

RESEARCH REPORT

part I

of 2 parts

Food Distribution, Production, and Consumption in Haiti

**(with special emphasis on the emerging role of snack
foods and prospects for marketing high quality peanut
based snack foods)**



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Photo 1: Part of the survey team while in the North Department
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Executive Summary

1) Introduction

This study is about the very important topic of how to get RUFs (Ready to Use Therapeutic Foods) onto the popular Haitian market.

2) Demographic Overview of Haiti

Haiti is 1/3rd of an island with a current population between 10 and 11 million people. Until recently the majority of the population lived in rural areas and was dependent on small scale agriculture and livestock rearing. A peasant economy par excellence, average land holding is 1 hectare with few people owning more than 12 hectares and few if any land holders outside of the capital city of Port-au-Prince with uncontested control over more than 1,000 hectares. Urbanization over the past 50 years has been dramatic, with the country going from 85-90% rural in 1950 to 50% urban today. A flood of migrants leaving the country associated with 35 years of political instability and economic recession have resulted in a heavy dependence on remittances, mostly from the US, Dominican Republic and Canada. Today remittances may be the source of as much as ½ of all legal revenue in Haiti. The past 30 years have also been characterized by general decline in agricultural production and living standards. As much as 70% of the population can be categorized as hovering around the margins of extreme poverty

3) Methodology

The research conducted during the course of this study included,

- 1) Review of the literature from academic and NGO sources.
- 2) Interviews at government agencies to collect food related data on laws, regulations and standards.
- 3) Key informant interviews with members of the business community and researchers experienced in Haitian nutritional studies.
- 4) Value chain investigations: specifically into local snack foods, street foods and peanuts; included 10 interviews with artisanal snack producers and 5 in-depth interviews with peanut butter producers.
- 5) Focus groups: a total of 33 on the subjects of nutrition, food consumption, and child feeding practices.
- 6) Frequency lists (also referred to as “freelisting”): from 50 respondents who ranked the most nutritious foods and snack foods. The data was gathered from focus groups participants.
- 7) Cultural Consensus Analysis: 49 “pile sorts” of different foods accomplished through interviews with 150 participants organized into teams of three people (to develop food categorization profiles/cognitive domains regarding food categories).
- 8) Quantitative survey on consumption patterns: 128 surveys conducted with focus group participants.
- 9) Vendor survey: open interviews with 30 vendors concerning attitudes toward new products, disposition to purchase, credit arrangements, and distribution channels.
- 10) Street food survey: the survey team visited 19 schools at mid-morning in Gonaives, counting the number of food vendors (48) and noting the items sold; in Cape Haitian the

team visited 18 intersections, counting 59 street food vendors and noting the foods they were selling.

- 11) Cost Analysis of street foods: Costs versus profits were made for 4 street foods (rice, beans and chicken; spaghetti, paté, and BBQ chicken)
- 12) *Boutik* (neighborhood store) surveys: a total of 56 *boutik* taken from 50 GPS locations divided between the three urban sites
- 13) *Boutik* inventories: 14 complete inventories compiled at neighborhood stores
- 14) Supermarket surveys: 19 supermarkets visited for review of snacks sold and inventoried for imported vs. domestic peanut butter prices
- 15) Distributors: 6 major distributors to whom we applied questionnaires to 5 distributors
- 16) Redistributors: visited 14 redistributors (mid-level wholesalers) and applied questionnaires to all
- 17) Telephone surveys: 30 *boutik* owners and another 10 redistributors interviewed by telephone with questions focusing on merchandise turnover rates
- 18) Quantitative Consumer Survey: 628 surveys of randomly selected individuals from among the general population (in the three Departments where the study was carried out) focusing on snack preferences, prices, frequency and timing of purchases, and attitudes toward local vs. imported foods.

4) Background: Understanding the Haitian Food and Nutritional Crisis

Malnutrition rates in Haiti have fallen in recent decades, but they continue to remain much higher than other countries in the region. Part of recent reductions in the malnutrition rates may have more to do with massive international food aid and malnutrition treatment programs than improvements in the economy, increasing knowledge of nutrition or increasing income levels.

International aid to Haiti has addressed malnutrition in several ways: one of which is to flood the market with fortified agricultural surplus from the US and Western Europe. Criticism of the practice, an increasing appreciation for food security through food sovereignty, biofortification programs, and the emergence of RUFTs (Ready to Use Therapeutic Foods) as a treatment for malnutrition have converged in strategies such as that promoted by MFK (Meds and Foods for Kids), where local products are used to make RUFs and, in the context of this report, a new push to get high quality RUFs (Ready to Use Foods) onto the popular market.

5) The Syntax of Popular Class Haitian Food System

This battle against malnutrition in Haiti, has occurred in the context of a sophisticated local understanding of nutrition. In the present study we found that popular class Haitians appreciate and in fact deliberately formulate balanced meals. They also blend foods to make highly nutritious folk concoctions for the treatment of illness and to help build strength when recovering from illnesses. They share a nearly complete folk model for food groups that closely corresponds with the prevailing international scientific nutritional model.

Similarly, consumption patterns are associated with a system of folk rules—not unlike that of language—that dictate when certain foods are eaten, what foods are eaten together, and how they are cooked. Within this schema, locally grown foods are prized for being organic and more

nutritious than manufactured or imported foods. There is powerful *primie facie* evidence that these rules maximize nutrition with respect to food costs and availability.

Popular class Haitians attitudes toward new foods are highly conservative. They are generally suspicious of new foods and suspicious of eating food prepared by strangers, people to whom they are not intimately related or with whom they are in any type of conflictive relationship. The suspicions are associated with beliefs in magic and fear of poisoning.

Nevertheless, the food consumption rules are not static. They can and do change rapidly in response to changes in costs and availability. Notable examples are the acceptance of sardines, once thought be snakes (why else where they have no heads), and the recent acceptance of horse meat into the diet of people living in the North and North East Departments of Haiti. Also, despite the great suspicion of foods prepared by strangers, there is a thriving and growing industry of food preparation specialists something that is, as seen in Section 7, economically expedient if not necessary in the face of urbanization, increasing importance of schooling and work outside the home as well as the rising cost of cooking fuel and water.

6) History of Hunger, “Socialization for Scarcity”, & the Market

Food consumption patterns and the rules seen above can be understood in the context of what Alvarez and Murray (1981) called Socialization for Scarcity, meaning adaptation to food scarcity and deteriorating economic conditions. But the adaptation is not new. The history of Haitian domestic economy can be construed as a history of hunger and adaptation to recurrent epidemiological, natural, political, military, and economic crisis. Specific strategies of food preparation, consumption, sharing and rationing is part of that adaptation. Also important is how food accessibility is mediated through the informal and locally oriented market economy vs that of the formal and import oriented market economy.

The informal system traditionally prevailed as a redistribution mechanism for local produce. It is focused on internal rotating markets—open air markets held on specific days of the week and staffed with highly entrepreneurial market women, both sedentary and itinerate traders who move merchandise from one market to another and from rural areas to urban areas. The internal marketing system has kept the cities fed through more than two centuries of almost constant environmental, political and economic crises.

During that time, the formal system has increasingly come to play a role in the nutritional lives of Haiti’s popular classes. While always important as redistribution points for imported tools and staples—such as smoked herring—networks of depots (small warehouses) and boutique (country or neighborhood stores) became the major distribution channel for the imported foreign subsidized agro-industrial grains discussed above. Today more than 50% of foods consumed in Haiti are imported, much of which is in the form of grains, pastas, and legumes, but increasingly included in the imports are prepackaged ready-to-eat foods, such as milk, cheese, corn flakes, crackers, cookies, and cheese puffs. Nevertheless, the informal economy with its open markets and street vendors is still the primary end distribution point for 70% to 80% of all imported goods in Haiti and 98% of all local products.

The majority of the population also continues to depend on the traditional “socialization for scarcity” strategy described by Alvarez and Murray, which to this day influences consumption patterns even in urban environments. Indeed, those Haitians who have not been able to emigrate were most recently knocked back into near total dependency on these strategies in 1991-1994 international embargo and again in the 2000-2004 aid embargo. But very importantly for the objectives of this study, there is a third sector that is playing an increasing role in the lives of popular class Haitians: street foods made by local food preparation specialists. And even more importantly and more recent, a fourth sector has emerged: imported prepackaged ready-to-eat foods, ‘snack foods’ mentioned above, made almost entirely, not by local food preparation specialists, but by food preparation specialists in other developing countries.

7) Recent Adaptation and Emergence of the Snack Industry

Underlying the growth of popular class Haiti’s street food cottage industries is urbanization, increasing costs of making meals, and reduced availability of household labor for food preparation. The challenges can be summed up as the popular class Haitian households “Food Preparation Conundrum,” which can be further broken down into the

1. The Storage problem: Rodents, molds, thieves, and scarce cash make storage risky and costly
2. The Water Problem: Most people in Haiti, even in rural areas must either travel to fetch water or purchase it.
3. The Fuel Problem: In rural areas people must forage for wood. In the urban areas they sue charcoal, which at the household level in the scale of economies often costs more than the food being cooked
4. The Labor Problem: Someone has to cook the food, something that takes 1 to 3 hours and considerable diligence and efforts. And with increasingly importance of school and work outside the home, there are less household members available to participate in food preparation.

Street foods help solve these problems. They do so at an arguably lower cost than the household can prepare food; the industry functions as a type of collective mechanism to pool the costs of fuel and water. In this way, they can be understood as another phase in “socialization for scarcity,” in this case an adaption to urbanization. But another, much more recent food type is moving into the same niche is low cost “snack foods” the significance of which are having--and inevitably will continue to have--a profound impact on nutrition among the popular classes of Haiti.

8) The Entrance of Imported Snack Food

Imported snack foods are another solution to the Food Preparation Conundrum. They are inexpensive, ready to eat, available everywhere, have a long shelf-life and are usually hygienic. But they are also a challenge to the industry of local food preparation specialists. They force them to compete with highly efficient industrial producers who are able to source the globally least expensive ingredients. The competition reduces profit margins for local food preparation specialists and surely puts many out of business.

Popular class Haitians have not passively accepted the shift to low nutrition staples that occurred with declining agricultural production, economic hardship, and urbanization. To make baby foods

they mix cooked and mashed starchy vegetables with fish, cheese, and milk. To create a fortified beverage for adults they mix high carb malt beverages with hi protein milk. But here distributors of industrially processed RUFs sold in Haiti may pose as great a threat to the wellbeing of the general population. Most if not all misrepresent the quality of the foods they sell, increasingly substituting ingredients such as palm oil and soy products for more nutritionally balanced and high protein milk and cheese. The situation is such that low cost cheese cubes on the Haitian market contain no cheese. In most popular brands of condensed milk—a highly prized source of nutrition for popular class Haitians—the least available ingredient is milk. Major cheese and condensed milk brands examined in the context of the present research also contained preservatives that can be found on internet food additive watch lists.

The acceptance of snacks into the popular class food regime and the increasing dependency on this pseudo-milk and cheese is related to availability and cost seen above. What Haitians really want—or at least what the vast majority say they want—are organic local foods. But they often cannot get them and they cannot afford them. The market is currently being driven, not by what Haitians want, but by what can most cheaply and profitably be sold. As one focus group respondent articulately explained, “It’s not that we want to eat these foods. It’s a question of what’s available.”

Whatever people in Haiti say they want, a distressing trend is the conceptualization of some foods as nutritious or revitalizing when they are not. Popular class Haitians do not read labels on foods, they would not understand the contents if they did, and there is little general knowledge about the content of these foods from elsewhere. Even most upper class Haitians have no idea that low cost milk and cheese on the popular market is composed of mostly non-dairy products. Hence they fall easy prey to unscrupulous advertising and false from RUF distributors in Haiti.

9) Peanuts and Peanut Food

Peanuts are and long have been a major component of the Haitian popular class food production and consumption regimes. They are almost entirely a local artisanal industry: local produced, processed and consumed in a value chain that involves as many as eight roles: growers, shellers, purchasers and speculators, transporters, resellers, roasters, millers, and street vendors.

Peanuts are not included in any main dish, but they are eaten roasted, in sugar clusters, sometimes as a supplement in fortified folk concoctions and, as much or more than any other way, as a spread on a principal breakfast food.

Distributors, redistributors, vendors and consumers all expressed interest in peanut RUFs, and thought they could sell on the popular Haitian market. But a line of credit would be important component to getting distributors to move them onto the market. To be competitive in the popular market, the standard unit should retail for 5 HG (10 US cents).

One drawback to selling products made with imported peanuts is, as seen, the industry is currently artisanal and imported products may reduce economic opportunities for those impoverished people currently involved in production, trade and processing of peanuts and peanut products.

10) Recommendations

The reality of the Haitian market in prepackaged ready-to-eat foods is that the industry is unregulated. The government has laws and claims to enforce them but there is zero (0) enforcement. The market is also monopolized by a small number of elite local businesses. These businesses are protected from foreign competition by a veneer of government legislation that shields insider knowledge and cronyism in what is essentially an informal and closed system. Established “Haitian” business interest dominated by foreign passport holders with second and third homes and business investments in other countries also have a distinct economic advantage over any outside competitor that ‘plays by the rules’ because, as we can conclude from reported tariffs collected at the ports, they pay either no taxes or substantially less than would be legally mandated. Competing with these entities may be impossible. But there are points of opportunity that should be noted,

- 1) Outside enterprises with humanitarian goals, such as getting RUFs to hungry children, have an advantage in that they can leverage contacts within embassies, high levels of the Haitian government, the UN, and NGOs to level the playing field.
- 2) The status of humanitarian enterprise with a humanitarian objective also offers a platform from which an advertisement campaign can be launched in favor of ‘nutritious snack’ thereby highlighting that most snacks on the market now are not nutritious. Done correctly such a campaign could tap the Haitian appreciation for good nutrition and become a type of enduring movement.
- 3) Those distributors of Haitian snacks that exist make no effort to scientifically exploit marketing knowledge and information. An entity introducing RUFs would have a significant advantage in this respect.

Similarly, there are aspects of the Haitian informal and formal markets that offer significant opportunities to get RUFs onto the popular market. Specifically, the population of Haiti is radically market and entrepreneurial oriented, as much as 50% of all adults are engaged in some type of trade. There are ways to maximize the interest in trade, scarcity of credit, and links before formal and informal sector merchants what could be utilized to assure widespread distribution of RUFs, most important through the provision of credit at the level of tertiary wholesale and final retail vendor.

1. INTRODUCTION

This report addresses what is arguably the most important issue in Haiti: getting nutritious foods into the stomachs of impoverished Haitian children. This is an area where the international development community can have both an immediate and long-term impact. Understanding how to accomplish this goal rests on 10 prosaic and interrelated facts about popular class Haitians and nutrition,

- 1) many Haitians with low incomes, particularly children, suffer inferior nutritional intake,
- 2) yet, Haitians living in popular neighborhoods and rural areas have a remarkably sophisticated understanding of and appreciation for the relative nutritional ranking of foods,
- 3) unfortunately, healthier foods are getting scarcer—at least for popular class Haitians,
- 4) arguably, the international community has made the situation worse by flooding markets with low cost and subsidized imported foods that have provided disincentives to local production
- 5) urbanization that has occurred over the past half century has given way to massive demand for prepackaged ready to eat foods, a demand that will continue to grow
- 6) however, to date the demand has largely and increasingly been met, not by health-minded nutritionists, but rather by profit-motivated food distribution enterprises that have been flooding the Haitian popular market with nutritionally inferior imported snack foods

All of which leads to the inescapable observation that,

- 7) social enterprises have an opportunity to step into the lurch and help improve the access impoverished Haitians have to high quality ready to eat products, and
- 8) they can do so for a great deal less than it has cost to flood the market with food assistance
- 9) indeed, the international community can work with Haitians to provide nutritious snack foods produced in such a way that they encourage local production
- 10) the irony in all of the preceding is that if this is done correctly, impoverished Haitians will help underwrite, if not cover the costs through their purchases of these fortified foods.

2. Demographic Overview of Haiti and Area of Study

Haiti covers an area of 10,714 square miles and is located on the Western third of the Caribbean island of Hispaniola, which it shares with the Dominican Republic. The last population census was conducted in 2003, when Haiti had a population of 8.5 million. Since then the population has increased at an estimated annual rate of 1.9 percent. Today Haiti has an estimated 10 million to 11 million people. Thirty percent live in metropolitan Port-au-Prince, 20% in other cities, and 50% live in villages, hamlets or isolated homesteads scattered across the rural landscape. The most conspicuous demographic change in the past 50 years is a massive rural-urban migration (Figure 1) and emigration out of the country (Figure 2). This migration has resulted in a drain on social capital, depriving both rural and urban areas of much of their hereditary and educated elite. About one in every 20 people born in Haiti now live in the United States (in 2011 the figure was 592,260). There also are significant numbers in the Dominican Republic, Canada, France, and across the Caribbean.

Figure 1

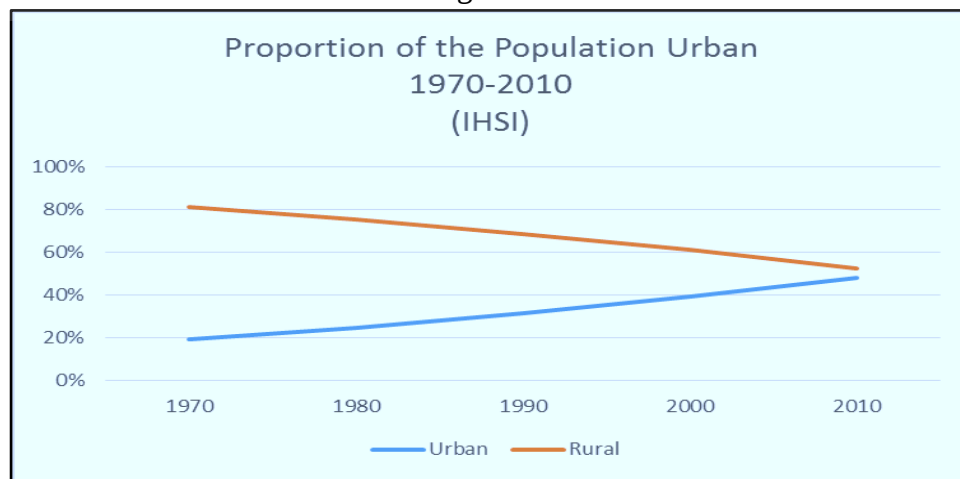
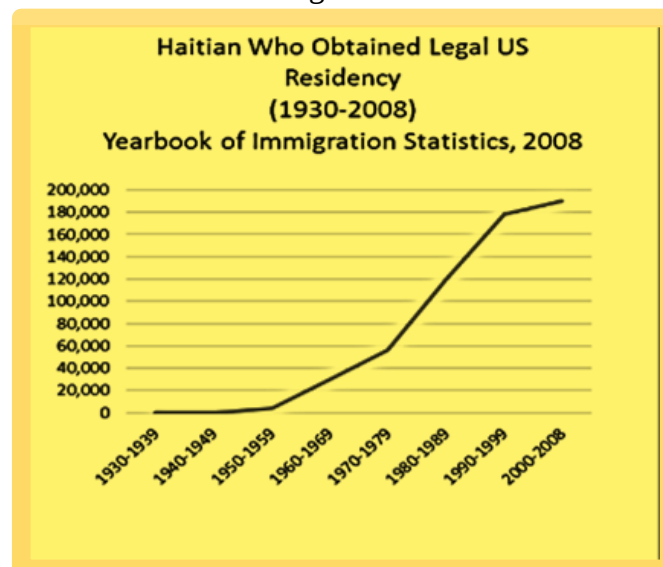


Figure 2



Agriculture and livestock rearing are the principal rural livelihoods. Eighty percent of the rural population owns at least some land, as does 70% of the urban population. The average holding is 1 hectare. Land distribution is more equitable than in other parts of the Caribbean and Latin America: only 5% of the rural population owns more than 6 hectares and the Latin American *terrateniente*—owner of vast lands—simply does not exist. There may not be a single land owner in Haiti with control over more than 1,000 hectares. The vast majority of houses are tin-roofed. The most conspicuous trend in agriculture over the past 25 years is general decline in productivity and real income (Figures 3 and 4).

Figure 3

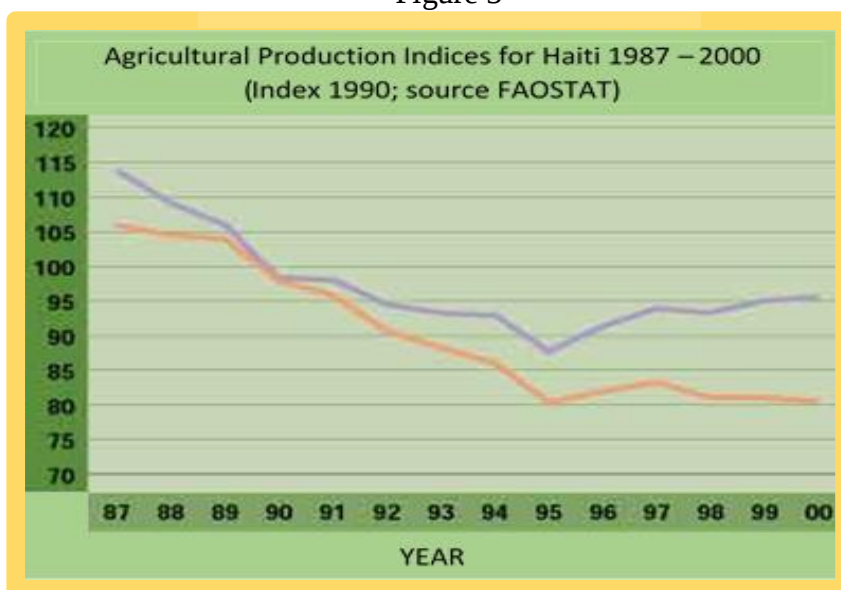
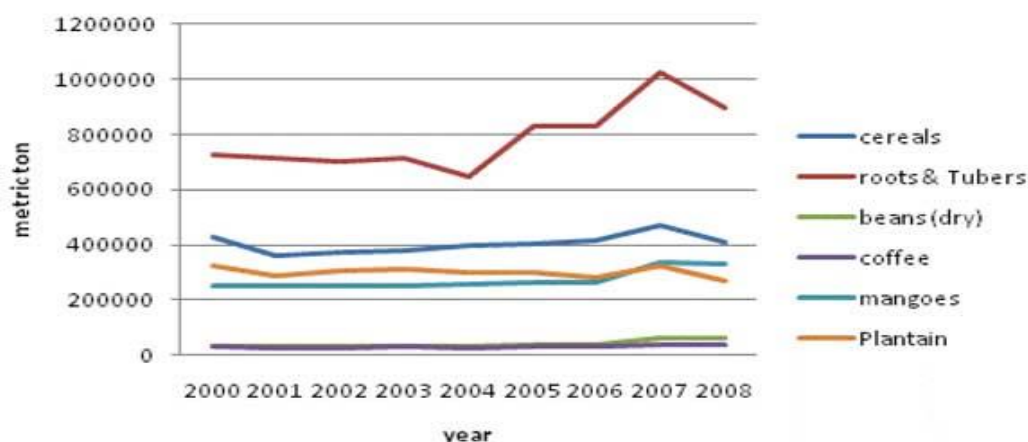


Figure 4: Changes in Production of Basic Crops



Source CNSA 2012

Some 50,000 households depend on fishing for at least a portion of their income. Craft production and especially petty trade--primarily conducted by women--also are major income sources. In urban areas micro enterprise, transport, teaching, skilled and semi-skilled labor (e.g. mechanics, plumbers, and electricians), are principal sources of income. One consequence of this migration is that overseas remittances have become, in the aggregate, the country's greatest legal source of revenue, estimated at a minimum of US \$2 billion in 2012 (per capita US\$200). Adding informal transfers brings remittances to as much as half of the country's revenue (IRIN 2010). The bulk of the population—70%--continue to hover close together at the level of extreme poverty (see Figure 5). People in the cities vs rural areas tend to be better off both economically and financially but not, as seen in Figure 6, by a great margin.ⁱ

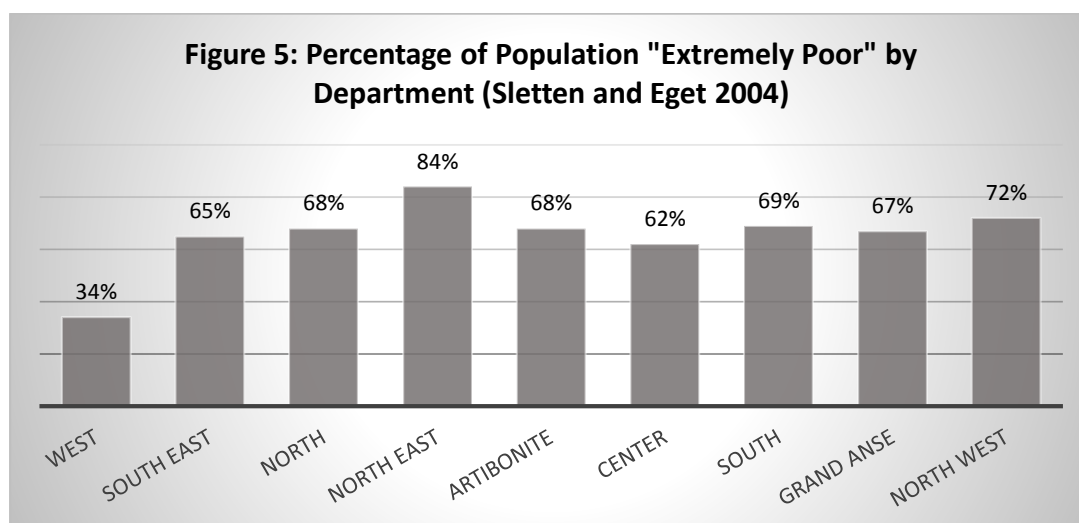
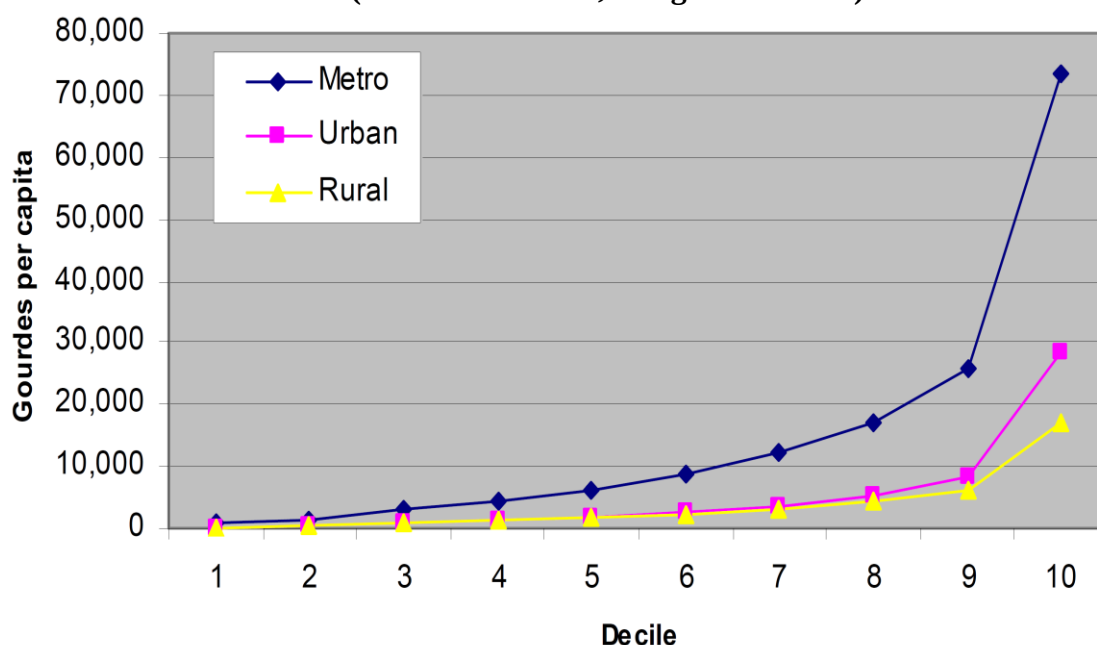


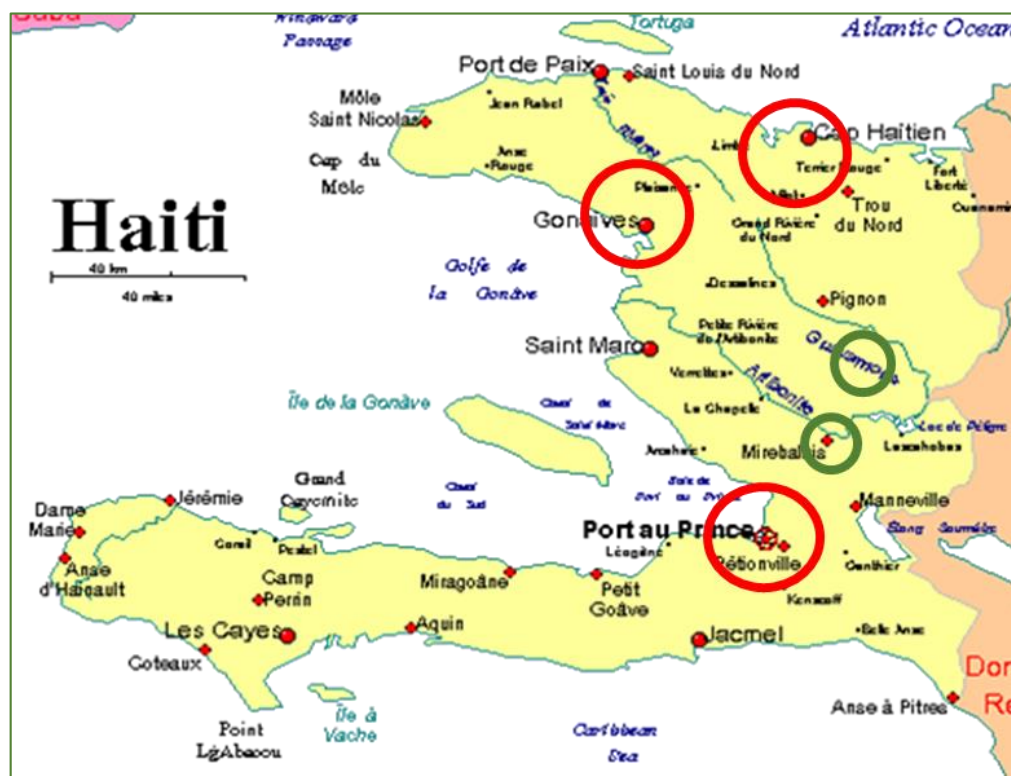
Figure 6: Income per Decile: Metropolitan vs. Provincial Urban vs. Rural (Verner 2008: 201, using HLCS 2001)



Areas of Study

The bulk of the research was conducted in and around Haiti's three largest cities: Port-au-Prince (pop ~2.5 million), Gonaïves (pop ~200,000), and Cape Haitian (pop ~200,000). Interviews with redistributors and part of the quantitative consumer survey were conducted in the smaller Central Plateau cities of Mirabalais (~40,000) and Hinche (~60,000).

Figure 7: Map of Haiti



3. Methodology

Review of Literature. The literature review drew heavily on insight from Alvarez and Murray (1981)--a USAID-funded ethnography of food consumption patterns in Haiti (Socialization for Scarcity)--as well as from the work of Gretchen Berggren (1984; Berggren 1971). Another significant study was USAID-BEST analysis (conducted by FINTRAC 2011). Important survey resources useful for anyone trying to understand Haitian livelihoods and food consumption patterns were

- The 2001 Haiti Living Conditions Survey (HLCS or ECVH) a 7,186 representative sample of households in both rural and urban areas
- CNSA and WFP's 2007 Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA), a survey of 3,050 households in rural Haiti
- CNSA's 2011 Enquête Nationale de la Sécurité Alimentaire (ENSA), a 3,557 household nationally representative survey
- The Demographic Health Surveys (DHS or EMMUS) from the year 1995 (N=4,944 households), year 2000 (N=9,595 households), year 2005 (N=9,998 households), and year 2012 (N=13,181 households)

Especially useful in understanding findings from these surveys are FAFO's 2001 and 2003 summations of the results of the HLCS surveys; and Sletten and Egset's (2004) review of the 2001 HLCS. Although not always cited, the research also draws on the author's own work (Schwartz 1998, 2009, 2012). Other vital sources include an especially pertinent summary of the literature on vulnerability (CNSA 2014), Murray (1977), Smucker (1983), and a long line of both foreign and Haitian anthropologists, sociologists, and economists who have documented the behaviors and customs of people living in rural Haiti. All of these works are pertinent at various levels of analysis for, if we are not 'what we eat' then, ethnographically speaking, much of who we are is revealed by 'how we get what we to eat' (Herskovits 1937; Simpson 1942; Metraux 1951; Bastien 1961 Nichols 1974; Lundahl 1983; Lowenthal 1984, 1987; Smith 1998; Richman 2003).

Significant Key Informants

The research was greatly enriched through contact with anthropologists Gerald Murray Ph.D. and Glen Smucker Ph.D., each of whom has more than a half century of work experience in Haiti. Another critical resource was Bette Gebrian, Ph.D. a longtime Haiti resident, nurse, anthropologist, and founder of Haiti Health Foundation. The consultants also interviewed on several occasions a major Cape Haitian importer, a former owner of National Brewery, and a founder and owner of the Bongu brand food distributor. Other high level members of the business community were interviewed opportunistically and contacted through the consultants' personal networks.

Government

The consultants visited and interviewed employees at the Ministry of Commerce (MIC) quality control and exterior relations offices, the DGI (Direction Générale des Impôts), and the national phytosanitary laboratory in the Ministry of Agriculture (MARNDP). Questions focused on import duties, processes, and restrictions; phytosanitary laws and standards; government policies regarding product registration; and, domestic laws and mechanisms for informing consumers about

nutrition and micronutrients/fortification, labeling requirements, programs for informing the public on the importance of nutrition and micronutrients/fortification (special attention given to packaged snack foods and supplements). Also included was an assessment of the legal/formal vs. the *de facto* practices and procedures.

Distributors

The consultants visited five of the major Port-au-Prince snack food distributors, Bongu, Stanco, Roro, Kay Salem, and Marche Ti Tony, as well as a smaller distributor, Varyete, in nearby Croix-des-Bouquets. The Port-au-Prince distributors were selected based on their being among the most important in the country. Representatives were given samples of a peanut butter sachet and asked for opinions on quality, sales potential, packaging, distribution, and credit. Additional inquiry focused on sales of other snack foods. In addition to casual interview techniques, a formal questionnaire was used at five of the six distributors (excepting Bongu).

Redistributors

The consultants visited 14 redistributors located in Mirebalais, Hinche, St. Marc, and Verrettes. The redistributors were not random but located by visiting all major distributors at the cited locations. Business owners or managers were provided with peanut butter samples. A questionnaire focused on opinions regarding the likelihood that customers would buy a peanut butter product in sachet, and how best to market it. Ten of the same redistributors were later called on the telephone and interviewed regarding the most popular snack foods and turnover rates.

Supermarkets

Prices and product surveys were conducted at 18 supermarkets—roughly 90% of all supermarkets in the country. Inquiry focused on imported vs. local peanut butter brands sold in urban markets in Port-au-Prince, Gonaives and Cape Haitian. The consultants conducted open interviews with three supermarket owners. Selection was nearly complete, i.e. the entire population of supermarkets was visited in each area. In addition to studying labels and varieties of prepared foods, the consultants collected data on prices of imported vs. local peanut butters.

Stores/Boutik

A survey was conducted with 56 owners of neighborhood stores (called *boutik*) in Port-au-Prince, Gonaives and Cape Haitian. A questionnaire was applied to gauge demand for snacks, fortified foods, and peanut-based prepared foods, and to estimate the number of formal neighborhood *boutik* per household. Questions focused on client purchasing preferences and credit. The survey was complemented with complete inventories at 15 *boutik*. In addition, 30 *boutik* owners were interviewed via telephone regarding the most popular snack foods and turnover rates. *Boutik* were located using a random systematic selection of GPS

Table 1: *Boutik* Interviews

Location	Absent	Refused	Interviews	Total
Port-au-Prince	4	8	33	45
Gonaives	1	4	7	12
Cape Haitian	2	4	16	22
TOTAL	7	16	56	79

Table 2: GPS Sample Points per Location

Location	Points
Port-au-Prince	25
Gonaives	13
Cape Haitian	12

points in each of the three urban locations. Using Google Earth, an approximately 100 meter square area was delineated. The defined area was located using the app Mapswithme Pro. All houses in the defined area were counted, as were *boutik*. Owners and/or managers at each *boutik* were then interviewed with respect to the topics cited above (see Table 1, Table 2, Figure 3).

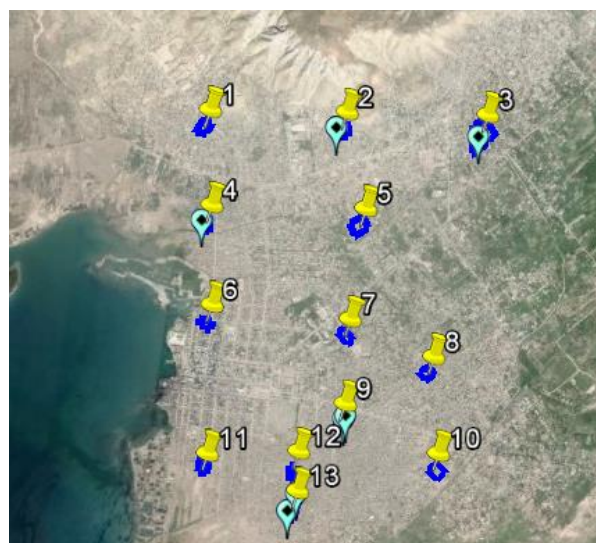
Figure 8: *Boutik* Survey GPS Sample Points



Port-au-Prince



Cape Haitien



Gonaives

Vendors and Marketers

Open interviews with 20 vendors to identify types of street food vendors, snack foods, and peanut butter on the market. An additional 30 female retail marketers were interviewed via telephone regarding the most popular snack foods and turnover rates.

Value Chain Investigation

The consultants interviewed 10 artisanal peanut butter manufacturers and conducted a detailed value chain analysis with 5 of them. Another 4 street vendors were interviewed to develop an estimation of cost and returns for sales of fried dough, spaghetti, mid-day meals, and barbequed chicken.

Consumer Focus Groups

The researchers conducted 19 focus groups in October and November of 2014: including 11 with female caregivers, 7 with school-age children, and 1 with male caregivers. Of these focus groups, 7 took place in Port-au-Prince, 4 in Gonaïves, 6 in Cape Haitian, and 2 in Mirebalais. In January of 2015 another 9 focus groups and survey sessions were conducted in 3 cities: Port-au-Prince, Gonaïves, and Cape Haitian. A total of 128 questionnaires were filled out during interviews with focus group participants. Participants included an approximately equal number of males and females from 5 to 64 years of age, as well as 30 children (accompanied by parents) 6 to 15 years of age. Questions focused on consumption practices, and opinions of peanuts and peanut butter. Participants were given samples of generic peanut butter products and asked their opinions regarding taste, quality and resale potential.

Cultural Consensus Analysis

During a subsample of the October-November 2014 focus groups, 50 participants were asked for Freelist of the ‘most nutritious foods.’ The respondents were asked to make lists of what they thought were the most nutritious foods for infants, pregnant women, non-pregnant women, and men. During the January 2015 focus groups, 49 teams of 3 participants each were enlisted to sort 92 food items into piles. The exact techniques varied. In 31 cases the participants were asked to sort the items into exactly 18 piles; in 18 cases the participants were allowed to sort the food items into however many piles they determined to be appropriate. The data was then processed using Anthropac to determine the extent of consensus regarding how participants organized the food items.

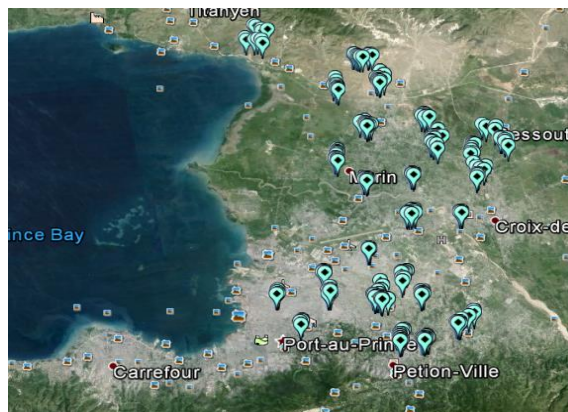
Consumer Quantitative Survey

A final 632 respondent random survey using a roadside selection technique covered Port-au-Prince, Gonaïves, Cape Haitian, Hinche and Mirebalais. The survey touched on four of Haiti’s 10 Departments (West, Artibonite, North, and Central Plateau). The survey instrument focused on consumer preferences for peanut butter, disposition to purchase peanut butter snacks, purchase of other snacks for personal consumption, purchase of snacks for children of the household, and involvement of household members in sales of snacks. This survey was used as a basis for estimating potential market size for peanut based RUFs given in Section 7 of the report.

Figure 9: Quantitative Survey GPS Sample Points



Entire sample for all four Departments



Port-au-Prince



Gonaïves



Cape Haitien



Hinche



Mirabalais

Survey Staff and Survey Structure

Survey staff included the principal consultant, a PhD in Anthropology with an emphasis on quantitative field methods and 20 years of survey experience in Haiti; an assistant coordinator with an MA in Latin American Studies (Anthropology/Caribbean Studies) and 25 years of experience working in Haiti; an assistant analyst with a degree in sociology; 2 supervisor-enumerators; 2 focus group assistants; 8 enumerators, and a logistician and accountant.

Operational Strategy

The consultants traveled by motorcycle and 4-wheel drive vehicle. Surveyors traveled on 8 motorcycles.

Equipment and Instruments

Focus groups were recorded using Tascam DR-05, Olympus VN 702PC, and Samsung tablets as recorders. Interview data were collected using Samsung and Nexus Android tablets programmed in ODK platform and processed on the ONA website. Data was downloaded into Microsoft Excel and analyzed in Microsoft Excel and SPSS. Anthropac was used for Cultural Consensus Analysis. Google Earth was used to make sample selections; coordinates were then programmed into the cited tablets using the app Mapswithme Pro. Portable electricity backup was provided by a 2 kilowatt Yamaha generator and AVTEK portable power packs. This report is written in Microsoft Word.

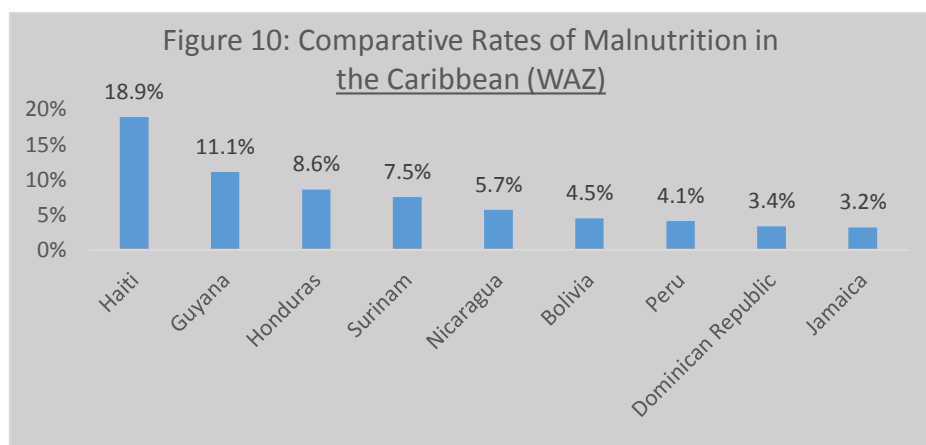
Data Quality and Management

Enumerators were paid a per diem, and a fixed sum per accurate and honestly completed survey. To control for hasty work, they were contractually limited to a specific number surveys per day, varying by survey (8 for *boutik* and 15 for the Consumer Quantitative Survey). There were also contractual limitations on the rapidity of the interviews. In practice surveyors sometimes did more surveys to make up for lost time on days when insufficient numbers of respondents were located.

4. Background: Understanding the Haitian Food and Nutritional Crisis

Malnutrition and food insecurity

The interest in making peanut-based Ready-to-Use Therapeutic Foods (RUTFs) widely available on the open market in Haiti occurs in the context of persistent food insecurity and under-nutrition. Chronic malnutrition has fallen from a 1978 level of 40% of children under 5 years of age to a 2012 level of 22% (EMMUS 2012). Despite this improvement, Haiti lags far behind most other countries in the Caribbean and Latin America (see Figure 10). According to WHO (2011), in proportion to those malnourished Haiti has, at 53 per 100,000, the highest death rate from malnutrition in the world.ⁱⁱ The situation appears worse in rural areas than in the Port-au-Prince Metropolitan area (see Figure 2 and Figure 3); 30% of rural children under five are chronically malnourished, and 50% of women are anemic (ENSA, 2011). CNSA (2011) estimates that 38% of households (4 million individuals) are food insecure. Not only is food insecurity high in general, but the poorest sector of the population—comprising 80% of all Haitians—spends 60% to 70% of its income on food (ibid p 84), meaning that there is precious little in the way of income to cushion poor Haitians against a catastrophic economic shock.



Infant Feeding

Infants in Haiti face an especially daunting set of nutritional challenges. The 1,000 days from conception to a child's second birthday are the most critical period of a child's physio-intellectual development. Children who are well nourished during this period become healthier and more intelligent adults who in turn are better able to feed and care for their own children. Those who are poorly nourished during this period are more likely to develop low intellectual capacity, physically stunted bodies and weak immune systems, all factors that contribute to the cycle of societal underdevelopment and continuing poverty.ⁱⁱⁱ

Breastfeeding can help mothers provide babies with nutrients that foster growth, and antibodies that dramatically lower risk of illness. Cognizant of this, international health organizations have for a half of century invested heavily in mother/child nutritional health information campaigns designed to instill in Haitian mothers the benefits of breastfeeding. These educational efforts may have backfired. Evidence from the field suggests that before these campaigns, Haitian women

typically breastfed for 18 months or more. Then development practitioners began pushing six-months of exclusive breastfeeding, under the assumption that poor, breastfeeding mothers also were feeding infants powdered milk (when in fact they were not as most could not have afforded to do so). Over time, Haitian women reduced their time of breastfeeding from 18 months to the “recommended” six months (Table 3). Murray and Alvarez attribute the reduction to economic stress associated with rising food prices that meant women had to work more, and sell more in the market, reducing the time they were able to breastfeed. But the extent and intensity of the mother-child nutrition campaigns—including 50 years of radio announcements, seminars, and training of nurses and auxiliaries who carried the message, over and over, to every one of the hundreds of clinics, hospitals, midwives, and auxiliary health programs in the country --may have inadvertently contributed to the decline in the duration of breastfeeding.

Table 3: Diachronic Decrease in Mean Age at Weaning

Years since Birth	Mean weaning age (months)	(N)
0 - 1.9	9.8	(18)
2.0 - 7.9	14.7	(52)
8.0 - 15	16.2	(54)

Source: Alvarez and Murray 1981: 64

(P .001)

The call for six months of breastfeeding may have gotten through, but the appeal for “exclusive” breastfeeding appears to have been less effective. Researchers estimate that as few as 20% of Haitian women breastfeed exclusively for the first six months of an infant’s life; purgatives are common; many Haitian women resolutely refrain from breastfeeding neonates, interpreting antibiotic rich meconium as something dangerous; and women begin introducing teas and even solid foods into a baby’s diet often within days of birth. In one focus group during the course of the research, a woman seemed to underscore the determination with which many mothers cling to traditional feeding strategies despite the entreaties of healthcare workers, saying, “Everyone here in this group is Haitian, and [let’s just admit] we all give tea at 8 days of the child’s life.”^{iv}

One explanation for the introduction of teas and porridges within days of birth is similar to the one Alvarez and Murray offered for the decline in breastfeeding: it might simply be a strategy to help mothers resume revenue-producing work as quickly as possible. In understanding this, Haitian women are among the most economically active female populations in the world (IDB 1999; CARE 2012). The most common female career is itinerant trade involving extensive travel on foot, pack animal or in cramped buses. Selling often occurs in qualitatively filthy market spaces. These factors make it difficult, imprudent, or simply impossible for mothers to bring babies along. Thus, as postpartum women face pressure to resume their trade activities and produce income, they must

ensure that their infants are accustomed to a variety of nutritional sources so the babies can be left in the care of relatives or teenage nannies. (Alvarez and Murray 1981; Schwartz 2009; CARE 2012).

Moreover, the importance of female trade to household sustenance means that it is often in the economic interest of the entire family to wean the child earlier than desired or than healthcare workers recommend. Reinforcing this drive are folk rationales for depriving children of milk that put the blame for consequences of infrequent or brief breastfeeding, not on deprivation of milk, but on the milk itself. For example, the widespread popular class concept of *let gate* (sour milk) holds that a mother's milk can spoil if she is angered or startled. The situation is thought of as dangerous to the mother, even life threatening, and the milk is considered harmful and even deadly if fed to the infant. International health workers might find it ironic that, after all the breastfeeding campaigns, even middle class Haitian mothers believe that the milk of a woman who has been startled or angry will give a child severe diarrhea (see Alvarez and Murray 1981; Farmer 1988; Roman 2007).^v

Food Relief

Over the past fifty years the international community has addressed Haiti's problems of malnutrition and intensifying food scarcity in two other ways,

- a) food assistance to the general population, typically in the form of staples such as rice, wheat and corn, and
- b) fortified foods intended for pregnant mothers, undernourished women and children.

These interventions have had a profound impact, although—as is often the case with foreign aid—it has often not been the impact that donors and recipients anticipated or hoped for.

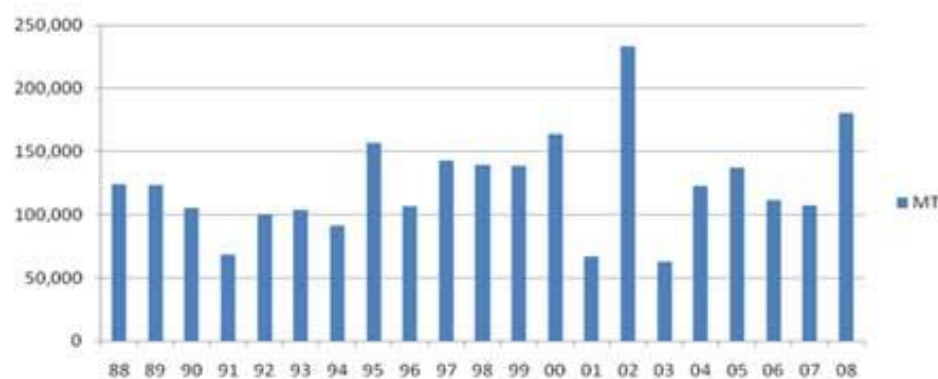
General Food Assistance

The importation of large amounts of general food relief began as long ago as the 1950s but accelerated significantly in association with implementation of World Bank neo-Liberalization development programs of the 1970s and 1980s. By the 1990s “food aid” was arguably the most significant single factor impacting the Haitian popular diet. For example, from 1994 to 1998, the United States, France, and Germany provided a total of 618,000 metric tons of food aid to the country, an annual average of 123,600 metric tons. This was enough to meet the daily nutritional needs (2,200 daily calories) of 10% of the population—then seven million people.^{vi}

Whether the free food was having a positive impact on the popular class Haitian nutritional status increasingly became a point of contention. Scholars and former USAID consultants DeWind and Kinley (1988) accused developed countries—most conspicuously the US and France—of “dumping” subsidized agro-industry surplus food on the unprotected agricultural economy of Haiti.^{vii} This, they argued, devastated the Haitian agricultural economy and increased migration to cities. There was powerful circumstantial evidence suggesting they were right. Agriculture accounted for 52 percent of Haitian exports in 1980, but only 24 percent in 1987 and 21 percent in 1990. By the mid-1990s, the flow had been reduced to a few mangos and a trickle of coffee.^{viii}

Along with the agricultural decline came ballooning rates of urbanization. When the process described above began, about 80% of the Haitian population was rural and dependent on agriculture. Today 50% of the population is rural and dependent on agriculture. Along with this shift came increasing urban squalor, unrest, and political instability. By the first decade of the 2000s a chorus of mainstream humanitarian organizations, including Oxfam International, Christian Aid, and CARE International, had joined the critics in condemning subsidized food imports and wantonly distributed food aid as a massive disincentive to production that was making Haiti's problems graver.

Figure 11: World Food Aid to Haiti, 1988 to 2008



Source: WFP

In 2008, world food prices spiked and food riots broke out in Haiti and other poor countries. USAID and WFP then joined their own critics, and changed their food-security mission objectives to emphasize food “sovereignty,” i.e. the capacity of the population to feed itself.^{ix} Still, massive food relief continued to flow into Haiti. Following the 2010 earthquake the international community sent 310,000 metric tons of emergency food aid. That was for a single year, 2010. It was enough to provide for all of the calorific needs of 1.3 million adults. Half of that food was US surplus, and it came over the objections of then Haitian President Rene Preval, who three months after the earthquake had asked US President Barack Obama to stop sending food. Preval said that, “If they continue to send us aid from abroad--water and food--it will be in competition with the national Haitian production and Haitian commerce.” Nevertheless, in 2011 more food came, much of it distributed in massive school feeding programs. As with many previous food aid programs, much of this food was embezzled and sold on the open market, putting it in direct competition with locally grown commodities.

From 2011 to the present, WFP has pursued a policy of stocking food in warehouses throughout the country. The stated goal was to prepare for rapid response to the next crisis, but even when the food was not needed—arguably, it never has been needed—it has been frequently pilfered. In the most dramatic cases, trucks attempting to remove unneeded provisions have been raided by local populations, the “aid” pillaged and, as with the embezzled food, sold on the local market. This is not to say there were no efforts to encourage local production after the 2008 food crisis. WFP, for

example, has increasingly used cash rather than food as a mechanism to provide relief to the poor, allowing recipients to use aid money to buy from local farmers. But, *de facto*, efforts to encourage local food production through local purchases have been weak.

Fortified Foods

Fortified humanitarian-sourced foods are, in theory, distinct from general food relief. During the 1960s USAID-funded Mothercraft Centers were widespread in Haiti.¹ The centers treated malnourished children with inexpensive local foods (Berggren 1971, Berggren et al. 1984; King et al. 1968; 1974; 1978). Nutritionists who designed and studied the Mothercraft centers lamented the heavy dependence on animal source foods, and it was in this context that fortified processed foods entered the popular diet. These included *akamil* and *akasan* (both pureed and boiled bean-cereal mixtures), and *chanm chanm* (peanut coconut powder). The emphasis was on local foods, primarily. Illustrative of the trend, Haiti's Bureau of Nutrition (BND) and Virginia Polytechnic Institute developed *akamil* (AK-1000), a weaning and malnutrition treatment formula, to meet the following criteria:^x

- 1) appropriate for pre-school children
- 2) contain 10% to 20% of high quality protein
- 2) made exclusively of local products
- 3) simple enough to be made at home or in the village
- 4) inexpensive enough for poor people to afford it

By the 1980s and 1990s imported fortified cereal products entirely supplanted the trend of searching for local supplements to be used in weaning and nutritional programs. Indeed, Haiti was awash in the food aid mentioned above, the vast bulk of which was and is Soy Fortified Bulgur (Corn Soy Blend was the second most common cereal product).^{xi} By the early 2000s the concerns of nutritionists had been reversed, and they were lamenting the low reliance on Animal Source Foods. Ruel et. al. (2003) found that without the availability of animal products, such as meat, milk, cheese, and eggs, Haitian mothers using mixtures of local produce and specially fortified imported products such as US government wheat-soy blend (WSB) and corn-soy blend (CSB) were unable to supply infants and young children with sufficient micronutrients—particularly iron and zinc. It was in this context that Therapeutic Foods emerged.^{xii xiii}

Ready-to-Use Therapeutic Food

During the 1990s, Ready-to-Use Therapeutic Foods (RUTFs) began appearing as a new armament in the international humanitarian aid war against malnutrition in developing countries. RUTFs are a scientifically formulated response to the challenges of addressing malnutrition, weaning, and school feeding in a nutritionally insecure environment. RUTFs typically include zinc, iron, iodine and vitamins A and B12, while also providing protein and essential fatty acids. In short, they have it all.

Early RUTFs included F-100, a solid therapeutic milk developed for ACF (Accion Contre le Faim), vitamin and micronutrient rich supplement called Sprinkles developed for UNICEF; High

¹ Also called CERN, based on the French, Centre d'Education et Rehabilitation Nutritionnelle

Energy Biscuits and Compressed Food Bars developed for WFP; and peanut butter formulas from the social enterprise Nutriset. Peanut-based formulas are especially effective, and the main focus of this research.

Peanut Based RUTFs

Peanuts alone are a type of super food. They blow the top off the nutritional chart regarding protein and fat content (Table 4). Nutriset, with its Plumpy Nut brands, initiated a patented process of using milk and soy enriched peanut blends. However, while high in calories, fat and proteins, in terms of cost, peanuts compare favorably to other staples only with regard to fat; see Table 5.

Table 4: Nutritional Comparison of Common Staples					
Product (100 grams)	Calories	Carb (Grams)	Fat	Protein	Cost (\$k per ton)
Peanuts	567	16.13	49.24	25.8	2.2
Wheat	342	75.9	1.71	11.31	.30
Millet	206	41.19	1.75	6.12	.20
Blackeyed Peas	193	33.62	4.34	5.24	
Rice	193	41.41	0.83	3.6	.42
Plantain	122	31.89	0.37	1.3	.95
Black Beans	91	16.56	0.29	6.03	.
Corn	86	19.02	1.18	3.22	.19
Soy	60	5.57	0.1	10.51	45

<http://www.healthaliciousness.com/nutritionfacts/nutrition-facts-compare.php>

Table 5: Cost Index of Common Staples (lower numbers = less expensive)				
Product	Cost Index per Calorie	Cost per Carb (Grams)	Cost per unit Fat (Grams)	Cost per unit Protein (Grams)
Peanuts	39	1364	447	853
Wheat	9	40	1754	265
Millet	10	49	1143	327
Blackeyed Peas	-	-	-	-
Rice	22	101	5060	1167
Plantain	78	298	25676	7308
Black Beans	-	-	-	-
Corn	22	100	1610	590
Soy	75	808	45000	428

Biofortification

In understanding the forces that have led to the current study, and before elaborating on RUFs in Haiti, it is important to note that a recent response to the critiques of imported foods has been biofortification--the deliberate genetic selection for more highly nutritious varieties of locally grown staple crops. The attention given biofortification is indicative of the interest in joining the goal of local production (food sovereignty) with programs that address malnutrition. In Haiti, the World Bank supports ORE (Organization for the Rehabilitation of the Environment), a small grassroots organization that started a crop-breeding program in 2004 aiming to enhance the nutritional content of Haitian staple crops.

The impulses to develop more nutritious foods and to encourage local production have merged into an effort to produce RUTFs in Haiti using local products, with peanuts being, as seen above, among the most promising candidates for the principal ingredient.^{xiv} Local production, manufacturing, fortification, and packaging of fortified peanut paste products, collectively, form a type of perfect response to the critiques of food aid seen earlier, and to the value of promoting food sovereignty versus simply food relief. Buying locally will stimulate production. Fortifying and producing locally will provide an accessible, nutritious product. Humanitarian enterprises have determined that the strategy was overwhelmingly logical, and set out to implement it.

RUTF Factories in Haiti

In 2003 Patricia Wolff started such a program, Meds and Food for Kids (MFK), aimed at producing a peanut-based RUTF sourced and produced in Haiti. In 2010 she was able to raise \$3.2 million, including a \$700,000 loan, with which she built a state-of-the-art RUTF factory in Cap-Haitien. The factory produced a mix of peanuts, soy and vitamin supplements. The intention was to supply the major humanitarian organizations working in Haiti. It was off to a promising start. The very next year Partners in Health (PIH) received a \$6 million grant from Abbot Laboratories to build an even bigger factory.

Together MFK and PIH may have made a greater total investment in ready-to-eat packaged food production than all other Haitian manufacturers combined, meaning even those in the private sector. Formerly deluged with food aid, none of which was produced in country, Haiti suddenly seemed poised to begin producing more RUTFs than it could use. Then, the situation grew more complicated when both factories entered production dependent on selling to the same clients, UNICEF and WFP.^{xv xvi}

The clash highlighted two common pitfalls of the aid industry: poor coordination among NGOs and the donor driven tendency toward competitiveness in the pursuit of fundable opportunities. USAID provided much of the funding to organize farmers and improve production to supply MFK with wholesome peanuts. It also provided the money for the equipment to transform the peanuts into a fortified peanut butter blend that could be used in nutritional clinics. But in 2013, much of the unused emergency food aid discussed earlier—stored throughout Haiti in the ill-conceived preparation for another disaster on par with the 2010 earthquake—was transferred to WFP, the agency overseeing internationally funded food security in Haiti. This gave WFP so much fortified bulgur that it no longer needed MFK peanut butter blends for its nutritional programs. WFP

promptly canceled its contracts, leaving MFK struggling to financially survive as a social enterprise. To cut costs, MFK increased importation of less expensive peanuts from abroad. The organization also began to explore opportunities to sell its peanut products on the local market to help cover costs. This has threatened to transform MFK into a Trojan Horse: having entered Haiti to promote local production, it is now being considered as a vehicle to facilitate the sale of imported peanuts in direct competition with local farmers, repeating the pattern seen with general food assistance. A logical solution to the dilemma—one that MFK staff is pursuing—would be to make RUTFs profitable on the local market, thereby cutting the need for international aid organizations as clients and closing the local production-nutrition loop. We hope research described in the subsequent sections helps guide the way to successfully accomplishing that objective.



Photo 2 : MFK employees sorting local peanuts

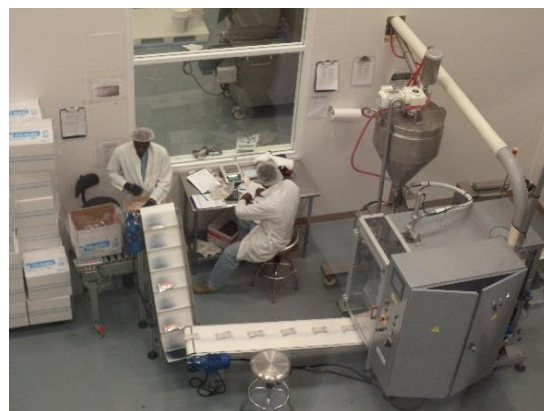


Photo 3: MFK RUFT packaging machine in operation



Photo 4: Children recuperated from malnutrition on peanut based RUFT

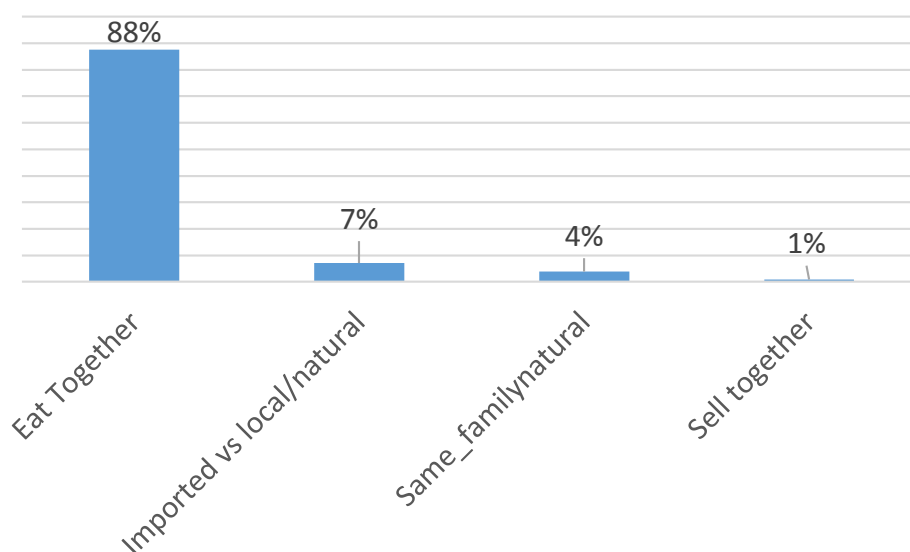


Photo 5: MFK RUTFs

5. The Syntax of Popular Class Haitian Food System

There are clear food categories that Haitians recognize and speak of and we discuss them in detail below. But in understanding the food groups it helps to begin by describing how people in Haiti think about them and how we arrived at defining them. Findings from the research suggest that when categorizing foods, popular class Haitians tend not to emphasize food groups, *per se*. They are more apt to distinguish foods as ingredients in a dish or concoction (i.e. *soup* or *bouyon*), or as things eaten together (such as peanut butter and cassava). Exploring this point, the 49 respondents who participated in the Consensus Analysis were asked to categorize 92 foods into piles. Totaled they came up 919 piles. For 805 (88%) of the piles, the respondents explained that they lumped the foods as ingredients of a single dish; in 7% of the cases they made piles of local vs. imported foods; and in only 4% of the cases did they sort by food family (Figure 12).^{xvii}

Figure 12: Why Respondent Sorted Foods into Same Pile
(N =919)



The highest level of inclusiveness in terms of what should be eaten together is the mid-day meal, what is arguably, as will be discussed shortly, the only true meal that Haitians eat. Using the mid-day meal as a guide, we can derive 7 major food groups: *viv* (starchy vegetables), *legim* (non-starchy vegetables), *fey* (greens), *seryal* (grains), *vyann* (meats), *pwa* (beans, which are so important as to constitute a group of their own), and *fwi* (fruits)—see Table 6. To this we would add other important categories that respondents do not readily assign to groups, specifically edible oil, sugar, alcohols, peanuts and cashews, chocolate, coffee, dairy products and eggs. We could use the latter categories to create a more complete food classificatory system, but we did not find popular class Haitians employing such an all-inclusive system of food categories. More important is the system of rules governing food consumption—what foods should be eaten together, and when. (Annex 5 presents a more exhaustive look at these rules, including foods appropriate for secondary meals)^{xviii}

Table 6: Essential ingredients and Food Categories for the Typical Main Meal

Table 6: Essential ingredients and Food Categories for the Typical Main Meal							
Base			Sauces, meats and seasoning				Fruits
1 <i>Viv</i> Starchy vegetables	2 <i>Seryal</i> Cereals	4 <i>Pwa</i> Beans	5 <i>Fey</i> Leaves	6 <i>Legim</i> Non-Starch Vegetables	7 <i>Vyann</i> Meat, poultry or Fish	8 <i>Epis</i> Spices	9 <i>Jis</i> Fruit Juice & Sugar
Plantain Green banana Manioc Yam Lam Sweet Potato Potato Malanga	Corn Rice Millet Bulgar	Black Congo beans Lima beans	Spinach Lyan Panye Panzou Zeb Koupye Watercress Navè	Eggplant Cabbage Papaya Carrots Militon Pwa tan	Chicken Goat Beef Dried fish Pork Shellfish	Clove Thyme Garlic Parsley Peppers (all)	Lime Passion Fruit Orange Corosol Carrot Water Melon Cherry Papaya Mango

Food Rules

Examining what is considered the ideal mid-day meal demonstrates more clearly the value placed on a balanced meal. The ideal lunchtime plate should include at least one item from each category described in Table 6. Specific rules govern which foods may appear together, which may be included in the meal, and how many foods from each group may appear. The main meal can have multiple *viv* but not multiple grains. It has either rice or millet or corn meal, but never a combination (as seen, for example, in US and European breakfast cereals). Nor are meats mixed (something common in the neighboring Dominican Republic where a national dish is a stew with seven types of meat). Bread is never present except as a base in ‘bread soup,’ an alternative to the main meal in Table 7 (see Annex 5). Nor are peanuts or peanut butter ever included in a main meal. The meal never includes anything sweet other than juice--dessert is an elite concept that has not spread to the popular classes. Discussed in detail in Section 5, sweets and other “snacks” are employed as inter-meal foods or on the go substitutes for other secondary meals. With respect to the mid-day meal, we can readily identify 24 such rules (see Table 7).^{xx xxixxi}

Table 6 demonstrates that popular class Haitians recognize the importance of a balanced meal. At a minimum, a meal must include a starchy vegetable or cereal, and some sort of oil-laden sauce—ideally with meat or fish, although vermicelli or a smashed non-starchy vegetable such as cabbage or eggplant will do. Anything less is not considered a meal. The next most important ingredients to improve--or if necessary substitute for--the sauce are beans, embedded in the cereal or pureed. The importance assigned to the bean cereal combination is itself powerful evidence for nutritional appreciation as they comprise of the least expensive and most readily available food combination to obtain a complete source of proteins. Our observations suggest that any cereal with beans also qualifies as a minimal meal.^{xxiii}

Table 7: Main Meal Rules

1. The main meal only includes foods in the salted food groups, *manje sel* (juice after the meal is the sole exception)
2. Everything is boiled or sautéed
3. Meats are always in sauces of spices and edible oil, so much so that respondents often say, *sos vyann* (meat sauce) rather than *vyann* (meat)
4. *Legim* (non-starchy vegetables) are smashed and mixed with meat or sometimes no meat, but also impregnated with edible oil
5. Greens (*fev*) go into the *legim* (non-starchy vegetable)
6. All foods that can absorb edible oil are impregnated with as much if it as possible
7. All grains are impregnated with bean or have pureed bean sauce pour over them
8. The only condiment is hot sauce prepared in a base of coconut or sour oranges (no butter or margarine)
9. Only one grain, i.e. grains are never mixed nor are there multiple grains
10. Only one fish or meat, i.e. fish and meats are never mixed nor are there fish and meats
11. No pork with main meal
12. Viv can be mixed, as in more than one *viv* on a plate or more than one *viv* in soups
13. No bread with the meal (not even in the case of soup or stew—see below)
14. No milk or milk product with main meal
15. Fixed spices bouillon cube
16. No peanuts in or with the main meal
17. No bread with the main meal
18. Main meal should be followed by a sweet drink, ideally natural juice but if nothing else Tampico or soda
19. Juice is strained, rarely mixed
20. Water should be drank after the main meal (after juice)
21. No desserts, only juice (Cookies and solid sweets are snacks)
22. As much sugar as possible in the juice

Exceptions to the rules: *Vermisel* (angel hair pasta), *kalalou* (okra) are exceptions to the meat rule; used as a meat substitute in sauces. *Boulet* (meat or fish balls) are an exception to the meat sauce rule; they are fried without sauce. Cashew nuts and chicken sauce is unique among the meat sauces and approaches violating the no peanuts in a meal rule, offering a prospective opening for peanuts to be conceptually incorporated into sauces.

Respect for Organic and National Foods

No account of consumption patterns and attitudes is complete without noting the emphasis and respect for natural foods, particularly (if not exclusively) those produced in Haiti. Even though more than half of the national diet is derived from imports, Haitians overwhelmingly prefer local products. Some specific and common ethnographic illustrations of the point,

- *Diri peyi* (national rice), *ji peyi* or *ji natirel* (national juice or natural juice), *poul peyi* (national chicken), *let bef* (real cow's milk)—these goods are revered for their flavor and perceived nutritional value.
- Haitians sometimes refer to imported chicken as *poul pepe* (secondhand chicken). and Imported fish is *pwason pepe* (secondhand fish).
- Local rice takes longer to cook than imported rice, and often contains small teeth-breaking pebbles, yet it is esteemed over imported rice and sells for as much as twice the price.
- Local chicken is blood brown, leather tough, and prepared with no formal hygienic controls. Yet, it too often sells for twice as much as its imported counterpart—even in the elite supermarkets discussed in Section 8.
- Local eggs are inconsistent in size and color, and half the size of imported eggs, yet they traditionally sell for 50% to 100% more than imported eggs. The price differential has recently narrowed due to pressure on imported eggs—making imported eggs almost as expensive as *kreyol* eggs—but vendors who sell local eggs in popular neighborhoods still shout, *ze peyi* (“local eggs”) because they know many people are certain these eggs are healthier than imported ones. In contrast, no vendor of imported eggs who was in her right mind would ever broadcast that her eggs are not local. That could only dampen sales.

Haitian consumers often insist that local foods “have more vitamins” than their Dominican counterparts, even though they are produced on the same island and even though the Dominican versions are almost always bigger and visibly more appealing. Similar to developed world organic food advocates, popular-class Haitians will commonly defend their preferences based the use of artificial inputs, explaining, “It is because we do not use chemical fertilizers and pesticides.” The point came through powerfully in the consumer survey, in which 80% of respondents said they preferred local over imported produce in four categories (Table 8).

Product	Imported	Local	Same	Total
Cookies	11%	80%	9%	100%
Rice	10%	82%	8%	100%
Corn	9%	85%	6%	100%
Juice	2%	93%	6%	100%

The appreciation and preference for local produce is also evident in the choices respondents made when asked to list the most nutritious foods. Foods identified as the healthiest tended to be crops most commonly grown in Haiti (see Table 9). This is true not only with adult foods, but also with preferred baby foods, which corresponded to those nutritionists recommend and were often mixed with milk or fish (see Table 10). ^{xxiv}

Table 9: Comparison of Most Nutritious Produce with National Yields	
Most Frequently Cited Nutritious Foods	Most Commonly planted Domestic Crops (HLCS 2003)
1. Corn	1. Corn
2. Beans	2. Beans
3. Plantain	3. Sorghum
4. Rice	4. Plantain
5. Sorghum	5. Manioc
6. Sweet Potato	6. Sweet Potato
7. Flour (Wheat)	7. Yam
8. Manioc	8. Rice
9. Yam	9. Malanga

Table 10: Most Frequently Reported Styles of baby food
• Mashed pasta with milk • Manioc flour with milk • Mashed plantain, potatoes, spinach, margarine, leeks, goats feet (gelatine) • Mashed plantain with smoked herring • Mashed plantain with pureed beans • Corn meal with pureed beans • Blended corn, beans, millet, carrot, spinach, and milk (no sugar) • Wheat, plantain, or manioc flour with milk and sugar • Egg and banana • Corn meal, leeks, margarine • Smoked herring, mashed plantain and bean sauce • Mashed potato, bean sauce, smoked herring

Fortified folk Concoctions (*Remontan*)

Popular class Haitians' remarkable understanding of nutrition and fortification can be seen clearly in a special category of nutritional concoctions called *remontan*, “rebuilding” juices. *Remontan* are best described as fortified folk beverages (Table 11). They include many of the ingredients seen in main and secondary meals described above, but their emphasis is on combining sources of high protein and carbohydrates.

Table 11: <i>Remontan</i>	
Type/name	Ingredients
Spaghetti juice	spaghetti, milk, sugar, vanilla, cinnamon, salt (pinch)-cheese (optional)
Breadfruit juice	breadfruit flour, milk, banana, potato, milk, sugar, vanilla, cinnamon, salt (pinch)
Beet juice	beet juice, sugar, carrot, navé, crescent, coconut oil/juice, salt (pinch)
Manioc juice	manioc, milk, sugar, vanilla, cinnamon
Potato juice	potato, milk, sugar, carrot, breadfruit, manioc, banana, cheese, papay
<i>Ponch</i>	egg (local), milk, cheese, banana
<i>Coffee remontan</i>	coffee, raw liver, coconut oil/juice, egg (local)
<i>Beet remontan</i>	beet bagasse, coconut oil/juice, malta
<i>Akamien</i>	Black beans (loca), cooked beef, carrot, greens, <i>navé</i> , pumpkin, milk, cheese

Food Combinations and Awareness of Nutrition

Another set of foods eaten in association with the main meal illustrate how Haitian food consumption patterns are, as Alvarez and Murray put it, part of a socialization for scarcity. The ‘rules’ associated with these foods result in a highly efficient means to consume maximum calories for minimum cost.

The Oil Rule: All food items that can absorb edible oils should be impregnated with as much oil as possible. Fat from oils is a critical component in the human diet. It is required for building cell membranes, and regulating

hormone, immune, cardiovascular, and reproductive systems. The USDA recommends that daily calories from fat/oil intake not exceed 30% and not fall below 20% of total daily calories. As seen in Table 12, below, low-income countries tend to dip beneath the recommended minimum, and

Table 12: Estimate % of Calories per day from fat			
Region	Calories per day from fat ¹	Total calories per day ²	% of daily calories from fat
North America & EU ³	130	3,380	0
Latin Amer, Carib.	711	2,830	0
Near East	630	2,910	0
North Africa	576	3,180	0
East and South East Asia	468	2,660	0
Sub – Saharan Africa	405	2,190	0
South Asia	405	2,400	0
Haiti (unlikely) best case	711	2,830	0
Haiti (probable) mid case	405	2,190	0
Haiti (possible) worst case⁴	342	2,086	0

¹ = Total FAT calories per day from FAOSTAT 2003
² = Total Calorie per day from FAO 2001
³ = North America and EU is Average from FAOSTAT 2003
⁴ = From FAO, cited in CRS Report for Congress 2007

Haiti is among them. The Haitian masses do not ingest large, unhealthy quantities of vegetable oils; they desperately try to get enough. Edible oil is also the most cost efficient source of calories: fats contain 9 calories per gram, alcohol contains 7, and cane sugar 4. Thus, we find Haitian using as much oil as possible and as often as possible. Extra oil is not wasted. For example, oil is added to water to boil vegetables and then reused in the meat or vegetable sauce.^{xxv xxvi xxvii}

The Sugar Rule: A similar rule holds for sugar, third in calorie content after edible oils and alcohol. Drawing on ethnographic observation, the rule is that most beverages—juices in the context of the main meal but also breakfast drinks coffee and chocolate—should be impregnated with as much sugar as they can possibly hold. They should also be consumed with bread, per calorie the least expensive form of carbohydrates and protein available.

The Bean Rule: Grains should be impregnated with beans or consumed with highly digestible bean sauce. This is the most inexpensive and readily available source of high quality protein in the Haitian diet.

The Fried Food and Spicy Coleslaw Rule: All deep fried foods—whether meats, starchy vegetables, or dough—should be served with *pikliz*, a spicy coleslaw composed of cabbage, carrot, onion, shallot, red pepper, and juice from sour orange

Rule of Exclusiveness: Grains, meats, and fruits are to be served one at a time, meaning not mixed with others of their kind. Fruits are not mixed in juices (there are elite exceptions to this rule). One type of grain, and one type of meat is included per meal. This rule also applies to snacks and sweets. Peanuts are not mixed with cashews to create a peanut-cashew cluster, nor are sesame seeds or coconut mixed with peanuts or any of other primary high oil content ingredient. Each is the primary ingredient in a sugar aggregate that may include spices, such as cinnamon, nutmeg, ginger, and cloves.

Rule of Water Chaser: No compendium of rules associated with popular class Haitian food consumption patterns would be complete without mentioning that all foods should be followed by water. With respect to the main meal, this is often true even if the person has drunk juice. With respect to lesser food consumption events, juice, soda or water may be consumed. This rule is associated with a general appreciation for drinking as much water as comfortably possible. Some informants said they liked salted “snack foods” such as crackers, popcorn and cheese puffs “because they make me drink water.”^{xxviii}

The health and adaptive value of the rules

Summarizing the preceding, Haitian food consumption patterns appear to have evolved to assure maximum nutrition at the lowest possible cost, something highly logical given the harsh natural and economic environment. There is also great respect for local foods, to the point where what popular class Haitians consider to be highly nutritious appears linked to what is most frequently produced locally. Even with respect to imported staples, for the nutritionally stressed majority, the system is nothing short of remarkably well-adapted.

All is not perfect. There are health costs for those who cling to the high-sugar, high-oil dietary strategies after experiencing an increase in personal income. Those who can afford to eat large and frequent meals but continue to ‘follow the rules’ face elevated risk of obesity, high blood pressure, and diabetes.

Moreover, new imported foods, many of which are poor in nutrition, enter the diet in an almost chaotic and haphazard manner or are incorporated into the existing food categorization system in a way that gives them undue respect as a source of high nutrition. For example, different forms of pastas—which only became widely consumed in Haiti only during the 1970s, 1980s—are classified and function as entirely different foods. Spaghetti is treated as a breakfast food and is a main dish; vermicelli is treated like a meat and used as a core ingredient for sauces; macaroni is treated as a side dish, and mostly eaten only on Sundays and special occasions. Similarly, salted crackers have entered the Haitian menu as “salted” food, and are thought of as nutritious and sometimes given to school children as a meal substitute.

Conservatism

There are elements of the Haitian diet that might appear exotic to foreigners. Rural Haitians will eat almost any bird, except buzzards. Cat too is on the menu. But Haitians have many food taboos. They do not eat rats (57 societies on earth eat rat, including many in West Africa where originated most Haitian ancestors), mongoose (eaten in neighboring Jamaica), snake (eaten in most non-Western and many Western countries), or dog (eaten in many Asian countries). Horse and donkey meat are traditionally taboo (commonly eaten until recently in France).

All things considered, popular class Haitians are definitively conservative in their food preferences. There are powerful social constructions that reinforce suspicions of foods. For example, a lingering, once common belief holds that cured hams are really dried children. Another belief holds that people killed by magic may be turned into a cow or goat, slaughtered, and their meat sold at market. Sheep, common throughout Haiti are taboo. Yet they all get eaten. In what can only be called a cultural practice of widely accepted duplicity, they are slaughtered in secret and sold as goat, often (according to Alvarez and Murray 1981) with a goat head strategically placed next to the body parts to convince skeptical buyers.

As Murray and Alvarez note elsewhere, fear of poison serves as a powerful limitation on begging. And it also contributes to a general fear of new foods. Anecdotally, we can recount first-hand stories of high-protein gourmet foods presented as gifts to peasants, then found later concealed in a plastic bag and discarded in a trash heap or the bush. The suspicion of unfamiliar foods extends to manufactured products. Sardines, for example, were long thought to be snakes and therefore rejected. Lentils introduced through USAID food programs in the late 1990s also were met with stubborn resistance. This skepticism represents a formidable obstacle to any marketer trying to introduce a new product.

Change

It is not possible to explain all underlying logic behind cultural food choices in Haiti and why food consumption patterns and preferences change, but there are obvious drivers. Cost and availability

will, of course, figure into any analysis of how and why consumption patterns change. For example, the small size of the average Haitian farm (~1 hectare), means that few people own more than one or two cows, a demographic feature surely linked to the absence of cheese or yogurt production (both common in the neighboring Dominican Republic), i.e. there are not enough cows. Haitians generally do not consume goat milk, even though 80% of rural households own a goat. The absence of using goat milk commercially is arguably linked to the importance of the animals' role as a source of savings to meet school, medical and ceremonial expenses, i.e. rural Haitians are more interested in the value of breeding and obtaining offspring, which need the milk, than they are in drinking the milk themselves (similarly, although cows are milked and the milk is sold on the street, the industry is far less developed than, for example, the neighboring Dominican Republic).²

An example of changing preferences documented during the course of the research is the erosion of the popular taboo against eating horse and donkey meat (mentioned above). Over the course of the past 20 years, this taboo has eased to the point where today horse meat is a commonly sold street food in the North of Haiti, so much so that farmers interviewed for this research complained of epidemic levels of horse rustling. The loosening of the taboo appears to be linked to a high rate of urbanization and, perhaps more importantly, a massive influx of cheap Chinese motorcycles that have diminished the importance of horses for transport. The acceptance of sardines into the Haitian diet is easier to explain. Sardines offer protein at exceptionally low cost, which has helped make them a staple for the poorest segment of the population, despite the original suspicion that they are really headless snakes and the initial aversion to them.

There are numerous similar examples. Most popular class Haitians decided that lentils, given away as food aid for several years, tasted good enough to eat. Hotdogs—a candidate to be anything, including the rounded body of a snake—have become one of Haiti's most common street foods over the past two decades. Why is relatively obvious. They are the most inexpensive industrial meat, easily stored and shipped, and typically impregnated with seven different preservatives, making them a super-meat in terms of shelf-life and resistance to heat and bacteria. They have largely replaced the traditional Haitian *griyo*—fried local pork that was a ubiquitous evening street food as late as the 1990s. The decline of *griyo* rise of the hotdog may also be linked to the USAID sponsored eradication of the Haitian pig during the early 1980s and the resulting decline in the availability of pork. The subsequent massive importation of hotdogs and advantages of hotdogs might also help explain why pig re-introduction programs have largely failed in Haiti (i.e. the costs and benefits of producing pork vs. the cheaper long shelf life hotdog).

Even bread has a story. Long a rare commodity, bread became a staple throughout Haiti after the US built a flour mill in 1957 and began giving international aid to the Haitian government in the

² Although in fact Murray and Alvarez [1981] mention goat milk consumption, we are not aware of any other examples, not in our own experience, nor the literature.

form of wheat. Similarly, rice emerged as the ‘national dish’ only after the US government began sending heavily subsidized rice to Haiti as food aid.

The most important change for this study is another one that can be traced to urbanization and the need for convenient, ready-made, storable and shippable products. Until the 1990s, *biswit*--a hard bread or cracker commonly made in bakeries and sold in the streets—was a major snack food. But over the past two decades *biswit* has been supplanted by imported and packaged salted crackers. Packaged cookies, rarely seen during the 1990s, have cut deeply into demand for local, organic, and highly nutritional artisanal produced treats, such as peanut and coconut clusters (*dous* and *tablet*, discussed below).^{xxix xxx}

In summary, there is in Haiti a popular class conservatism in food preferences, appreciation of quality, and fondness of natural foods, especially those produced domestically. But the limited resources of popular class Haitians make them acutely sensitive to economic stress, and it is possible to get consumers to break food consumption rules in favor of less expensive and more readily available commodities. This is the engine of change. Thus, Haitians in the North of Haiti are eating horse meat, many Haitians eat snakes (sardines), lentils have entered the diet. However, more significant than any other point about changing diet, is that, despite the profound appreciation for organic foods grown in Haiti, the market is being invaded with cheap processed foods, such as cookies and salted crackers, powdered milk, and processed cheese. As with the other changes in food consumption, the entrance and acceptance of low quality food substitutes and snack foods is associated with underlying demographic and economic factors: specifically in this case urbanization, accessibility and cost. But before showing why and how this has happened, it is useful to understand the more general adaptive drivers of Haitian food consumption patterns, and specifically, how popular class Haitians get their food, share and prepare it, for as with the cases seen above, it is in no small part this that determines just what they end up eating.^{xxxxxxii}



Photo 6: Sardines, ‘snakes in a can’, why else would they be headless



Photo 7: Smoked herring, with heads

6. History of Hunger, “Socialization for Scarcity”

In the previous section we saw that under-nutrition and malnutrition in Haiti occur in the context of a sophisticated popular understanding of food nutrition, and a high esteem for balanced meals. Popular class Haitians tend to pay what people in less nutritionally stressed cultures might consider an inordinate amount of attention to nutrition. Alvarez and Murray made the ethnographically appropriate observation that “even many preteens can elaborate at length about the different nutritional value of cornmeal as opposed to millet, or goat meat as opposed to chicken” (Alvarez and Murray 1981: 162). The work of Alvarez and Murray (1981) also supported the notion that the prevailing food classification system among popular class Haitians was similar to that espoused by developed world nutritional science.

Much of rural Haiti is suffering nutritional stress, and one current body of opinion begins with the premise of nutritional ignorance on the part of peasants as an important cause of this stress. Our research findings simply do not accord with this guiding premise... The failure of the Haitian population to achieve nutritional wellbeing is not (*sic*) due principally to defects in local knowledge or belief, but to factors lodged for the most part in a deteriorating rural economy. [Alvarez and Murray 1981: i]

In this section we see that these food consumption patterns are, as Alvarez and Murray argue, integrated and adapted to resource stress and availability in a manner the authors call, “socialization for scarcity.” This essential survival strategy for both individuals and the group “rests on three main pillars: sharing, moderation, and respect for cooked as well as raw food.”

The ‘socialization’ begins early in life. Children are censured for eating too much. Those who do attempt to eat what adults would call excessive amounts are called *gwo voras* (big consumer) and *visye* (greedy). Conversely, they are encouraged to share with others. As anyone familiar with rural Haiti knows, “It is not rare to see 15 children drink out of a bottle of kola, or to watch a dozen children eating from a piece of corn.” The sharing among children is mostly focused on snacks. The temptation eat another household’s meal is moderated by the fear of receiving poisoned or hexed meals from strangers, or someone on bad terms with the hungry individual’s family.

Even at early ages children devote considerable time to getting food. Alvarez and Murray (1981) found that children spent about 23% of each 24-hour period observing what was being cooked, attending to what others were eating, scrounging for food, looking for fuel or water for cooking, or fetching food items for their parents. We could add that children also learn early to independently raid gardens, and dig and cook sweet potatoes with their peers. Their involvement in subsistence activities is mandated from an early age, teaching them the value of contributing. Relevant to this point is a critical development stage in the Haitian child’s life, the point when a child learns to do for himself and contribute to the household has a name, *chape*, (literally, “to escape”)

At five to eight years of age the child will *chape*, for it is at these ages he/she begins to go by himself to the water, start a fire, wash clothes, tend animals, find food in the garden, and go alone to make small purchases in the market. (Schwartz 2009: 160)

This “socialization for scarcity” inculcated in children is, Alvarez and Murray argue, the foundation for a carefully regulated and adaptive system of reciprocal exchanges among adults. Despite the fears defined above, there are culturally appropriate guidelines for meal sharing. Meals are portioned out based on recipients’ contributions to getting the food to make the meal and, in this way, household survival. Cooked food is shared with non-household members as pay for services associated with food, or performed at a moment that crosses a meal time. Women strategically send food to other households and to individuals capable of and likely to reciprocate at a later date, something Alvarez and Murray equate to “money in the bank,” i.e. a means to negotiate periodic food scarcity. The strategy does not increase the total food supply, as the authors observe, but spreads food out in time and space. This levels out need and reinforces each individual’s contribution to the food supply—i.e. adults are rewarded with meals for productive behavior (ibid section 12: 189 - 192).

The Livelihood Strategies with which Socialization for Scarcity Emerged

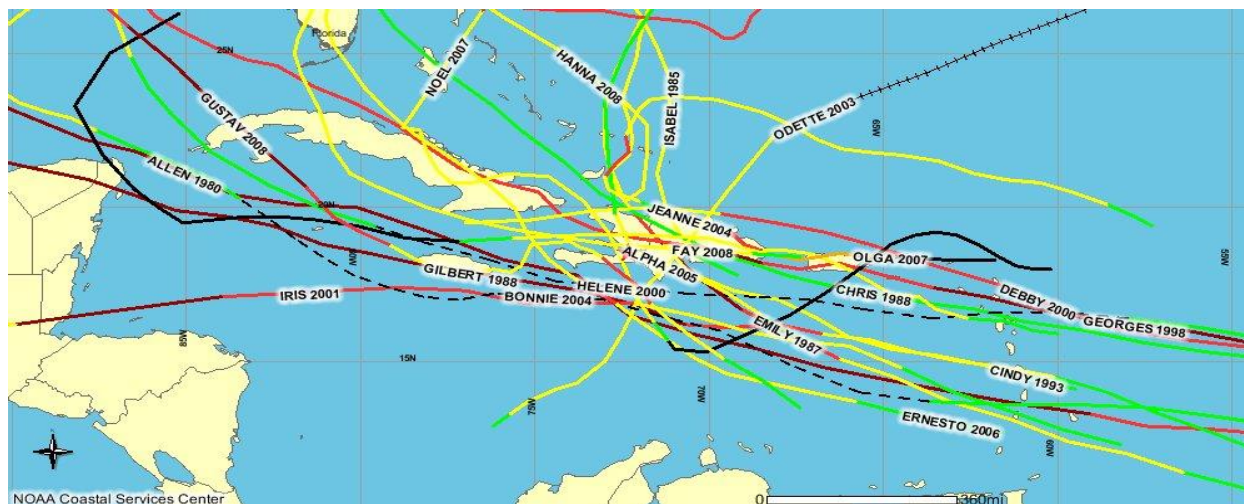
Alvarez and Murray assert that “Socialization for Scarcity” is the recent consequence of a “deteriorating rural economy,” but there is reason to believe that neither food scarcity nor the strategies for coping with it are new. Until recently, 80% of Haitians lived in rural areas where they survived on a mixture of production strategies at the core of which were short season crop cultivation, livestock rearing, fishing, charcoal production, harvesting of fruit, and artisanship. As will be seen, it is not so much the food that these activities provided that determined what people ate but rather the money that foods, crafts, and services provided that allowed them to purchase foods available in the market. These multi-dimensional livelihood strategies, ubiquitous and highly similar in form throughout Haiti, were part of an adaptation to more than two centuries of survival in a subtropical environment where storage for more than a 2 to 3 months, even of grain crops such as corn and millet, is difficult to impossible (because of mold, insects, and rodents). The challenge is intensified by calamitous weather patterns and unpredictable political upheavals.

Specifically, since 1851 Haiti has been hit with at least 19 hurricanes and 26 tropical storms--one severe storm every 3.7 years. The storms periodically ravage crops and kill livestock. Droughts, some of which last a year or more, can cause even greater damage. In areas such as the North West severe droughts strike as often as 1 in every 8 years. But arguably more devastating than natural calamities are the manmade disasters that have plagued the country for more than two centuries.

Haiti’s colonial history was marked by 100 years of slavery, when slaves planted their own subsistence crops, traded and sold those crops in regional markets, precursors to those that prevail today. This period ended with a 13-year struggle for independence that was arguably the deadliest conflict in world history. About half of both the civilian and combatant populations died from violence, starvation, and, more than anything else, disease. Social upheaval and internecine warfare continued through the 19th century, with more than 25 wars and uprisings, and 60 years of international trade embargoes. The 20th century brought an equal number of violent conflagrations and embargoes that have continued through the first 15 years of the current century. The past 25 years have included a 3-year international trade embargo, a 2-year aid embargo, two *coups d’etat*, a 3-year period with what some have called a near total breakdown in civil society, and an earthquake that killed at least 50,000 people (although the latter unleashed massive aid and

intensified imports, doing more to crack popular class dependence on “socialization for scarcity” than to intensify it).^{xxxiii}

Figure 13
Hurricanes Since Year 1980



Map by DR-Dave from NOAA, <http://blogs.agu.org/landslideblog/2010/01/15/why-the-haiti...>

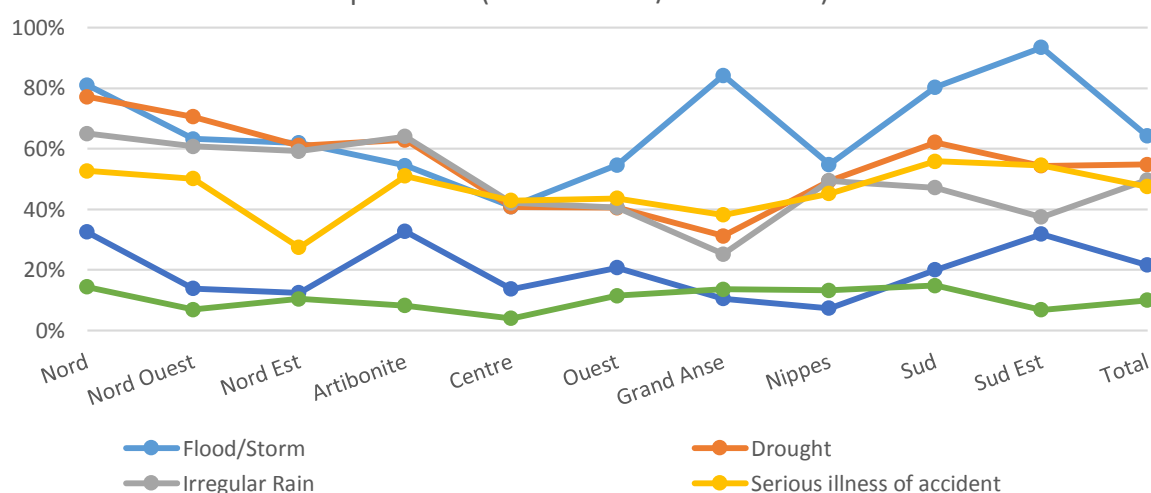
Adding to the difficulty of storing crops, erratic weather patterns, political upheavals, and economic isolation—indeed a consequence of it all—are low technologies, a poor medical system, and weak agricultural extension services, all of which contribute to making crop, livestock and human epidemics common and severe. The consequences of crop and livestock losses are obvious. A family can watch its social security literally wilt and die in weeks or even days. But a family can face perhaps greater devastation from human illness. The loss of contributions from a mother who earns income from commerce or a father who cares for the household’s animals and gardens can be devastating. Sickness means not only lost labor and income, it also means medical bills—both formal sector doctors and medicines and informal sector spiritual therapies and remedies—that cause a sell off of livestock and land, thereby deepening vulnerability. The significance of these crises is such that in a 2007 CNSA/CFSVA survey three of the five most common shocks respondents reported in the previous year were intra household: specifically, accident/illness, death, and animal disease (Table 13). The most common type of shock was “Increase in Food Prices,” reported by 70.7% of respondents. This was 2007, a moment in time during the rising world food prices that climaxed in the 2008 world food crisis. But disease or accidents suffered by a family member were three times more likely than prices to be identified as the worst shock suffered by the household in the preceding year.

Table 13: Frequency and Severity of Shocks to Household Livelihood Security

Shocks	Most Common Shock	Worst shock
Increase in food prices	70.7	10.1
Cyclone Flood	63.9	11.4
Drought	54.6	4.8
Irregular rainfall	49.6	1.7
Disease/Accident of household member	47.6	30.8
Animal diseases	47.1	9.5
Crop diseases	37.6	4.5
Rarity of basic food stuffs on the market	29.1	2.1
Increase in seed prices	27.7	1.0
Drop in relative agricultural prices	25.3	1.1
Drop in wages	22.6	1.6
Human epidemic	22.1	2.2
Death of a household member	21.9	11.7
Increase in fertilizer prices	12.9	0.9
Drop in demand	12.7	0.3
Insecurity(theft kidnapping)	11.1	2.1
New household member	10.0	0.5
Cessation of transfers from relatives/friends	4.7	0.3
Loss of job or bankruptcy	3.9	0.9
Equipment tool breakdown	2.7	0.0
Others	2.7	1.0

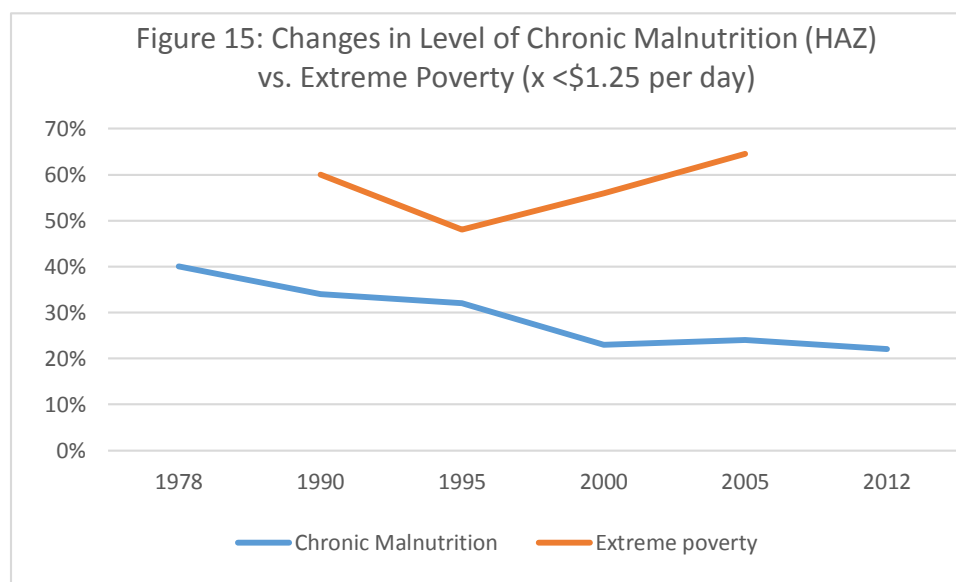
Source: World Bank 2011 Vulnerability before and after the Earthquake. Policy Research Working Paper 5850. By Damien Echevin. P 20. Date is drawn from CNSA/CFSVA 2007.

Figure 14: Percentage of Household Shocks by Type of Shock and Department (Source CNSA/CFSVA 2007)



These internal household shocks have been experienced by Haitians for generations. Hurricanes have always been an annual summertime threat. The country's medical system has always been inadequate. When the US Marines invaded Haiti in 1914, the US Navy Medical Director of Public Health, Captain Kent C. Melhorn, described 'the whole country as teemed with filth and disease' (Heinl and Heinl 1996: 452).

The food consumption patterns and livelihood strategies we see today stem from more than two centuries of adaptation. Haitians have always faced frequent and extreme environmental, political and economic shocks, and they negotiated them by cultivating dependency on those forces they can control. They developed or clung to technologically simple and integrated production and processing strategies. They invested social capital in a system of household interdependence and the 'socialization for scarcity' that Alvarez and Murray so carefully described 35 years ago. And very importantly, an important component to the system, one critical in understanding how to make RUTFs available to popular class Haiti, is the vibrant and intensely integrated rotating marketing system described below.



One consequence of the “leveling” mechanism inherent in ‘socialization for scarcity’ is that the vast majority of the Haitian population—about 80%—hover around the same threshold of extreme poverty, sharing and adapting in unison to the calamities described above. The poverty cloud has not changed with recent improvements in nutrition and one fear should be that this recent improvement is only a reflection of international charity and the focus on getting emergency food to the poor, no matter how damaging to the economy. In other words, a nutrition bubble.

7. The Market System

There are three components of the internal marketing system in Haiti: the internal rotating marketing system, the formal import marketing system, and the food preparation economy that includes a cottage industry of food processors, street vendors and restaurants. Understanding all three is critical to understanding the role of snack foods in the contemporary popular class food regime and in devising a strategy to market RUTFs.

Internal Rotating Market System

As seen above, until the past decade most Haitians lived on small farms. But Haitians are not and probably never were subsistence farmers. The overwhelming evidence is that since the days of the plantation system they have been heavily oriented towards the market, specifically what anthropologists call the internal rotating market system (see Schwartz 2009; Murray 1972, Mintz 1974).

Mountain micro-climates with differing rain patterns result in staggered harvest seasons. This has allowed for the evolution of intense interregional trade. Buying and selling is dominated almost entirely by women--*revande* (stationary resellers) and *madan sara* (itinerant traders). Household producers sell to itinerant traders who move produce to local or larger regional markets. From there resellers market goods to local consumers or to other *madan sara*, who move the goods up the line to fulltime provincial urban centers, and ultimately to the holy grail for all marketers, Port-au-Prince, which is now home to 1/3rd of the Haitian population (see Figure 17). It is along this same channel—or channels close to it—that Haitian exports also traditionally moved, and that the few agricultural exports that still come out of rural Haiti (goat skins, cacao, coffee) continue to flow.^{xxxiv}

The internal rotating market system consists of rural open-air markets. These markets occur on alternating days of the week, staggering the operations among towns in any given region. This gives most people throughout Haiti access to markets within walking distance at least two days per week (see Figure 16).^{xxxv}

For the poor who participate in these markets—including rural households selling produce, and urban-based women purchasing items for resale—the system serves as a medium of storage. The stored household surplus can first be sold and, second, prolonged and even expanded by rolling over the cash in trading activities to produce petty profits. When periods of scarcity strike, the family begins to consume this money and dip into other forms of household savings by selling off livestock, or making charcoal. From the perspective of consumers, it is this system that has allowed the urban lower, middle, and elite classes to survive the frequent disaster, embargoes, and civil insurrections described above.^{xxxvi xxxvii}

Figure 16: Internal Rotating Market System

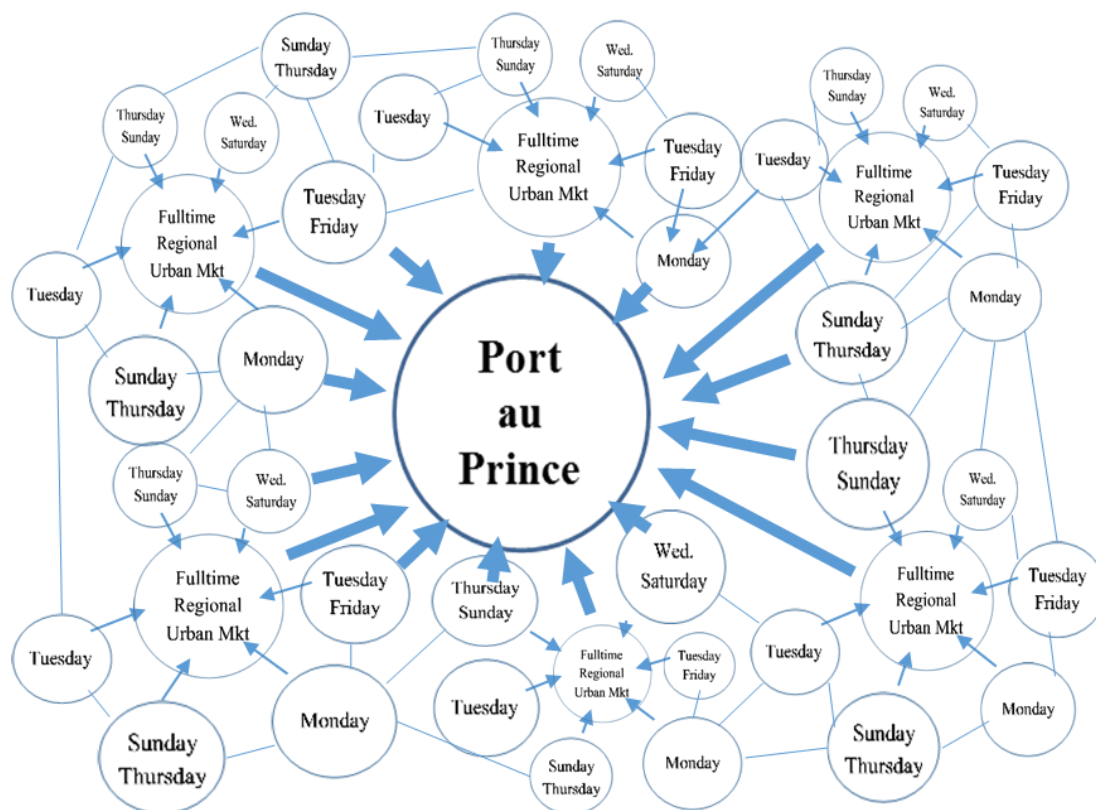
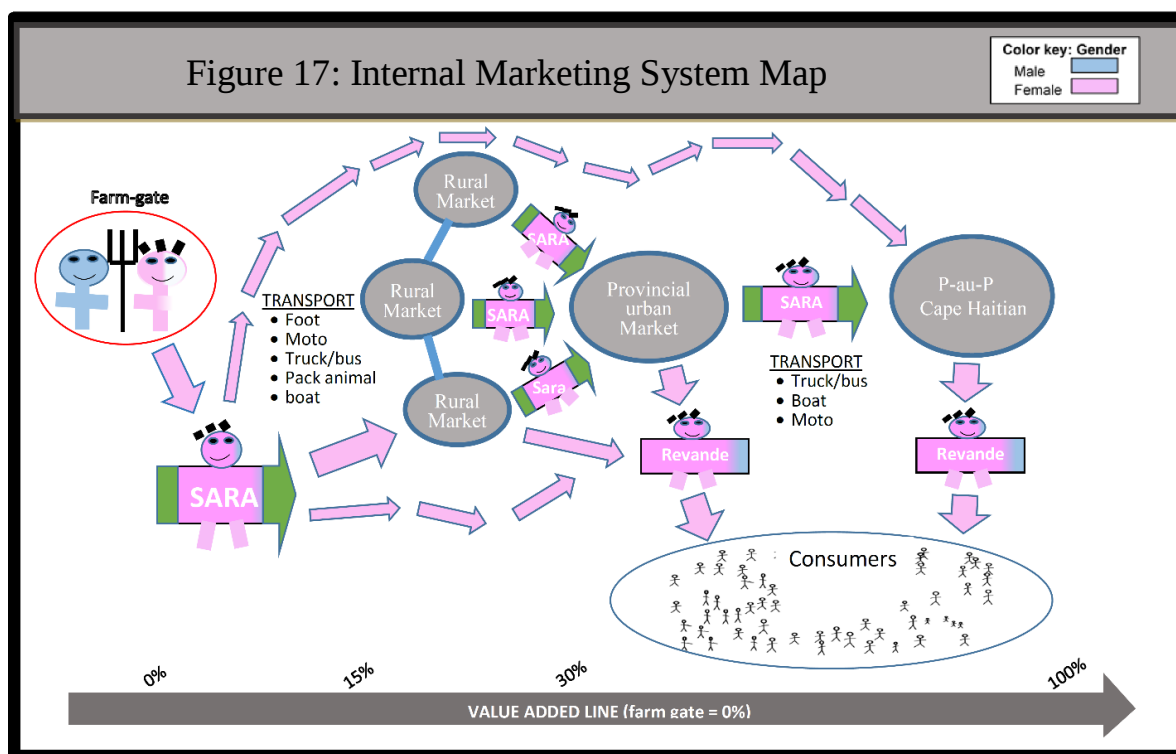


Figure 17: Internal Marketing System Map



Formal Import Market System

The internal rotating market system is juxtaposed against a formal system that deals almost entirely with imported goods. This system has only become important, with regard to processed foodstuffs, as a function of the urbanization of the past 50 years. At the highest level are major distributors who import mass quantities of processed foods—cookies, crackers, cheese puffs, cheese spreads, sugared beverages, as well as staples such as rice and cooking oil. Sometimes these distributors repackage products with their own logos, branding, and culturally appropriate marketing that appeals to the interests of Haitian consumers. The next level of the system is bifurcated (see Figure 18.1). One path leads to modern urban, air-conditioned supermarkets offering a plethora of brands from the US and Europe that compete with repackaged and locally labeled goods sold to wealthy and upper-middle-class consumers (roughly 10% or less of the population, overwhelmingly concentrated in Port-au-Prince). The other path leads to smaller distributors in major cities, provincial towns, and rural areas. These wholesale outlets, or *depo*, supply small shops or *boutik*, and individual merchants who sell directly to consumers on the street or in open-air markets (although many *depo* also sell retail).

The formal market channel in Haiti has at least two key characteristics that make it distinct from those in developed countries. 1) There are what might be considered non-subsistence goods—such as hair products, deodorants, and toilet paper—but these products represent a small portion of what is found in the formal market system. The majority of products emphatically have to do with subsistence rather than wants. Even snack foods should be thought of as low-cost nutritional resources, not as recreational “wants.” There is an almost total absence of provider distribution networks. This means that, unlike in developing countries or even the neighboring Dominican Republic, the burden of restocking is on redistributors and retailers. This is true for both rural and urbans. There are a few exceptions, such as snack-maker Stanco, which has its own distribution network and can effectively leverage it to get products onto the local market. But the role of these deliveries is minuscule compared to the gross movement of goods—Stanco, for example, has one of the largest truck fleets, a total of approximately 20 vehicles.

Figure 18: Receive Merchandise Pickup vs. Delivered for Urban Boutik in Gonaives, Cape, and Port-au-Prince that (N = 56)

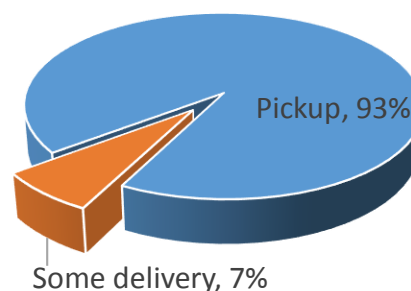
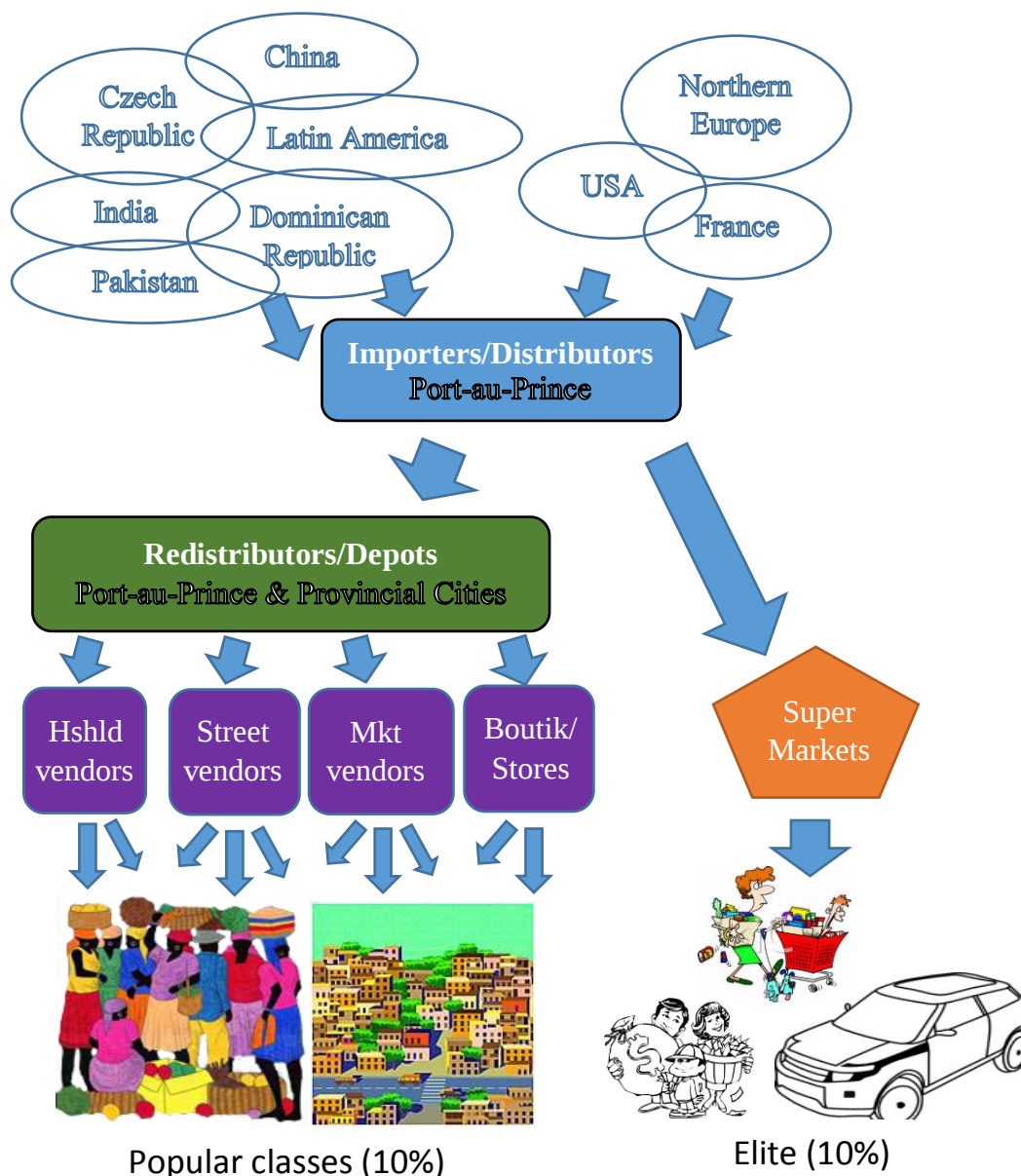


Figure 18.1: Haiti Market Distribution



Food Preparation Specialists

Both the formal and informal food distribution channels deliver food directly to consumers, who then prepare foods for consumption in the household. But increasingly food is delivered to a third leg of the market chain, food preparation specialists. Food preparation specialists ply their businesses at bus stations, crossroads, and near many major workplaces, such as construction sites and factories. In the morning preparation specialists have traditionally sold coffee, hot chocolate, porridges, bread, peanut butter, boiled eggs, and *patey*. At mid-day, small makeshift restaurants

known as *chen jambe* (dog crossing) serve lunch. At night in any hamlet, village or town the streets are and long have been lined with flickering gas lamps by the light of which vendors peddle *tablet* (peanut sugar clusters), a variety of fried doughs, starchy vegetables, fish, chicken, goat, and pork (all fried foods).

The industry has grown with the massive urbanization of the past fifty years. People increasingly lack the time and labor resources to prepare food, creating opportunities for food preparation specialists. Urbanization also has created an opening for people to sell prepared foods imported from other developing countries. Specifically, there has been an explosion in the number of vendors of inexpensive manufactured cookies, crackers, cheese puffs and other processed and ready-to-eat foods. These snacks and, in Haiti, meal substitutes were rare to non-existent 10 to 20 years ago when Haiti's population was mostly rural. Now they have taken on great significance and they are treated in greater detail in later sections of this report. ^{xxxviii xxxix}

Mechanics of the Markets

The two principal market channels described above-- the informal internal marketing system and the formal import economy both supply a third sector, the increasingly important food preparation specialists. This third sector is of paramount importance in understanding the contemporary food consumption patterns in Haiti. However, it is first important to understand the relationship between the markets that supply it.

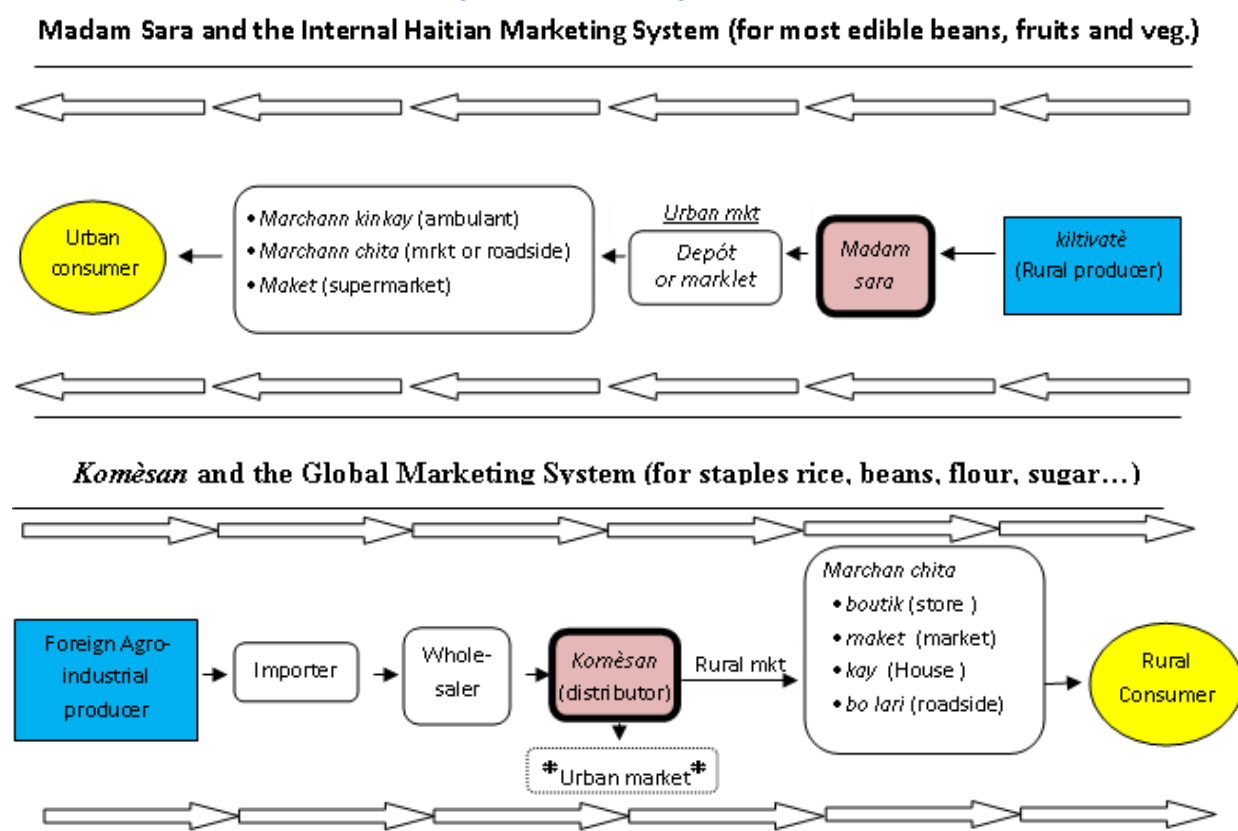
To reiterate, the two market distribution channels run in opposite directions: the internal rotating market system is part of an informal economy through which local produce moves from rural farm to village, town, and city. The formal system is the means by which imports enter the country and then move to urban neighborhoods, to towns, villages and rural areas. Especially important in the redistribution of imported goods a *boutik* (neighborhood stores) of the towns and cities and supermarkets found only in the major cities. But even with regard to imported goods, most are sold in the open markets (see Table 14 below). The principal actors in the two contrary market channels are the *madan sara* in the informal sector and for the formal system *komesan*. Both the *madan sara* and the *komesan* are almost exclusively involved only in their own chain.

A *madan sara* is an itinerant market woman and the country's primary accumulator, transporter, and redistributor of agricultural produce, small animals, crafts, and dried fish. The poorest *madan sara* work with as little as US\$2.00 in capital and walk to and from regional market centers. The average *sara* has US\$50 in capital and may own a pack animal that she loads with local produce and hauls to a regional market or provincial city. The most heavily capitalized *sara* deal with thousands of US dollars' worth of local produce, and may own or lease a truck to haul tons of produce. If she travels to Port-au-Prince, the *sara* typically stores her goods in warehouses open to the public and frequented by other *sara*. She sells her produce in a matter of days. More than half of the time (~64%) she provides goods on credit to *revande*, or retailers, or other *sara* who deal in low level, wholesale redistribution. Depending on the distance traveled, her profits vary from 30% to 100% (estimates are based on Stam 2013 and Schwartz 2009).

The most significant marketing agent in the formal economy is the *komèsan* (distributor). As or more often a man than a woman, the *komèsan* is the handler of durable staples imported from overseas. He or she moves in the opposite direction from the *sara*. The biggest *komèsan* are importers themselves or purchase from importers at metropolitan ports (of which there are 8 in Haiti) and urban warehouse (*depot*). The products then move to lesser *depot* in towns, villages, and eventually make their way into the rural market place or *boutik*. The *komèsan* is heavily capitalized (from hundreds of thousands of US dollars at the highest levels in Port-au-Prince, to hundreds of US dollars at the most remote rural depots). She/he often has access to a line of credit and always moves his or her sacks of rice, flour, sugar, and beans, and cases of edible oil, crackers, and cookies by truck. She/he owns or leases a warehouse, store or storage facilities. *Komèsan* profit margins are as low as 5% and seldom exceed 20 percent. Turnover rates can exceed one month.

Both the *madan sara* and the *komèsan* make use of the *machann*, stationary resellers who sit in markets, by the roadside or who walk and peddle goods in streets and neighborhoods (vendors of prepared food fall into this category).

Figure 18.2: Dueling Economies



Credit and the Formal Sector Advantage

In terms of purchase points for consumers, the informal market sector is the principal distribution channel throughout Haiti. Illustrative of the point is that on the Plateau Central, consumers even purchase toothpaste primarily in the open markets.^{xl}

Sector	Location	Local produce	Rice, flour, sugar	Toothpaste
Informal	Rural Markets	35%	21%	32%
	Small-Town Market	26%	31%	27%
	City Market	18%	36%	18%
	Subtotal	79%	88%	77%
Formal	Rural Store	2%	2%	12%
	Small-Town Store	0%	3%	9%
	City Store	19%	7%	2%
	Subtotal	21%	12%	23%
Total	Subtotal	100%	100%	100%

Although the informal economy prevails, the incursion of imported items into the informal market gets a significant boost from differential access to credit. In the formal market economy one sees subsidies and credit operant at every level. Three of five of the distributors interviewed reported receiving more than 50% of merchandise on credit. Every one of the 14 redistributors interviewed receives credit from distributors and gives credit to clients (Figures 19 and 20); 82% of *boutik* owners interviewed give credit to clients (Figure 21).

Figure 19: Redistributor
Proportion of Merchandise
Reportedly Taken on Credit
(n = 14)

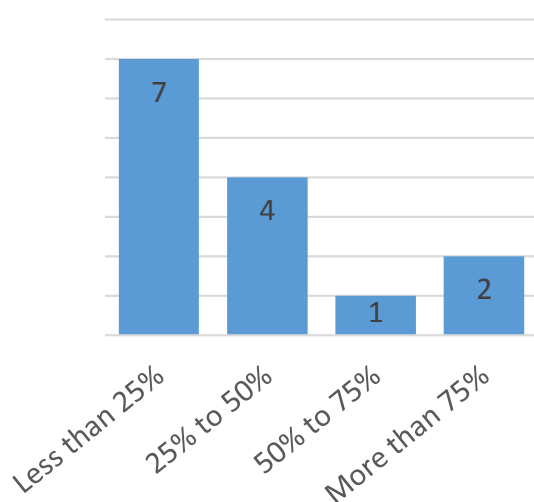
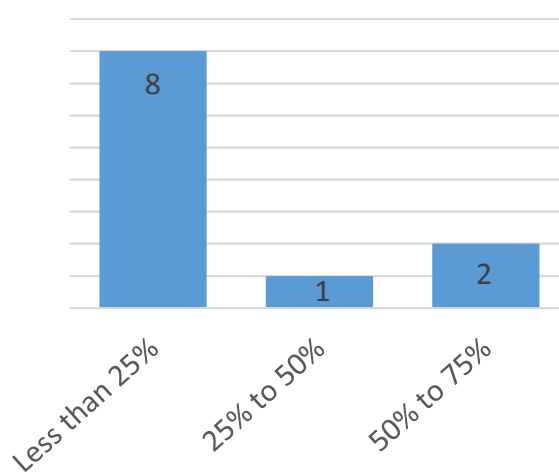


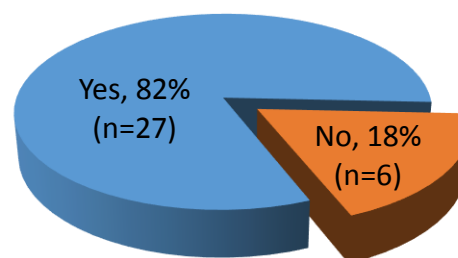
Figure 20: Redistributor
Proportion of Merchandise
Reportedly Given out on Credit
(n = 11; missing = 3)



The informal sector traditional economy also has mechanisms of credit. Farmers provide produce on credit to *madan sara* (itinerant traders) who in turn provide short-term credit to urban resellers. But the credit tends to be for small quantities and is short-lived—measured in days. Moreover, the cost of credit in the informal sector exceeds 20% per month. Even if credit is obtained from NGOs or credit unions the cost is typically 3% to 6% per month. In the formal sector the credit is abundant and frequently interest free.

What the differential access to and cost of credit means in terms of advantage is that formal sector entrepreneurs can do relatively big business with little to no capital and they may pay nothing. In contrast, entrepreneurs in the informal sector tend to do petty business and they must either have their own money or pay exorbitant fees to borrow. The situation is such that at any given time 8% of informal sector entrepreneurs are operating with funds that they got from taking formal sector merchandise on credit and then selling at below market costs, creating the ironic spectacle of impoverished informal sector actors using profits earned from redistributing local produce to subsidize the wealthier formal import sector (see Figure 21.1).

Figure 21: Boutik that give clients credit (N=33)



8. Growth of the Food Preparation Industry

Getting Something to Eat vs. Eating Something You Can Get

While Alvarez and Murray may have been wrong in their assertion that “socialization for scarcity” is new, they are certainly correct in asserting that there have been declining yields and increasing economic stress. While this is not the place for an extensive elaboration, undergirding the declines are environmental degradation, 30 years of political instability, the flood food aid seen in an earlier section, and a corresponding lack of innovation in agricultural production technologies. The same time—if not because of these declines—the last half of the 20th century was a time of juggernaut urbanization and a corresponding increase in the role for the formal economy. What concerns us in this section is how these factors have influenced popular class eating patterns and, specifically, who the changes created the condition for emerging acceptance, if not dependency on, low quality prepackaged and ready to eat food stuffs. We begin the section with a look at the concept of meals and how they have changed.

Definition of Meals and Culturally Appropriate Times to Eat

Meals

How many meals popular class Haitians eat per day is commonly used as an indicator of food security. Haitians always score below the international ideal of three meals per day (CNSA/CFSVA 2007; CNSA 2013). But when discussing meals with Haitians of any class, the conclusion is typically that Haitians eat two meals per day. If we pursue the issue further, the survey definitions and responses do not make it clear the definition of “meal.” And as Alvarez and Murray first pointed out 35 years ago, consuming food is not seen as a social event where the family or friends sit around a table and converse. Nor is there any Kreyol word that corresponds directly with the English word “meal.” Haitians refer to *manje* (food) and “having eaten.” Whether someone has indeed “eaten” depends on the type of food consumed at a particular time of day. Thus, eating a sweet food in the morning may constitute “having eaten,” but it would not qualify at noon when people in Haiti expect to have something that is not sweet, specifically *manje sel* (“salt food,” such as rice, beans, yams, plantains, meat). Indeed, a frequent comment heard in Haiti at hours approaching noon is “I haven’t eaten since yesterday,” by which the speaker usually means, not that he has eaten nothing, but rather that he has eaten no “salt food.”^{xli}

Snacks

Similarly, the research team found it difficult to elicit from focus group participants terms for “snack.” Even the Haitian nationals on the team, all members of the Haitian popular class, could not offer specific words for “snack.” In most developed world vernacular, the term refers to a food that is not an ingredient in a meal, or a food eaten between meals, or something consumed for non-nutritional reasons, such as coping with stress or being social. But there is no exact equivalent in Kreyol. The word that comes closest is *pase bouch*, best translated as something that simply goes through the mouth without having any real consequence. In the North West of Haiti, people speak of foods that, *dezanouzey*, or distract, but they do not mean the food is consumed simply as a recreational activity but rather that it is of insignificant quantity and not enough to qualify a person

as “having eaten.” Similarly Google Translator—ostensibly drawing on Indiana University Creole Institute’s comprehensive Haitian Kreyol dictionary, the most comprehensive source - defines the Haitian Kreyol word for snack as *ti goute* a small taste.

One reason that the word “snack” does not easily translate is that in nutritionally and economically stressed popular class Haiti, no food consumption is taken for granted. It may be disparaged for being meager in quantity, but all food is of significance. For example, we know anecdotally that sugar water and bread—something that may not pass muster as even a snack in the US--qualifies as a mid-morning meal in popular class Haiti. If asked midmorning whether or not they have eaten, a rural Haitian may respond, “yes, I drank a juice a little while ago.” It is important to underline this point, because it is critical to understanding the role of prepackaged foods in the country. Foods such as cookies and cheese puffs and even soft drinks—considered snacks in developed countries—qualify as foods consumed to meet nutritional needs. And there is a very real danger that they may come to function as meal substitutes. To understand why, we have to look at factors that underlie recent changes in eating patterns.^{xlii}

Culturally Appropriate Times to Eat

Putting aside for the moment the question of what exactly constitutes a ‘meal’, popular class Haitians have five culturally appropriate moments during the day when they may expect to eat something. Each moment has correspondingly appropriate foods, prevailing cooking methods, and place where the food is typically cooked and procured. Specifically these are, 1) early morning, 2) mid-morning, 3) mid-day, 4) late afternoon/early evening and 5) before bed.

- Early morning food: not considered a “meal” in the Western sense of the word, often simply a beverage, such as heavily sugared coffee, chocolate or juice, often with bread. It is typically boiled and made at home or purchased in the street.
- Midmorning food: typically reported as a “meal” in the sense that, in the absence of this event, many Haitians will not consider themselves to have eaten at all, even if they have “snacked.” It is often purchased in the street or in front of schools. It is either fried, boiled or pre-processed.
- Mid-day food: a true meal in that the food is cooked, there is an ideal of balancing food groups, and it is considered a requisite event what all Haitians consider the major food consumption event of the day, it occurs between 12:00 and 3:00. The food is boiled and sautéed—never fried—and traditionally prepared by the household but, as will be seen, it is increasingly becoming a street food (see endnote for additional clarification or Section 6 for review of food categories and rules governing the mid-day meal).
- Early evening food: almost always purchased in the street—even in rural areas—and always fried.
- Before bed food is almost always boiled, made at home and typically a porridge or liquid (cream of wheat, or juice)

Table 15: Foods by Time of Day Eaten, Preparation Strategy, Place of Preparation, and Place of Sale and Consumption				
	Morning Foods	Preparation Strategy	Place of preparation	Place of sale/consumption
Early and mid Morning Foods	Coffee	Pre-processed + Boiled	Home, street	Home, street
	Chocolate	Pre-processed + Boiled	Home, street	Home, street
	Porridges	Boiled	Home, street	Home, street
	Paté (dough)	Fried or Pre-Processed	Home, bakery	Home, bakery
	Plantain	Boiled	Restaurant	Restaurant
	Spaghetti pasta	Pre-processed + Boiled	Restaurant, street	Restaurant, street
	Eggs	Boiled or fried	Home, street	Home, street
	Banana	Raw	Street	Street
	Peanuts	Pre-processed	Home	Home
	Peanut butter	Pre-processed	Home	Home
	Bread	Pre-processed	Bakery	Home, street
	Yogurt	Pre-processed	Let Gogo	Street
	Breadfruit nuts	Pre-processed	Home, street	Street
	Popcorn	Pre-processed	Home	Street
Mid-day	Starchy	Boiled	Restaurant, home	Restaurant, street, home
	Cereals	Boiled	Restaurant, home	
	Green	Boiled +sautéed	Restaurant, home	
	Greens	Boiled +sautéed	Restaurant, home	
	Meats and Fish	Boiled +sautéed	Restaurant, home	
	Beans	Boiled	Restaurant, home	
	Vermicelli	Boiled +sautéed	Restaurant, home	
Late Afternoon Early Evening	Pork	Boiled + fried	Home, street	Street
	Beef &/or Goat	Boiled + fried	Home, street	Street
	Chicken	Boiled + fried	Home, street	Street
	Marinad	Boiled + fried	Street	Street
	Paté (dough)	Fried	Home, bakery	Street
	Starchy	Fried	Home, street	Street
Before bed	Porridges	Boiled	Home	Home
	Corn flakes	Cold	Home	Home
	Yogurt	Pre-processed	Home	Home
	Chocolate	Pre-processed Boiled	Home	Home
	Juice	Cold	Home	Home

The Food Preparation Conundrum

To understand how and why food consumption patterns are changing and can be expected to continue to change, we turn to an examination of the mid-day meal. Whether a household prepares a meal or its members seek food elsewhere is not a simple function of food availability, as food security specialists working in Haiti so often assume. It is equally or more importantly a function of time and cost involved in going out to get the food, water and fuel necessary to make a meal, and the labor to actually cook it. We can conceptualize the challenge as popular class Haiti's "food preparation conundrum," composed of essentially four sub-problems that almost all Haitians face regarding preparation of meals and all critical to understanding the emerging roles of snacks and,

potentially, RUTFs. These four problems are: the storage problem, the water problem, the fuel problem, and the cooking problem.

The Storage Problem: For reasons seen earlier that have to do with rats, insects, rot, and mold in a subtropical environment, rural and urban dwelling Haitians typically do not keep more than 2 to 3 days of food on hand. This means that to make most household meals someone has to go out and get the food. If the food is from a garden—often the case even in the city--that person has to go to the garden, an average round trip distance in rural areas of about 92 minutes. Selective harvesting takes another one to two hours. If they do not get the food from the garden they most often get it from the market. In rural areas, this involves an average round-trip walking time of three hours (twelve kilometers). Even in urban areas, at least 1 hour must be dedicated to getting to the market, locating what is desired, then haggling over the price and getting back to the household.

The Water Problem: Water is necessary for cooking and washing pots and dishes. But in all of Haiti only 9.2% of households have an on-premises source of water; 34% must send someone more than 30 minutes away to retrieve water (EMMUS 2012). For those in rural areas the figures are more extreme: only 4.8% of rural homesteads have water on the premises (heavily skewed by specific regions, such as the irrigated Artibonite); 42.6% must travel more than 30 minutes to retrieve water (ibid). Even if the water is close to the house, actually getting it often means contending with pushing and cursing crowds of women and children, meaning it can take anywhere from a few minutes to hours to get a turn at filling a water bucket. In the city, especially Port-au-Prince, it is increasingly common to purchase water by the bucket.

The Fuel Problem: Perhaps the other major non-nutritional limiting factor regarding meals is fuel. In all of Haiti only 4% of the population uses fuels other than wood or charcoal, specifically propane, kerosene and electricity. The vast majority of those using these other fuels are located in Port-au-Prince, (where still only 13% of the population uses fuel other than wood or charcoal; ibid). The distinction between a household that uses wood vs. charcoal to cook is not income so much as rural-urban residence: 80% of those in the city use charcoal, 73% of those in rural areas use wood (ibid).

For the urban majority that must use charcoal to make a meal, the *charcoal* is the single greatest cost, greater than any single item of food, including the rice necessary to feed an average household of 5.2 people. It takes about 75 to 100 HG of charcoal to make a mid-day meal for 5-6 people.^{xliii} Another 5 HG of pitch pine is typically purchased as tender. Unlike firewood, which can be used directly on the ground, charcoal is compact and must be put into a *recho*--a type of grill--so that air circulates beneath and it burns. This means the additional cost of the *recho*. In the case of *firewood*, someone has to gather it. Due to deforestation and competition with other households that also need wood, the task can take 1 to 3 hours.

The Labor Problem: Actually cooking the meal takes time and it takes labor. With both firewood and charcoal, cooking time depends on the quality of the fuel. If the firewood is dry, seasoned, and of high quality, rice or sweet potatoes can be boiled in about one hour. Beans, if dried, must be boiled for as much two hours. If fresh they take only twenty minutes to prepare, but someone has

to take the beans out of their pods. Preparing meat is time consuming as well. Poultry is the main source of meat, and since most people lack access to refrigeration the vast majority of popular class Haitian buy their chickens live. This means someone has to kill, scald and pluck the bird. All other meats are purchased daily. And popular class Haitians use extreme caution with meats. Whether poultry, red meat, or fish, the meat is washed with sour oranges or limes, boiled and then fried or cooked into a sauce, adding an hour to the time it takes to prepare a meal (for additional data on the high labor and time inputs that go into preparing the daily meal see also Alvarez and Murray 1981). Most families can only afford a single *recho*. They also do not want to waste charcoal—as seen, the single greatest expense—which means that everything is usually cooked on the same burner, making to take longer to cook the meal. ^{xliv}

Summary of Food Preparation Costs

The enormous demands involved in preparing the mid-day meal mean that households cannot reasonably be expected to repeat the endeavor multiple times during the day. The cost of the fuel to cook three meal per day would, alone, amount to as much as 300 HG (US \$6) more than what most aid works suspect Haitian families invest in food and, according to several recent studies, about 60% of the average 500 HG per households food budgeted per day (CARE 2012; EarthTech 2014). Nor is it necessary to make multiple elaborate meals per day. Haitians have resolved the problem of high fuel costs through an increasing reliance on preprocessed foods and they average costs of fuel out through the growing industry of street food vendors discussed below.

Table 16: Direct Labor Inputs to Procure Materials, Food, and Prepare Mid-Day Meal

Task	Average # hours per performance
Water carrying	0.5 to 2.0 hours
Cooking morning “meal”	1–2
Cooking main meal	2–4
Cooking morning “meal”	1.0 –2.0 hours
Gathering fire wood	1.0–3.0 hours
Walk to garden	0.5 to 5 hours
Trip to market	1.0 to 4.0 hours
Harvesting &/or Haggling	1.0 – 1.5 hours

Sources: Schwartz 2009; Alvarez and Murray 1981

As seen in Table 13, above, the foods that are eaten at certain times of the day, how they are prepared, where, and who prepares them reflect labor demands. For example, popcorn, peanut butter, bread, ripe bananas, spaghetti and eggs—all either cold foods or foods that cook quickly—are morning foods (see Table 13 above). Similarly, bedtime foods are almost exclusively porridges and other foods that are readily boiled. In villages, towns and urban settings, afternoon and early evening foods are almost exclusively fried (something that, interestingly, is never the case with the mid-day meal, as seen shortly). Again, the costs of fuel and time are increasingly managed through food preparation specialists, but before exploring the industry, the impact of time and labor requirements of food preparation should be fully appreciated for it has profound significance for Haitian society as a whole, both in the past, present and future.

Sociological Impact of the Food Preparation Conundrum

The sociological significance of the food preparation conundrum described above cannot be underrated. There are enormous demands associated with procuring and preparing food and similar to the history of hunger and socialization for scarcity seen earlier, these demands are among the principal conditioners of traditional Haitian kinship and family patterns. The challenges were resolved through the pooling of labor in the context of economically autonomous households in which primary features were a sexual division of labor (see Table 15 & 16), and heavy dependency on child labor to complete domestic tasks such as helping with meals. It was access to and control over the labor of children that underwrote—and still largely underwrites—Godparentage and even conjugal union. So important are children and their labor in rural areas that there essentially was no such thing as a household without working age children (~ 5 years and up), i.e. it could not function. Moreover, it is the presence of children, in view of the high labor cost of food preparation and domestic activities that assure a steady supply of food and that determined/s whether or not a woman is free to engage in income generating activities outside of the home (see Table 17).

Table 17: Adult sexual division of labor in a Rural Haitian County (N = 1,482)						
Task	Male	Female	Both	Male, Female, and	Neither	Total
Housework	5.4%	86.0%	6.7%	98.1%	1.8%	100.0%
Cooking	5.6%	87.6%	4.6%	97.8%	2.4%	100.0%
Childcare	5.3%	77.1%	7.4%	89.8%	10.3%	100.0%
Fetch water	6.7%	79.1%	7.8%	93.6%	6.4%	100.0%
Sell produce	6.1%	75.2%	4.6%	85.9%	14.2%	100.0%
Sell livestock	24.4%	34.6%	22.3%	81.3%	18.8%	100.0%
Tend livestock	58.4%	11.7%	16.4%	86.5%	13.5%	100.0%
Garden work	58.7%	13.8%	20.9%	93.4%	6.6%	100.0%
Wage labor	2	5.8%	3.0%	33.2%	66.9%	100.0%

Source Schwartz 2009, chapt 12

Table 18: Child sexual division of labor in a Rural Haitian County (N = 1,482)						
Task	Male	Female	Both	Male, female, and	Neither	Total
Housework	11.7	49.2%	14.8%	75.7%	24.3%	100.0%
Cooking	12.4	46.9%	13.5%	72.8%	27.2%	100.0%
Childcare	9.8%	40.4%	12.3%	62.5%	37.5%	100.0%
Fetch water	13.4	28.7%	31.5%	73.6%	26.4%	100.0%
Sell produce	10.9	10.6%	10.1%	31.6%	68.4%	100.0%
Sell livestock	5.1%	22.1%	5.7%	32.9%	67.1%	100.0%
Tend	40.7	5.6%	10.2%	56.5%	43.5%	100.0%
Garden work	39.1	4.4%	9.2%	52.7%	47.3%	100.0%
Wage labor	5.6%	1.2%	1.5%	8.3%	91.7%	100.0%

Source Schwartz 2009, chapt 12

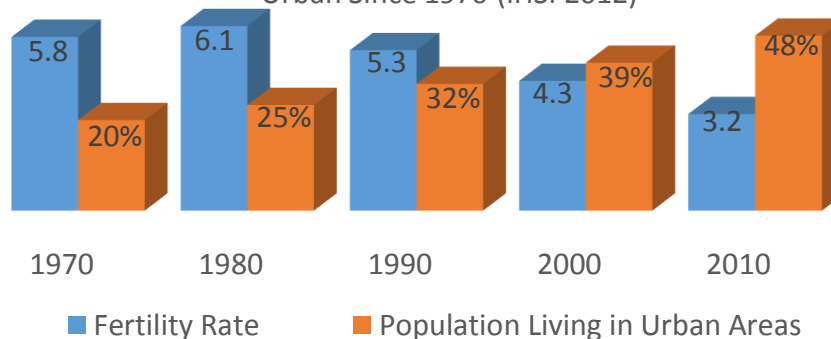
Table 19: Number of Children* in Household by Female Hshhd Head in Trades (N = 130)	
'children' 7 to 25 years of age in hshld	Hshdl where female head engages in itinerate trade
0–3 (n = 46)	54%
4–6 (n = 58)	82%
7+ (n = 26)	85%

* “children” is defined in rural Haiti not so much by age but along the two dimensions: 1) has children of own, 2) is a household head or spouse of

Ramifications of what is being described includes a logic for maintaining extremely high rates of childbirth (until recently among the highest in the world), emphasis on extended kinship relations, female acceptance of—and even pursuit of—polygynous unions with economically independent males (i.e. because they needed economic support to establish a household and rear the children to ages where they could contribute to the labor pool), emphasis on god-parentage (control over child labor in exchange for occasional support), and inter-household cooperative strategies, such as reciprocal meal sharing described by Alvarez and Murray and mentioned earlier on (see Schwartz 2009 for an extensive investigation of the topic). But now, with the extremely rate of high urbanization described earlier, these traditional strategies are buckling, fuel, labor, and time have become scarcer and new solutions are moving into the void.

It is in this context that there has been an explosion of the food specialists seen above and an increasing role for the prepared foods and imported “snacks” seen below. Specifically, the shift in dependence from traditional agricultural production to urban-based wage labor means adults are engaged in work away from the homestead and therefore not present to devote time to preparing the traditional mid-day meal. Plummeting childbirth rates (see Figure 13) mean fewer children are available to help prepare meals. And, increasing emphasis on education removes those children from the household labor force precisely during hours of the day most critical for preparing food.

Figure 22: Changes in Fertility Rate and Proportion of Population Urban Since 1970 (IHSI 2012)



It must also be understood that what is happening in Haiti in the face of these demographic changes is unique to Haiti vis a vis other countries in the region. For example, in the neighboring Dominican Republic labor saving strategies such as propane gas, piped water, and processed foods have offset the impact of urbanization and the changes outlined above. But in Haiti, because of the extreme poverty, a history of isolation, and elite monopoly on imports—seen shortly-- fuel, water, and access to processed foods are still “problems.” What this means for the household, particularly the urban-based household, is that it is increasingly difficult to muster the labor necessary to make a meal. Moreover, many household members would not be present to eat it. It is in this context that one can understand the role of Haiti’s many street foods, or what could be called traditional non-recreational snacks.

Snack and Street Foods



Photo 8: “Classic banana (10 gde) vendor”
boiled eggs (10gde) are in the silver pot,
peanut butter is under the bread, red jug is hot



Photo 9: *Pan Popilé: Ti Boul, Gwo Boul, and Wober*
(5 gde per piece)



Photo 10: Roasted peanuts (5 gde ~once)



Photo 11 Breadfruit nuts 5 & 10 gde bags bread



Photo 12: Popcorn (5 gde)



Photo 13: Plantain chips: a relatively
new and popular snack (5 – 10 gde)



Photo 14: Rapadou made from sugar cane
(20 gde and up)



Photo 15: Peanut butter (5 gde) and cassava
bread (5 gde)



Photo 16: Frying paté (5 gde)



Photo 17: Street vendor with paté from the bakery 5 & 10 size or 3 big'un for 25 gde



Photo 18: Marinad (1 gde per piece)



Photo 19: Frying and egg in the street 25 gde with bread



Photo 20: Marinad again, but note the akra (malanga & manioc flour sticks: 5 gde)

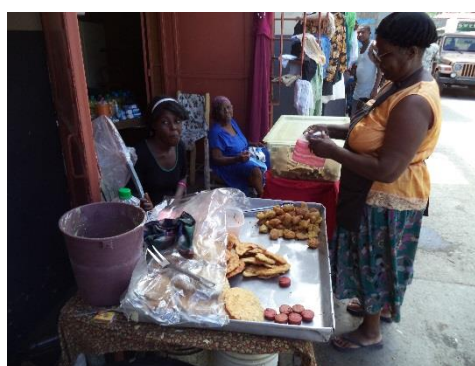


Photo 21: Marinad again , but note the hotdogs (10 gde)



Photo 22: *Pompket* fried and dried dough



Photo 23: Fried sweet potatoes and plantains competing with marinad



Photo 24: Fresh coconuts 25 HG



Photo 25: Sugar cane 10 gde



Photo 26: Dried coconuts (35-50 gde)



Photo 27: Yogurt, an new NGO (20 gde)



Photo 28: Women selling Cashew



Photo 29: boy eating a sugar *dous* (5 gde)



Photo 30: Woman selling clay and avocado, an incidental combination, (despite National Geographic and NYT claims to the contrary, no one in Haiti confuses dirt with food



Photo 31: Women selling ginger (5-10 gde), the all important spice in traditional sweet snacks, also makes a tasty tea that can be loaded with massive amounts of carbohydrate rich sugar



Photo 32: The Classic Haitian *tablet*, peanut cluster, 1 to 2 ounces (5 gde)



Photo 33: The Classic Haitian *dous*, this one with a pureed peanut butter blend peanut cluster, 1 to 2 ounces (5 gde)

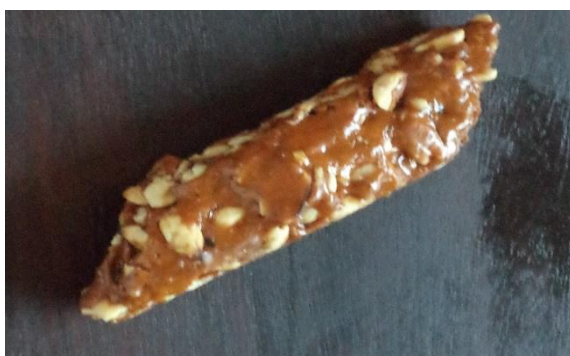


Photo 34: The *nuka* or *glase*, Haitian peanut Brittle (5 gde)



Photo 35: *Amidon* made from fine manioc flour (a veritable secret treasure,,well-made they fit right into with the finest Parisian treats)



Photo 36: A layout of traditional snacks

Some Close Ups of Classics



Photo 37: Peanut butter on cassava:



Photo 38: Breadfruit nuts



Photo 39: Fried manioc dough sticks



Photo 40: Fired wheat dough balls



Photo 41: Fried and dried wheat dough



Photo 42: Baked wheat flour with coconut

The Rise of Street Foods

With urbanization, towns, villages, and especially cities in Haiti have experienced an explosion in street foods. As early as 1983, a study of 174 Port-au-Prince secondary school students found they obtained 25% of their calories and 16% of their protein from street foods (Webb and Hyatt 1988). Eating street food has cost advantages. The 100 HG (25% the cost of the meal) that goes to buy fuel to feed a family of six can now be used to cook for 30 people. Contrary to developed countries where the rule of thumb for fast food and restaurant markups on food is 300%, in Haiti the economy of scale and intense competition among the thousands of restaurants and street vendors drive the markup down to less than 50% and, if the economy of scale on fuel and water costs is considered, 10% to 20% for a meal on the street, making it equal to or lower than the cost to make a similar meal at home (see Table 18 and see Annex 6 for price details).

Table 20: Street Food (see Appendix 6)					
Foods	Cost to entrepreneur To make 1 serving	Sale price of 1 serving	% markup without costs of labor and cookware	% difference home vs. street costs If consider fuel and water	Net % markup without costs of labor and cookware
Rice, beans, chicken	87	150	42%	~30%	12%
BBQ	87	125	30%	25%	5%
Patey (fried dough)	19	25	24%	20%	4%
Spaghetti	45	60	25%	25%	0%

To give an idea of the extent of the industry and items sold in Tables 19 and 20 is a list of vendors that we counted at intersections in Cape Haitian and in front of schools in Gonaives, and the foods they were selling.^{xlv}

Table 21: School Vendors in Gonaives (Schools= 19, Vendors = 48)	
Food Items	Vendors
Candv. cookies. puffs. gum	17
Bread	9
Fried dough	9
Sugar drinks	8
Peanut butter	6
Bananas & eggs	2
Oranges. guavava	4
Roasted peanuts	3
Coconut peanut mix	1
Water	2
Rice and beans	1
Coffee	1
Yogurt	1
Other	2

Table 22: Intersection Vendors Cape Haitian (Intersections = 18, Vendors = 59)	
Food Items	Vendors
Bread &/or casava	16
Banana & Eggs	12
Avocado	10
Peanut butter	10
Rice and beans	10
Sugar drinks	13
Cookies. Crackers. Suckers. gum	9
Coffee	5
Roasted peanuts	5
Breadfruit	4
Water	4
Processed cheese	3
Puffed cheese snacks	3
Milk	2
Powdered juice	2
Coconut clusters	1
Oranges	1
Peanuts clusters	1

NOTES

ⁱ IRIN 2010 Haiti: US Remittances Keep the Homeland Afloat. UN Office for the Coordination of Humanitarian Affairs <http://www.irinnews.org/report/88397/haiti-us-remittances-keep-the-homeland-afloat>

ⁱⁱ <http://www.worldlifeexpectancy.com/cause-of-death/malnutrition/by-country/>

ⁱⁱⁱ see Nestle site for summary of impact of first 1,000 days, <http://www.nestlenutrition-institute.org/Resources/Library/Free/theNest/nest31/Pages/Nest31.aspx>

^{iv} Resistance to exclusive breastfeeding and inadequate knowledge regarding treating child malnutrition are areas where intervention programs are many, where they have long had a significant impact, and where it is believed there is ample room for continued investment. (USAID 2014).

Roman S.B. (2007). Exclusive Breastfeeding Practices in Rural Haitian Women. UCHC Graduate School Masters Theses 2003–2010. Paper 141.

^v Inter-American Development Bank (1999). Facing up to Inequality. Washington D.C.: Inter-American Development Bank.

^{vi} Specifically, it was enough to meet the nutritional needs of the entire population of Haiti for twenty-seven days per year.

^{vii} DeWind, Josh and David H. Kinley, 1988 Aiding Migration: The Impact Of International Development Assistance On Haiti 3rd

^{viii} Between the early 1980s and 2000 the Haitian government, largely guided by USAID, invested only 5% of it's budget in the agricultural sector while investing heavily in industry. At the same time food aid flooded into the country.

^{ix} In 2008 petroleum prices increased and with it so did global food prices, precipitating riots in developing countries around the world, not least of all Haiti. With that unrest came a wide spread agreement that food aid may indeed be anathema to development. A concomitant and abrupt about face in development policies ensued. The same year the USG launched its new program, *Feed the Future, Global Hunger and Food Security Initiative*. The goal was to make countries "food sovereign", meaning self-sufficient. It was a radical change from 10 years earlier when USAID website assured visitors that food-aid helped move developing countries away from being food producing countries and into being food consuming countries that bought US produce.

WFP also changed strategies. Since its inception in 1961 the primary goal of the United Nations World Food Program (WFP) has been to provide food assistance to those most vulnerable to hunger, usually women, children, the sick and the elderly. Similar to the USG, with the 2008 Global Food Crisis WFP made what it called a "historical shift" from a food aid agency to a food assistance agency. WFP now strives to eradicate hunger and malnutrition, but with the ultimate goal in mind of eliminating the need for food aid itself. WFP's strategic plan for 2008-2013 lays out five objectives for the organization:

1. Save lives and protect livelihoods in emergencies
2. Prevent acute hunger and invest in disaster preparedness and mitigation measures

3. Restore and rebuild lives and livelihoods in post-conflict, post-disaster or transition situations
4. Reduce chronic hunger and under-nutrition
5. Strengthen the capacities of countries to reduce hunger, including through hand-over strategies and local purchase

In September 2008 WFP launched a program that helps small farmers access agricultural markets and to become competitive players in the market place. It reinforced programs that improved agricultural production, post-harvest handling, quality assurance, group marketing, and agricultural finance. WFP then signed contracts for more than 207,000 metric tons of food valued at US\$75.6 million, all from producers in 20 developing countries. Haiti was not one of them.

In Haiti WFP provides an excellent example of the difficulty in changing practices and honing them to promote production. While there has been much talk of purchasing locally, in the year following the earthquake WFP imported over 300,000 tons of surplus food from developed countries. The cost of the operation in food and money spent on transport and administration was US\$475 million. They bought no Haitian rice. But it would have been a good deal: it sold for US\$13.27 per sack in 2010, two thirds what it sold for before the earthquake.

None of this is to say that WFP does not want to buy local. In November 2011, high level WFP directors in Washington and the WFP/Haiti country declared an interest in purchasing locally. The problem, they pointed out, is organizing dependable supply systems.

CARE International published a 2006 white paper distancing itself from food monetization as not compatible with the interests of the people it sought to help. As a consequence CARE no longer had the funds for its other programs, and thus withdrew from most of its NW Haiti activity zone. CARE reconfigured its aid strategy, partnering with the Haitian government organization PRODEP and focusing on Community Driven Development, disaster relief, and assistance to HIV infected individuals and their families. CARE continues however to participate in widespread food distribution.

* Beghin, Fougere and King, 1970 History of AKA1000 in Haiti Drs. Warren and Gretchen Berggren 2005 gberggren@aol.com

Institute Haitien de L'enfance et al (2000),

King, K.W., Fougere, William, Foucald, J., Dominique, G., and Beghin, I (1966) Responswe of [preschool children to high intakes of Haitian cereal-bean mixtures. *Arcivos Latinoamericanos de Nutricion* 16:1. pp 53-64.

King, K.W. Fougere, W., and Beghin, I. (1966) Un Melange de proteines vegetales (Ak-1000) pour les enfants haitiens. *Ann Soc. Belge Med. Trop.* Vol 46, 6, pp 751-754.

Beghin, I, Fougere, W., King, K.W. (1970), *L'Alimentation et la Nutrition en Haiti*", publication de L'I.E.D.E.S., Presses Universitaires de France, 108, Blvd. Saint-Germain, Paris.

^{xi} Fintrac 2010, p 16. 52

^{xii} See Berggren et al. 1984; King et al. 1968; 1978; Berggren 1971, Beaudry-Darismé 1971; Beaudry-Darismé and Latham 1973; Berggren et al. 1985; Mduduzi N.N. 2013; Dornemann and Kelly 2013; Schwartz 2009

Marie T. Ruel, Cornelia Loechl, Purnima Menon, and Gretel Pelto (2003) "Can Fortified Donated Food Commodities Significantly Improve the Quality of Complementary Foods?" International Food Policy Research Institute, Washington, D.C. Contact author at m.ruel@cgiar.org.

^{xiii} In practice fortified foods have also come for general relief. And because of the sheer bulk of the food provided, both general feeding and poorly controlled targeting of mothers and children have been widely criticized as negatively impacting local agricultural production. Even in the case of imported fortified foods, critics and production minded observers lament imported foods as lost opportunity to encourage local production and what has come to be known as food sovereignty. The importance of this trend cannot be gainsaid because if it is true then what is occurring is that short-term nutritional programs have been undermining long-term efforts to address malnutrition and under-nutrition, and the economic development that can help Haitians overcome these problems. Because of the importance of these issues, the points are elaborated below.

^{xiv} HarvestPlus 2013 Prioritizing Countries for Biofortification Interventions Using Country-Level Data HarvestPlus Working Paper | authors, Dorene Asare-Marfo Ekin Birol Carolina Gonzalez Mourad Moursi Salomon Perez Jana Schwarz and Manfred Zeller

CIAT 2015 AgroSalud Project (www.AgroSalud.org)

^{xv} The Guardian 2015. The west's peanut butter bias chokes Haiti's attempts to feed itself Guardian Global development <http://www.theguardian.com/global-development/2014/jul/10/haiti-peanut-butter-food-aid-malnutrition> Accessed, 1/03/15

^{xvi} ORE Organization For The Rehabilitation Of The Environment Biofortified staple food to help reduce malnutrition

^{xvii} Alvarez and Murray (1981) identified food categories that closely resemble western categories with three principal categories of *viv* (starchy vegetables and cereal, and pastas), *legim* (non starchy vegetables), and *vyann* (meats). In our own research we found similar, but not identical groups. (as Alvarez and Murray did, as it appears to have been on the part of Alvarez and Murray themselves, as researcher seeking classification and order, rather than their informants).

^{xviii} Nor do Alvarez and Murray 1981, find that popular class Haitians have an all-inclusive food categorizations system. Alvarez and Murray take it upon themselves as researchers to complete the categories while admitting that the informants do not make such a complete categorization.

^{xix} With the exception that while Alvarez and Murray found their informants sometimes lumping grains with *viv*, the latter which they identified as 'vegetables', we found that they keep grains and *viv* distinct. We also identify *viv* as a sub category of vegetable—what we call 'starchy vegetables' vs. green vegetables—something that is arguably closer to the scientifically appropriate categorization than the US lumping of these foods into a single category of vegetable (green vegetables have little to do nutritionally with starchy vegetables such as potatoes, or plantains).

^{xx} In the following analysis, we try to make sense out of Haitian food categories and consumption by identifying local categories that make the most sense in terms of our own experiences and those of people we interviewed and developed. It is important to emphasize in organizing and understanding the data that we give precedence to local categories. Thus, some categories such as fried pork vs. fried beef and goat may appear identical and could best be lumped together, but the fact that Haitians make a clear distinction in the foods and their value prompted us to break them into distinct categories. In this example, fried pork is called *griyo* while Haitian lump fried goat and beef into the category of *taso*. Thus, we did the same. See Annex 3 or more details

xxi

Table N1: Wheat Foods		
How the	Wheat food type	Food accompaniments
Baked	Bread	Peanut butter, peanuts, banana, coffee, sandwich (meats, cheeses)
	Bread	Cheese, milk, hot chocolate, coffee, sweet corn meal, soda, sugar
	Bonbon dous	0
	Bonbon sel	Peanut butter, cheese, jams,
Fried	Paté	Smoked herring, salami, hotdog, pikliz (spiced coleslaw w/o
	Marinad	pikliz (spiced coleslaw w/o mayonnaise), meat sauce
Boiled	Boy	Soup, stew
	Espeghetti	Tomato sauce, bread, smoked herring,
	Boy olé	Milk

xxii Yet another type of rule that seems to be underpinned with nutritional logic is that traditional work parties –house-building, boat hauling and agricultural labor groups—must be provided with rum, the highest source of immediate food energy.

xxiii Observations from Alvarez and Murray (1981) support this point although they add that some respondents in their research community would consider a lone *viv* or grain as the bare minimum criteria for a meal.

xxiv The point can be taken to somewhat of an extreme in noting that the most commonly planted foods are also those present in Haiti for the longest time.

Table N2: The Most Commonly Plant Crops (n = 1,539)					
Crops Planted	Origin	Percent Farmers	Crops Planted	Origin	Percent Farmers
Corn	Taino/Americas	87.9	Yam	Africa, Asia	2.6
Beans*	Taino/Americas	70.8	Okra	Africa	2.5
Sweet Potato	Taino/Americas	59.1	Taro & A. Root	Taino/Americas	2.0
Cassava	Taino/Americas	44.9	Castor Bean	Africa	1.8
Peanuts	Taino/Americas	39.1	Egg Plant	Asia	0.9
Millet and	Africa, asia	32.1	Carrot	Brittish Isles	0.5
Pumpkin		20.6	Tomato	Taino/Americas	0.4
Plantain	Phillipines	8.7	Echalot		0.3
Sugar Cane	Asia	7.2	Squash	Taino/Americas	0.3
Water Melon	Africa	6.0	Other		5.6
Sesame	Africa, Asia	3.4			

xxv According to the 2005 USDA Dietary Guidelines for Americans, “A low intake of fats and oils (less than 20 percent of calories) increases the risk of inadequate intakes of vitamin E and of essential fatty acids and may contribute to unfavorable changes in high-density lipoprotein (HDL) blood cholesterol and triglycerides.” For children the recommendations are 25 to 35 percent.

^{xxvi} In a WHO (2009) summary: The richer a country the more fat its people consume. Of the 24 countries found above the maximum recommendation of 35%, the majority of were in North America and Western Europe. The population of the only 19 countries on earth that consume an average of less than 15% fat in their diet were in sub-Saharan Africa and South Asia. Much of the population of Haiti would fall in this latter group.

How FAO arrives at per capita consumption and how they arrive at recommended per diem fat consumption is beyond the scope of this report. It is be assumed that the prevailing methodologies are logical and sufficiently supported by academic research.

^{xxvii} The best way to describe Haitian treatment of edible oil is ‘trying to inject as much oil as possible.

- The standard rice, beans and meat sauce illustrates the point. Meat, such as chicken, is first boiled in water and oil; when the meat is cooked they then fry it in oil. The original water together with the vegetable oil and the animal fat is not discarded but used to boil rice and or make bean sauce. In both cases additional oil is added and before rice is completely cooked the chef will often *wouzé* (sprinkle) more oil on the rice, and then *toufé* (smoother) the rice (meaning seal the pot with a plastic bag) for the final 5 to ten minutes of cooking.
- Meat sauce takes the case even farther: literally swimming in oil, Haitian sauces are best described not as meat, spices, and onions heavily embedded with oil but oil embedded as much as possible into the oil (point being that oil is the primary component)
- Treatment of spaghetti also supports the point. Haitians informants consistently said, “spaghetti doesn’t like oil” (*spaghetti pa reme lui!*). By which they mean that noodles will not absorb much oil.
- Eggs are literally drenched in a soup of oil;., doe (*patay*), sweet potatoes, bread fruit, plantains, and pork are all deep fried in oil and are street and bus stop favorites in Haiti.

This lack of oil in the diet and attempt to inject as much as possible into food leads many observers—myself included before this research—to think that Haitians are getting too much oil in their diet. Bailey (2006:6) generalized this observation to conclude that, “Haitian cuisine traditionally makes a liberal use of cooking oil, especially for meat and fish products, well beyond the daily caloric intake requirement... as much as family income permits.” However, as stated in the text, if USAID nutritional requirements can be accepted, the impoverished Haitian masses are best described not as ingesting large and unhealthy quantities of vegetable oils, but rather as desperately trying to get enough. Short of guzzling it—something that would present other gastronomic problems—the only way to do this is to saturate foods.

In summarizing, would warrant repeating that in contrast to the caveats of other Westerners who tend to be appalled by the copious amounts of oil used in the cuisines of impoverished Haitians, most Haitians are in much greater danger of not getting enough fats and oils in their diets rather than getting too much. Atherial Schlerosis and ... are afflictions developed world afflictions associated with what is called the epidemiological transition—the transition from low life expectancies where people are killed by infectious and contagious viral agents –to one where people are long-lived by plagued by chronic diseases In Haiti heart disease is arguably an affliction of the successful few and overweight “big men” and *marchann*.

^{xxviii} The most recent break down on frequency of purchases and expenses that I could find, in order of important,

Frequency: Cooking oil, bread, rice, brown sugar, plantains, beans, tomato paste

Expenditures: Rice, beans, cooking oil, plantains, bread

Source: Jensen, Helen 1990 Food consumption patterns in Haiti Center for Agriculture and Rural Development. Iowa State University Staff Report 90-SR 50

^{xxix} Notable recent examples of change in availability of foods in Haiti are the demise of the informal milk industry. People interviewed during the course of field work remember street vendors sold milk out of milk pails in the 1960s and 1970s. Thus, while a high esteem for local milk remained, the domestic milk industry disappeared during the 1980s. Another common food that has largely disappeared in the past two decades are ready to eat oranges. A common sight in front of schools in the 1970s to 1990s where male vendors selling oranges out of wheel barrows. The men skinned them so that only the tender and non-acidic white protective pulp remained and then sold them to school children.. Today mandarins (tangerines) are more common The source of the change in the domestic milk industry can be understood in the context of declining soil fertility, erosion, and the resulting lower milk yields ultimately leading to a replacement of domestic milk on the urban market with imported condensed and powder milks. The disappearance of oranges and emergence of the mandarin is related to NGO programs that promoted the planting of easily peeled and mandarins vs the traditional sweet oranges.

^{xxx} What's in Your Wiener? Hot Dog Ingredients Explained By Katherine Harmon Courage | July 2, 2011 | <http://blogs.scientificamerican.com/observations/2011/07/02/whats-in-your-wiener-hot-dog-ingredients-explained/>

^{xxxi} The point cannot be gainsaid. Haitians are extremely nationalistic in there food preferences and, whether a derivative of patriotism or not, they tend to be highly idealistic in their appreciation for organic and natural foods. It should also be understood however, that they are just as extremely simplistic and conservative. Contemporary main staples have been part of the diet for over two centuries. Indeed, many of the main Haitian staple foods were here during pre-Columbian times, such as sweet potatoes, manioc, cassava bread, peanuts, pumpkin, and corn. Even imported herring and cod have been around since colonial times (some argue are the foods that made long colonizing ocean voyages possible; see *The Fish That Changed the World* by Mark Kurlansky Walker).

^{xxxii} Food consumption patterns are governed by cultural specific rules. These rules have to do with nutritional combinations (such as the nutritional balancing of the main meal), cost and availability of products (as in the combination of sugar and bread and the saturation of with edible oil of any food stuff that will readily absorb it), and to the efficiency of preparation (as illustrated by trends such as pre-processed foods eaten in the morning and more elaborately cooked foods in at mid-day, fried foods in the evening, and boiled foods before bed).

Although to consummate such an analysis would require input from someone with deeper knowledge of nutrition than the authors, it is tempting, with all the examples of protein, carbohydrate and fat mixtures given above, to posit a guiding principal of nutritional efficiency in Haitian food: *minimal mixing to obtain a sufficiently powerful combination of least expensive nutrients.*

^{xxxiii} The impact of this turmoil has been compounded by Haiti's isolation. Haitians are stuck on an island surrounded on three sides by water that for most of history few people have dared to cross, in either direction. On the remaining side is a neighbor that once, under the influence of a despotic dictator, dispatched convicts, prisoners and military to massacre, with blades and in the space of three days, 25,000 of those ethnic Haitians living on wrong side of the border.

^{xxxiv} Important in understanding how these markets function bipolar economy is an internal rotating market system (the open air markets found throughout the country) that serves as a redistribution

mechanism for domestic produce as well as imported staples. As described above, the imported goods reach the markets through the same second-tier distributors that service the formal network from urban markets to rural ones. The local foods move in the opposite direction, from rural countryside, to village markets, to regional market, to urban market (see Figure X below). Typically, local produce is taken to market by a member of the household and/or sold to an itinerant intermediary (Madan Sara), who then travels to a rural or urban market, or sells directly to a market vendor or other reseller, who then sells to the consumer (Figure Y). Markets in provincial towns and the countryside are held on different days. As one moves up the chain from very rural to town to city, market days tend to increase from once to twice or more weekly, to the point where they typically open every day in urban areas.

^{xxxv} It is an ancient system with roots in subsistence gardens of colonial era slave system but that in the wake of independence evolved into a burgeoning market system that for most of the past 200 years has been the backbone of the Haitian economy and household livelihood strategies.

^{xxxvi} The system is such that women may sell daily small quantities of items produced by the household- such as eggs, manioc or pigeon peas. But the prevailing strategy is for one women to specialize in a particular item, such as limes, buy small quantities from multiple farms, accumulate a profitable quantity, and then take them to market or sell them to another intermediary higher up the chain, one more heavily capitalized, who accumulates greater quantities and who is likely destined for a larger town market, city or, the holy grail, Port-au-Prince.

^{xxxvii} The important point for the analysis and understanding how to target interventions is that while this is a market system, it is emphatically not oriented towards “wants,” but rather subsistence and local production. The overwhelming bulk of products sold are inexpensive, locally produced and somehow related to production and subsistence; with respect to the profits that the *machann* earns, the bulk of the money is destined for reinvestment in commerce, other income generating enterprises – such as fish traps – or spent on subsistence foods and necessities for the household and, ultimately, the growing '*mama lajan*' (literally "mother money," or more technically, the principal or capital) preserved for economic recuperation during times of crisis.

^{xxxviii} Webb, Ryland E. and Susan A. Hyatt 1988 Haitian street foods and their nutritional contribution to dietary intake Ecology of Food and Nutrition Volume 21, Issue 3, 1988

^{xxxix} Some of the ‘food preparation’ value chains involve three and four key specialists between producer and consumer, such as peanut butter: the person who shells the peanuts, the person who specializes in milling them to make peanut butter, the market woman who makes it in bulk and the vendors who sell it spread on wheat or cassava bread

Table N3: Merchant Responses by Outlet Type

	Freq.	Percent
Depot	32	19%
Market	41	24%
Store	90	53%
Street	6	4%
Total	169	100%

^{xi} Origins of consumers in the 1,091 respondent survey from 10 Communes in the Plateau Central

Table N4: Consumer Responses by Living Environment		
	Freq.	Percent
City	56	5%
Countryside	684	63%
Town	350	32%
Other	1	0%
Total	1091	100%

^{xli} Thus, while a bowl of cooked and salted potatoes would not constitute a meal in the US, it might qualify as such for some Haitians. None of the preceding should, however, be interpreted to mean that population class Haitians do not share the Western ideal of a “complete meal.” As seen shortly, at least one daily nutritionally balanced food consumption “event” is considered essential.

^{xlii} See Society for Nutrition Education July 25th, 2010 Danielle Dalheim, RD
http://www.sneb.org/conference/documents/Frito-Lay_Coffee_And.pdf

^{xliii} Either one simply barter for a quantity out of a sack or one can buy it by the mammit: 25HG per mammit. 3 to 4 mammit (~1.5 to 2 gallon jugs) of charcoal to cook a meal for household of 5 to 6 people. At 25 HG per mammit, that 75 HG, or US\$1.50

^{xliv} In the context of socialization for scarcity and the objective of understanding popular class Haitian’s attitudes and practices regarding food some mention must be made about concern and attentiveness to cooking. Although the evidence is circumstantial, the extremity of food preparation techniques, particularly with regard to meats and fish, seem particularly targets to deal with the unhygienic streets, market places and kitchens where the food is processed. For example, meats are washed with lime or sour oranges, boiled, fried and then embedded in a sauce. Spaghetti is boiled and then sautéed... Many street foods are fried...

Another aspect of cooking strategies is that there are times of day when certain cooking strategies prevail. No morning foods are grilled, some are fried but most are boiled. such as coffee, chocolate, porridges, plantains and bananas. Mid-day meal foods are all boiled and sautéed, never fried or grilled. All notable afternoon and evening foods are fried or grilled. All notable bedtime foods are boiled.

^{xlv} The counts are only meant to be illustrative. Many items, such as processed cheese and condensed milk, were missing because they are often buried in vendor baskets. There is also the issue of timing: the surveys were conducted late in the morning. Had they been conducted earlier we would have expected more vendors of banana, eggs, bread and peanut butter. Also absent were seasonal items such as mangos, which were not in season at the time of the survey. Following the data from the vendor surveys are three pages of photos and food prices to give the reader a sense of actual foods and their costs.