regulatory control. All over Haiti cutting trees to saw boards and make charcoal is a final recourse in the face of hard times, drought and starvation. In the survey, charcoal production was identified as the fourth leading source of household income.

Trees are divided into fruit and wood trees. The most common types of fruit trees are mango and avocado of which more than 50% of households claim to own at least one of each. Wood trees are important in Haiti. Virtually everyone in rural Jean Rabel depends on wood or charcoal for cooking fuel and virtually everyone depends on domestic production for lumber supplies. Wood tree species ranked as the sixth, seventh, ninth and eleventh most common of all trees owned (Lila, Oak, Eucalyptus and Mahogany, respectively). In the survey we found 8.7% of respondents planting trees for charcoal.

7.2 Trees

Figure 35 ***Boy sitting on a 'kalbas' tree, the gourdes of which are used to store grain. La Pwent, Port-de-Paix.***

Except for a few mountainous areas and small clusters of trees around houses and springs, the Commune of Jean Rabel is entirely deforested. Most people in Jean Rabel emphatically have not wanted all the trees cut down and respondents in the area commonly lament the loss of trees, saying things that sound much like what judgmental outsiders might say: "moun sa yo pa gen princip, yo sot, gade yo koupe tout pye bwa, peyi-a fini net" (these people have no principles, they are stupid, look at how they cut down all the trees, the country is finished). But every farmer in Jean Rabel knows why the trees get cut: "peyi pa gen lod, pa gen djob, moun nan mize" (the country has no law and order, no jobs, people are in need).

There was in the past and reportedly still are laws on the books regarding the cutting of trees. When talking about trees many Haitians recall times when a person cutting a single mango tree was required to plant 10 in its place. People report that cutting trees around streams still is, always has been and always should be illegal.[44] The researcher was not able to verify whether these laws exist or whether they were ever really enforced. What is clear however, is that no laws whatsoever regarding trees are enforced today nor would they be enforceable without inflicting economic hardship on the people living in the region. All over Haiti cutting trees to saw boards and make charcoal is a final recourse in the face of hard times, drought and starvation. In the survey, charcoal production was identified as the fourth leading source of household income (see Households).

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Text Box g 7.1: Charcoal: The Final Reserve

Figure 36 ***Sticks piled to make charcoal, Port-a-Alcu, Lacoma***

In the Commune of Jean Rabel most charcoal is produced from trees cut on State land, scrub bushes about an inch thick. The sticks are stacked, covered with green leaves and dirt, and then lit with a match. The wood smolders for several days before the end product is uncovered.

Full-time charcoal makers are usually the poorest people in an area, but many farmers turn to charcoal production when crops fail. The author was living in a remote village in Commune of Mole St Nicholas when the area was struck by drought during the 1996-97 season. The increase in charcoal production in the region during this time was no less 100 fold. It is probably not an exaggeration to say that if the poorest people in the area not had the option of making charcoal from the desert scrub bushes many would have died from starvation.

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7.3 Tree Types

Fruit trees appear to be more common than wood: All total, 1,552 respondents reported owning a sum of 55,525 trees. Of these, 34,119 (61.4%) were fruit trees; the remaining 21,106 (38.6%) were trees useful for making lumber or charcoal.

7.4 Fruit Trees

The most common types of fruit trees are mango and avocado of which more than 50% of households claim to own at least one of each. Other types of trees and the percentage of households that report owning at least one of them are illustrated in Chart 7.1 below:

Chart ll 7.1: Fruit Trees

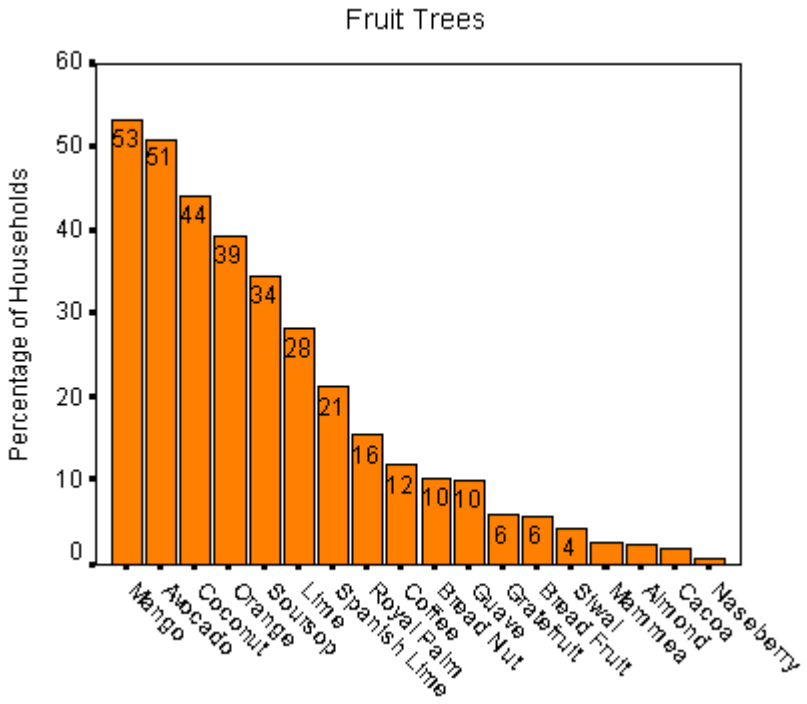

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Figure 37 ***Woman selling mangos in Port-de-Paix***

Text Box h 7.2: Market for Fruit

Compared to other countries Haiti exports very little fruit and has very few factories that can convert fruit to conservable forms like jams and jellies. Thus, the primary market for Haitian fruit is the Haitian people themselves. The up-shot is that prices are low because local markets are limited and quickly flooded with seasonal fruits. Because of saturated markets, one often sees fruit in Jean Rabel rotting on the ground or getting fed to livestock.

But many of the fruits found in Jean Rabel are highly marketable outside of Haiti. A 'nice' avocado that sells for less than one gourde (US$0.06) in Jean Rabel, fetches 7 to 10 pesos (US$ 0.50 - 0.70) in Santo Domingo grocery stores. The same avocado would retail for close to US$1.50 in Miami. Mangos are another high priced fruit sold cheap: A sack of about a 100 mangos sells for as little as 30 gourdes (US$1.75) in Jean Rabel, when they can be sold at all. In Miami a single mango can sell for a US dollar.

Along the border of Haiti and the Dominican Republic, near a remote little marketing village called Ti Lori, an interesting transformation has been taking place in recent years. Dominican intermedios (middle-men) chasing profits have been slowly opening the urban Dominican market to Haitians by buying mangos and avocados and shipping them to Santiago, Santo Domingo and other cities in the interior of the Dominican Republic. People around Ti Lori have responded by planting fruit trees, particularly prized Jean-Marie mangos. From the perspective of development and getting trees in the ground, it is tempting to imagine what might happen in Jean Rabel if already highly market oriented farmers got access to foreign fruit buyers.

7.5 Types of wood trees

Wood trees are important in Haiti. Virtually everyone in rural Jean Rabel depends on wood or charcoal for cooking fuel and virtually everyone depends on domestic production for lumber supplies. In years past many NGOs promoted the planting of wood trees, particularly to offset deforestation caused by tree cutting for charcoal. In the survey we found 8.7% of respondents planting trees for charcoal.[45]

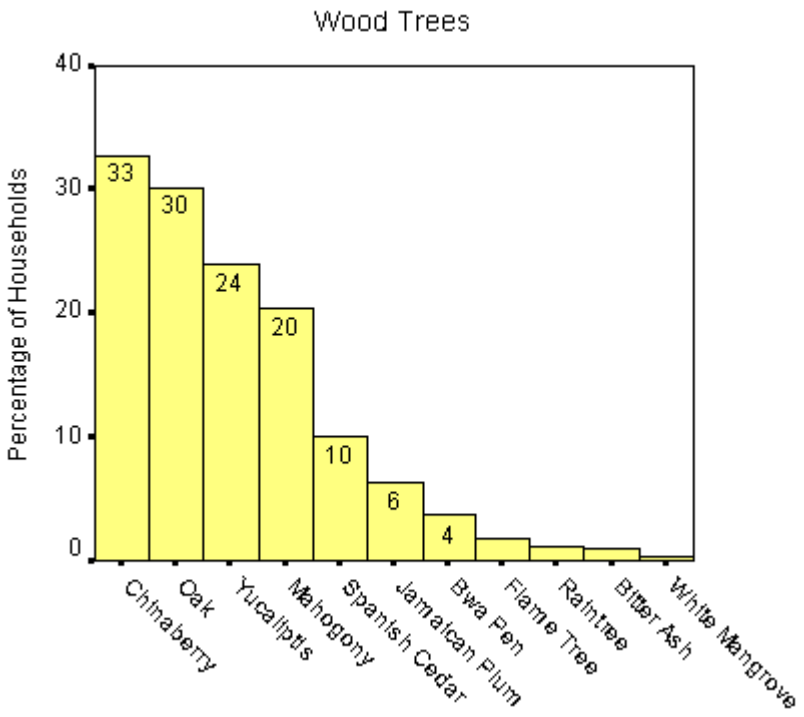
Table xx 7.1: Plant Trees for Charcoal

	Count	Percent	Cumulative Percent
No	1416	89.3	91.1
Yes	138	8.7	100.0
Total	1554	98.0	100.0

Wood tree species ranked as the sixth, seventh, ninth and eleventh most common of all owned trees (Lila, Oak, Eucalyptus and Mahogany respectively; see Chart 34

above). Types of wood trees owned and the percentages of households that reported owning at least one type of each tree are illustrated in the chart below:

Chart mm 7.2: Wood Trees



Chapter 8

LIVESTOCK

8.1 Chapter Overview

Figure 1 ***Men butchering goat in Nan Vincent***

In the survey, we found the most common animals owned to be chickens followed by goats, sheep, hogs, cattle and then turkey and guinea fowl. Livestock is important as a source of food, income and capital savings for people in the Commune of Jean Rabel. Families in the area use smaller animals, like poultry, to meet daily food needs and to cover expenses. Goats and cows are sometimes milked for home consumption. Similar to land holdings, larger ani-mals represent important savings that can be used to pay school tuitions, finance agricul-tural and migratory ventures, compensate for failed harvests, and cover expenses related to unforeseen emergencies like sicknesses and funerals. Many people in Jean Rabel also slaughter animals in association with religious ceremonies, particularly on the 25th of December and the 6th of January, occasions when Haitian traditions call for people who *sevi lwa* (serve the spirits) to make sacrifices.

The biggest problem identified by respondents is feed scarcity. For the most part, feeds are purchased only for pigs, the animal which yields the highest investment returns. Poultry are fed to keep them domestic, *pou yo pa al lwenn* (so they do not go far).

Cows, horses, donkeys and mules are fed natural grasses, planted grasses and garden refuse. Particularly valued as reserve feed for browsing animals are leftover stalks from corn and millet harvests. Animals that graze are not free ranged but tethered. People tether livestock on their own land and on State lands.

The need to tether animals creates the possibility that someone will steal the animal, dogs will kill it or it will strangle on its cord. Problems not associated with tethering animals are disease and lack of water. Veterinary services and medicines are relatively rare; being used by no more than 30% of livestock owners, most commonly with hogs followed by pack animals and then cows.

Like land, there are several ways people in Jean Rabel can come into ownership of livestock: They can inherit it , purchase it, *gade* it (here defined as “tenured in”), or they can breed it. The primary means of ‘ownership’ is purchased followed by tenured animals. Very few livestock owners in Jean Rabel depend on breeding to replenish stock.

8.2 Types of Livestock

In the survey, we found the most common animals owned per household to be chickens (57%) followed by goats (39%), sheep (31%), hogs (25%), cattle (14%) and then turkey (5%) and guinea fowl (2%). Ducks are numerous in the *bouk* of Jean Rabel but rare in rural areas.[46] Chart 8.1 below illustrates the percentages of households reported to own at least one of the listed animals. Table 8.1 lists the mean number of animals per household.

Chart nn 8.1: Livestock Species

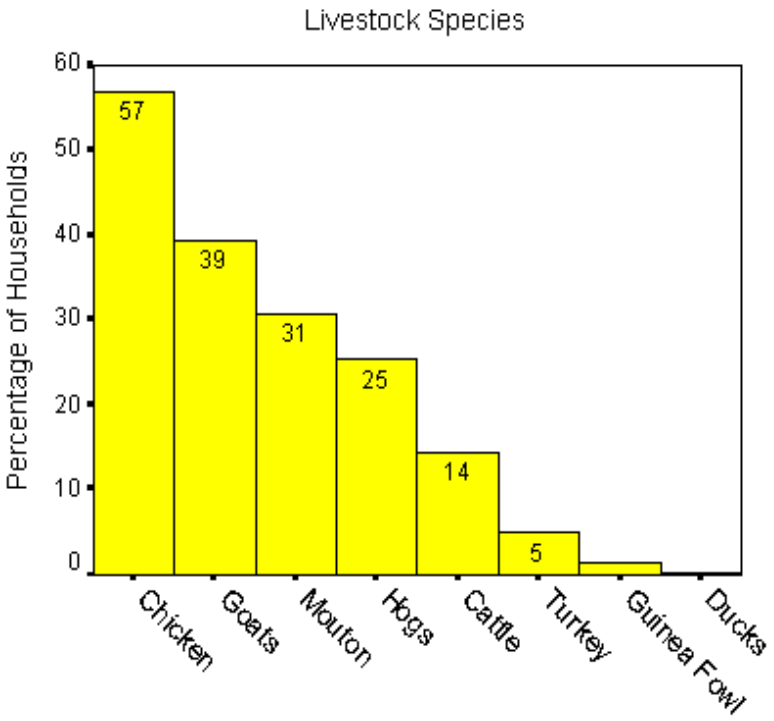


Table yy 8.1: Animals per Household

Livestock Species	Animals per Household			
	Minimum	Maximum	Mean	Std. Deviation
Chicken	0	60	2.27	3.90
Goats	0	26	.94	1.87
Mouton	0	25	.78	1.83
Donkeys	0	9	.48	.79
Hogs	0	27	.45	1.47
Cattle	0	11	.23	.73
Horses	0	6	.11	.45
Mules	0	10	.08	.41

Just as farmers in Lacoma have larger gardens and more of them, Table 8.2 and Charts 8.2 below indicate that households in the 1st Section of Jean Rabel also have more of most livestock species. The relationship is most pronounced and statistically significant for donkeys and sheep.

Table zz 8.2: Mean Number of Animals per Household by Section

Animal	Section							
	1st n=447	2nd n=287	3rd n=185	4th n=206	5th n=130	6th n = 99	7th n=185	Total n = 1,539
Chickens	2.33	1.95	1.85	2.17	2.63	2.89	2.78	2.30
Goats	1.22	.94	.68	.73	.88	.97	.89	.95
Mouton	1.40	.88	.35	.35	.33	.36	.70	.79
Hogs	.57	.33	.27	.27	.40	.74	.67	.46
Cattle	.40	.28	.10	.14	.09	.22	.13	.23
Donkeys	.75	.54	.28	.22	.26	.47	.38	.48
Horses	.27	.09	.05	.05	.04	.10	.02	.11
Mules	.15	.05	.04	.01	.09	.13	.08	.08

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

Chart oo 8.2: Comparison of Chickens per Household by Section

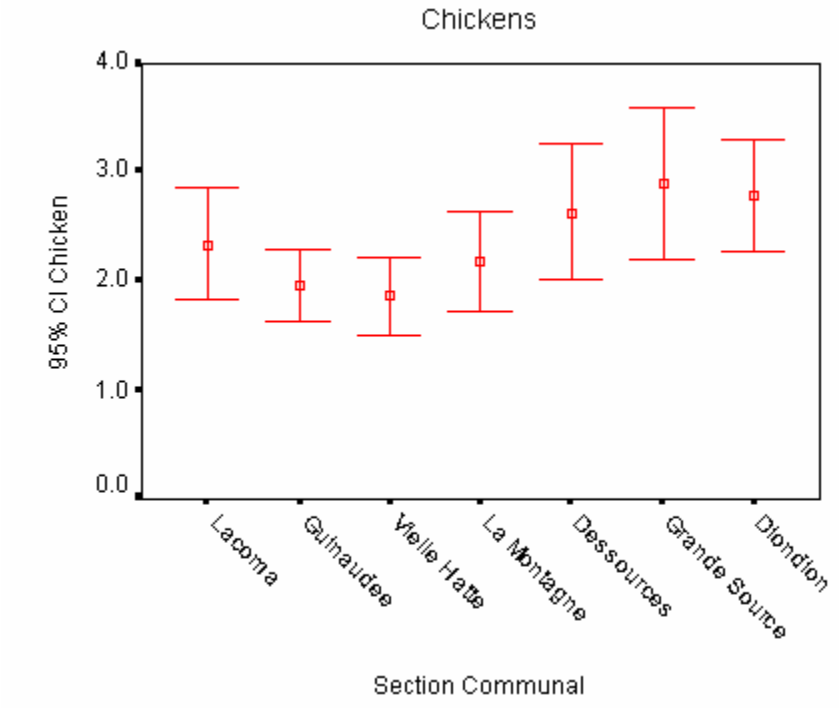


Chart pp 8.3: Comparison of Goats and Sheep per Household by Section

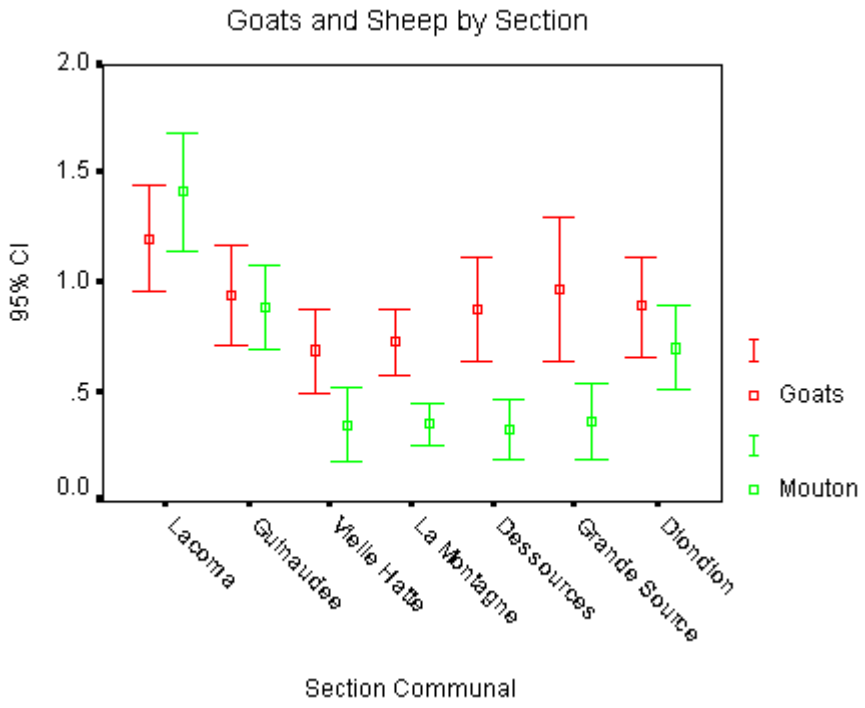


Chart qq 8.4: Comparison of Cattle and Hogs per Household by Section

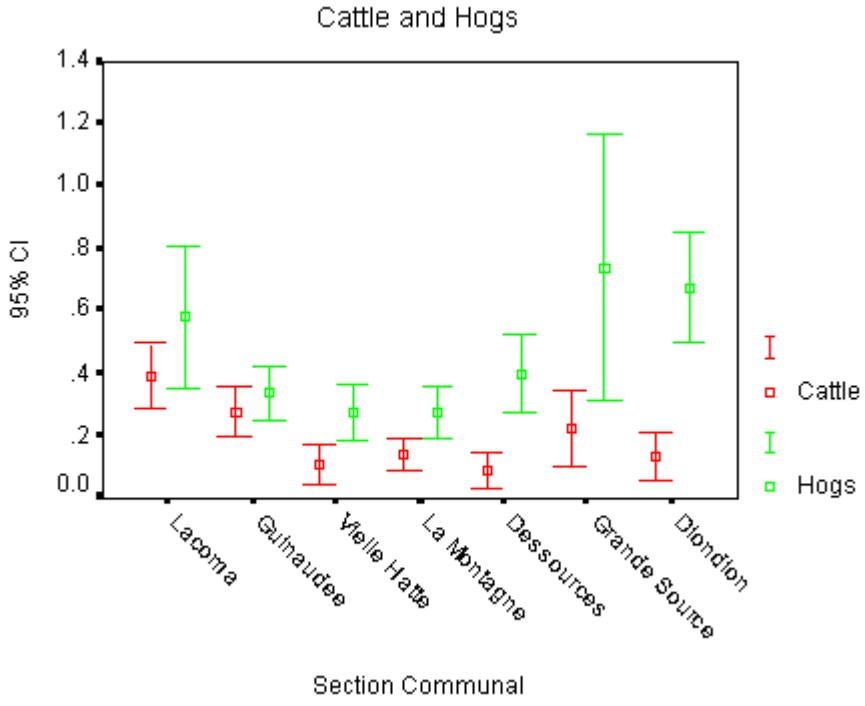
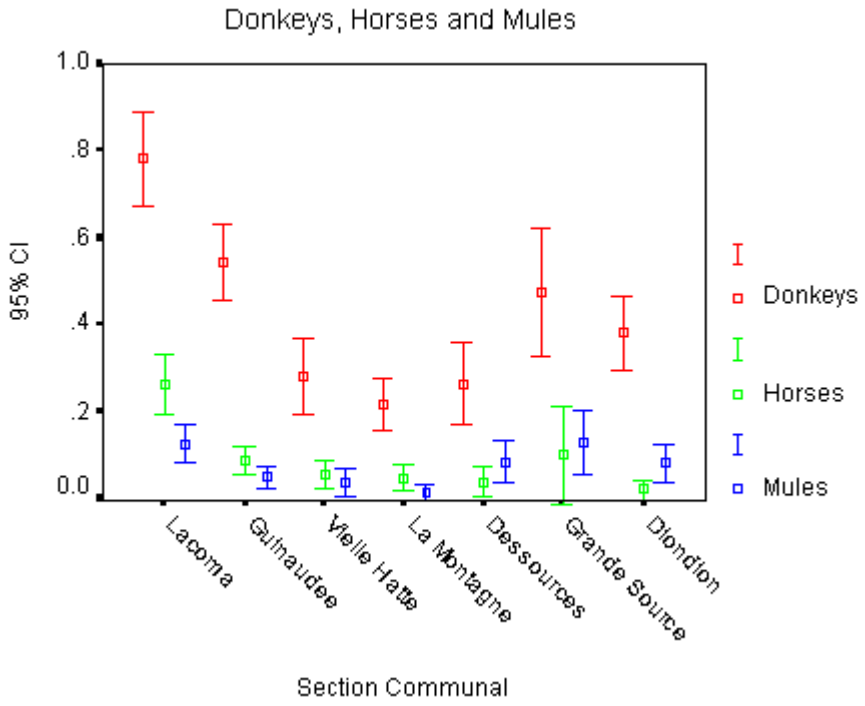


Chart rr 8.5: Comparison of Donkeys, Horses, Mules per Household by Section



8.3 Selling Livestock

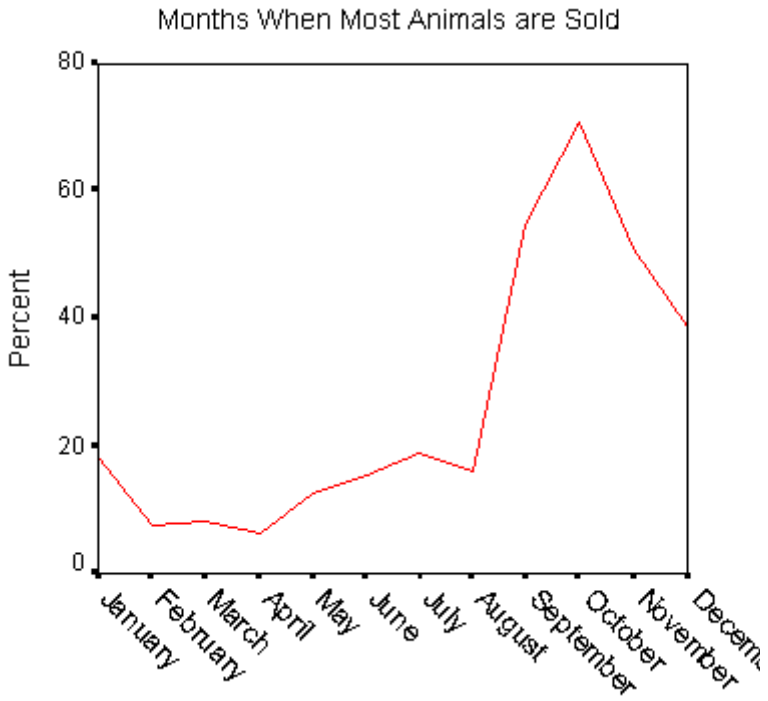
In the survey, we asked household respondents to give the three primary reasons for selling livestock. Of the 1,338 people indicating they do in fact sell livestock, the reasons for sales are listed in Tables 42 below (not all people gave three reasons).

Table aaa 8.3: Reasons for Selling Livestock (see above for units of analysis)

Reasons	Count (n=)	Percent	Cumulative Percent
Hunger (necessity)	1,158	30.1	30.1
School (pay costs)	1,045	27.1	57.2
Food (no necessity)	400	10.4	67.6
Death (pay for funeral costs)	372	9.7	77.3
Birth (pay costs)	342	8.9	86.2
Make Room for New Stock	68	1.8	88.0
Marriage, Baptism...	47	1.2	89.2
Over Population	9	.2	89.4
Other	412	10.6	100.0
Total	3,853	100.0	100.0

It is very likely that a primary reason people in rural Jean Rabel sell livestock is, as reported, hunger. However, looking at Chart 8.6 below it is clear that far and away the greatest time of year for selling livestock is October, the beginning of the Haitian school year. Seventy percent of respondents mentioned October as one of the three months livestock are sold most. During the following months of November and December, livestock sales drop off. No more than 20 percent of respondents cite the months January through August as primary times for livestock sales. The suggestion is that costs associated with school rather than hunger are primary reasons for livestock sales.iv

Chart ss 8.6: Months When Most Animals are Sold



8.4 Slaughtering Livestock

Of 1,337 household members responding, 1,036 reported sometimes slaughtering livestock. The primary reasons given for slaughtering animals were hunger in terms of immediate need (24.0%), births (22.3%)—to nourish the new mother[47]—hunger not implying necessity (16.9%), obligations associated with funeral rituals (14.8%), for feasts associated with marriage and baptism ceremonies (9.7%), to sell (7.3%), over population (.6%) and other (4.4%) which was almost entirely explained as killing sick livestock for consumption.

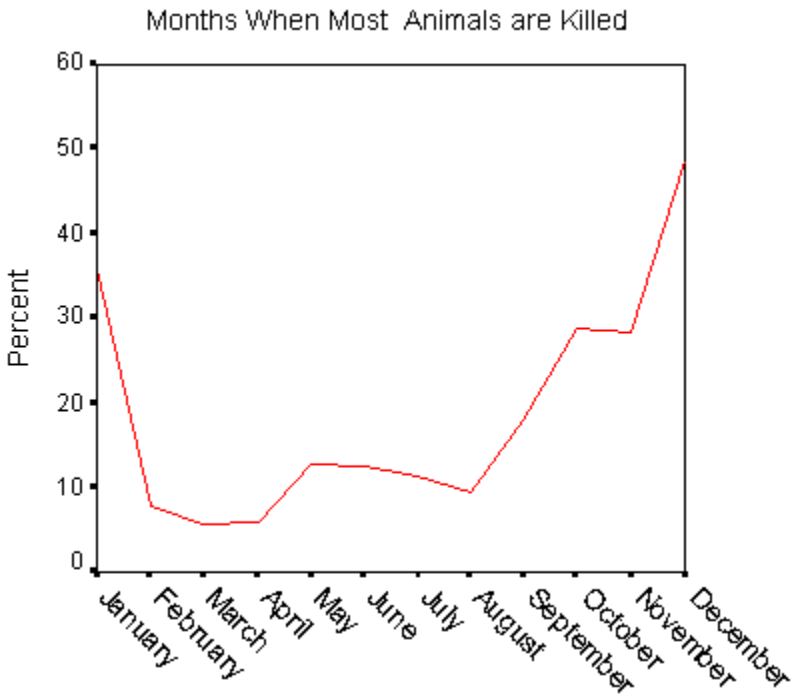
iv These costs include books, uniforms, tuition and, for children going to school in distant urban centers, rent.

Table bbb 8.4: Reasons for Killing Livestock

Reason	Count (n=)	Percent	Cumulative Percent
Hunger (necessity)	515	24.0	24.0
Birth (to feed the mother)	480	22.3	46.3
Hunger (no necessity)	364	16.9	63.2
Death (to feed visitors)	318	14.8	78.0
Marriage, Baptism	209	9.7	87.7
Sell	156	7.3	95.0
Over Population	12	.6	95.6
Other[48]	95	4.4	100.0
Total	2,149	100.0	100.0

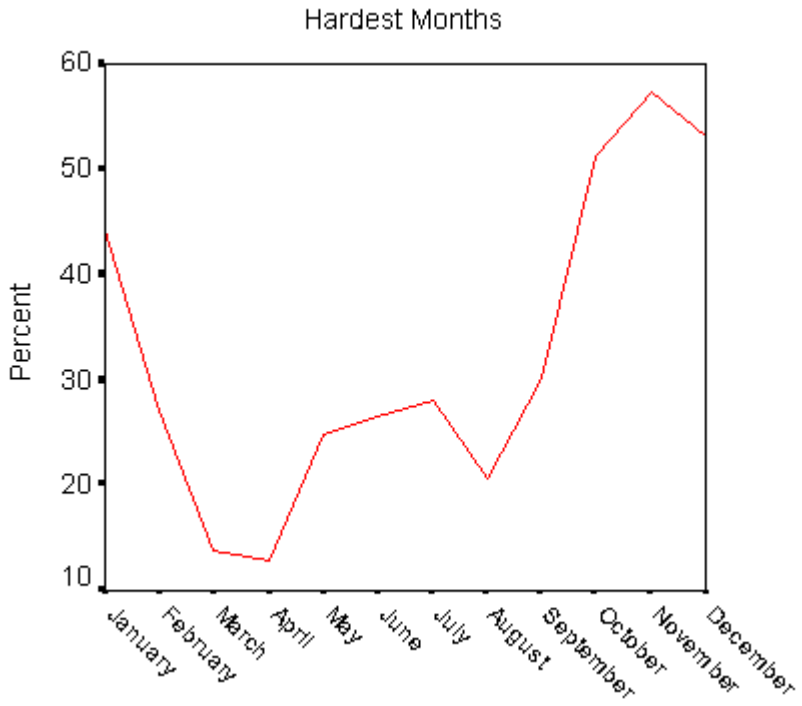
Household respondents report not slaughtering animals in the months of October and November (30%), and especially during the months of December and January (50%).

Chart tt 8.7: Months When Most Animals are Killed



The months most commonly cited as times of slaughter coincide with those months householders identified as the hardest/leanest of the year, primarily the months of October, November and December.

Chart uu 8.8: Leanest Months of the Year



8.5 Feeding and Pasturing Livestock

For most livestock species, people in Jean Rabel can ill afford to purchase special feeds. Knowing this, the surveyors only asked questions about feeding poultry and hogs. Poultry are fed grains in order to keep them from becoming wild or moving to a neighbor's house. Pigs which convert feeds to meat at the most efficient rate of all livestock, are often given purchased foods, particularly grains and seasonal produce. [49] Cows, horses, donkeys and mules are fed natural grasses, planted grasses and garden refuse. Particularly valued as reserve feed for browsing animals are the stalks left over from corn, plantain and millet harvests. The stalks are dried in the sun and stored on the roof of the house, kitchen or simply piled up in the yard. When needed, the stalks are drenched with salt water and fed to the animals. During extended droughts when no living grasses or dried reserves are available, people travel to distant areas to purchase them.

Animals that graze are not free ranged but tethered. People tether livestock on there own land and on State lands. Almost the entire 30 kilometers of the coast of Jean Rabel, for a distance varying between .5 to 1 kilometer inland, is State land and most arid areas in the mountains are considered as belonging to the State which gives anyone the right to tether their animals there. Boys are usually responsible for *chanje bet*, moving tethered animals from one place to another, a task which involves walking as much as four or five hours each day.

Tethering animals creates several problems. Because of the frequent need for water, cows and other larger animals can not be tied at too great a distance from the

homestead. The need to tether animals also creates the possibility that someone will steal the animal, dogs will kill it or it will strangle on its cord. Pigs are always kept in the immediate vicinity of the house or tethered in gardens. Pack animals are usually kept close to the house as well. Cows are tied at a greater distance but not too far as they must be led daily to water. Goats and sheep are often tethered at the greatest distances from the house, often on State land.

8.6 Problems Raising Livestock

The biggest problems reported with regard to raising livestock are feed scarcity (40.1%), disease (28.8%) and lack of water (19.2%). Problems not mentioned are strangulation and thievery. Hungry dogs, mentioned above, are also a problem especially with respect to goats and sheep. However, the issue of problem dogs was not adequately addressed by the survey because of the general nature of the questions—questions regarding livestock problems referred to livestock in general rather than particular species.

Figure 2 ***Goat that strangled on its cord.***

Table ccc 8.5: Biggest Livestock Problem (households are units of analysis)

Problems	Count (n=)	Percent	Cumulative Percent
Feed Scarcity	552	40.1	40.1
Disease	397	28.8	68.9
Water Scarcity	265	19.2	88.1
Dogs	137	9.9	98.0
Flooding	11	.8	98.8
Other	15	1.2	100.0
Total	1377	100.0	100.0

Table ddd 8.6: Biggest Livestock Problem by Section (households are units of analysis)

Reason	Section							
	1st n=387	2nd n=235	3rd n=163	4th n=203	5th n=117	6th n = 99	7th n=165	Total n = 1,369
Feed Scarcity (n =265)	54.8	45.5	31.3	28.1	39.3	17.2	33.9	39.9
Disease (n = 546)	18.9	20.4	37.4	47.3	33.3	40.4	23.0	28.9
Water Scarcity (n = 395)	22.0	20.9	16.6	15.8	18.8	15.2	21.2	19.4
Dogs (n = 137)	2.3	11.5	13.5	7.4	6.8	23.2	20.0	10.0
Flooding (n = 11)	1.3	.9	0	1.0	0	2.0	0	.8
Other (n = 15)	.8	.9	1.2%	.5	1.7	2.0	1.8	1.1
Total (n = 369)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion
(8 missing variables caused by mis-recorded Sections)

8.7 Veterinary Service

Veterinary services are scarce in Jean Rabel. There is a State veterinary technician, but only one for the entire commune of Jean Rabel and from talking to farmers in Jean Rabel it is not clear what he does. ID had a veterinary extension service complete with a network of local agents but the program was shut down on the 1st of May, 1997.

8.8 Livestock Tenure[50]

Like land, there are several ways people in Jean Rabel can come into ownership of livestock: They can inherit it, purchase it, *gade* it (similar to sharecropping, here defined as "tenured in"), or they can breed it. The primary means of ownership is "purchased" (85% for all animals). The second most common means of owning livestock is tenured in animals (8.8%). People in Jean Rabel do not depend on breeding to replenish their own livestock (3.2%).

Table eee 8.7: Use of Veterinary Service and Medicines

Animal Species (units of analysis = animals)	% Using of Veterinary Service or Medicines (n=2,789)
Donkey	21.4
Horse	19.5
Mule	19.2
Hog	27.5
Bovine	13.7
Sheep	12.7
Goat	11.9
Chicken	11.8
Turkey	2.9
Guinea Fowl	0
Duck	0
Total	15.6

Table fff 8.8: Livestock by Tenure (units of analysis = animals)

Species (n = 3,314)		Tenure (%)					
		Inherited (n=8)	**Purchased** (n=2,845)	**Tenured In** (n=292)	**Bred** (n=105)	**Other** (n=22)	**Total** (n=3,314)
Donkey	n=520	0	91.2	6.2	.8	.8	100.0
Horse	n=125	0	92.0	3.2	4.0	0	100.0
Mule	n=98	0	85.7	5.1	6.1	1.0	100.0
Hog	n=372	.5	81.5	14.2	1.1	1.6	100.0
Bovine	n=211	.5	68.2	26.1	1.4	0	100.0
Sheep	n=458	.2	85.6	11.8	1.5	.2	100.0
Goat	n=583	.2	85.2	10.3	2.1	1.2	100.0
Chicken	n=850	.4	88.0	2.7	7.2	.4	100.0
Turkey	n=71	0	90.1	8.5	1.4	0	100.0
Guinea Fwl	n=23	0	91.3	0	8.7	0	100.0
Duck	n=3	0	100.0	0	0	0	100.0
Total	**n=3,314**	**.2**	**85.8**	**8.8**	**3.2**	**.7**	**100.0**

Table 8.9 below is meant to give and idea of differences between Sections in purchasing versus 'tenuring in' of livestock:

Table ggg 8.9: Purchased versus Tenured Livestock by Section (units of analysis = animals)

Animal Species		Section (%)							
		1st	**2nd**	**3rd**	**4th**	**5th**	**6th**	**7th**	**Total**
Donkey	Tenure	8.2	6.2	5.3	4.8	3.8	0	5.6	6.2
n = 502	Purchased	91.8	93.8	94.7	95.2	96.2	100.0	94.4	93.8
	n =	196	113	38	42	26	33	54	502
Horse	Tenured	4.6	0	0	0	0	20.0	0	3.4
n = 119	Purchased	95.4	100.0	100.0	100.0	100.0	80.0	100	96.6
	n =	65	24	9	8	4	5	4	119
Mule	Tenured	8.1	0	0	0	10.0	8.3	0	5.7
n = 88	Purchased	91.9	100.0	100.0	100.0	90.0	91.7	100.0	94.3
	n =	37	13	5	1	10	12	10	88
Hog	Tenured	12.3	14.0	5.3	17.8	12.5	13.2	26.2	15.2
n = 348	Purchased	87.7	86.0	94.7	82.2	87.5	86.8	73.8	84.8
	n =	73	57	38	45	32	38	65	348
Bovine	Tenured	25.9	28.0	30.0	34.8	11.1	38.5	23.1	27.6
n = 199	Purchased	74.1	72.0	70.0	65.2	88.9	61.5	76.9	72.4
	n =	81	50	10	23	9	13	13	199
Sheep	Tenured	11.0	12.6	13.8	16.7	8.3	16.7	10.5	12.2
n =443	Purchased	89.0	87.4	86.2	83.3	91.7	83.3	89.5	87.8
	n =	172	95	29	48	24	18	57	443
Goat	Tenured	14.3	9.1	7.3	15.2	11.8	0	5.7	10.6
n = 555	Purchased	85.7	90.9	92.7	84.8	88.2	100.0	94.3	89.4
	n =	168	99	55	79	51	33	70	555
Chicken	Tenured	3.9	3.5	2.6	3.0	3.0	0	2.6	3.0
n = 767	Purchased	96.1	96.5	97.4	97.0	97.0	100.0	97.4	97.0
	n =	204	142	78	99	67	62	115	767

Sections: 1st =Lacoma ; 2nd = Guinaudee; 3rd = Vielle Hatte; 4th = La Montagne; 5th = Dessources; 6th = Grande Source; 7th = Diondion

8.9 Livestock Summary

8.9.1 Poultry

Figure 3 ***Rooster and Guinea Fowl. Outside Village of Jean Rabel .***

As seen above, chickens are the most commonly raised animal in Jean Rabel; 57% of all households reported having at least one chicken. Other poultry like turkey and guinea fowl are much rarer. Pigeons are common everywhere in Jean Rabel, but this fact was not investigated in the survey.

The biggest problem with chickens was reportedly disease. Veterinary services for chickens are reportedly sought by 11.9% of households owning chickens. Problems not reflected in the survey are mongoose and wild cats which often prey on chicks. Egg-eating domestic dogs are also a problem.

Chickens are raised primarily for meat and sale; secondarily for eggs. Chickens are commonly slaughtered for consumption both profanely and in association with religious rituals. Depending on its size a chicken sells for 15 to 100 gourdes (US$ .88 to 5.90) Almost all chickens are owned (97%) rather than tenured in (2.7%). Chickens usually run loose but are tethered during the beans and corn planting seasons. Chickens not tethered during planting times are sometimes returned to their owners dead—i.e. killed.

As anyone who lives in rural Jean Rabel knows, most of what chickens eat is what they find on their own--insects, grass seeds and vegetal refuse. Chickens and other poultry are usually fed by owners not to fatten them up but as a means of keeping them near the house (*pou yo pa ale*). Just the same, to get an idea of what people in Jean Rabel most often feed to chickens, we asked. Corn (93.7%) followed by millet (75.1%) are by far the most common feeds. Others are listed in Table 47 below.

Table hhh 8.10: Poultry Feeds

Feeds (n=1,423)v	**Yes**
Corn	93.7
Millet	75.1
Wheat	34.6
Sweet Potato	14.7
Beans/Peas	4.7
Other	1.2

v As all people in Jean Rabel own livestock at sometime or another, all respondents, not just those in possession of particular species were asked questions concerning feeds and milking.

8.9.2 Goats and Sheep

Goats and Sheep are, after chickens, the most common livestock in Jean Rabel; 39% of households sampled reported having at least one goat, 31% reported having at least one sheep. Goats and sheep are raised primarily for sale. Kids and lambs sell for 200 to 250 gourdes (US$ 11.75 to 14.70); an adult goat or sheep sells for 350 to 1,000 gourdes (US$ 20.60 to 58.80). Both animals are also slaughtered for consumption, the meat often being dried for storage. After chickens, goats are the animal most commonly slaughtered in association with religious ritual.

Figure 4 ***Woman leading goats to market. Kwakou, Dessources***

People in Jean Rabel do not make cheeses or other products from goat milk, but 36.1% of goat owners reported milking their nannies for home consumption:

Table iii 8.11: Milking of Goats

Animals		No	Yes
Goats	n = 1,433	63.9	36.1

In relation to other large animals, veterinary services are rarely sought for sheep (12.7%) and goats (11.9%). Sheep and goats are most commonly tethered, which creates at least two problems not investigated by the survey: 1) goats and sheep are easily stolen because they must be tied where there is vegetation to graze, often a great distance from the house and 2) goats and chickens sometimes strangle to death on the cords used to tie them. Dogs are also a serious problem not adequately reflected in the survey. Wild and hungry domestic dogs kill a very large number of goats and sheep, easy prey when tied.

Farmers who find goats or sheep foraging in their gardens sometimes exercise the right to kill the animal. The head is kept by the gardener, the rest of the carcass must be returned to the goat owner.

The number of households reportedly 'tenuring in' goats and sheep was the lowest figures for all large livestock raised for consumption; 10.3% of goats and 11.8% of sheep were reportedly 'tenured in.' Both sheep and goats are seldom fed any supplements. This practice is so common that questions regarding the feeding of sheep and goats were omitted from the survey.

8.9.3 Pigs

In Jean Rabel pigs are the fourth most common type of livestock raised for sale and consumption; 25% of all households sampled reported having at least one. Pigs are an animal that can yield high returns. As one man told the author; *kochon gen plis kob pase tout bet* (pigs yield more money than all animals). Pigs fetch the highest price of any livestock raised for sale Piglets sell for 200 to 600 gourdes (US$ 11.75 to 35.30); and an adult pig can sell for as much as 6,000 gourdes (US$ 352.95). Consequently, pigs

are almost always sold rather than slaughtered for consumption, or in association with religious rituals. To be profitable, pigs demand large investments in feed and veterinary services. People in Jean Rabel commonly remark; *kochon yo reme mouri* (pigs like to die); 27.5% of all pig owners reported using veterinary services and medicines, the highest use of veterinary services for any animal. Because pigs are not grazed they are usually tethered near the household or in gardens, reducing opportunities for theft and increasing the likelihood that an animal strangling on its cord will be discovered before death occurs.

Pigs are, after cows, the second most commonly 'tenured in' animal; 14.2 % of all people owning pigs report the primary way they came into possession of the animal(s) is through tenure arrangements. Pigs are almost always tethered. In some areas pigs are allowed to roam free—i.e. places where there are no gardens such as villages and coastal settlements. Pigs found foraging in the neighbor's gardens are usually not killed for their crime, but owners must pay for damages. Pigs suffer, however, in cases where the owner refuses to indemnify the victim--a pig belonging to the author was once macheted to death by a woman fed up with the procine's repeated and uncompensated invasions of her kitchen.

Figure 5 ***Typical-looking pig. Nan Vincent, Vielle Hatte.***

As elsewhere in the world, Jean Rabel pigs eat almost anything. But because of the potential for high profits, pigs are supplemented as well. In the survey, we found pig owners feeding their animals the following foods:

Chart vv 7.9: Hog Feeds

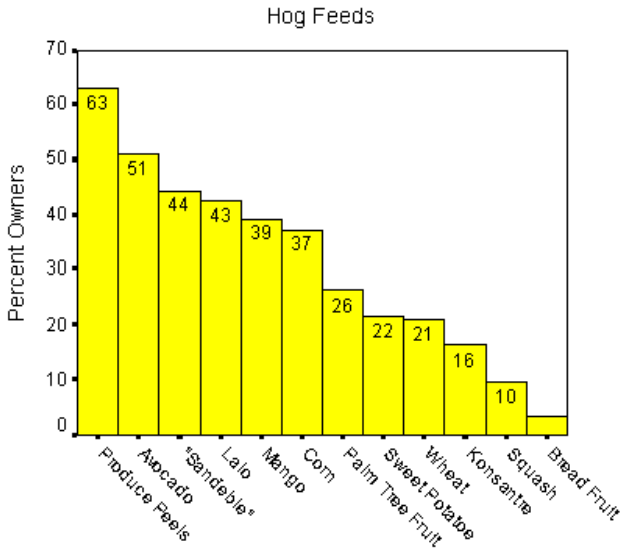


Figure 6 ***Cow tethered on ridge over Plen de Moustique. Sauval, Guinaudee.***

8.9.4 Cattle

Of all large livestock raised for sale and consumption, cattle are the rarest; 14% of households in the Jean Rabel sample reported having at least one cow or bull. Cattle are most often sold, and sometimes slaughtered—usually in association with a "voodoo" ritual. Cattle sell for 2,500 to 4,500 gourdes (US$147.00 to 264.7); a calf sells for 1,000 to 1,500 gourdes (US$ 58.80 to 88.23).

In Jean Rabel cattle are not used for traction (plowing). Cow owners in Jean Rabel also do not make cheese, butter or yogurt from cow's milk--presumably because of low milk production related to the lack of high protein feeds and deteriorating quality of grazing land.[51] However, 58.7% of households possessing cows reported milking for home consumption:

Table jjj 8.13: Milking of Cows

Animals		No	Yes
Cows	n = 1,407	578	829

After goats and sheep, cattle were the least likely of all large animals reported to be treated by a veterinary technician or medicines (13.7% of cattle owners). Cattle are the most likely animals to be 'tenured in;' 26.1%, almost twice the figure for the next most tenured in animal, hogs (14.2%). As with other animals, one rarely sees corralled cattle in Jean Rabel. Cattle are always tethered and, because of the need to graze, they are often kept at a distance from the homestead. This latter fact coupled with high sale prices make cattle one of the most frequently stolen animals. Roving cattle are rare and never killed. However, owners must pay indemnities for damages to gardens. Failure to compensate for persistent intrusions into a neighbor's garden sometimes results in a machete wound across the rump of the animal or the severing of its tail.

Cattle are seldom if ever supplemented with foods other than leaves and stalks of garden produce. The interviewers were confident enough in the consistency of feeding practices to omit questions concerning cattle supplements from the survey.

Figure 7 ***Young donkey tethered to sapling in Collette, Vielle Hatte***

8.9.5 Horses, Donkeys and Mules

As seen in the section 'Transportation', donkeys are the most commonly owned pack animals (35.1% of households report owning at least one), followed by horses (8.4%) and mules (6.7%). None of these beasts are used for plowing. None are ever eaten or slaughtered. Even a sick or injured donkey, horse or mule is simply left to die rather than euthanized. Use of veterinary services and medicines were second only to hogs: 21.4% for donkeys, 19.5% for horses, and 19.2% for mules. Most of the animals are purchased.

Table kkk 8.14: Livestock by Tenure

Species	Tenure						
	Inherited (n=0)	**Purchased (n=673)**	**Tenured In (n=41)**	**Tenured Out (n=9)**	**Bred (n=15)**	**Other (n=5)**	**Total (n=743)**
Donkey (n=520)	0	91.2	6.2	1.2	.8	.8	100.0
Horse (n=125)	0	92.0	3.2	.8	4.0	0	100.0
Mule (n=98)	0	85.7	5.1	2.0	6.1	1.0	100.0

Depending on size, strength and age, the price of a donkey ranges from 900 to 2,500 gourdes (US$ 52.95 to 147.00). The price of a horse ranges from 1,000 to 4,000 gourdes (US$ 58.80 to 235.30). And a price of a mule, the most prized pack animal, ranges from 1,750 to 7,500 gourdes (US$ 102.95 to 441.18).

Like other livestock, pack animals are not corralled but tethered. Theft, especially of mules, is a widespread problem not reflected in the survey. Roving donkeys, horses or mules are a rare sight, and seldom are the animals intentionally injured for their depredations. Owners must pay for damages to gardens. Again, as with cattle, goats and sheep, the surveyors were confident enough in their knowledge that farmers in Jean Rabel do not feed pack animals supplements that questions concerning feeds were omitted from the survey. It is known that horses, donkeys and mules are fed natural grasses, planted grasses and stalks left over from corn, plantain and millet harvests.

Chapter 9

Figure 38 ***Women of Mo Vann, Lacoma***

Health Care, Nutrition and Contraceptives

9.1 Chapter Overview

In the survey, we interviewed one woman from every sampled household. The preferred female respondent had at least one child under six years of age. In cases where there were more than one resident female with children under 6 years of age, interviewers were instructed to choose the youngest qualified mother. Both the mother and her oldest child in the 0 to 6 year age range were weighed and measured for height and brachial circumference—interviewers tried to select the oldest child in an effort to bias the sample toward higher ages, diminishing representation of still nursing children (especially those under 6 months of age, who are exclusively breast feeding, insulating them from nutritional deficits suffered by older children). Out of the total sample of 1,586 households, the interviewers questioned 798 mothers between the ages of 15 and 55 with children under 6 years of age (122 women giving ages over 55 were eliminated from the analysis). As the apparent consequence of poorly taken measurements, only 474 of these mother/child pairs fell within acceptable ranges to be included in analysis. In short, the validity of the anthropometric data is questionable.

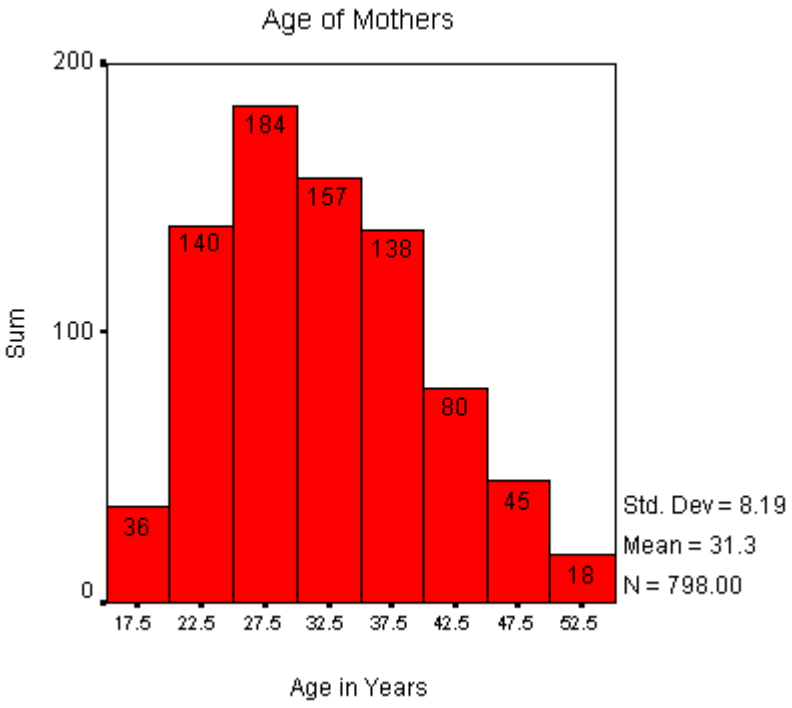
Inquiry focused on vaccinations, illnesses, treatments, and maternal and child nutritional status-- as measured by height, weight and brachial circumference. There were also questions regarding feeding and weaning practices, knowledge of health care

and use of contraceptives. In the absence of mothers with young children, interviewers were instructed to skip all questions regarding children and child nutrition and simply choose the youngest mother to answer general household, nutrition and contraceptive questions. The research demonstrated that women in Jean Rabel have good knowledge of nutrition, medical care and contraceptives. However, malnutrition, especially chronic malnutrition is pronounced in the area, and contraceptive use is low.

9.2 The Sample

Out of the total sample of 1,586 households, the interviewers questioned 798 mothers between the ages of 15 and 55 with children under 6 years of age (122 women giving ages over 55 were eliminated from the analysis). All these women were included in analysis of health care and knowledge. However, only 474 mother/child pairs were included in the nutritional analysis because of unacceptably wide variation in measurements. Thus, the validity of the nutritional data is questionable.[52]

Chart ww 9.1: Age of Mothers



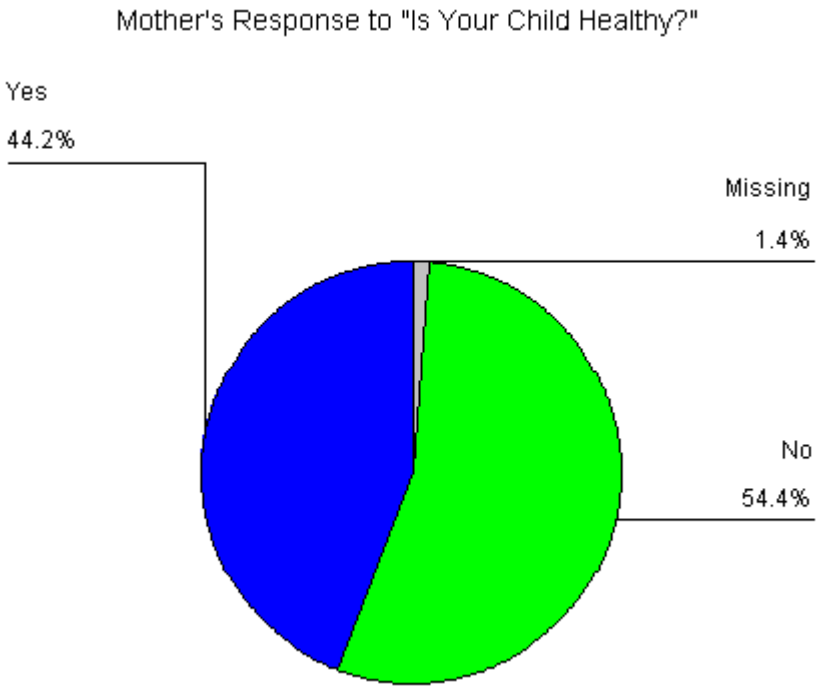
In the absence of mothers with young children, interviewers were instructed to skip all questions regarding children and child nutrition and simply choose the youngest mother to answer general household, nutrition and contraceptive questions.

9.3 Health Care

In the survey, we tried to evaluate how mothers viewed the health of their children, how often the children were sick and what mothers did to treat ill children. An important objective was to determine if NGO programs were having a positive effect on the population: are the people using provided health care services and are mothers and children receiving vaccinations. The data can also be used to evaluate the impact of future projects.

Figure 39 *Children in Granfon, Lacoma*

Chart xx 9.2: Mother's Response to "Is Your Child Healthy?"



Of the 434 mothers who said their child was not healthy, 41.4% cited contaminated drinking water as the cause; 30.6% cited her inability to provide adequate food to the child, and 21.8% said the child simply did not have a big appetite.

Table lll 9.1: Reasons Given by Mother for Child's Poor Health

Percent of mothers mentioning the following causes of child's poor health (%) n = 434				
Ill	Bad water	Not enough to eat	Will not eat	other
43.5	41.4	30.6	21.8	5.3

Among the 434 mothers claiming an unhealthy child, 197 were breast feeding infants; of these mothers 13 (6.6 %) claimed poor health was caused by bad breast milk.

9.4 Diarrhea

Diarrhea is a leading cause of infant deaths. Proper knowledge of treatments as simple as giving re-hydration salts or prompt consultation with a health care worker can save the child's life. On the other hand, improper reactions, such as suspending breast feeding can make matters worse. In an effort to assess mothers knowledge and treatment practices, as well as childhood illness rates, interviewers asked if children currently had diarrhea or had suffered from diarrhea in the two weeks preceding the interview.

Table mmm 9.2: Diarrhea Status

Diarrhea (%) n = 798	
Currently	10.2
In the past 2 weeks	30.5

missing = 45

Of 251 mothers reporting their child currently suffered from diarrhea or had experienced bouts of diarrhea in the past two weeks, 62.0% reported seeking medical treatment, 41.2% reported giving re-hydration salts, and 29.6% reported giving fluids. Only 8.5% percent of mothers said they had done nothing to address the problem.

Table nnn 9.3: Treatment for Diarrhea

Treatments given for Diarrhea n = 251					
Medical treatment[1]	Re-hydration salts	Give fluids	Give food	Other	Nothing
62.0	41.2	29.6	7.5	5.2	8.5

Medical Treatment = auxiliary, clinic or hospital; missing = 19

Among those mothers reporting their child currently had diarrhea or had diarrhea in the previous two weeks, 94 were still breast feeding the child. Only three (3.2%) of these mothers reported withholding breast milk as a 'treatment' against diarrhea.

Figure 40 ***Sick girl with a smirk on her face. Inside the cloth covering her head are medicinal leaves. Gwo Sab, Diodion.***

9.5 General Treatments

To get an idea of clinic use versus other treatments, the survey also inquired about how the last household illness was treated. Multiple responses were accepted. Respondents overwhelming cited clinics as the primary recourse. However, this response should be treated with skepticism. It is well known by people living and working in Jean Rabel that traditional healers are common (see Text Box 9.1 below). Further, many

respondents saw the survey as an opportunity to demonstrate their interest in "development," often associated with western medical care.

Table ooo: Treatments for Last Household Illness

Treatments (%)						
Clinic	Tea	Traditional Healer	Rehydration Salts	Private Doctor	Nothing	Other
64.6	43.4	12.6	11.6	8.2	2	8.2

****

Text Box i 9.1: Powders, Witches, Magic, and Malevolent Spirits .

In Haiti , the germ theory of disease does not prevail. Haitians emphasize the role of powders, witches, magic and malevolent spirits in causing illness. These beliefs are not restricted to uneducated farmers. The visitor from abroad sits dumbfounded listening to trained Haitian doctors very seriously explain how evil doers can magically turn people into pigs and then eat them; the visible manifestation of the process being a disease. The same visitor is equally stupefied to hear his college educated Haitian friend say; "Se vre, se vre, SIDA se yon maladi sex. Min gen anpil moun kap pran ni nan kout poud." (It's true, it's true, AIDS is a sexual disease. But there are a lot of people who get it from poisonous powders).

Treatment of illnesses is a similar matter. Despite the millions of dollars spent by NGOs and foreign governments to promote western medical care, the people of Haiti continue to believe in and seek out spiritual and herbal remedies. This is not to say that Haitians eschew treatment in hospitals and clinics. Western medical care is commonly sought for serious afflictions; but it is always included in an array of other treatments and often as a last resort—despite what survey respondents may have told interviewers.

Figure 41 ***Hospital room with 12 beds and a single patient. Apparently a place where service is either not in high demand or not highly provided. Catholic Hospital, Port-de-Paix.***

Why Haitians continue to accept bizarre explanations for diseases and seek supernatural treatments is not a mystery when the quality of western medical care is examined. One does not have to look far in Haiti for examples of incompetent, even dangerous medical practitioners. The head supervisor in the survey believes he almost lost a son because a local nurse prescribed the wrong medicine. Having begun administering the medication, the child's condition clearly deteriorated. The supervisor took the boy to another clinic and was told by different nurse that completing the medication would have killed his child. (Whether the nurse was right or not, instances like this do little to bolster faith in western medical practitioners). The author lost his only Haitian godson to an unknown fever. The child had visited the same doctor twice in three days only to be given chloroquin and told each time that the child had malaria. Apparently the child did not have malaria; he died in route to the doctor for a third visit. In 1993 a rat drowned in the water reservoir of nearby Mole Saint Nicolas causing an out-break of typhoid. The local State clinic was swamped with sick patients. Children were hit especially hard. Convinced the disease was malaria, the resident doctor continued to issue chloroquin tablets. Before the epidemic fizzled out, over 30

children had died. As one local pastor said; "Chak jou nou te voye de twa timoun nan simite. Moun pat kon sak pou fe." (every-
day, two or three children were taken to the cemetery. People did not know what to do). A good friend of the author had two children fall ill during the epidemic. One went to the hospital, one to the bokor (spiritual healer). For whatever reason, the child who went to the hosptial died; the one who went to the bokor did not.

To sum up, there is single very good reason why spiritual and herbal remedies are often favored over western medicine: in many places in Haiti you are safer with the bokor.[53] *As a French doctor with several years experience in-country explained to the author; even if a spiritual or herbal healer does absolutely nothing in the way of real treatment, there is a 95% or better chance the typical patient will recuperate on his own. Incompetently administered medicines, on the other hand, are dangerous. In short, people in Haiti will accept certain kinds of medical care in direct proportion to the quality with which it is delivered. This relationship is evident in the changing rates of admissions at the local hospital. Before ID took over the State Hospital in 1994, Jean Rabel locals sarcastically referred to it as "the morgue"—the very last alternative in treating illnesses. Since that time, improvements in the facility's performance have changed Jean Rabel hospital from a last ditch effort in fighting sickness to a first choice for many people*

Figure 42 ***A Haitian spirtual healer—called a Hougan or Bokor when male, and Mambo when the healer is a woman--pictured here in his 'temple. Vie Katie, Mole Saint Nicolas.***

Table ppp: Hospital Admissions in Jean Rabel 1993 - 1997

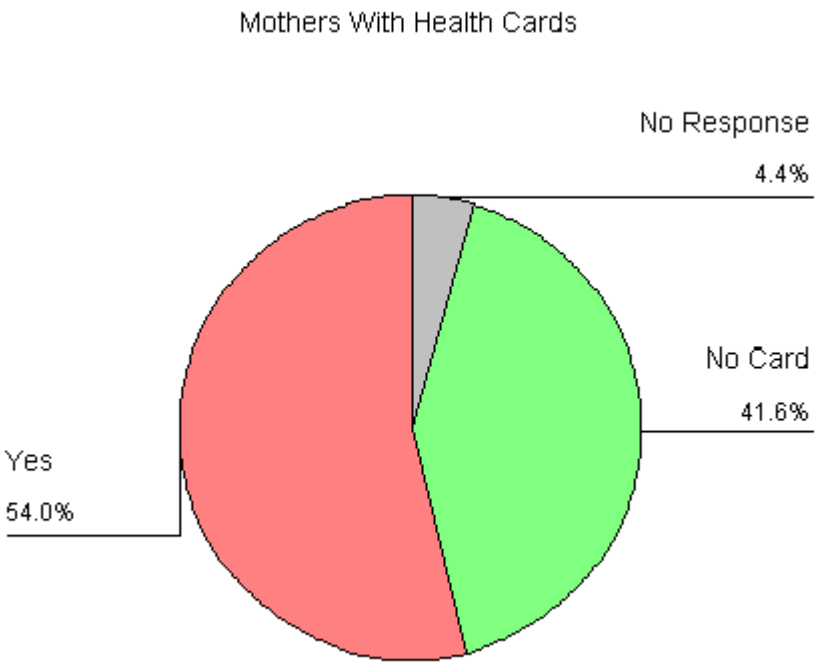
Year	Number of Admissions
1993	250
1994	228
1995	615
1996	615
1997	514

Source: Hospital staff Jean Rabel

9.6 Vaccinations

Clinicians in Jean Rabel issue a "Chemen La Sante," a health card which records the patients medical history. In the survey we asked mothers if they possessed a health card for themselves and one for the sampled child. Fifty-four percent of women had a card, 41.6% did not have a card or were not in possession of one, and 4.4% of woman did not respond or did not know if they had a card or not.[54]

Chart yy 9.3: Mothers with Health Cards



Of the 431 woman who were in possession of a health card 96.5% had at least 'Dose 1' tetanus vaccines; and 94.1% of all women in the sub sample, even those not in possession of health cards, claimed to have had at least a 'Dose 1' vaccination. There were 18.6% of women reporting Dose 2 vaccinations, the State recognized dosage needed for "complete vaccination."

Table qqq 9.5: Vaccinations of Mothers With Health Cards

Vaccination History (n = 431)	Valid Percent	Cumulative Percent
No Vaccination	1.2	1.2
Dose Zero	2.3	3.5
Dose 1	8.4	11.8
Dose 2	**18.3**	**30.2**
Boosters	69.8	100.0
Total	100.0	100.0

(Missing variables = 0)

Table rrr 9.6: Vaccinations of All Mothers

Vaccination History (n = 798)	Percent	Cumulative Percent
No Vaccination	5.9	5.9
Dose Zero	8.0	13.9
Dose 1	10.3	24.2
Dose 2	**18.6**	**42.8**
Boosters	57.2	100.0
Total	100.0	100.0

(Missing variables = 20)

Child health cards include a record of vaccinations and a record of weight for age as an indicator of the child's growth progress and nutritional status. Children are supposed to be vaccinated at the ages of 0, 2, 4-6, 9 and 18 months, with a final vaccination at 4-6 years of age and a tetanus vaccination every ten years after the age of six.

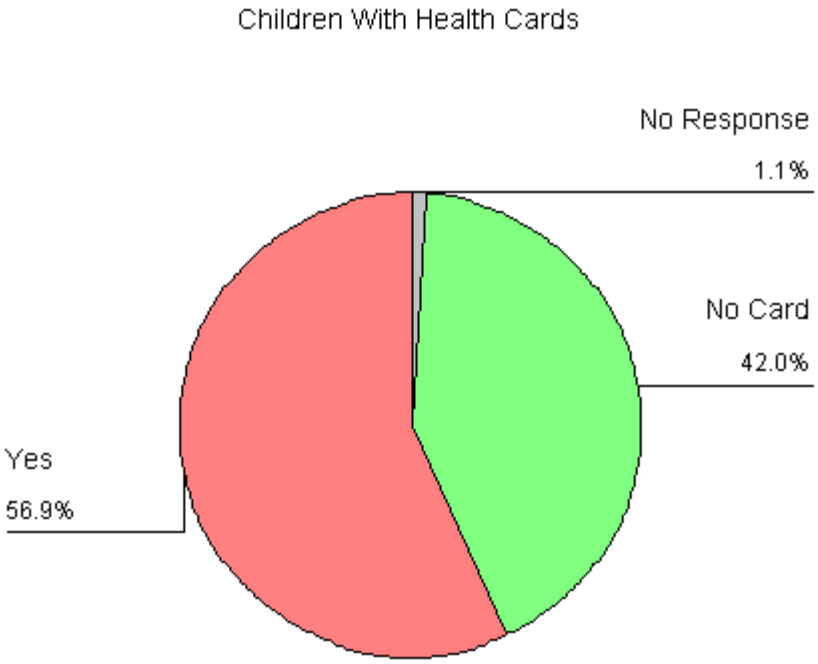
Table sss 9.7: Child Vaccinations

Age	Vaccinations				
	Di Te Per[1]	Polio	Tetanus	Measles	BCG[2]
0 to 1 month		+			+
2 months	+	+	+		
4 months	+	+	+		
6 months	+	+	+		
9 months				+	
18 months	+	+	+		
4 to 5 years	+	+	+		
every 10 years			+		

1 Di Te Per = Diphtheria, Tetanus and Pertosis 2 BCG is given to counteract infections associated with tuberculosis--it is not a vaccination against TB.

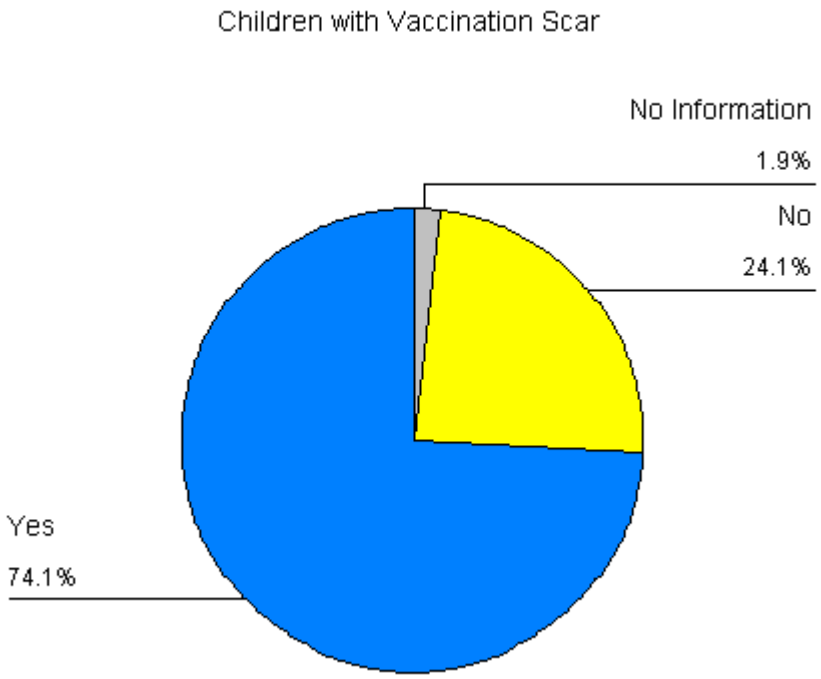
Of the 798 mothers in the 'mothers with young children' sub-sample, 56.9% (454) were able to show interviewers a health card for the sampled child, 42 % had no card or were not in possession of a card for the child, and 1.1% gave no response.

Chart zz 9.4: Children with Health Cards



Seventy-four percent of the 798 children in the sub-sample had a cicatrice, a scar indicating they received a BCG vaccination.

Chart aaa 9.5: Children with Vaccination Scar



Of all children in the mother-child sub sample, 39.4% had been effectively vaccinated against Diphtheria, Tetanus and Pertosis, 46.8% had received a measles vaccine , and 61% had been vaccinated against Polio. The required dosage for complete vaccination is highlighted in the charts below.

Table ttt 9.8: Diphtheria Vaccination

Vaccination History (n = 798)	**Percent**	**Cumulative Percent**
1st dose	11.3	11.3
2nd dose	10.2	21.5
3rd dose	**20.6**	**42.1**
booster	18.8	60.9
not vaccinated	4.4	65.3
do not know	34.7	100.0
Total	100.0	100.0

(Missing variables = 21)

Table uuu 9.9: Measles Vaccination

Vaccination History (n = 798)	Percent	Cumulative Percent
Vaccinated	**46.8**	**46.8**
Not yet	13.0	59.8
Do not know	40.2	100.0
Total	100.0	100.0

(Missing variables = 42)

Table vvv 9.10: Polio Vaccination

Vaccination History (n = 798)	Percent	Cumulative Percent
Dose 0	3.6	3.6
1st dose	7.9	11.5
2nd dose	**10.6**	**22.1**
3rd dose	21.8	43.9
Booster	17.2	61.1
not vaccinated	4.3	65.4
do not know	34.6	100.0
Total	100.0	100.0

(Missing variables = 24)

Table www 9.11: BCG Vaccination

Vaccination History (n = 798)	Percent	Cumulative Percent
Vaccinated	**76.0**	**76.0**
Not yet	6.0	82.0
Do not know	18.0	100.0
Total	100.0	100.0

(Missing variables = 19)

9.7 Mother's Knowledge of Personal Health Care

Women in Jean Rabel demonstrated a good knowledge of personal medical care. Of the 1,384 women responding 1,342, or 97%, said that pregnant women should visit a doctor. Fifty percent of these women correctly identified the 3rd month of pregnancy as the optimal time for visitation. Only 8.4% of women indicated they did not know about 'anemia.' The remaining women identified the following foods as beneficial in avoiding an anemic condition:

Table xxx 9.12: Percent of Women Identifying Foods as Good Against Anemia

Greens	Dairy	Meat	Fruit	Malta	Do not know
83.8	63.8	53.1	50.3	17.1	8.4

Figure 43 ***Mother breast feeding infant. Bord-de-Mer, Diondion.***

9.8 Breast feeding

Their is a widespread belief among Haitian women that colostrum, the vital first milk a mother gives, is bad for infants. Although some mothers report delays in breast feeding newborns, there is little indication that Jean Rabel women as a group subscribe to the notion that colostrum is bad for the infant; 75.6% of mothers interviewed in the child/mother sub-sample reported breast feeding their child immediately after birthing.

Table yyy 9.13: First Breast Feeding

Time delay from birth until first breast (% mothers) n= 798		
First breast-feeding	**Percent**	**Cumulative Percent**
immediately	75.6	75.6
hours later	12.8	88.4
next day	6.7	95.2
days later	4.8	100.0
Total	100.0	100.0

missing = 11

A behavior which disturbs promoters of western child care practices is mothers giving infants liquids and foods before necessary. The practice is considered dangerous for at least three reasons: 1) breast milk is superior to other foods, hence its supplementation can rob the child of nourishment, 2) infections can be introduced through foods and liquids, 3) babies can choke on foods. In the survey mothers reported giving infants their first liquids at the average of 31.43 days. The average timing of first solid foods was 96.27 days.

Table zzz 9.14: Introduction of Liquids and Solids (% women responding n = 798)

Variable	Days	Std. Deviation
Timing of first liquid other than breast milk	31.43	50.96
Timing of first solid food	96.27	69.21
Opinion on timing of first solid foods	115.19	65.21

Both the reported timing of first foods and the timing of first liquids revealed considerable variation. Indeed, 60% of mothers reported giving infants liquids within ten days of birth. The primary reasons for giving liquids are listed in Table 9.15 below.

Table aaaa 9.15: Reasons for giving infant liquids (% women responding n = 798)

Gas	Thirst	No breast milk	Hiccups	Diarrhea	Other
70.7	25.8	22.6	16.2	6.7	9.7

The most common types of foods fed to infants are pounded grains mixed with water or milk to form a porridge (14.2%), soups (39.9%) and 'kiyez', a type of banana/plantain usually mashed and mixed with sugar and water or milk.

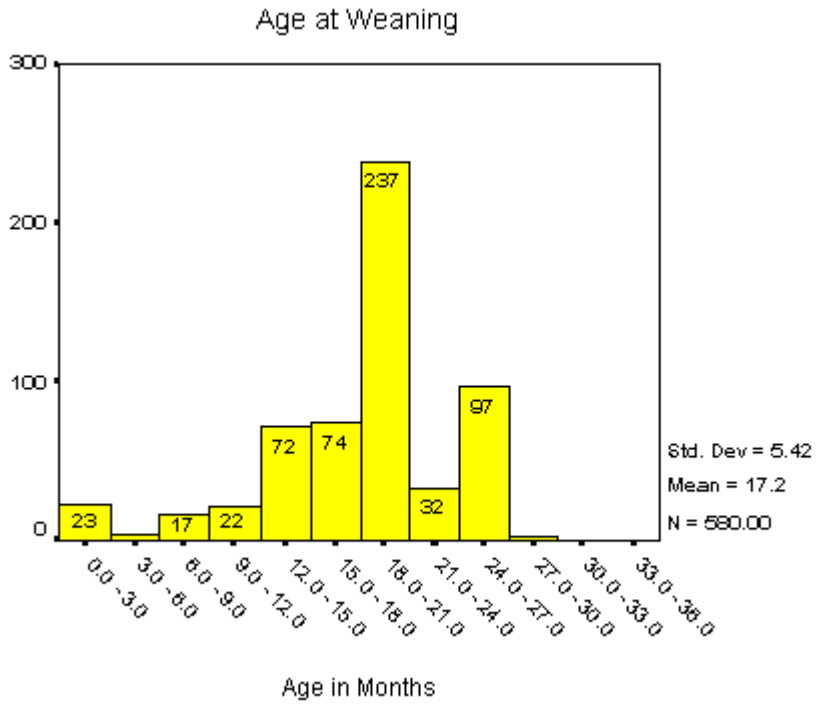
Table bbbb 9.16: Baby Foods (% women responding n = 798)

Foods mothers report feeding nursing infants			
Grains[1]	Soup	Kiyez[2]	Other
14.2	39.9	84.4	21.3

missing = 18; 1 = ground corn, rice or wheat, 2 = a type of plantain that is smashed and sometimes mixed with sugar or milk. It is also dried and made into a powder that can be reconstituted with milk.

Ask any rural Haitian woman when she will finish weaning her child and the response is almost always 18 months. The data bears this expectation out with 50% of all women reporting they completely withdrew breast feeding their last child at 18 months of age.

Chart bbb 9.6: Age at



Weaning

(missing = 218; mothers still nursing)

9.9 Meals

People in Jean Rabel typically eat two meals a day, a light breakfast of coffee, bread and sometimes eggs, and a large meal in the afternoon. Asked what they had fed their children yesterday, women indicated that corn meal and greens were the most common food (36.8%) followed by rice and beans (30.0%). Other reported foods are listed in Table 9.17 below.

Table cccc 9.17: Foods Fed Children on Day Preceding Interview

Foods mothers report feeding children 'yesterday'	
Foods	**Percent of mothers**
Corn meal and greens	36.8
Rice and beans	30.0
Bread	15.0
Kiyez[2]	10.7
Soup	10.4
Cracked wheat[1]	7.2
Plantain	6.5
Nothing	3.2
Other	29.7

1 = called *ble*, it is the primary food aid donated by the United States; 2 = a soft type of plantain commonly fed to infants

For all households, respondents were asked what foods were most commonly eaten daily and weekly. These foods are listed below in Table 9.18. A somewhat surprising result is the low frequency with which respondents claim to eat manioc and sweet potatoes, the third and fourth most commonly planted foods (see Agriculture). Perhaps responses were influenced by the stigma associated with manioc and sweet potatoes, staples for *moun ki pa kanpe sou anyen* (literally, 'people who stand on nothing' i.e. people who are destitute).

Table dddd 9.18: Most Commonly Eaten Foods

Most Commonly Eaten Foods (n = 1,483)			
Foods	**Every Day**	**2 to 3 times weekly**	**Total**
Cooking oil	90.2	7.9	**98.1**
Bread	63.9	32.9	**96.8**
Beans/peas	47.6	49.1	**96.7**
Citrus	33.6	50.6	**84.2**
Rice	26.4	71.3	**97.7**
Corn	20.5	76.2	**96.7**
Plantain/banana	15.2	75.0	**90.2**
Mango and papay	15.0	66.4	**81.4**
Meat	9.6	82.3	**91.9**
Greens	6.1	73.7	**79.8**
Dairy (milk and eggs)	5.3	76.5	**81.8**
Spagetti	4.7	77.8	**82.5**
Millet	4.6	72.2	**76.8**
Manioc and sweet potato	2.6	69.0	**71.6**

missing = 103

9.10 Malnutrition

Clinic staff also evaluate and record nutritional status of children. Specifically, by weighing the children and recording the measurement on a "chemen la sante," a chart which gauges the growth progress of the child. Of the 454 children with health cards, 42.1% were normal at the time of their last clinic visit, 34.5% were classified in the mildest category of under-growth, 8.9% in the second category and 0.9% in the severest category of poor growth. The remaining 13.9% were undetermined because the weight for age of the child was not recorded or the card was improperly filled out.

Table eeee 9.19: Level of Nutrition on 'Chemen La Sante"

Nutritional Level	Percent	Cumulative Percent
normal	42.1	42.1
M1	34.5	76.6
M2	8.9	85.5
M3	.9	86.4
do not know	13.6	100.0
Total	100.0	100.0

(missing variables = 5 : 'Do not know' indicates that either the card was not filled out or was improperly filled out)

In the survey, nutritional interviewers evaluated current nutritional status of children by weighing them, determining their height, and then creating nutritional indicators with these measures by calibrating them according to sex and age. The indicators used were ratios of Height for Age (HA), Weight for Height (WH) and Weight for Age (WA). The statistical software package Epi6 was used to generate the indicators. In order to interpret the meaning of values, the statistical distributions for the indicators are compared to distributions found among US children: Low HA evinces growth 'stunting,' an indicator of chronic malnutrition; low WH is evidence of 'wasting,' acute malnutrition; and low WA is a general indicator of both chronic and acute malnutrition.

Table ffff 9.20: Nutritional Indicators

Measure	Indicates	Type of Malnutrition
Height for Age (HA)	stunting	Chronic
Weight for Height (WH)	wasting	Acute
Weight for Age (WA)	general	Chronic and acute

The determination of a "low" measure is based on the distance in standard deviations from the means for US children. Standard deviations are evaluated in Z-scores—a statistical measure based on normal distributions. Z-score distances of 6.00 to -1.99 are considered within normal range; from -2.00 to -6.00 are considered malnourished.

Table gggg 9.21: Z-Score Interpretation.

Z-Score	Interpretation
6.00 to -1.99	normal
-2.00 to -6.00	malnourished

Charts 10.5.4, 10.5.5, and 10.5.6 below illustrate the Jean Rabel distribution of Z-Scores for the three principle nutritional indicators: Height for Age, Weight for Height, Weight for Age.

Chart ccc 9.7: Child Nutritional Status Indicator "Height for Age"

Chart ddd 9.8: Child Nutritional Status Indicator "Weight for Height"

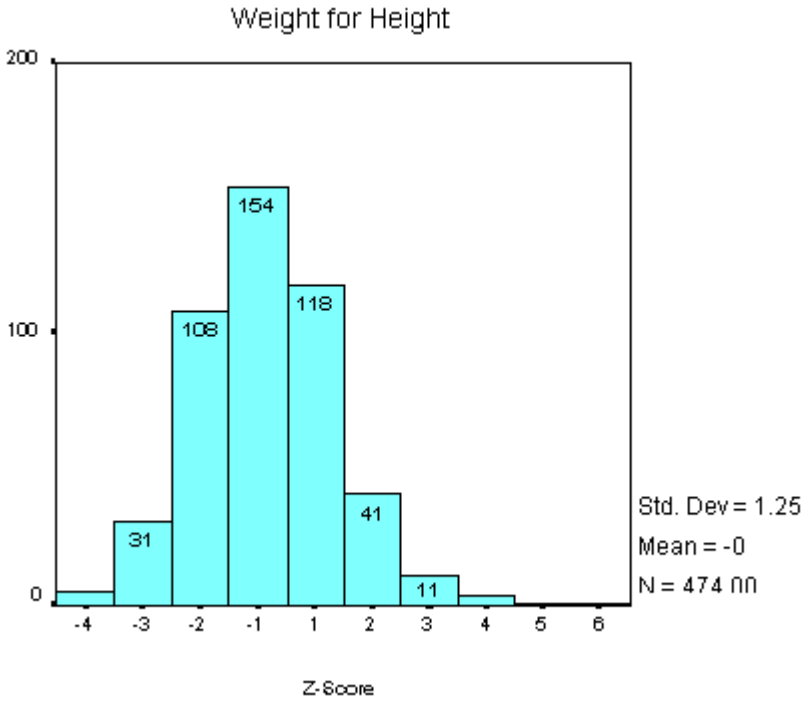
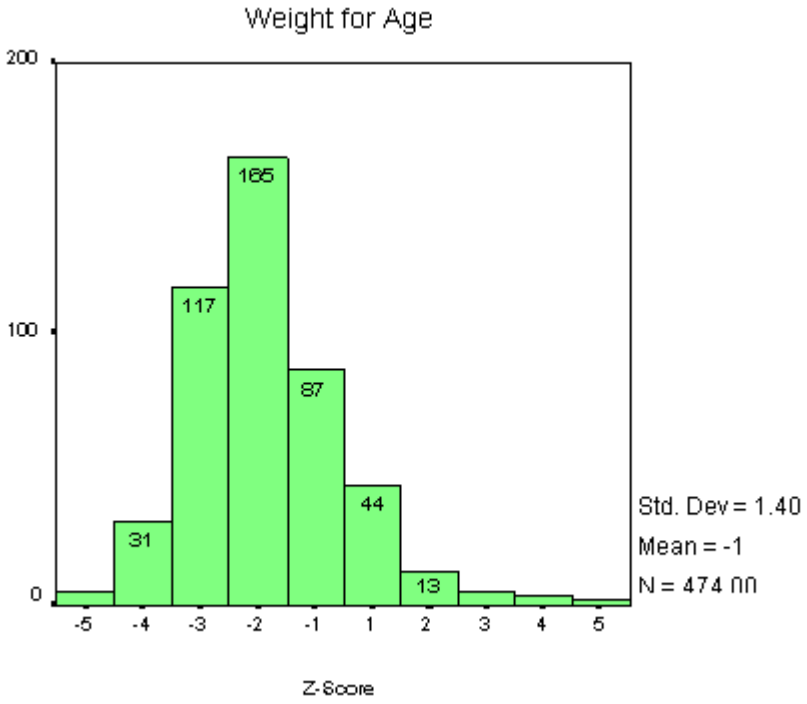


Chart eee 9.9: Child Nutritional Status Indicator "Weight for Age"



If the data is indeed valid (see The Sample above), the Jean Rabel survey population, Height for Age measurements (HAZ) of chronic malnutrition indicates that 45.9% of children are 'malnourished' and 54.1% of children are 'normal.' The Weight for Height (WHZ) indicator of acute malnutrition categorizes 7.7% of children as 'malnourished' and 92.3% are in the 'normal' range. The general Weight for Age (WAZ) measure of malnutrition suggests 33.2% of children are 'malnourished' and 66.8% of children are 'normal.' In Tables 9.22 through 9.27 (below) the current survey's figures are compared to those found by PISANO in a similar circa 1990 inquiry (Theis et al 1990). [**Note:** The earlier PISANO survey included 5 Sections Communal, only two of which were in the Commune of Jean Rabel, the other three being located along the eastern Jean Rabel border in the Commune of Port-de-Paix. The assumption, which may or may not be valid, is that the areas are comparable.]

Table hhhh 9.22: Chronic Nutritional Status (HAZ): NHADS Survey c. 1997

Condition (n = 474)	Percent	Cumulative Percent
Normal	54.1	54.1
Malnourished	45.9	100.0
Total	100.0	100.0

(missing = 6)

Table iiii 9.23: Chronic Nutritional Status (HAZ): PISANO Survey c. 1990

Condition (n = 348)	Percent	Cumulative Percent
Normal	70.7	70.7
malnourished	29.3	100.00
Total	100.0	100.0

Table jjjj 9.24: Acute Nutritional Status (WHZ): NHADS Survey c. 1997

Condition (n = 474)	Percent	Cumulative Percent
Normal	92.3	92.3
Malnourished	7.7	100.0
Total	100.0	100.0

(missing = 6)

Table kkkk 9.25: Acute Nutritional Status (WHZ): PISANO Survey c. 1990

Condition (n = 348)	Percent	Cumulative Percent
Normal	95.3	95.3
Malnourished	5.5	100.8
Total	100.8	100.8

Table llll 9.26: General Nutritional Status (WAZ): NHADS Survey c. 1997

Condition (n = 474)	Percent	Cumulative Percent
Normal	66.8	66.8
malnourished	33.2	100.0
Total	100.0	100.0

(missing = 7)

Table mmmm 9.27: General Nutritional Status (WAZ): PISANO Survey c. 1990

Condition (n = 348)	Percent	Cumulative Percent
Normal	75.6	75.6
Malnourished	24.4	100.0
Total	100.0	100.0

If the 1990 PISANO survey is an indication of conditions in the rest of the Commune of Jean Rabel, comparison of the preceding tables suggests deteriorating nutritional conditions for children in the area. This trend is most evident with regard to chronic malnutrition. The Weight for Age measure in the NHADS survey revealed that 45.9% of children fall in the category of malnourished versus 29.3% in PISANOs 1990 survey— a 57% increase in the rate of malnutrition.

The rate of acute malnutrition increased by 29%: up from 5.5% in 1990 to 7.7% in the 1997 survey. The lower increase in acute malnutrition and lower absolute rates of acute malnutrition suggest that despite a very severe drought in 1997--the effects of which were being felt precisely when the survey was being carried out--the greatest threat to the children of Jean Rabel is not short term but long term caloric deficits.

Weight for Age, an indicator of both acute and chronic malnutrition, also indicates a general decline: 33.2% of the sample was malnourished in 1997, up from 24.4% in the 1990 survey.

9.11 Causes of Malnutrition

Differences in rates of malnutrition related to social and economic factors is difficult to detect. In regression tests of malnutrition by land owned, number of livestock, mean education level of adults in the household, number of women in the household, number of adults in the household and distance to water source, only education revealed a statistically significant ($p < .05$) and very slight relationship to malnutrition (adjusted $R^2 = .035$). A comparison of mean level of chronic malnutrition (HAZ) by male versus female headed households, fishing versus non-fishing, and households with emigrant members versus no emigrant members also revealed no statistically significant relationships:

Chart fff 9.10: Nutritional Status Female vs Male Headed Households

Chart ggg 9.11: Nutritional Status Fishing vs Non Fishing Households

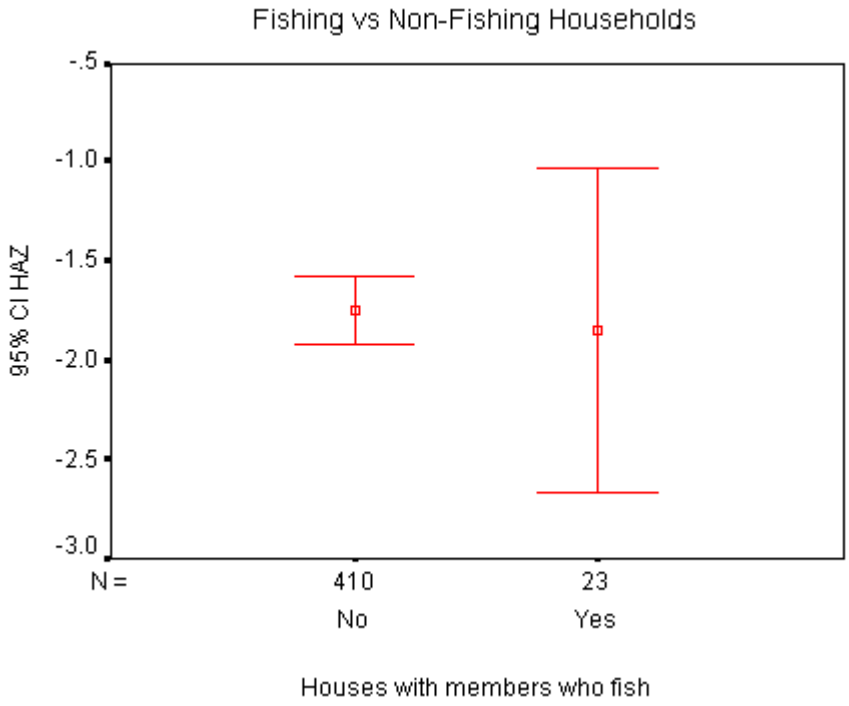
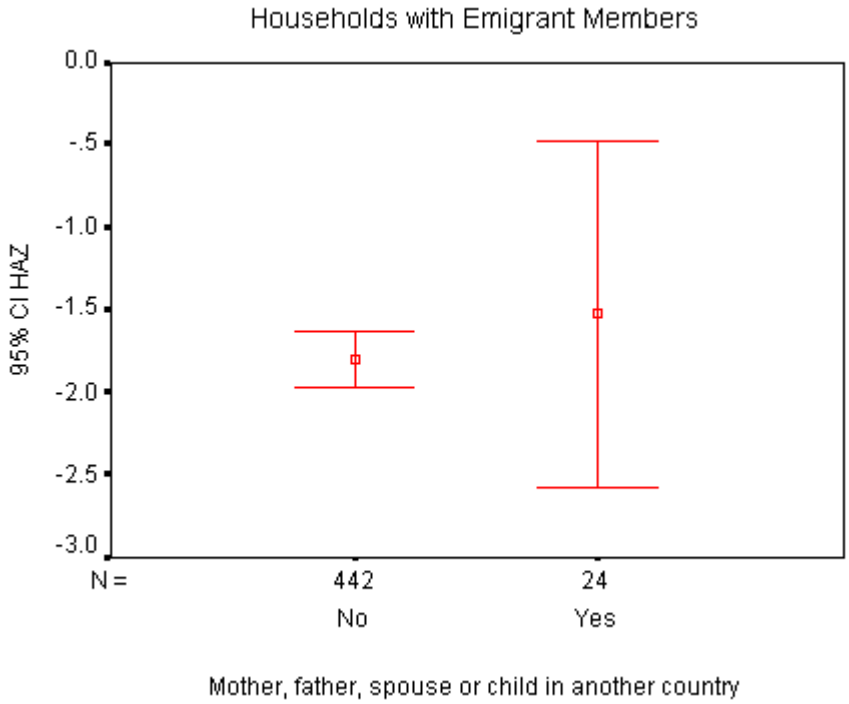


Chart hhh 9.12: Nutritional Status Households with Emigrant Members



The reasons for the paucity of possible household and economic factors underlying child malnutrition may be related to social behaviors and customs in Jean Rabel. To begin with, children always share food with other children--brothers, sisters, cousins and neighbors. It is an invariable practice. Give a child in Jean Rabel the smallest piece of bread and he or she will immediately break it into even smaller pieces and distribute it among younger cohorts. Failure to share brings howls from the other children and scorn from adults. In effect, household factors that otherwise cause particular children to be better nourished, such as parental wealth, may be leveled by the widespread practice of sharing.

Another mechanism that spreads caloric deficits among children rather than allowing them to be concentrated in particular groups is fosterage. Parents in Jean Rabel sometimes foster children out to friends or relatives, particularly grand parents (referred to as *restavek* in cases where the child is unrelated). Twenty-one percent of children in Jean Rabel were found to reside in houses where the head is a relative or friend other than the child's parent.

Table nnnn 9.28: Relation of Children to Household Head

Relation to Household Head	Children (n)	Children %	Cumulative %
Child	3,569	79.8	79.8
Sibling	53	1.2	81.0
Parent	2	.0	81.0
Cousin	26	.6	81.6
Niece/Nephew	151	3.4	85.0
Servant	52	1.2	86.2
God Child	12	.3	86.4
Grand Child	539	12.1	98.5
Son/Daughter In-law	15	.3	98.8
Step Child	32	.7	99.5
Sibling In-Law	7	.2	99.7
Friend	5	.1	99.8
Other	9	.2	100.0
Total	4472	100.0	100.0

The most definitive trend in rates of malnutrition is associated with age: The greater the age of a child, the greater the likelihood of malnutrition. This trend is evident both in the present survey carried out in 1997 (see Table 9.29 below) and PISANOs 1990 survey (see Tables 9.30, 9.31). With regard to the 1997 chronic malnutrition rate (HAZ), 86.2% of infants in the youngest age group, 0 to 6 months, are normally nourished while 45.9 % of children in the oldest age group, 48 to 72 months are malnourished.

Table oooo 9.29: Chronic(HAZ) Nutritional Status by Age: NHADS Survey c. 1997

Age in Months	Nutritional Status (n= 474)		
	normal	malnourished	Total
0 to 6.00	86.2	13.8	100.0%
6.01 to 12.00	87.8	12.1	100.0%
12.01 to 24.00	56.5	43.5	100.0%
24.01 to 36.00	65.5	34.5	100.0%
36.01 to 48.00	59.3	41.5	100.0%
48.00 to 72.00	24.2	75.8	100.0%
Total	54.5	45.9	100.0%

Chi-Square = 115.471 sig < .000: Lamda = .162 sig < .000 Kruskal-Wallis not available

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Table pppp 9.30: Chronic (HAZ) Nutritional Status by Age: PISANO Survey c. 1990

Age in Months	Nutritional Status (n= 348)		
	normal	malnourished	Total
0 to 6.00	98.9	3.1	102.0
6.01 to 12.00	79.9	20.0	99.9
12.01 to 24.00	65.1	34.9	100.0
24.01 to 36.00	65.7	34.3	100.0
36.01 to 48.00	73.0	27.2	100.2
48.00 to 72.00	62.2	37.7	99.9
Total	70.0	29.9	99.9

Table qqqq 9.31: Mean Nutritional Indicators by Age:1997 NHADS vs 1990 PISANO

Age in Months	Sample Size	Nutritional Indicators		
		Chronic (HAZ)	Acute (WHZ)	General (WAZ)
0 to 6.00	29 32	0.21 0.34	0.99 .48	1.04 0.27
6.01 to 12.00	34 30	-0.25 -0.62	-0.24 0.04	-0.51 -0.55
12.01 to 24.00	49 66	-1.19 -1.33	-0.51 -0.57	-1.13 -1.21
24.01 to 36.00	112 67	-1.47 -1.24	-0.53 -0.53	-1.36 -1.27
36.01 to 48.00	118 63	-1.96 -1.21	-0.44 -0.30	-1.51 -1.01
48.01 to 72.00	132 90	-2.91 -1.61	-0.43 -0.71	-2.02 -1.47
Total	474 348	-1.77 -1.51	-0.37 -0.40	-1.35 -1.06

9.12 Contraceptives

Attitudes toward contraception in Jean Rabel are paradoxical. On the one hand, contraceptives are often associated with loose women, *bouzen.* Young girls often take offense to the idea that they would be expected to make love without the possibility of getting pregnant, ”se chien m ye, m-ap koupe pou bon tan” (am I a dog, fornicating for fun/nothing). One man, after an unsuccessful attempt by the researcher to explain contraception, which simply made no sense to him, finally lit up with understanding; “now I know what you’re talking about. Like when a girl has a husband, he’s not there and she wants to whore around. She takes a pill so she won’t get pregnant” (Kounie-a m konprann. Tank le yon fi gen yon mari ki pa la. Li vle al fe bouzen. L-ap pran yon gren pou li pa fe pitit).

There is a general suspicion among women that contraceptives may cause illness. The researcher had one discussion with four Jean Rabel women: all the women were in favor, indeed professed wanting to use contraceptives, but all had borne more than six children and all said contraceptives would make them sick. Aversion to ingested and injected contraceptives holds for condoms as well. However, there is a twist with regard to condoms: The educational efforts of good intentioned NGOs in the drive against AIDS
have convinced many people in Jean Rabel that any suggestion of condom use is a suggestion of AIDS, an insult or an admission that one may have the disease.[55]

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Text Box j 9.2: Contraceptives: Diverting the Development Issue .

In 1982 an anthropologist and a demographer, John Bongaarts and Robert Potter, wrote a landmark article explaining better than anyone before them the factors that cause differences in human fertility rates. Bongaarts and Potter called these factors the "proximate determinants of fertility" by which they meant that these were the immediate causes of differential rates of childbirth and survival.

These factors were: 1) fecundity--the ability to have sexual intercourse, the ability to conceive, and the ability to carry pregnancy to term, 2) exposure to the risk of pregnancy-- sexual unions, such as marriage, and the actual time that partners spend together, 3) birth control methods such as contraceptives and sterilization, and 4) abortion (Bongaarts and Potter 1983).

Next, Bongarts and Potter defined the "intermediate determinants of fertility," those factors by which the "proximate determinants" are altered and which fall soundly in the realm of social behavior: 1) Post-partum taboos--such as sexual abstinence for new mothers, 2) duration of breast feeding--nursing suppresses ovulation, 3) delayed marriage--many societies have strong norms against young women engaging in pre-marital sex, 4) disruption of union via male out-migration or military service, and 5) attitudes toward contraceptives and family planning.

Among Anthropologists and Demographers there was no argument regarding the "proximate" and "intermediate" determinants of fertility. These were clear, mechanical causes. One directly influencing the other:

INTERMEDIATE DETERMINANTS ❑ PROXIMATE DETERMINANTS ❑ FERTILITY RATES

But what caused changes in the intermediate determinants? What caused people to believe in prohibitions against sex after birth? What made people adopt certain breast feeding practices? and What influenced attitudes toward contraceptives and age at marriage?

Following Bongaarts and Potter's article there were raging academic arguments over the causes underlying changes in the "intermediate determinants of fertility." The most prominent protagonists argued that changes in fertility were caused by reduced mortality, improved health care, increased standards of living, increased income, industrialization, availability of goods and services, increased education, urbanization, availability of contraception, westernization, and even television programming (for summaries see Caldwell 1982; Harris and Ross 1987). But all these arguments foundered under scrutiny and statistical examination. In areas where people are dependent on agriculture, like Haiti, fertility was found to positively correlate with income: The more the income the higher the fertility. Even in areas where women whole-heartedly embraced the use of contraceptives, it was often demonstrated that fertility remained elevated, women preferring to use contraceptives to schedule rather than reduce births.

Figure 44 ***A young woman with her second child. Bord-de-Mer, Diondion.***

In 1986 Penn Handwerker settled the matter. Handwerker demonstrated beyond the shadow of a reasonable academic doubt that fertility decline is caused by increasing financial opportunities made available to women with skills and education; in other words, a free and competitive job market. In a test of the hypothesis, Handwerker used virtually all the countries in the world for which there was dependable data, accounting for an unprecedented 95% of the variance in fertility rates. Handwerker had demonstrated what everyone should have known in the first place: It is women who make the final decision regarding births. And until economically rewarding alternatives to bearing children are available, women go right on assuring their survival by increasing family size and reinforcing through child bearing economic ties to the men who dominate access to wealth.

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In the survey, attitudes of both respondents and interviewers influenced what questions were asked to whom. The interviewers, Haitian themselves, often did not ask young women if they had used contraceptives. When they did ask, prenuptial women often headed further questions regarding contraceptive use off with "m poko fe ti moun" (I have not yet born children)—meaning, why would someone take contraceptives before they had borne any children? The interviewers also often did not ask post-menopausal women contraceptive questions even though such questions would have shed light on the change in use of contraceptives over time. Nevertheless, the interviewers did gather most of the data required and there is no reason to doubt the validity of the information beyond a possible bias toward the group of highest interest, women in prime reproductive years.

In the survey, we found most women were aware of contraceptives (82.2%), and a 19.5% minority had or were currently using them:

Table rrrr 9.32: Contraceptive Knowledge and Use

Knowledge and Use		No	Yes	Total
Women who have ever heard of Family Planning	Count	245	1,132	1,376
	Percent	17.8%	82.2%	100%
Women who have ever used Family Planning	Count	922	209	1,131
	Percent	81.5%	18.5%	100%

Table ssss 9.33: Knowledge of Contraceptive Methods

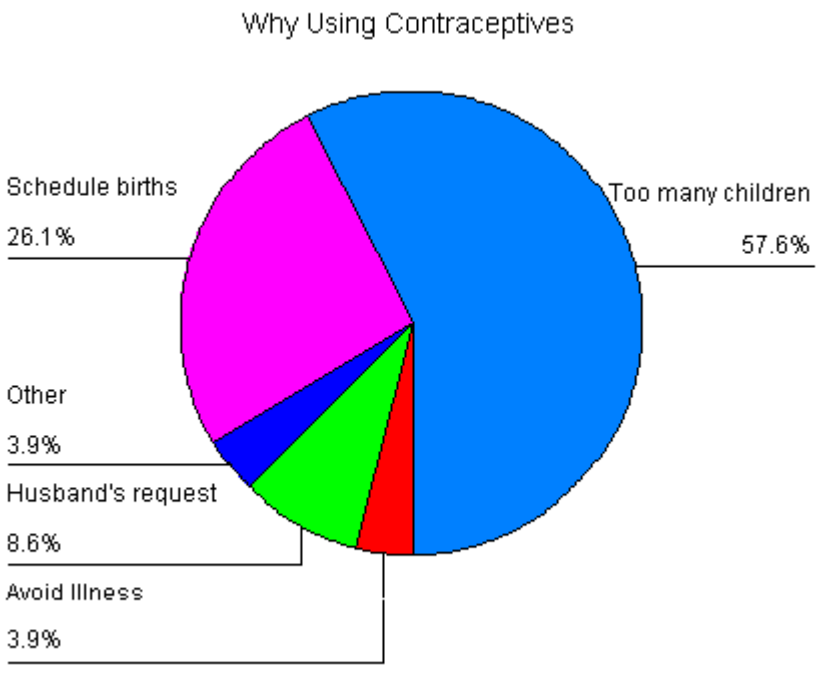
Contraceptive	Methods	No	Yes	Total
Deprovera	Count	99	1033	1132
	Percent	8.7%	91.3%	100%
Pill	Count	149	983	1132
	Percent	13.2%	86.8%	100%
Norplant	Count	862	270	1132
	Percent	76.1%	23.9%	100%
Ligation	Count	924	208	1132
	Percent	81.6%	19.4%	100%
Condom	Count	916	216	1132
	Percent	80.9%	19.1%	100%
Other	Count	1088	44	1132
	Percent	96.1%	3.9%	100%

Table tttt 9.34: Use of Contraceptive Methods

Contraceptive	Methods	No	Yes	Total
Deprovera	Count	81	127	208
	Percent	38.9%	61.1%	100%
Pill	Count	152	56	208
	Percent	73.1%	26.9%	100%
Norplant	Count	198	10	208
	Percent	95.2%	4.8%	100%
Ligation	Count	195	13	208
	Percent	93.8%	6.3%	100%
Condom	Count	263	5	208
	Percent	97.6%	2.4%	100%
Other	Count	200	8	208
	Percent	96.2%	3.8%	100%

Of the 209 women who have used contraceptives, 57.6% gave the primary reason as having borne too many children and 26.1% reported the reason was to schedule births; 8.6% reported using contraceptives at their husbands request.

Chart iii 9.13: Why Using Contraceptives



Of the 1,132 women who are aware of contraceptives but have never used them, 44.7% explained not using contraceptives because they did not want to; 24.0% reported contraceptives made them ill; and 11.5% reported their husband objecting.

Chart jjj 9.14: Why Not Using Contraceptives

Clearly, the issue of low contraceptive use is not a question of knowledge. Women in Jean Rabel are fully aware of the availability of contraceptives. Further, while some 24% of women do not use contraceptives because they are afraid it will make them ill, 44.7% percent of women simply do not want to use contraceptives.

Chapter 10

Recommendations

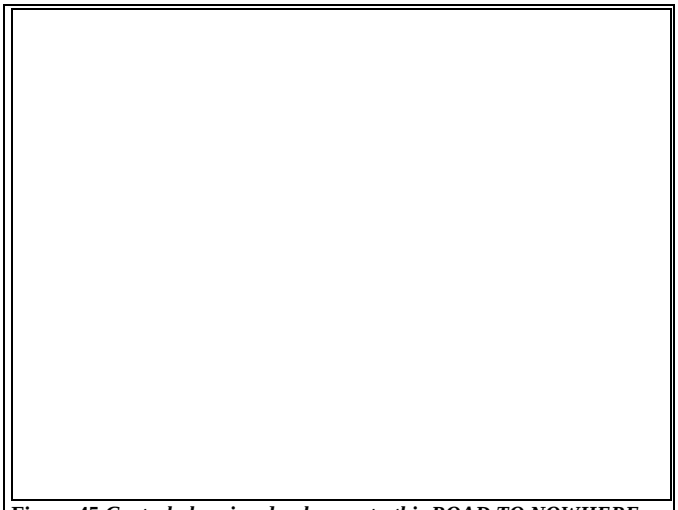


Figure 45 ***Central planning development: this ROAD TO NOWHERE cost the United Nations US$300,000. It is the best road in the Department du North West, but it leads the traveler 8 kilometers into the bush and then fizzles out…***

10.1 Chapter Overview

Malnutrition is the most immediate and greatest threat to people in Jean Rabel, particularly children. But the survey data demonstrates—and the author's own experience suggests-- that most people in Jean Rabel have a good grasp on the importance of a balanced diet. The continued prominence of 'witch doctors' and folk remedies probably has more to do with low competency levels of personnel who staff clinics than lack of knowledge among the people of Jean Rabel (see Text Box 9.1). And the use of birth control methods to reduce fertility is known to be a consequence of development in the form of competitive wage opportunities open to women. In short, the causes of malnutrition, under use of medical services, and high fertility is not ignorance but poverty and underdevelopment. Further, long-term prospects for economic development are undermined by prioritizing the amelioration of immediate needs like malnutrition while disregarding basic economic principles. Perhaps the most damaging activity in this regard is the now long-standing practice of flooding local markets with supplemented produce from developed countries—'food aid.'

To promote health while at the same time encouraging development, organizations should act like small State governments, integrating programs as fully as possible into the local economy. In achieving sustainable and integrated local development the following recommendations are made:

1) Link ‘food for work’ and nutritional programs to domestic production.

2) Control local market fluctuations.

3) Help people gain access to both local and foreign markets.

4) All projects should be designed, promoted and executed on the basis of competitive market principles.

5) Expenses should be linked to returns.

6) Create an agricultural school for adult farmers.

7) Link services to profits for project participants.

8) Provide access to credit for sound productive ventures that can yield profits and stimulate the local economy.

9) Launch pilot projects targeted at developing rural infrastructure by competitively including local groups and individuals.

10) Create competitions for designing local development projects.

11) Promote tourism

12) Sponsor a newspaper.

13) Involve the local population by creating a Jean Rabel Round Table and a Constitution of Development.

10.2 Recommendations

Malnutrition is the most immediate and greatest threat to people in Jean Rabel, particularly children. But the survey data demonstrates—and the author's own experience suggests-- that most people in Jean Rabel have a good grasp on the importance of a balanced diet. Rural women in Jean Rabel balance meals of rice and plantains with beans, greens and a sauce of fish or meat. Most people in Jean Rabel drink fresh juice and eat fresh fruits in quantities that should embarrass health conscious visitors from developed countries. Further, in the absence of western nutritional counseling, rural Haitian mothers have always breast fed their children for 18 months or more. And the survey data demonstrates that rural women in Jean Rabel are fully aware of foods needed to avoid becoming anemic. In summary, poverty and underdevelopment not ignorance are the primary causes of malnutrition in rural Jean Rabel.

The same can be said about attitudes toward contraceptives and western medicine. The survey data demonstrates that most women in Jean Rabel are well aware of contraceptives and their availability, but that use of contraceptives continues to be low. Low contraceptive use should come as no surprise: It is well known that the primary determinant of fertility decline in countries around the world is not the availability of contraceptives nor education, but the involvement of women in a competitive labor market. In other words, economic development. As for the acceptance of western medical practitioners: Haitians will continue to employ superstitious and magical treatments to combat illnesses as long as these 'remedies' are less dangerous than consulting with doctors and nurses (see Text Box: 9.1).

Organizations should take note of something most development workers already know but generally seem disinclined to do anything about: Long-term prospects for economic development are undermined by prioritizing the amelioration of immediate problems like malnutrition while disregarding basic economic principles. Perhaps the most inimical good-intentioned development tactic is battling malnutrition by flooding local markets with produce from developed countries. Among developed nations, dumping supplemented products on another State's market is more often grounds for war rather than overtures of gratitude. Despite low educational levels, many Haitian farmers recognize the inimical impact food aid has on domestic agricultural production, but they are powerless to do anything about it--Haiti has no functioning State. Nutritional aid in the form of food relief should not be eliminated but should be integrated in such a way as to stimulate rather than undermine the local economy.

In coming up with methods for integrating development into local economies it helps to focus on the fact that Haiti lacks the single most important ingredient in building infrastructure and fostering commerce, business and agriculture: A functioning State government. The Haitian State is simply non-operative, and for people in rural areas, has been non-operative for almost two hundred years. To fill the void, development organizations should behave like small States, making expenditures in ways targeted to stimulate local economies through motivation of private enterprise and promotion of improved technologies (see Text Box 10.1 at end of present chapter). With the preceding points in mind, the following recommendations are made:

1) **Link 'food for work' programs to domestic production.** Relief to farmers during years of bad harvests is one of the original and primary roles of a State. But it is always linked to local production. If development organizations are serious about improving agricultural output they should quit undermining the local market with foreign produce and instead buy Haitian surpluses in good years, store them, and redistribute the produce in lean years—preferably in association with road construction and other food-for-work programs. Nutritional supplement programs for mothers and children should also be provided for with domestic products. If needed supplements are not locally available, farmers should be encouraged to produce them by guaranteeing a market—the development organizations.

2) **Control local market fluctuations.** States often protect farmers by controlling supplies in attempt to avert wild fluctuations in the agricultural market. In conjunction with storage for food relief, developments organizations should make efforts to promote storage techniques and offset market fluctuations. In good seasons, such as the present, vast quantities of produce rot or are fed to livestock. Fruits should be preserved through canning and making of jellies. Meat can also be canned to avoid the decline in prices associated with sell-offs—as at the beginning of the school year when many locals sell their animals to pay school expenses. Innovative storage techniques should be sought for otherwise un-storeable foods like sweet potatoes—e.g. grating and drying. At some point local government should be encouraged to take over the task of food security and price supports.

3) **Help people gain access to both local and foreign markets.** Successful states always aim to promote international trade in a manner that is good for the domestic economy. This is perhaps the greatest contribution that can be made. Much valuable produce in Haiti rots on the ground or gets fed to animals. But efforts in other parts of Haiti have demonstrated that development organizations can play a vital role in reaching overseas markets IICA, an OAS funded NGO, has sponsored a project that buys coffee from small Haitian producers and sells the finished product as gourmet 'Haitian Blue' in developed countries. The project has been profitable to all parties involved, exporting some 180,000 pounds of coffee in the past three years while paying small farmers 30% more than they could earn domestically. Jean Rabel too has coffee, good coffee. There are also mangos and avocados, both expensive fruits in developed countries (see Text Box 7.2). Development organizations in Jean Rabel could facilitate the sale of these products, help to open market channels and negotiate with foreign buyers. This activity should not be limited to agriculture but should extend to craft production as well. Jean Rabel has at least one very talented artist and many craftsman who make baskets, embroidery and clothes that could be marketed overseas. Associated with marketing activities, there should be a small business service that helps people set up productive enterprises, identify profitable opportunities, facilitate the creation of partnerships and cooperatives, and advise people with respect to business laws. Entrepreneurial seminars should be promoted as well. The prospects of opening an international Jean Rabel

Web/Internet site with the goal of marketing crafts and accessing new technologies of all kinds, including storage technologies, should be investigated.

4) **All projects should be designed, promoted and executed on the basis of competitive market principles and with the aim of stimulating the local market.** The successful State is always one of the domestic economy's biggest customers. States stimulate the domestic economy by purchasing goods and services that are in turn used to promote production through technological advances, commerce, industry and agriculture. Projects should be launched with the idea of economically stimulating the economy by spending locally and in such a way that promotes free competition: a) All work should be open to competitive bidding from the population b) Where possible projects should be accomplished only with domestically available technology, expertise, labor, materials and transportation. c) Development organizations should restrict their roles to evaluating outputs, administrating finances and providing technical assistance that is otherwise unavailable. d) All projects should be launched with definitive ends in mind--contractors not accomplishing work should not be paid. In short, development organizations should try to emulate a free market, creating a demand and then reinforcing competitive suppliers for high quality and low priced products.

5) **Expenses should be linked to returns.** States usually do not spend money without identifying the returns on the investment—usually referred to as increasing the tax base. Wise State governments also try to link cost directly to the benefits. Development organizations should give seeds, especially new cultivars, and make investments in irrigation and land improvement. But wherever possible these investments should be recouped by requiring farmers to enter into repayment contracts—not unlike taxation. Rather than installing irrigation works and disappearing, development organizations should require owners of improved land to enter into contracts that would return the costs plus a profit to the development organization or a local governmental-type organization. These profits could be used to maintain the original investment—such as irrigation canals--and to finance similar projects in the community. Another project could be to organize road maintenance in association with sub-Communal level taxation. Tolls could be set up and the funds gathered could be spent directly on road maintenance. The danger would be that tolls were collected and roads not maintained. On the other hand, government must start somewhere; currently there is nothing. Further, by focusing on a basic community level people are more inclined to identify with the project and censor corruption.

6) **Create an agricultural school for adult farmers.** Successful States always reinforce production technology through education. The distribution of seeds and new cultivars should be channeled through an agricultural school for adult farmers. Currently the Haitian State has agriculture extension agents in Jean Rabel. This is good, but for whatever reason, these people are invisible. The sponsoring development organizations also have their own versions of agricultural agents in Jean Rabel. This too is good, but their operations are limited to specific zones. An agricultural school should be formed in

the village of Jean Rabel. The school should charge a minimal fee, it should be open to people of all levels of literacy, and it should focus on hands-on techniques—forget the books, forget the long-winded lectures; show them. During the survey we met with farmers and organizations that implored us to send technicians. If these people are serious, they can come to the school, reducing the cost of sending out technicians and the discouragement of working with farmers not committed to employing new techniques. Similar schools sponsored by organizations such as World Vision have enjoyed impressive successes elsewhere in Haiti.

7) **Link services to profits for the participants.** The most economically successful States promote specific private enterprises, thereby motivating people through self-interest but in ways that contribute to the good of the whole community. Similar to the notion of competitive market principles outlined above, workers delivering services should ,wherever possible, be encouraged to charge fees. This is a notion completely compatible with contemporary Haitian market principles—a Haitian spiritual healer who performed services for free would be considered a charlatan. **Example:** 'Bare foot' health auxiliaries should continue to be promoted but should be allowed to charge for medicines and services. IDs health care system is a good idea. Through the use of trained auxiliaries modern health care is integrated into the local social system; but it is not integrated into the local economy—a mandate for failure in a system with no State. Not to permit local health auxiliaries to market their services is a) tantamount to telling the population the services have no value and b) not a practical strategy because poor people with families, the auxiliaries, can not and do not want to participate without being remunerated—many auxiliaries admit the reason they have participated thus far is because, assertions by ID staff to the contrary, they were convinced that ID would eventually pay salaries.[56] During many meetings the survey staff held in rural Jean Rabel people expressed sympathy for IDs health auxiliaries making it clear they understand why many of the auxiliaries only feign participation in the system—i.e. the auxiliaries do not have the resources to participate as volunteers. On the other hand, people consistently emphasized their willingness to pay for vaccinations delivered by auxiliaries in the home.

8) **Provide access to credit for sound productive ventures that can yield profits and stimulate the local economy.** All functioning States finance potentially lucrative enterprises. There is currently much talk about credit. However, some of the more successful credit projects may have negative consequences not yet recognized. Loans to small scale market women is an example. Small loans to small marketers may have the effect of eliminating those re-distributors who currently advance produce on credit. These people, usually women themselves, are currently among the few people capable of aggrandizing capital used in large scale commercial ventures. Further, there is currently limited market demand in Jean Rabel which can not be overcome by focusing on supply. As one market women told the researcher: "Yo met bay tout moun lajan. Min si m gen pou vann. E ou genyen tou. Ki le n-ap gentan vann" (They can give everyone money. But if I have something to sell. And you have it too. How are we going to sell in time to make a profit?). If concomitant capital investments are not made in productive ventures,

improving access to credit for market women may simply have the effect of making as many wealthy people poorer as it makes poor people wealthier.

9) **Launch pilot projects targeted at developing rural infrastructure by competitively including local groups and individuals.** Attempts should be made to stimulate local organization without the worn-out and often failed tactic of teaching. The adults of Jean Rabel are innovative and well motivated by profits. If projects were designed that guaranteed financial rewards for particular services, adequately performed, the response might be spontaneous organization—as it is everywhere else in the world. **Example:** Assign to local organizations or leaders segments of road for maintenance. The right to work on the road could be allocated through a lottery system, winners having the option of selling their right. The quality of the road maintenance could be evaluated on a fixed five point scale and the group or individual paid accordingly. Individuals or groups incapable of achieving lucrative maintenance evaluations would likely sell or could be pressured into selling their job to more eager groups.

10) **Create competitions for development projects.** In all instances where one finds a historic flourishing of high quality products there is some kind of competitive market lurking in the background. The Italian Renaissance was the direct consequence of competitive employment opportunities offered by wealthy City-States and merchants. Competitions were held where the best artists (supported by teams of apprentices) vied to demonstrate their creative superiority. The work was judged by panels of experts. Winners were given contracts to create specific works of art or architecture. The productiveness and creativity peculiar to Italy at this time continues to marvel people all over the world. Participation in local development could be stimulated in the same way. Competitions for proposals could be advertised on the radio, announced in schools and churches, with fliers and by word of mouth. Winners would be given financial rewards and their projects funded for a probationary period. For what are very small sums of money in developed countries, young minds in Jean Rabel could be set ablaze with creative ideas for development.

11) **Promote tourism:** If Haiti had a functioning State, it would long ago have succeeded in promoting tourism, the premier industry in the Caribbean. Virtually all islands in the region attract millions of dollars annually by catering to vacationers from developed countries. The Dominican Republic which shares the island of Hispaniola with Haiti, has all but completely developed, primarily as a consequence of billions of US tourist dollars. Rural Jean Rabel is unique in that it not only has a beautiful and relatively unpopulated seaside but there are exotic inland markets and scenic mountains as well, none of which is spoiled by urban squalor and filth common in other areas of Haiti. Tourists with a taste for adventure would be delighted to find the

Figure 46 ***Remote beach. Already beautified by locals and waiting for sun bathers who never arrive. Port-al-Acu, Lacoma.***

area undisturbed by urban sprawl and fast moving cars; hundreds of miles of mountain bike trails and friendly, exotic people—to say nothing of the attraction westerners have to "voodoo." Taking the idea to the extreme, development organizations in Jean Rabel and neighboring Communes could ally with local politicians and the population at large to make the entire Far-West an offbeat eco-tourist zone complete with marked bike trails, designated historic sites—of which the region has many—and mountain and seaside cottages for lodging. At the very least, organizations in the region should band together to initiate tourism. A single beach could be developed in collaboration with local entrepreneurs or a village committee. To succeed, the beach must have overnight lodging, a generator, modern bathroom facilities and a restaurant. Development workers—all of whom spend considerable sums at more distant resorts—could be the first customers.

12) **Sponsor a newspaper.** All functioning States depend on the written media to reach their constituents. In the Far-west—indeed, in the entire North West Department-- there is currently no newspaper or other periodical. This fact should startle anyone who can read. Further, the people of Jean Rabel are hungry for information. There is no doubt that a well designed, locally oriented and informative Creole publication would generate excitement every time it was issued. There is at least one person every several houses who can read. A monthly or bi-weekly newspaper would be read and read aloud in *lakous* (housing compounds) and in houses all over Jean Rabel. A newpaper is the single greatest way to communicate with the people. Development organizations should pull together to create one. There is a surplus of young high school graduates in Jean Rabel who could do the work with a minimum of guidance. The priority would be to disseminate information regarding development: Health care, agricultural techniques, cultivars, availibility of marketing and educational opportunities, current development activities, job announcements, etcetera. The publication **must be in creole,** and it should be launched with the objectives of 1) making it profitable through sale and advertisements and 2) eventually spinning it off as an independent enterprise.

13) **Involve the local population by creating a <u>Jean Rabel Round Table</u> and a <u>Constitution of Development</u>.** Successful States like the early Greek City-States involved the population through community forums and promoted interests of the State through codes of conduct--constitutions. In Jean Rabel there have been some attempts, particularly by PISANO, to promote community participation and help people to understand the development process. This policy should be earnestly pursued. The people of Jean Rabel are development conscious. They have ideas of there own and there are many brilliant minds sitting around Jean Rabel wishing they could be involved in the development process. The sponsoring organizations could formulate a local "Round Table" which establishes a set of development needs, objectives and principles, a constitution or code of conduct—such as 'all projects must be profitable' and 'all loans must be repaid.' The hopeful consequence would be community understanding of the development process, and goals. Such a platform might also make the people of Jean Rabel realize that development is for them. Most people in Jean Jabel currently do not

believe this nor will they believe it until they are 'really' involved in the development process.

Experts in Haiti appear to have overlooked their single greatest ally in developing rural Haiti: The hunger and poverty that brought them here. People in Jean Rabel are desperate to make money. The task of the development practitioner should not be to centrally plan local economies but to fulfil the role of the absent State; to control the flow of money in a manner that assures prudent entrepreneurship and promotes creative ideas for development. Integrate relief services with local production; reinforce production with secured loans and expert advice to entrepreneurs; give the people of Jean Rabel access to foreign markets; stimulate free local markets through responsible and competitive purchasing; promote the generation of development ideas through competitions and funding; and the people of Jean Rabel will do the rest. Indeed, it is peculiar that people in development, particularly those from free enterprise systems like Germany and the United States, are currently attempting to central plan local Haitian economies. Even more peculiar is the fact that 'central planning' efforts are currently being redoubled after thirty years of failure; after the fall of most of the world's centrally planned economies; and during the heyday of free enterprise.

Figure 47 : *Unsustainable development: These wind mills were an attempt by a German organization to help provide Port-de-Paix with electricity. They worked, for about six months. No one, including employees at the local electric company, can even remember when they were installed.*

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Text Box k 10.1: The State and Development

In an effort to successfully coordinate development for the future, it may help to begin by taking a look at the distant past:

Through archaeological digs, the reading of ancient texts and the study of contemporary political systems, anthropologists have come to understand the processes that led to the formation of States. The very first States, like Mesopotamia and Egypt, emerged in association with massive irrigation works and welfare in the form of assistance during droughts and famines. With funds expropriated from the people themselves (taxes), States organized and fed massive work groups, constructing dams and irrigation canals. In the good years when harvests were bountiful, the monarchs of Egypt and Mesopotamia absorbed surpluses through taxation. In the bad years, when there were no harvests, the monarchs redistributed portions of the surpluses in the form of food-aid—most often "food for work" in the construction of roads, market places, monolithic State architecture and the maintenance of irrigation canals that made the whole system possible.

All modern people live under the control of State political systems. High living standards as many contemporary people enjoy them may be impossible without States. Medical systems are heavily

dependent on State involvement; price supports guaranteed by the State provide security to farmers in every developed country in the world; social security systems are invariably a product of the State; and only the State has so far proved capable of marshaling the resources necessary to dam rivers for hydroelectricity, put satellites in orbit for communication, build roads across continents and tunnels under the sea for transportation. It is clear by the fact that all people on Earth currently live under the control of a State political system that States are an evolutionary stage necessary to organize and maintain living standards in the face of high population densities.

Given the role of the State in the process of modernization it is no wonder that Haiti is the Western hemisphere's poster-child for underdevelopment. Contemporary Haiti has no functioning State. No price supports; no assistance in reaching distant markets; no technological support or capital investment to improve agricultural yields; and no social security when famine strikes. For whatever reasons, the most salient roles the Haitian State filled during the past century is extracting resources through taxation and providing police security. With respect to both of these 'services' the Haitian State has probably done more to under-develop, rather than develop the country: With regard to taxation, the Haitian government arguably knocked itself out of the world market by over-taxing agricultural exports, particularly the premier export, coffee. With regard to security, the Haitian State's 'military-police specialists' have been employed as often to quell legitimate demands for State investment in the economy as to enforce law and order (see Trouillot 1990 for an excellent historical description of the Haitian State).

Figure 48 Remnants of a time when Haiti had a functioning State. King Henri Christophe used this building in the early 1800s to make gun powder for one of the largest standing armies in the world. Vie, Katie, Mole Saint Nicholas (See endnote 2, Chapter 1 for brief description of the Kingdom.)

Foreign-aid both in the form of direct assistance to the Haitian government and in the form of thousands of un-coordinated NGOs has probably helped to hold Haiti back as well. Poverty is and long has been Haiti's most lucrative industry. For over three decades foreign aid paid directly to the Haitian government has been its principle source of revenue. But 'aid' given directly to repressive Haitian governments have prolonged their tenure in office and helped them to resist pressures from the population for services—i.e. by financing the arming of thugs. Not to be left out, tens of thousands of foreign missionaries, medical personnel and development experts have made 'decent livings' in the losing battle to pull Haiti from the depths of underdevelopment . In 1998 one of USAIDs most consulted consultants could justifiably write "Haiti may have as many churches and NGOs per square mile as any other country on the planet" (Murray et al 1998). But, the 'aid' NGOs give directly to the Haitian people in the form of uncounted tons of food and medical supplies has damaged local production by undermining market prices and robbing Haitians of initiatives to invest their own funds in development. Low priced "Good Will" clothing sold cheap to Haitians has destroyed local textile markets.

Despite the good intentioned foreign assistance—maybe even because of it--Haiti's population continues to sink into an ever deepening pit of poor health, hunger and despair. Most development workers eventually throw up their hands, blaming the Haitians themselves with conclusions like that of L. E. Harrison former director of USAID mission in Haiti; "To repeat, the principle obstacles to progress in Haiti are cultural: a set of traditional attitudes and values…The solutions must focus on obstacles in the Haitian mind…" (Harrison 1991).

Discouraged development workers who adopt Harrison's fatalism are forgetting two things 1) Haiti has no functioning State, and 2) as every Haitian peasant, pastor, politician, policeman and foreign ex-patriot knows, development in Haiti has for over three decades rewarded embezzlement and non-

performance. Locals in Haiti are seldom if ever held accountable for embezzlement; and development experts and their supporters are never held accountable for failed projects or programs that are economically destructive to local economies. Any involved foreign based funding institution not aware of the squandering of development money in Haiti is either uninterested or the victim of a conspiracy of silence.

Development activities have an impact. Bad development has a bad impact. Irresponsible spending of money undermines local economies, robbing Haitians of initiatives to invest in production. If development organizations truly want to help Haiti they should stop performing like charities and educational institutions and start acting like States—all of which also began with illiterate populations that exhibited "traditional attitudes and behaviors" that might seem peculiar to mission directors like Harrison above. Development must start functioning within the local economy in ways that stimulate production. Development must start rewarding competence, ambition and success by allowing local people to bid on development jobs and refusing to pay those individuals who fail to deliver. Development organizations should directly link food relief to domestic production in an attempt to stimulate local economies.

Development organizations must make people accountable. If in the absence of a Haitian State, individuals who use development funds and goods for personnel enrichment can not be prosecuted then development must take steps to assure they can not steal funds in the first place. Development practitioners and organizations who can not or are not willing to spend funds in ways that stimulate local production and encourage Haitians to participate productively in the development process can make there greatest contribution to the future of Haiti by staying home. At least then Haitians will have an incentive to invest in their own economy without the fear of being undercut by rich development organizations from abroad whose only mission in many instances seems to be the indiscriminate spending of money.

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Appendix A:
Politico-administrative Structure
and
Recent Political History

Politico-administrative Structure and Recent History

Haitian territory is organized into Departments. The Department is organized into Arrondissements, The Arrondissment is organized into Communes and Quartiers—the latter is essentially a small Commune that does not yet for full Commune status . The Commune has a town center (the *vil* or the *bouk*) with several administrative buildings, including a courtroom. The territory of the Commune outside of the town center is subdivided into Communal Sections. The Communal Section is further divided into formally recognized but incompletely defined/identified Habitations. At a finer level, there are informal but locally recognized areas known as *lokalité* or *katie* which often cut across the boundaries of the larger, official territorial divisions.

Table 3.1: Politico Territorial Divisions

Politico Territorial Division	Number	Mean Territorial Size	Mean Population Size
Department	9	3,083 km^2	800,000
Arrondissement	41	677 km^2	175,610
Commune and Quartier	188	148 km^2	38,298
Communal Section	561	49 km^2	12,834
Habitation	unknown	unknown	unknown

At the head of the government is an elected president who appoints a prime minister and cabinet. There are two legislative bodies: a senate and chamber of 'deputies.' Three senators per department are popularly elected for six year terms. Deputies are elected at the level of Commune for four year terms. Each Commune has from one to three deputies depending on the size of the population.

At the head of each Commune is an elected *asemble minisipal* with a *majistra* (mayor) and two assistants. During the reign of the Duvaliers, the mayors were all appointed. The Communal Sections (which were then referred to as Rural Sections) were under the control of a *chef seksyon* (sheriff), who was directly under the control of the army. With the ouster of Duvalier, the role of *chef seksyon* was eliminated, and authority was vested in elected civilians—who are today *kazeks.*

There are two assemblies, that of the *kazeks* and *aseks,* which convene to make political and administrative decisions regarding the Commune and their respective Commune Sectionals. *Kazeks* and *aseks* are both elected to four year terms. The *kazeks* represent the Commune Sectional and convene to ratify or refuse decisions made by the mayor. The *aseks,* representatives of recognized Habitations, convene to negotiate actions made by the *kazeks*. There are three *kazeks* per Commune Sectional and a greater number of *aseks* depending on the size of the Commune population.

There are four standing judiciary circuits: a high court of appeals, a lower court of appeals, a departmental court and a civil court operating at the level of the Commune. Judges of the lowest court are recommended by the respective *asemble minisipal* with the final selection being made by the president. Members of the higher courts are recommended by the Senate with the final choice again being made by the president. Courts have the right to dissolve legislative assemblies in case of corruption and treason.

Table 3.2: Governmental Structure

National	President (popularly elected; 5 year term)
	Prime Minister (appointed by president ratified by senate and chamber of deputies)
	Ministers (appointed by president: minimum 10 ministers)
	Senate Body (popularly elected, see below)
	House of Deputies (minimum 70; popularly elected, see below)
	Special Courts (convened by Senate)
	High Court of Appeals (nominated by Senate ratified by President; 10 year terms)
Department	Senators (3 per Department = 27; 6 year terms)
	First Court of Appeals (nom. by Dep. Assembly, ratified by President; 10 year terms)
	District Court (nom. by Dep. Assembly, ratified by President; 7 year terms)
Commune	Deputies (1 to 3 per Commune; popularly elected; 4 year terms)
	Municipal Assembly (1 mayor and 2 assistants; popularly elected; 4 year terms)
	Assembly of *kazeks* (variable; popularly elected; see below)
	Local Court (nominated by Municipal Assembly, ratified by president; 7 year terms)
Sectional	*Kazeks* (3 per Commune Sectional; popularly elected; 4 year terms)
	Assembly of *aseks* (number depends on pop. size; popularly elected; 4 year terms)

In practice, the contemporary Haitian government barely exists. Eleven different heads of state have presided in the 12 years since the 1986 ouster of the Jean Claude Duvalier administration -- by all accounts a regime that accomplished little beyond repressing the masses and stealing vast sums of foreign aid. There have been no fewer than four coup d'etats; a three year international embargo and a military occupation by the United Nations. When this was written in May 1998, Haiti had no executive administration. The Prime minister and his cabinet resigned in 1997 and no replacement had yet been appointed.

Appendix B:
Names of Locations in Jean Rabel

> Commune
>Section
>Habitationvi
>Localite

vi A Habitation is in the process of becoming a politically defined region. In the Commune of Jean Rabel Habitations average 204 households, 5.83 people per household for a mean Habitation population of 1,203 people.

[1} Section Communale: LACOMA

Habitation:	Localités:					
{001}Lacoma (x)	{001}	Fond Neptune (x)	{005}	Fond du Riz (x)	{009}	Fond Latamier
	{002}	Paul Artrelle (x)	{006}	Dlo Sale	{010}	Bois la Croix
	{003}	Nan Naude	{007}	Nan Boule	{011}	Fond Guépe
	{004}	Nan Piti (x)	{008}	Nan Létan	{012}	Nan Besoin
{002}Cabaret	{013}	Grand Pikan	{017}	Morne Koukoute	{020}	Fond Daniel
	{014}	Nan Remy	{018}	Rivière Colas 2	{021}	Lafonds
	{015}	Nan Saint-Louis	{019}	Fodije	{022}	Morne Ronde
	{016}	Nan Morace				
{003}Gauthier	{023}	Paul Sèche	{025}	Nan Coton	{027}	Ka Bonette2
	{024}	Nan Tante	{026}	Grand Fonds		
{004}Barbe Pagnol	{028}	Belle Rivière	{031}	Kabonette	{034}	Chapy
	{029}	Bassin Bernard	{032}	Digotri	{035}	Grissorte
	{030}	Nan Pitimi	{033}	Nan Joupa	{036}	Dispité
{005}Gombo	{037}	Vidi	{045}	Toisseul	{053}	Mavangou
	{038}	Savanne Pansly	{046}	Terre Rouge	{054}	Nan Belzi
	{039}	Nan Paul	{047}	Nan Source	{055}	Nan Toussaint
	{040}	Nan Toupette	{048}	Kaferme	{056}	Keslien
	{041}	Kavale	{049}	Lebrun	{057}	Rodrain
	{042}	Albert	{050}	Nan Kocoyer	{058}	Leblan
	{043}	Nan Gomingue	{051}	Nan Vanjany	{059}	Bois Tchacha
	{044}	Jasmin	{052}	Bayaronin		
{006}Pize	{060}	Movan	{063}	Fonds Duclas	{066}	Nan Songe
	{061}	Nan Débat	{064}	Jean Pierre	{067}	Pied Court
	{062}	Nan Paresseux	{065}	Nan Sival		
{007}Derrière	{068}	Morne Mada	{070}	Nan Piti	{071}	Riviére Colas1
	{069}	Nan Depot				
{008}Kaletant	{072}	Roche-mêl	{075}	Nan Déseau	{077}	Kafé Letan
	{073}	Nan Monty	{076}	Nan Citron	{078}	Djandja
	{074}	Tamerin				
{009}Port-à-Alcu	{079}	Terassaneut	{080}	Fosse Salé	{081}	Rat-Bonette
{010}Dubois	{082}	Morne Malade	{086}	Buetrerte	{090}	Pélier
	{083}	Nan Mannoir	{087}	Ortolan	{091}	Tête Glaci

	{084}	Herbe à Flêche	{088}	Vieux Dubois	{092}	Bangin Dinise
	{085}	Décidé	{089}	Ti Figuier		
	{011}Vyon		{093}	Beauchan	{095}	Pimaya
	{097}	Lamarque	{094}	Fonds Beauchan	{096}	Morne Kauno
{012}Laplace	{098}	Andro	{099}	Ravine Sable	{100}	Nan Joseph
{013}Desjardin	{101}	Labone Noire	{102}	Morne Fouko	{103}	Desjardin2
{014}Raymond	{104}	Bellevue		{111} Raymond		{117} La Loge
	{105}	Sauvale	{112}	Jean Bois	{118}	Terre Fouillée
	{106}	Malendi	{113}	Gran Kay	{119}	Denise
	{107}	Savoyard	{114}	3 Sables	{120}	Carrefour
	{108}	Sorangé	{115}	Boulanger	{121}	Pitioté
	{109}	Ditiete	{116}	Grand Fond	{122}	Nan Guane
	{110}	Grand Mare				
{015}Artrelle	{123}	Gola	{126}	Nan Yaya	{129}	Décidé
	{124}	Grand Fonds	{127}	Pityotte	{130}	Dityette
	{125}	Savoiya	{128}	Nan Marre	{131}	Zoranger

{2} Section Communale: GUINAUDEE

Habitation:	Localites:					
{016}Fond Latamier	{132}	Digo	{134}	Platon	{136}	Nan Paul
	{133}	Letan	{135}	Bois Blanc		
{017}Cafe Paul	{137}	Herbe à Flêche	{138} Ka Paul		{139}	Nan Figue
{018}Loubier	{140]	Cadette	{143}	Nan Paul	{146}	Terre Blanche
	{141}	Vieux Louis	{144}	Nan Mak	{147}	Ouvel
	{142}	Catinette	{145}	Mardigra	{148}	Pierre Charles
{019}Sapotelle	{149}	Morne Bambou	{150}	Nan Douze	{151}	Ka Bonette
{020}Sauval	{152}	Morne Bourrique		{154} Bonflette		{156} Nan Manty
	{153}	Croix Sauval		{155} Sapotille		
{021}Ka Philippe	{157}	Vidi	{159}	Ka Philippe	{160}	Nan Bate
	{158}	Lexi				

{022}Boucan Patriot	**{161}**	**Grand Kay**	**{163}**	**Kiblan**	**{165}**	**Grande Plaine**
	{162}	**Rivalois**	**{164}**	**Thomas**	**{166}**	**Pois Congo**
{023}Jean Valois	**{167}**	**Source à Paul**	**{169}**	**Gouneau**	**{170}**	**Labrise**
	{168}	**Lowet**				
{024}Guinaudée	**{171}**	**Dupois**	**{175}**	**Jacob**	**{178}**	**Bazé**
	{172}	**Morne Roche**	**{176}**	**Kawen**	**{179}**	**Batado**
	{173}	**Marguerite**	**{177}**	**Zabriko**	**{180}**	**Blain**
	{174}	**Décidé**				
{025}Fond Noir	**{181}**	**Nan Mignonne**	**{183}**	**Nan Mangue**	**{185}**	**Vieux Place**
	{182}	**Valois**	**{184}**	**Tron Sobo**	**{186}**	**Blain**
{026}Pechaud	**{187}**	**Gros Bassin**	**{188}**	**Mada**	**{189}**	**Bonnette**
{027}Guillette	**{190}**	**Callebassier**	**{191}**	**Lonka**	**{192}**	**Vielle Terre**
{028}La Plaine	**{193}**	**La Coupe**	**{194}**	**Vieux Sentier**	**{195}**	**En bas Morne**
{029}Mayombé	**{196}**	**La Klette**	**{198}**	**Nan Fidji**	**{199}**	**Bois Chandelle**
	{197}	**Terre Blanche**				
{030}Colette	**{200}**	**Ravine Pourrie**	**{201}**	**Bois Blanc**		
{031}Daty	**{202}**	**Petit Bois**	**{203}**	**Roseau**	**{204}**	**Goyâve**
{032}Lalande	**{205}**	**Trasael**	**{206}**	**Pini**	**{207}**	**Djouman**

{3} Section Communale: VIELLE HATTE

Habitation

Localites

{033}La Source	**{208}**	**Fond Toussaint (x)**	**{210}**	**Morne Massacre**	**{211}Frache**
	{209}	**Nan Vincent**			

{034}Fond Zombie	**{212} Fillette**	**{215} Batado**	**{218} Vieux Chemin**
	{213} Nan Roger (x)	{216} Fond Morquette	{219} Nan Letan
	{214} Pied Fort	{217} Banyen	{220} Blain
{035}Mont Panache	{221} Pensik	{224} Nan Roche	{227} Nan Merite
	{222} Trasael	{225} La Klette	{228} La Source
	{223} Nan Thomas	{226} Longuette	
{036}Bassin Bleu	{229} Terre Blanche	{232} Boyer	{235} Waney
	{230} Gachina	{233} Brisiyack	{236} Solon
	{231} Blain	{234} Nadeline	
{037}La Reserve	{237} Chalé	{240} Colette (xxx)	{243} Ka Leger
	{238} Goayan	{241} Ka Mathieu	{244} Ka Doucette
	{239} Mahotiere	{242} Au Champs	
{038}Campledo	{245} Savanne Claire	{247} Jalousie	{249} Grand Bourrien
	{246} Nan Source	{248} Mada	{250} Simon
{039}Foubi	{251} Tela	{253} D´Haiti	{255} Lavarine
	{252} Lutin	{254} Colin	{256} Bois de Chêne
{040}Vielle Hatte	{257} Herbe a Fleche	{259} Morne Tête	{261} Batado
	{258} Sika	{260} Lalanne	
{041}Capin	{262} Nan Massacre	{263} Nan Soyer	{264} Source Agnes
{042}Repos	{265} Germain	{267} Brunette	{269} Savanne
	{266} Jarmitte	{268} Nan Erma	
{043}Fond Poux	{270} Ravine Cannotte	{272} Manmouse	{274} Noubin
	{271} Mayacongo	{273} B. Blanche	
{044}Grande Falaise	{275} Fond Sinette	{276} Nan Borenne	{277} Bassin Long
{045}Bois Chandelle	{278} Nan Dépense	{280} Nan Bouc	{282} Nan Fira
	{279} Chat Jacquot 3e	{281} Rat Jacquot	{283} Route Bassin

Radis

{4} Section communale: LA MONTAGNE

Habitation:	**Localités:**		
{046} Kademe	{284} Nan Raphael	{287} Decidé	{289} Bazin
	{285} Salnave	{288} Nan Lémas	{290} Nan Servesse
	{286} Georlus		
{047}Lali	{291} Nan Jean	{293} Belle Ville	{295} Terre Rouge
	{292} Bois Neuf	{294} Pledo	{296} La Croix
{048}Nan Jules	{297} Nan Route	{300} Guillette	{303} Terre Blanche
	{298} Kalon	{301} Gran Gout	{304} Jalousie
	{299} Bambou	{302} Kaobo	{305} Grand Fond
{049}Bois au Vent	{306} Grand Jardin	{308} Joupa	{310} Verni
	{307} Massacre	{309} Jané	
{050}Plaisir	{311} Nan Manette	{313} Reproche	{314} Fond Vieux Ma
	{312} Bélor		
{051}Jens	{315} Danius	{317} Tabano	{318} Siguineau
	{316} Kanpangnol		
{052}Rido	{319} Justans	{321} Fongol	{323} Nan Depi
	{320} Calvaire	{322} Bauvois	{324} Rose
{053}Ka Godette	{325} Derrière Morne	{327} Fourneau	{329} Fond Sable
	{326} Nan Mare Rouge	{328} Kanpangnol	
{054}Godette	{330} Grand Lakou	{333} Glacis	{336} Grand Kay
	{331} Fósega	{334} Resinette	{337} Boumos
	{332} Fond Gomme	{335} Repos	
{055}Désabé	{338} Petit Mil	{341} La Visite	{343} L_Estère
	{339} Nan Gorge	{342} Varine	{344} Nan Pierre
	{340} Kaderé		
{056}Labelle	{345} Kan Fils	{347} Yayoute	{349} Sable
	{346} Toisseau	{348} Lait Caillé	
{057}Boulé	{350} Derrière Morne	{352} Toussaint	{354} Palmiste
	{351} Moubin	{353} Nan Dépense	

5. Section communale: DESSOURCES

Habitation:	**Localités:**		
{058}Kademe	{355} Kademe	{360} Nan Baptiste	{365} Nan Tina
	{356} Katron (xxx)	{361} Gens	{366} Gaiac (x)
	{357} Seguino	{362} Desravines	{367} Nan Dal
	{358} La Swoé Pov	{363} Clotine	{368} Bayando
	{359} Nanso	{364} Les Blancs	

{059}Catron	{369} Bayando	{370} Nan Baptiste	{060} Iri
	{371} Molpo	{373} Nan Vesema	{374} Nan Zidor
	{372} Nan Marie		
{061}Leblanc	{375} Nan Boeuf	{376} Bazin	
{062}Galata	{377} Dekan	{378} Nan Tibo	{379} Lòt bó Ravine
{063}Beldorin	{380} Nan Youyou	{381} Nan Bois d'Or	
{064}Cimetière	{382} Cité Jean Marie		
{065}Coicou	{383} Anbaso Bodin		
{066}Liran	{384} Silvina	{385} Fond Volcy	{386} Jean Bête1
{067}Lalande	{387} Grand Lakou	{390} Roche Pierre	{393} Nan Risqué
	{388} Nan Fatale	{391} Morne Sentier	{394} Sweka
	{389} Kay Boulé	{392} Nan Twenn	
{068}Man Noel	{395} Terre Mais	{397} Fond Mango	{399} Nan Thomas
	{396} Lòt bó Sous	{398} Batchi	
{069}Petite Place	{400} Digé	{402} Vieux Kay	{404} Nan Belle
	{401} Nan Chalo	{403} En bas Rivière	
{070}Porrier	{405} Nan Saintelaise	{408} Nan Leba	{411} Bati Roulé
	{406} Jalousie	{409} Degommier	{412} Gola
	{407} Fond Lala	{410} Jasmin	
{071}Casse-Pied	{413} Sous Platon	{415} Nan Mórdes	{417} Trou Crabe
	{414} Nan Jumeau	{416} Nan Compère	{418} Nan Cayo
{072}Du Congé	{419} Nan Charles	{421} Savanne	{423} Jan Bête2
	{420} Nan Rachelle	{422} Gran Platon	
{073}Mondo	{424} Raisin	{427} Nan Trou	{429} Nan Brulé
	{425} Nelgon	{428} Bois Neuf	{430} Nan Raque
	{426} Palmiste		
{074}Guembert	{431} Nan Guembert	{433} Nan Zabète	{434} Nan Luc
	{432} Nan Acho		
{075}Vert de Gris	{435} Nan Platon	{437} Nan Petit Coin	{439} Nan du Riz
	{436} Coeur Unis	{438} Nan Cayemittes	
{076}Calalou	{440} Bombel2	{441} Badaine	{442} Petite Source
{077}Yawe	{443} Nan Volcy	{444} Nan Seradète	{445} Terre Maniok

6. Section communal: GRANDE SOURCE

Habitation:	**Localités:**		
{078} Nan Saut	{446} Lemise	{454} Maché Dokté	{462} Riviere Cadette
	{447} Nan Zadét	{455} Nan Zapoti	{463} La Salomn
	{448} Nan Toni	{456} Nan Saut	{464} Nan Plas
	{449} Gros Bassin	{457} Nan Kanal	{465} Nan Resiner
	{450} Casse Pied	{458} Jasmen	{466} Raymond
	{451} Nan Lois ?	{459} Nan Gola	{467} Nan Gran Plas
	{452} Toyé	{460} Morne Twef	{468} Bois du Congé
	{453} Altidor	{461} Nan Belo	
{079} Beauvoir	{469} Dieu Donne	{471} Fond Mango	{472} Gand Lakou
	{470} Pito Mouri		
{080} Biron	{473} Espérance	{475} Nan St. Ford	{476} Gran Labou
	{474} Mangue Fénoir		
{081} Grande Source	{477} Vidoma	{479} Jean Francois	{480} Nan Maselin
	{478} Petit Michel		
{082} Digé	{481} Simonet	{482} Résume	{483} La Source
{083} Lemise	{484} Fèyowé		
{084} Fond Madam	{485} Bois Neuf	{487} Dorfeuille	{488} Nan Cherie
	{486} Nan Douci		
{085} Jansome	{489} Osina	{491} Nan Caché	{492} Nan Fémal
	{490} Morncia		
{086} Meteyer	{493} Pito Mouri	{495} Sodo	{496} Samapfé
	{494} Nan Paul		
{087} Nan Richard	{497} Nan Mare	{499} Nan Rouka	{500} Nan Michel
	{498} Nan Mampenne		
{088} Débauche	{501} Petit Jardin	{502} Chérie Bain	{503} Nan Ledé
{089} Du Congé	{504} Nan Sylvestre	{506} Nan Barrière	{508} Calmadé
	{505} Sous Jacques	{507} Nan Batan	
{090} Petite Source	{509} Nan St. Fa	{511} Grande Savanne	{513} Nan Beris
	{510} Dos Rismon	{512} Nan Montrey	
{091} Nan Baptiste	{514} Marie Saint	{515} Douya	{516} Sous Congo

{092} Pellier	{517} Savanne Pellier	{518} Morne Jacques	{519} Nan Bensé
{093} Bombel	{520} Nan Zoubou	{521} Kamobay	
{094} Dessources	{522} Trou Crabe	{523} Verdegris	
{095} Lasalom	{524} Bellevue	{526} Nan Toni	{528} Raymond
	{525} Grand Plas	{527} Nan Casse-Pied	
{096} Nan Sable	{529} Morne Deji	{530} Morne Trèf	
{097} Gros Sable	{531} Gros Sable	{535} Callebassier	{539} Gaic Panché
	{532} Arcadien	{536} Pallan	{540} Laporte
	{533} Bénitier	{537} Désabé	{541} Nan Digo
	{534} Cote de Fer	{538} Touyac	
{098} Nan 18 (x)	{542} Fond Toussaint	{544} Derrière Bassin	{546} Grillé 2
	{543} Nan Lianne	{545} Nan Puits	{547} Nan Coton (xx)
{099} Fond Ramadoux	{548}Bois de Chêne	{554} Vielle Hatte	{560} Grand Kay
	{549} Nan Grier	{555} Corosol	{561} Nan Justin
	{550} Nan Papaille	{556} Batado	{562} Terre Labouré
	{551} Nan Villa	{557} Grand Caille	{563} Bois Long
	{552} Nan Police	{558} Cimetière	{564} Tamarin
	{553} Grillé 1	{559} Nan Kouyout	{565} Morne Figue
{100} Diondion	{566} La Source	{572} Defoncé	{578} Savanne Clair
	{567} Nan Ti Saint	{573} Nabou	{579} Villatte
	{568} Marie Noel	{574} Mogé	{580} Herbe Boulé (x)
	{569} Roche Michel	{575} Source Charles	{581} Jalousie
	{570} Chemin Corail	{576} Tamarin	{582} Grand Kay
	{571} Polo Bèlette	{577} Grand Fond	{583} La vite
{101} Baguette	{584} Nan Militans	{588} Cafou Moulin	{592} Boucan Paul
	{585} Dlo Sale	{589} Nan Trou	{593} Angel
	{586} Nan Michel	{590} Lexis	{594} Diani
	{587} Cantelés	{591} Vieux Kay	
{102} Bingo	{595} Jean Bête	{598} Palmiste	{601} Nan Gon (x)
	{596} Nan Gaie	{599} Nan Petit Frère	{602} Nan Matte
	{597} Nan Tityan	{600} Nan Fort 2	
{103} Vielle Terre	{603} Nan Lermise	{607} Ka Déchamps	{610} Défonse
	{604} Physéme	{608} Petit Michel	{611} Ti Seau (x)
	{605} Sans Femme	{609} Bassin Mambo	{612} Nan Limenm
	{606} Saintil		
{104} Coraille	{613} Pollo	{617} Nan Guy	{620} Grand Lakou
	{614} Défonce 1	{618} Nan Fort	{621} Tilsaint
	{615} Nan Petit Michel	{619} Nan Ressource	{622} Nan Dou
	{616} Nan Melon		

{105} Leban	{616} La Pas	{616} Nan Digo	{616} Palan1
{106} Coicou	{616} Nan Villa2 {616} Bassius	{616} Oto	{616} Morne Pasteur
{107} Biron	{616} Morne Garde	{616} Leboche	{616} Grand Laboure
{108} Grand Source	(geographiically in the 7th Section, administrativement dans la 6th Section)		

Habitations and Localites not yet defined

1e Section:

{801} Port-a-l'Ecu (x)
{802} Morne Bourrique
{803} Cabaret
{804} Pellier (x)
{805} Savanne Pouceli
{806} Grand Caille
{807} Desjardin (x)
{808} Boucan Patriot
{809} Barbe Pagnol
{810} Duclos
{811} Platon Moustique
{812} Dubois
{813} Beauchamps
{814} Derriere Morne (x)
{815} Riviere Cola (xx)
{816} Dutiette (xx)
{817} Gombo
{818} Gauthier (x)
{819} Nan Coton (x)

2e Section

{820} Jacob (x)
{821} Ravin Pouri
{822} Morne Bambou
{823} Ouvel Loubier
{824} Ka Philippe (xx)
{825} Vieux Luis Loubier
{826} Liblanc
{827} Nan Piti (x)
{828} Boucan Patriot (x)
{829} Mahotiere (x)
{830} Kadet Loubier (x)
{831} Pierre Charles (x)
{832} Nan Raket (x)
{833} Trasael (x)
{834} Péchaud (x)
{835} Platon Morne Bouriq
{836} Colette
{837} La Plaine
{838} Guillette (x)
{839} Nan Picho
{840} Gros Bassin
{841} Valois
{842} Sauvale (x)
{843} Bouflette (xx)
{844} Magritte (x)
{845} Katinette (x)
{846} Gimbault
{847} Loubier (x)
{848} Daty
{849} Guilseau
{850} Thomas (x)
{851} Te Blanche Loubier
{852} Karvan (x)
{853} Mayombe (xx)
{854} Morne Roche (x)
{855} Fond Latanier (x)
{856} Gauthier (xx)
{857} Troussobo (x)
{858} Decide
{859} Merdi Gras Loubier
{860} Cahotin

3e Section

{861} Fond Toussaint (x)
{862} La Source (xx)
{863} Nan Vincent
{864} Fond Zombi
{865} Nan Filette
{866} Morne Blain
{867} Nalleu
{868} Bassin Bleu (xxx)
{869} La Doucette
{870} Bel Agent
{871} Nan Foubi
{872} Vielle Hatte (x)
{873} Grande Falaise
{874} Bassin Longue
{875} La Reserve (xxxxx)
{876} Nan Konyout (x)
{877} Colette (xxx)
{878} Fond Morquette (xx)
{879} Solon Blain (x)
{880} Sous Blanche (x)
{881} Kolin (x)
{882} Labelle
{883} Campledo (x)
{884} Nan Roger (x)

4e Section

{885} Nan Godette
{886} Siguineau
{887} Tete Bambou
{888} Amadoux
{889} Ka Godette (x)
{890} Nan Jaqueline
{891} Nan Plaisir
{892} Nan Guillette
{893} Bellevue
{894} La Belle
{895} Kagodet
{896} Nan Jules
{897} Bassin Bleu (x)
{898} Boucampol (x)
{899} La Montagne (x)
{900} Desabé (x)

5e Section:

{901} Coicou
{902} Jalousie (x)
{903} Porrier (xx)
{904} Dégonier (x)
{905} Deme
{906} Lalande
{907} Du Congé
{908} Gouimbert (x)
{909} Lalane
{910} Sou Platon (x)
{911} Casse Pied (x)
{912} Moudeau
{913} Verdregri (x)
{914} Laurant
{915} Nan Yaoue
{916} Beldorin (xxx)
{917} Galata (x)

6e Section

{918} Grande Source
{919} Duge
{920} Beauvois
{921} Nan Digé
{922} Métayer (x)
{923} Ossina (x)
{924} Biron (x)
{925} Debauche
{926} Du Congé
{927} Bombelle
{928} Petit Source

Appendix C

Delineation of the Village of Jean Rabel

In defining the village of Jean Rabel, the survey eliminated all annexes: Cite Jean Marie, Lot Bo Dlo, and Coicou. The village, or *bouk* as it is called locally, was delimited by the coordinates listed below. The following description of the longitudinal and latitudinal coordinates is written in Creole because it will only be relevant for people familiar with the area, i.e. Creole speakers. All coordinates are UTM with NAD27 datum point:

longitude	latitude	description
89.522	96.266	Lot bo dlo, devan pon-an
89.750	96.195	Bo dlo nan Ri Fidelya
89.378	95.900	Bo dlo, deye lekol kay pe
89.418	95.558	Deye legliz katolik
89.190	95.910	kafou simetye ak site Jean Marie
89.100	96.890	Pi wo teren-an
89.084	96.123	Mon paste, an wo
89.291	96.378	Mon paste, an ba
89.385	96.611	Kafou Woje ak Fon Ramadou
89.510	96.482	Deye lopital la nan rivie

For people familiar with Jean Rabel, a map drawn free hand by supervisor Pharrel Emile is provided on the following page.

Appendix D

Test of GPS Coordinate Readings

To demonstrate the accuracy of latitude and longitudinal coordinates, geographical segments from five Sections were correlated with GPS coordinates recorded during the survey. Only five Sections were chosen and only a single block from each Section because of the difficulty defining political boundaries from topographical maps: There are no maps available with both boundaries and geographical coordinates, and Sections once identified cut unevenly across latitudinal and longitudinal medians.

Coordinates were registered using the UTM system and NAD27 datum point. Overall the correlations are not discouraging, but they are not perfect either: 90 -100 percent. Errors could come from three sources: 1) respondents reporting the wrong Section 2) interviewers recording the wrong Section or misreading the GPS device, and 3) GPS devices giving the wrong coordinates—something that occasionally occurred but was controlled by giving each GPS reader two devices. The few GPS readings that are erroneous can be overcome in follow-ups of the survey population by using localities and household head surnames.

Lacoma: longitude: 1.00 to 8.00
latitude: 84.00 to 89.00

Section	Count	Percent	Cumulative %
Lacoma	**245**	**99.2**	**99.2**
Guinaudee	1	.4	99.6
Diondion	1	.4	100.0
Total	247	100.0	100.0

Diondion: longitude: 84.00 to 88.00
latitude: 95.00 to 02.00 (can be read as 102.00)

Section	Count	Percent	Cumulative %
Vielle Hatte	1	2.2	2.2
Dessources	2	4.3	6.5
Grande Source	1	2.2	8.7
Diondion	**42**	**91.3**	**100.0**
Total	46	100.0	100.0

Vielle Hatte: longitude: 90.00 to 92.00
latitude: 96.00 to 5.00 (can be read as 105.00)

Section	Count	Percent	Cumulative %
Vielle Hatte	**11**	**100.0**	**100.0**
Total	11	100.0	100.0

La Montagne: longitude: 91.00 to 93.00
latitude: 84.00 to 89.00

Section	Count	Percent	Cumulative %
La Montagne	**47**	**100.0**	**100.0**
Total	47	100.0	100.0

Guinaudee: longitude: 96.00 to 98.50
latitude: 91.00 to 00.00 (can be read as 100.00)

Section	Count	Percent	Cumulative %
Lacoma	3	4.5	4.5
Guinaudee	**61**	**92.4**	**97.0**
Diondion	2	3.0	100.0
Total	66	100.0	100.0

Appendix E:
Opinions on the State and Development

In what do you place the greatest hope for your future security?

Greatest Hope	Count	Percent	Cumulative Percentage
Nothing	13	.9	.9
Children	593	39.0	39.8
House	13	.9	40.7
Migrants	277	18.2	58.9
Migrants	4	.3	59.1
Help w/ erosion	2	.1	59.3
Profession	14	.9	60.2
School	3	.2	60.4
Livestock	176	11.6	71.9
Charcoal	23	1.5	73.5
Job	4	.3	73.7
Spouse	16	1.1	74.8
Friend	3	.2	75.0
Sibling	2	.1	75.1
God	295	19.4	94.5
Voodoo	8	.5	95.0
Build latrines	1	.1	95.1
Give seeds	15	1.0	96.1
Government	3	.2	96.3
Fishing help	5	.3	96.6
Vending	32	2.1	98.7
Emigrating	3	.2	98.9
Other	17	1.1	100.0
Total	1522	100.0	100.0

(figures rounded to the nearest tenth of a decimal place)

What is the biggest service the government does for this area?

Biggest Service	Count	Percent	Cumulative Percentage
Nothing	1263	84.9	84.9
Work	13	.9	85.8
Road	10	.7	86.4
Reforest	3	.2	86.6
Well	13	.9	87.5
Give Food	17	1.1	88.6
Training	12	.8	89.4
Build Market	1	.1	89.5
Police	72	4.8	94.3
Health Care	5	.3	94.5
School	76	5.1	99.8
Other	3	.3	100.0
Total	1488	100.0	

(figures rounded to the nearest tenth of a decimal place)

What is the biggest thing that an NGO has done in this area?

Biggest Service	Count	Percent	Cumulative Percentage
Nothing	10	.7	.7
Work	434	28.5	29.1
Road	70	4.6	33.7
Reforestation	4	.3	34.0
Well	319	20.9	54.9
Ero	96	6.3	61.2
Gfood	218	14.3	75.5
Train	9	.6	76.1
BMark	8	.5	76.6
Police	1	.1	76.7
HlthCr	63	4.1	80.8
Justice	9	.6	81.4
Sch	45	3.0	84.4
School	70	4.6	89.0
Credit	53	3.5	92.5
Latrines	49	3.2	95.7
Seeds	14	.9	96.7
Other	52	3.5	100.0
Total	1524	100.0	

(figures rounded to the nearest tenth of a decimal place)

What is one service would like the government to do for this area?

Biggest Service	Count	Percent	Cumulative Percentage
Nothing	13	.9	.9
Work	440	28.9	29.8
Road	83	5.5	35.2
Refo	4	.3	35.5
Well	402	26.4	61.9
EroCnl	21	1.4	63.3
Give Fd	134	8.8	72.1
Train	7	.5	72.6
Bl Mrk	6	.4	73.0
Police	23	1.5	74.5
Hth Cr	74	4.9	79.4
Justice	4	.3	79.6
Sch	90	5.9	85.5
School	103	6.8	92.3
Credit	38	2.5	94.8
Latrines	39	2.6	97.6
Seeds	10	.7	98.3
Other	29	2.6	100.0
Total	1521	100.0	

What is one thing you would like ONG to do for this area?

Biggest Service	Count	Percent	Cumulative Percentage
Nothing	13	.9	.9
Work Projects	440	28.9	29.8
Build Road	83	5.5	35.2
Reforest	8	.6	35.8
Drinking Water	402	26.4	62.2
Erosion Control	21	1.4	63.6
Give Food	134	8.8	72.4
Tech. Training	7	.5	72.9
Build Market	6	.4	73.3
Provide security	27	1.8	75.1
Health Care	74	4.9	80.0
School	193	12.7	92.6
Credit	38	2.5	95.1
Latrines	39	2.6	97.9
Seeds	10	.7	98.6
Other	26	1.6	100.0
Total	1521	100.0	100.0

(figures rounded to the nearest tenth of a decimal place)

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END NOTES

[1] Martin Alonso Pinzon was Captain of the Pinta and a wealthy ship owner from Palos, Spain. He and Columbus had been arguing. Alonso left the other two ships near Cuba and went on to Hispaniola in mid November. Columbus did not reach the island until December 5th, by which time Alonso was already in the Cape Haitian area. Columbus only found him through messengers sent by Alonso. No disciplinary action was taken for this breach of conduct although Columbus was infuriated. Alonso died shortly after the first voyage.

[2] The administrative and political lessons of war were not lost on Haitian generals. In the wake of independence in 1804, Dessalines began and Henri Christophe largely accomplished the building of an empire in the north of Haiti. Their system of agriculture (fermage) generated $3.5 million a year. Education was made compulsory, British school teachers were brought in, experiments in agricultural technology were financed, and across the empire palaces sprang up, such as the famous La Ferrier and San Souci--at least eight other palaces stretching from Mole St. Nicolas to Fort Liberte and St. Marc were either begun or built.

In all, the kingdom thrived for 17 years. Its political, agricultural, and financial successes are irrefutable testimony to the competency of the Haitian generals and their administrators. After Christophe's death, generals from the Southern Republic of Haiti plundering of the king's palace found L11.5 million (English pounds) in his safe-- enough to have paid the price of independence demanded at the time by France.

Nevertheless, the empire crumbled. The explanation for the decline of the kingdom probably has more to do with raw demographics than the death of Christophe—as so commonly emphasized in history books. A growing number of peasants were fleeing the kingdom. The movement was encouraged by the southern Republic's policy of giving land away, a calculated attempt by Presidents Petion and Boyer to consolidate their own power and to undermine that of the kingdom. By the time of Chritsophe's suicide in 1822, the empire was literally slipping out from underneath him-- peasants were leaving the North in droves (see Heinl and Heinl 1978).

[3] The reason for continued population growth is a phenomenon known as "demographic momentum." Even when fertility declines, disproportionate numbers of females not yet in their reproductive years assures continued absolute population growth. Put another way, if today there are more female children than women, then the population of adult females will continue to grow, guaranteeing growth in the absolute number of children even at replacement level fertility—2.1 births per woman.

[4] See Appendix B.

[5] Mangos originated in India and were introduced sometime during the colonial period. Breadfruit came from the South Pacific and is believed to have been first brought to the Caribbean in 1792 by the infamous Captain Bligh--three years after his fabled 'mutiny on the Bounty' voyage. Avocados originated in the Mexican highlands but by colonial times there was a West Indian variety (see Encyclopedia Britanica).

[6] Household members were assigned to three categories during interviews: Those who sleep in the house, 1) full time 2) part time and 3) never.

[7] Because there are 109 Habitations in Jean Rabel, analysis at this level could not be included in the main body of the report—to do so would multiply the analysis by a factor of 109. However, the formatted data base should be available through the sponsoring organizations.

[8] Competition among local leaders for control of the appointment of guides created conflicts that threatened the success of the survey. The result was a decision to suspend the practice of paying locals and depend entirely on volunteers.

[9] This practice was changed three weeks into the survey when it became apparent that, burdened by other duties, supervisors and local assistants alone could not count houses fast enough to maintain the necessary pace. A team of 8 house counters was assembled exclusively for this purpose. House counters marked houses--to avoid double counting--and compiled lists of household heads.

Another change with regard to house counts: The survey area was originally divided into IGAs (Identifiable Geographical Areas)--territories easily recognized in the field by obvious physical boundaries, such as roads, rivers, and mountain ridges. However, this system of identifying regions based on topographical criteria

was also abandoned in the early stages of the survey for the more pragmatic approach of simply counting houses in each locality—people living in the areas easily identified the boundaries of what they call "localities," albeit with frequent controversy over whether a particular locality is 'really' just one or several independent localities.

[10] General interviewers were instructed to question the male household head or, in the absence of a male head, to interview the oldest economically active male. However, in a great number of cases (see Households), interviewers encountered female headed household heads and households in which the male heads were absent. In these cases women were freely substituted under the guiding assumption that Haitian women know a great deal about the economic affairs of the household.

There was no such leniency regarding the nutritional questionnaire. Under another guiding assumption--that Haitian women know far more about the affairs of their children than do their male counterparts--only females were accepted as respondents for the nutritional questionnaire.

In each household, the nutritional interviewer selected a mother and one of her children as subjects of inquiry regarding vaccinations, illnesses and treatments, and to be measured for height, weight and brachial circumference. A rigid criteria for choosing mothers was arbitrarily defined for the sake of consistency in the selection process: In each household interviewers chose the youngest mother who had children under 6 years of age. In the absence of young children, interviewers were instructed to simply choose the youngest mother. The oldest child in the 0 to 6 year age range was chosen for measurement, intentionally biasing the sample toward higher ages in an effort to avoid over-selecting children who were still nursing (children still nursing, especially those under 6 months of age, are often insulated from the nutritional deficits suffered by older children of impoverished households).

[11] In the early stages of the interview process, these check-ups revealed disturbing discrepancies in the performance of several interviewers and supervisors. However, mis-recorded data was subsequently corrected by return visits, errant employees were encouraged to pursue other employment opportunities, and continued monitoring of the interview process assured the commitment of the remaining survey staff. The result is an extensive body of data the accuracy of which current survey employees have high confidence.

[12] Codification for virtually all questionnaires was checked, more than half of the questionnaires were reviewed twice. Codifying was originally a problem for interviewers. All else having failed, the problem of incorrect codification was resolved by levying a fine of 1gourdes (US$ .06) on incorrectly coded variables. Interviewers quickly came to understand the coding system.

[13] Reasons the Jean Rabel population is bigger than originally thought may have to do with 1) under counting during the 1981 census and 2) higher than estimated rate of natural increase-- resulting from lower than estimated migration and higher than estimated birth rates (see Fertility).

[14] Had this been the actual "total" number of houses in the region, the population estimate would be statistically accurate to within 2,700 individuals or 2% with a 99% confidence coefficient. Unfortunately, not all the houses were counted. An estimated 100 houses in the Habitation of Gombo in the Section of Guinaudee went uncounted initially because of objections from the residents and later, after the residents agreed to be surveyed, because of a lack of additional funding—these houses were simply eliminated from the survey. Further, because the Jean Rabel population was greater than originally anticipated, and because of the unavailability of additional funding, segments of the population went uncounted, most notably the population of the village of Jean Rabel. The survey staff tentatively estimated the village of Jean Rabel has 500 households.

Endnote Table 2.15: Confidence Intervals (99%) for Population of Sections

Section	Households	Pop. Confidence Interval (99%)	
		High	Low
1eme Section: Lacoma	6,382	35,803	38,611
2eme Section: Guinaudee	3,636	20,138	22,258
3eme Section: Vielle Hatte*	3,714	20,581	22,724
4eme Section: La Montagne	2,496	13,673	15,430
5eme Section: Dessource	1,965	10,677	12,235
6eme Section: Grande Source	1,263	6,739	7,988
7eme Section: Diondion	2,379	13,012	14,727
Village of Jean Rabel	500	5,830(n/a)	5,830(n/a)
Est. of uncounted houses	100	583(n/a)	583(n/a)
Total	**22,435**	**127,036**	**140,386**

[15] The fact that males outnumber females in the youngest age groups is expected. Globally, natural birth rates favor males 105 to 100 females. That females outnumber males in older age categories is also normal: female death rates are lower in every age group for the vast majority of countries. Thus, in higher age brackets one finds more females than males.

[16] An estimation of the Total Fertility Rate for Jean Rabel depends on knowledge of annual birth rates per five year age category of mothers. Not enough data was gathered in this regard to give a reliable estimate.

[17] 'Witch' is here meant in the anthropological sense of being the incarnation of anti-society. Mischief caused by witches is usually peculiar to the society; particular societies define the 'witch' as a threat where the society is most vulnerable. Thus, pastoralists often believe witches to suck the milk and blood from their animals at night. Agriculturists often imagine witches as destroyers of crops. Haitians fear witches as the eaters of children—usually manifest in the form of disease but also as the causal agent in accidents. The behavior of the Haitian witch, the *lougawou*, is testimony to a strong pronatalist tendency in Haiti.

[18] The survey data does not allow for an estimation of Natural Increase for Jean Rabel because data on the rates of migration were not collected. However, it is known that migration is high and the survey does provide information regarding migration destination.

[19] The seemingly large number of emigrants in the category "other" --7% of the total but only 9 observations—is related to the fact that many people in the Commune of Jean Rabel believe the cities Miami and New York to be independent countries.

[20] Warfare has rarely had the effect of stemming population growth. Seldom are enough people killed to have a lasting effect and more importantly, men are usually the victims, leaving women to continue essentially undisturbed population growth (see Harris 1986).

[21] Boat people are often referred to in foreign newspapers as "economic refugees fleeing poverty." Close inspection reveals that the individuals who make up the masses of boat people are members of the upper echelons of the peasantry and urban working classes. Evidence from Rocheleau (1984) suggests the average boat person has at least 5.6 years of education—enough to teach primary school in rural Haiti, and more than twice the 2.5 years of schooling attained by the average adult in Jean Rabel.

[22.] Summing the total number of visas issued to Haitians for the 1982-90 period and assuming that Fass (1988), Segal (1975), and Allman (1982) are right in contending that approximately half of "non-immigrants" remain in the U.S.--for the most part illegally--then, based on data from the INS Yearbook, a total of slightly more than 387,000 Haitian visa people remained in the United States during the 1982-90 period. Adding to this figure the approximate 100,000 Haitian immigrants attaining legal residency during this period (excluding the category of "adjusted status"), it appears 1982-90 saw a total of 487,000 Haitian immigrants. Put another way, the early 1981 boat people aside, close to ten percent of the Haitian population permanently emigrated to the United States during the 1980s. Duplicating the same procedures as above, an additional ten percent of the Haitian population left Haiti between 1957 and 1981 (Allman, 1982; Skari, 1987; see INS, Statistical Yearbook of the Naturalization and Immigration Services).

[23] One carreau = 1.29 hectares

[24] In 1972, the year that some claim marked the arrival in the United States of the first Haitian boat people, the journey cost a reported 1,000 to 1,300 US dollars (Stepick, 1982; Boswell, 1982; Allman, 1982). With no shortage of customers, a boat owner stood to make a good profit. The average cost of building what the American media consistently refers to as a "rickety Haitian vessel" is about 10,000 US dollars (average size boat is 40-50 feet). Packed with over 200 fares at 1,000 dollars each, the profits may have run as high 200,000 U.S. dollars for a single boat.

Whether Haitians ever really paid this much deserves some skepticism. The author's research on the subject reveals that during the 1980s fares averaged about 200 to 300 US dollars. By 1992 they were as low as 60 dollars (Haitian dollars, which at this time amounted to about 38 US dollars). Moreover, merchants appeared unwilling to send a new boat, preferring instead to wait until the boat had begun to lose its usefulness to age and water-logging. Even then however, large profits could be made, and at no loss to the owner when the US coast guard sunk the worn-out boat—which, as a policy, they did.

In one seaside community the author visited (pop 654), people reported that between the late 1970s and October 1991 (the date of that particular research project) the villagers had launched over 50 US bound vessels. One entrepreneur reported making several hundred thousand dollars from the seven or eight boats that he alone sent. Many of the villagers had made the journey. And at the time of the researcher's last visit in June 1992 there were 151 villagers who were either in the US or at the Quantanamo naval base in Cuba. In one night the researcher counted 30 villagers boarding a US bound boat with some 200 other passengers. Indeed, young male villagers who have made the journey 4 and 5 times are not uncommon. Trying to go to the United States has become a veritable "right of passage" among the village youth.

The villagers themselves go cheap, at the most paying 10 dollars. Those who cannot afford it serve as crew, preparing the boat for the journey by loading water and other provisions. Once under way they are expected to help with the sails and to attend to the needs of the other passengers.

The whole operation appears to be a community effort. This was especially in evidence one night when the researcher watched the loading of a boat. The passengers—who mostly had come from far away cities like Port-au-Prince, Cape Haitian and Gonaives—were confined in a fenced yard at the head of the beach. Every ten minutes or so a cadre of village men, armed with sticks, would escort some 20 passengers to a row-boat which then took the 'boat people' out to the larger vessel. "*Vakabons"* who tried to sneak into the line met blows from the men's sticks.

The stories of military intervention which were so common in the western press are very difficult to accept. ot only was it widely known in the surrounding countryside when a boat was scheduled to depart, but it was very difficult to overlook its disappearance. These approximately forty-foot vessels are vital to village commerce in that they bring goods back and forth from Port-au-Prince. In short, everyone knows when a vessel is getting old; only an imbecile would not notice its absence; and it would take a complete fool not to realize that captain, crew, and a large portion of the villagers are gone. In addition, the owner almost never leaves with the boat so that if the military had any interest in disrupting emigration they could simply have held the boat owners responsible. In the Far-west, this did not and does not happen.

It is interesting to note with regard to the myth of military intervention that one day the researcher had been invited by a boat captain and crew to go along with them to Quantanamo bay. Accepting the invitation, the researcher was later prevented from boarding by the Sergeant (the only soldier stationed in the area). When what seemed like the entire village protested, the sergeant explained it was illegal for a *blan* (foreigner) to depart without official authorization. When asked about the legality of the other 250 departing passengers the Sergeant's response was, "sa se youn afe clandestine" (this is a secret affair).

[25] The entire issue of "voodoo" is troublesome from an academic perspective. The beliefs vary from one area to another and there is no cohesive network of temples and priests; nor is there any written code of beliefs and ceremonies.

Most rural Catholics exercise traditional Haitian religious practices, or what has come to be known as "voodoo" by outsiders. Many rural Protestants also adhere to "voodoo" beliefs. However, to "*sevi lwa*" is forbidden by Protestants and hence typically denied by Haitians identifying themselves with these churches.

[26] Waddle and daub simply means sticks woven together and plastered with mud, lime or cement. Most kitchens are constructed in this way but without being plastered.

[27] There is no electric service anywhere in the Far-west. The nearest city with electric service is in Port-de-Paix and it is, far more often than not, out of order.

[28] Studies elsewhere in Haiti (see Murray 1977) suggest that for most men polygyny is a temporary status.

[29] Cooking oil is another major commodity sold by market women. Oil is most often advanced on credit or bought by the gallon. It is sold by the *ka* or *tike.* There are 5 *ka* to the gallon and 4 *tike* to the *ka.* In Table 5.3 below prices are given by the gallon and *tike*.

Table 5.3: Prices for Cooking Oil: Credit versus Cash

		Price in Haitian Gourdes			
	Tike	Gallon		*Tike*	
Produce	per Gallon	Cash	Credit	Cash	Credit
Cooking Oil	20	75.0g	80g	4.5g	5.0g

[30] With regard to diet, little has changed in Haiti since before Columbus. Before European contact the most important crops in Hispaniola were manioc, sweet potato, corn, squash, beans, peppers and peanuts. Tobacco was also grown and smoked as cigars. The most notable post-contact crops are plantains, rice and sugar cane (Rouse 1992). Only plantains and sugar cane are prominent in Jean Rabel, rice is rare.

[31] In Jean Rabel, as elsewhere in Haiti, <u>all</u> crops are potentially cash crops. However, farmers clearly distinguish between cash crops and subsistence crops. Cash crops typically ripen in the same short period of time and are, due to risks associated with storing harvests and the availability of markets, most often liquidated for more storable currency. Subsistence crops on the other hand are crops that yield produce slowly, but reliably. Manioc, for example, can be harvested as early as 7 months after planting but can literally be stored in the ground for several years; there are multiple varieties of sweet potatoes which yield in a time range of 2 to 6 months; yams yield fruit for several years after planting; plantains yield slowly over a period of 18 to 24 months and propagate themselves for several years.

The suggestion, supported by the actual harvesting cycles, is that Haitian farmers target harvests to provide both cash options, in the form of all crops, and subsistence options, in the form of subsistence crops available year round.

[32] Haitian *kiltivate* typically has two or more gardens, often several hours distance from one another.

[33] Farmers report burning as a means of 1) reducing the insect population and 2) reducing labor costs associated with clearing. Few farmers interviewed emphasized the value of ash as a fertilizer. Most respondents expressed awareness that burning is counter productive as a long term agricultural technique.

[34] The expectation to fertilize was so low that a Chi-square test could not be performed, nor is it necessary: The point is clear, farmers in Jean Rabel use neither fertilizer nor pesticide.

[35] It should be pointed out that it is emphatically not swidden agriculture in and of itself that leads to erosion, soil exhaustion and eventually desperate poverty. Swidden (i.e. slash and burn) agriculture with its lengthy fallow cycles and inter-cropping techniques is arguably a more effective farming strategy with regard to preventing erosion and revitalizing soil quality than modern industrial farming techniques. Severe erosion and soil exhaustion comes in association with the end of swidden farming when, 1) farmers no longer have enough land to practice shifting cultivation, forcing them to farm the same plots exhaustively and 2) there are not corresponding efforts made by state and/or other governmental organizations in a position to provide farmers with capital, technical and organizational assistance necessary to orchestrate complex agricultural programs.

[36] This could be construed as a consequence of land fragmentation brought on by ever greater number of heirs. However, it could also be related to the benefits of diversifying risks in an area that experiences variable rainfall patterns--a strategy spontaneously corroborated by some farmers.

[37] There is actually a third way: Take land that appears not to have an owner-- “State land.”

[38] In Haiti, sons and daughters are supposed to inherit land equally; in practice, sons appear to inherit more than daughters, a trend facilitated by selling land to sons. Legally recognized children born "outside" of a legal marriage inherit a third of what children "inside" the marriage inherit (see Murray 1977).

[39] Although no data was collected on the matter, it is known that buying and selling of land is a common practice in Jean Rabel. Parcels of land are bought as a means of saving and investing money; even land not farmed by the owner can yield returns in the form of rents and through sharecropping arrangements. Land is sold to cover the expenses of significant life events, such as paying a child's school tuition, financing agricultural and migratory ventures, compensating for failed harvests, and most importantly of all, to meet expenses related to unforeseen emergencies like sicknesses and funerals.

[40] In practice, buying and inheriting overlap and complicate the status of land ownership. People often buy land from parents or other family members, eliminating arguments over rights of inheritance. Further, some land is believed to belong to the state.

[41] Furthermore, despite the apparently large number of titles, there is good reason to suspect that most titles are simply sales receipts from previous owners. Legitimate land surveys are rare. Most rural Haitians simply do not have the resources to employ surveyors, a service that often costs as much or more than the land purchase itself.

[42] In Haiti, people are required by law to tether livestock. In practice however, this is not always the case. In the nearby Commune of Mole St Nicholas goats are free ranged despite the law. Even in areas where all livestock are tethered, there is still the problem of broken cords (see Livestock)

[43] Fights over roving livestock are the second most common cause of violence witnessed by the researcher—the first is competition among women for the financial attentions of the same man. Animals are the first victims, but people sometimes follow.

[44] Interestingly, Haitians have superstitions regarding cutting trees near water sources: Rural Haitians believe that springs and water falls are occupied by *lwa*, "voodoo" spirits that will seek revenge against any person fool enough to fell one of the trees. In areas that are otherwise completely deforested one still finds enormous old trees clustered around sacred springs.

[45] Unfortunately no data was collected on the planting of wood trees for lumber.

[46] Pigeons are common everywhere in Jean Rabel, a fact that was not investigated in the survey

[47] New mothers are confined inside the house for five days during which time they are fed large quantities of meat, especially chicken and goat. They are also fed copious quantities of plantains and beans. In the Jean Rabel area, rice is reportedly taboo during this period. On the irrigated Artibonite Plain where rice is produced in abundance, the opposite is reportedly true: Beans are taboo and rice is prescribed.

[48] The explanation accounting for the category "other" is primarily *malady*, sickness.

[49] Pigs convert food at rates as high as 4 to 1 (4 calories of feed in; 1 calorie of meat or fat out).

[50] With regard to tenured livestock, the research found many more people looking after animals for others (tenured in) versus people giving animals to other people to look after (tenured out). A logical explanation for the 'missing' animal owners would seem to be that people who tenure animals out are fewer but wealthier—meaning a few tenure to many. However, a look only at the most highly tenured animals—cows (26.1% vs 3.8%), hogs (14.2% vs 1.1%), sheep (11.8% vs .7%), and goats (10.3 vs. 1.1%)—suggests this is not the case: Assessing only households that have tenured animals, Tables 8.75 and 8.76 below reveal the mean number of animals tenured in (1.58) is actually greater than the mean number of animals tenured out (1.11).

Table 8.75 Tenured In

	N	Mean	Std. Error	Std. Deviation	Minimum	Maximum
Animals	220	1.58	.076	1.1220	1.00	7.00

Table 8.76 Tenured Out

	N	Mean	Std. Error	Std. Deviation	Minimum	Maximum
Animals	20	1.10	.069	.3078	1.00	2.00

This is probably a result of the way in which livestock tenure was measured: tenure was not recorded for every animal but rather the primary means of tenure by which households came into possession of each species of livestock. For example, if a household head reported being responsible for six donkeys, the question on tenure was 'what is the primary means by which you have these donkeys?' Another reason for the disparity between people who 'tenure out' versus 'tenure in' animals may have to do with the fact that many town dwellers tenure animals out to people living in the countryside. The survey did not sample the village of Jean Rabel which would have helped to clarify this point.

[51] Farmers report that both cows and goats provided considerably more milk in years past.

[52] A total of 324 observations were excluded because of 'flags' by the Epi6 nutritional program which was used to calculate of the nutritional indicators. The reason for 'flags' is because 1) incomplete information and 2) large variation (i.e. many standard deviations); specifically, standard deviations in excess of six from the US mean for children of similar ages.

[53] There are other reasons for favoring *bokors*: as a Haitian women once told the author, "doktor pi mal pase bokor-a. Si ou al nan doktor epi ti moun nan mouri, bokor ap remet lajan. Doktor pap bay anyen (the doctor is worse than the spiritual healer. If you go to the spiritual healer and your child dies, the spiritual healer will refund your money. The doctor won't give you anything). *Bokors* depend on payments from clients, which not only disposes them to give money-back-guarantees, but also inclines them to be congenial to their customers. Haitian nurses and doctors on the other hand are always paid by the State or an NGO, which means they do not have to fear repercussions when they treat their clients with arrogance and disrespect —something for which Haitian nurses are especially notorious.

[54] Information regarding the availability of health cards was vitiated by the fact that auxiliary nurses sometimes keep the mother's card. Ostensibly the auxiliaries hold on to the cards because people often arrive at the clinic without them—something the auxillaries find exasperating. The absence of health cards because of auxiliaries keeping them was not recorded by the interviewers with enough regularity to permit accurate measurement of the practice. However, nurses and doctors working with ID indicate that this is a minor problem.

[55] Even well educated rural Haitians believe that AIDS is caused by sorcery as when one person goes to a *bokor* ("witch doctor") to kill another person; or that venereal disease are caused by jealous spouses who *ranje* (magically fix) their partners so that other lovers will fall ill.

[56] In fairness to ID, the advantages of attaching profits to the delivery of vaccinations and other health care services is recognized by some of it senior staff. Further, the idea not to allow *ajan santes* to charge for their services was a calculated attempt to eliminate from the program 'profit chasers' who were not sincere about being involved on the health care system.