

**Food Consumption Patterns in Haiti:
Evidence from the Haiti Household
Expenditure and Consumption Survey**

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EXECUTIVE SUMMARY

Effective evaluation of food pricing policies and other food policy issues requires accurate information on food consumption patterns and expenditures. This report documents food consumption patterns based on the 1986-87 Haitian Household Expenditure and Consumption Survey (HECS) conducted by the Institut Haitien de Statistique et d'Informatique (IHSI) with support from the U.S. Agency for International Development (USAID/Haiti). The report investigates food consumption patterns including total food expenditures and food budget shares, sources of food, food expenditures by major food group, expenditures for food consumed outside of the household, use of food inventories, and frequently consumed food items.

Based on the 1986-87 HECS, the estimated per capita annual total expenditures were \$472. Of the total, an average of 56 percent went to food expenditures. Total household expenditures were considerably lower in rural areas than they were in urban areas. For households in rural areas, 62 percent of total expenditures went to food, compared with 40 percent in urban areas.

Most food in Haiti was purchased by the household. But like other developing countries, informal transactions were important as sources of food for some households. Harvested and gift sources represented relatively large shares of total food value for small, low-income, and rural households. Food obtained through harvest was relatively important for those in rural areas, especially in the north and south.

Food expenditures varied among food groups as well. Meat, cereals, and vegetables had the largest share of expenditures. As expected, the food expenditure value increased with household size and income. Purchased meals were a relatively important source of food (as measured by high share of total food expenditures) for one- and two-member households, although they were more important in urban areas than in rural areas. The majority of households did not report household inventories or food stocks. For those that did, rice, cooking oil, and salt were most frequently reported.

An analysis of individual food items showed that a relatively small number of foods represent a large share of household purchases when ranked by frequency and share of expenditures. Although some variation existed among regions and location, the most important individual food items ranked by frequency of purchase were cooking oil, bread, rice, brown sugar, green bananas, dried peas, and tomato paste. Among those ranked by expenditure, the most important were rice, dried peas, cooking oil, green bananas, bread, goat, yams, and chicken. Seasonal variation in the rankings occurred although rice, bread, green bananas, dried peas, and cooking oil ranked consistently among the most important items by expenditure throughout all seasons.

Estimation of expenditure elasticities showed elasticities for total food in the range of 0.41-0.75, depending on the functional specification used. Most food groups were estimated with expenditure elasticities less than 1.0; the highest elasticities were estimated for the dairy and meat groups.

FOREWORD

The Institut Haitian de Statistique et d'Informatique (IHSI), with support from the U.S. Agency for International Development (USAID), implemented a nationwide Household Expenditure and Consumption Survey (HECS) in 1986. Socioeconomic data were gathered to analyze nutrition, welfare, food pricing policies, and other issues related to Title III and to provide IHSI with data to calculate consumer price indexes and national accounts. Data were gathered from November 1986 through September 1987.

The 1986-87 HECS gathered data on food and nonfood expenditures, the value of food consumed from home-produced supplies and from gifts, expenditures on food consumed outside of the home, the use of households in food inventories, and household characteristics as well as other types of household information. This background paper details the food consumption patterns reported through the survey. This is one in a series of background, policy, and methods papers produced by the Center for Agricultural and Rural Development, Iowa State University based on the Haiti HECS.

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FOOD CONSUMPTION PATTERNS IN HAITI: EVIDENCE FROM THE HAITIAN HOUSEHOLD EXPENDITURE AND CONSUMPTION SURVEY

Effective evaluation of food pricing policies and other food policy issues requires accurate and complete information on food consumption patterns and expenditures. This information is especially important in Haiti, a country with widespread hunger and continuing food deficits (Deaton and Siaway 1988). Despite the need for information, relatively little data have been available to substantiate nationwide conditions of food consumption and distribution for the country's population since 1958 (Sebrell et al. 1959). Later studies have been relatively small-scale, confined to specific geographic areas, or concentrated on selected population groups, especially young children. While such data can be used to update information about selected targeted groups for food or nutrition programs, they may be inappropriate for establishing the basis for national food policy, program development, and evaluation. Lacking a current and comprehensive database, analysts have described food patterns by numbers on food supply and by specialized (and occasionally ad hoc) adjustments to existing survey data. This report documents food consumption patterns reported in a recently completed nationwide survey, and is intended to establish baseline information on the current food consumption situation in Haiti. Furthermore, the data can be used to validate the consistency in consumption patterns described in earlier surveys.

The nationwide Haiti Household Expenditure and Consumption Survey (HECS) was conducted by the Institut Haitian de Statistique et d'Informatique (IHSI) with support from the U.S. Agency for International Development (USAID) during November 1986 through September 1987. This period followed the departure of President Jean-Claude Duvalier in February 1986, and coincided with a time of generally deteriorating economic conditions, major tariff reductions in March 1987, and increased levels of contraband trade. While these conditions affected smooth survey operation, there

is little evidence to suggest that the changes had a significant impact about the consumption patterns of the average Haitian. Furthermore, the need for information on consumption patterns has become even more critical.

This report investigates food consumption patterns, including source of food, food expenditures by major food group, expenditures for food consumed outside of the household, use of food inventories, and identifies frequently consumed food items for selected socioeconomic groups and geographic regions. The paper is organized into a brief review of two major previous food consumption studies in Haiti; an overview of survey methodology; a tabular analysis of food data and consumption patterns, including a description of the findings; and initial estimates of food expenditure income relationships based on the findings.

Previous Studies

Two major nationwide food consumption and nutrition surveys, as well as several other smaller studies, have provided the available data on Haitian food consumption patterns (Table 1). All are either out of date, or limited by population surveyed or small-scale survey design. The two surveys most useful for comparison are Sebrell et al. (1959) and the dietary report of the Haiti Nutrition Status Survey 1978 (USAID 1979).

The Sebrell et al. survey was a comprehensive nutritional field survey conducted throughout the country in 1958. Dietary histories were collected on households from part of the sample (168 households). The dietary survey data showed corn, millet, beans, rice, and bread as important foods in the diet. The study noted a tendency for rice consumption to be overreported and millet to be underreported, due to the social status attached to their consumption. Millet was consumed more than rice in the rural diet. Among other foods, milk, mangoes, avocados, and sugar were important in the diet. Average per capita daily calorie intake was calculated to be 1580 (with no adjustment for

intakes by age). Some differences by market day were observed in food patterns, especially for the purchase of meat (beef, goat, and pork) and fish.

The 1978 AID-sponsored nutrition survey, conducted from June to September 1978, included detailed nutrition information, data on the consumption of food for preschool children, and data on food availability for locally produced and processed foods. The findings are summarized in Figure 1. This survey showed that almost all categories of foods were available throughout Haiti, although seasonal variation for locally produced goods and high prices may have limited access to some food items. Among processed foods, oils, sugars, and bread were widely available by regions and in rural areas. Urban/rural consumption differences were marked. Preschool children in rural areas consumed relatively more cereals and tubers (and more fresh milk) than those in Port-au-Prince; children in the urban areas consumed more bread, meat, sugar, and flour. Of course, preschool children's consumption patterns do not fully describe the food consumption behavior of the overall population.

The Household Survey

The Haiti Household Expenditure and Consumption Survey (HECS) was conducted from November 1986 to September 1987 in order to provide for more current expenditure and food consumption data. The survey was carried out by the Institut Haitian de Statistique et d'Informatique (IHSI) with the support of USAID, the U.S. Bureau of the Census, the U.S. Department of Agriculture, and the Center for Agricultural and Rural Development (CARD) at Iowa State University. IHSI implemented the survey with assistance from the Census Bureau. The procedures for this survey are summarized in *Procedural History* (Bureau of the Census 1988).

Survey Design

The unit of observation for the HECS was the household, with the sample drawn with a two-stage probability sample design from the population of all Haitian households. The first stage was stratified by geographic areas (four planning areas divided by urban and rural, and Port-au-Prince) and by socioeconomic characteristics (for urban areas by income; for rural areas by ecological zone corresponding with socioeconomic characteristics). Initially, 312 target enumeration areas (SDEs) were designated, with data to be collected in 13 four-week periods through the year. In the second stage of sampling, 10 households (housing units) were drawn randomly within each SDE.

In total, interviews were conducted in 260 SDEs. This report includes data on 216 enumeration areas, providing data for the first nine periods of the survey (Table 2). Data for periods 10 and 11 were collected, but not available for processing at the time of this report. Including substitutions, the overall household response rate for the 11 periods was nearly 94 percent (Table 3). From nine periods of data, 2,079 households were available for analysis.

The survey was conducted throughout the 11 months. Each household was interviewed four times during a one-week period and asked questions about food expenditures, other expenditures, and other selected information. The interviewer surveyed the local market to obtain market prices for items reported as expenditures in the interview period (i.e., within the SDE). Visits were made to each survey household on Tuesday, Thursday, Saturday, and Sunday.

During each of the four visits, households were asked to report on recalled food expenditures, the value of food consumed from home stocks and gifts, and expenses for food eaten outside of the home. Other information was collected on a predesignated schedule by day of interview. Food inventory information was collected on Tuesday (day 1) and Sunday (day 4); nonfood expenses on Thursday (day 2). The data were collected in randomly identified SDEs throughout the country each

period. In effect, each month was a "mini-survey." And thus, the interviews throughout the year accounted for seasonal variability in consumption and expenditures.

The completed survey instruments were returned to IHSI for checking, key punching, and verification. A preliminary edit program was written for use at IHSI, but never fully implemented. Instead, the raw data tapes were sent to CARD at Iowa State University for reformatting, editing and range checks, and processing into analytical files. These procedures are described in "The Editing and Processing Report for the HECS" (Stampley, Jensen, and Johnson 1989).

Weighting

Weights were assigned to each household in order to insure the representativeness of the sample, and to obtain unbiased sample population parameter estimates. For each sample household, the final weight consisted of the product of the basic sampling weight and an adjustment factor to reflect changes in the status of the sample household between the stages of listing the household and the interview (Bureau of the Census 1988). The sample within each of nine substrata (five regions, and urban/rural designation) was approximately self-weighting. The weights varied significantly among the strata. The household weights were adjusted at CARD to reflect the use of nine months' data instead of the originally designed 13 "months."

Analysis of Food Expenditure Patterns

Data Gathered

The HECS questionnaire covered:

- housing characteristics and expenditures;
- general and economic characteristics of household members;
- inventory of food on hand at the beginning and end of the week;

- food expenditures and value of food produced at home or received as gifts, collected four times a week;
- expenditures for food consumed outside of the household;
- expenditures for nonfood items;
- agricultural production and expenses; and
- health characteristics and expenses.

This report focuses on food consumption patterns. Individual food items were grouped into food groups, and compared using a set of classification variables.

Household Size. Individual household members include all those who typically lived with the head of the household. Categories were defined according to the total number of household members reported.

Total Expenditures Group. Total expenditures for each household were calculated on an annual basis by summing all reported household consumption expenditures, appropriately weighted to reflect the annual value. The total expenditures were used as a proxy for total income. The data are reported in gourdes, the local Haitian currency, with a fixed exchange rate of 5 gourdes = \$1.

Region and Location. Several classifications by region and location were identified, based on the survey stratification categories. The region groups are the four planning areas and Port-au-Prince, the capital city:

- North;
- Transversale;
- Ouest (West), not including Port-au-Prince;
- South; and
- Port-au-Prince.

Area locations included two types of designations: “urban” and “rural,” as well as “other urban,” “Port-au-Prince,” and “rural.” The two different types of classifications were used because, for many comparisons, the Port-au-Prince patterns were markedly different from the smaller urban areas.

Characteristics of the Household Head. Both the reported occupation and employment status of the household head were used to classify the household. These classifications provide information on the long-run status and socioeconomic classification of the household, and can be used as indicators for household budgets.

Food Groups. The HECS contained 85 prespecified food items as well as space to add others. In total, 265 food items were reported in the survey. The identified food items were aggregated into 11 food groups. These food groups were based on the structure of IHSI codes.

Meats, poultry, and other meat products (group 06, 07)—all different meats and meat products, and fish and fish products.

Dairy products (part of 05)—milk, cheese, other milk products, and eggs.

Oils and fats (group 05)—consists of cooking oils, margarine, and lard and other grease products.

Cereals and cereal products (group 01)—corn, wheat, rice, millet, and other grain and grain products.

Starchy roots, tubers, and related products (group 02)—root crops and starchy vegetables.

Vegetables (group 03)—fresh vegetables, both dry and green peas, as well as processed vegetable products including tomato paste.

Fruits (group 04)—fresh and processed fruits and juices.

Sugar and sugar products (group 08)—raw sugar, sugar cane, rapadou, honey, and other sweet products.

Miscellaneous and condiments (group 09)—miscellaneous and other food products including condiments.

Beverages (groups 09, 10)—coffee, tea, and other alcoholic and nonalcoholic drinks.

Purchased meals—reported expenditures by all household members of meals and snacks purchased away from home.

The set of food groups covers all reported expenditures for food by the household, the value of food received as gifts, and the value of food produced at home and consumed within the survey week. Households were asked to approximate the value of food produced at home or received as gifts. Food group budget shares were calculated as the expenditure or value by food group divided by the total food expenditure or value.

Total Expenditures and Total Food Expenditures

Estimates from the 1986-87 household survey indicate an average household total expenditure of 11,483 gourdes (or \$2,297) per year, as shown in Table 4. When divided by the average household size of 4.87 people, this yields an estimate of \$472 per capita total expenditure for 1986-87. This includes the estimated value of food consumed from home-produced sources. As shown later, estimates for urban areas were higher; estimates for rural areas were lower.

Are the estimates reasonable? There are widely differing estimates of gross national product (GNP) per capita or gross domestic product (GDP) per capita. The 1985 World Bank Situation Note indicates GNP per capita in 1983 for Haiti to be \$320. Later World Bank estimates for FY1987 indicate GNP per capita at \$360.

Why is \$472 "so high?" There are several differences between this estimate and those of the World Bank. The CARD/HECS estimate of total expenditures per capita is based on the total value of expenditures and home production consumed by the household. Food data, especially, were gathered to be most accurate by requiring recall of only one or two day periods. Food produced and consumed by the household during the week was valued and included, as were gifts. Other expenditures were collected in the survey by period of recall appropriate to the frequency of

consumption, and weighted to be on an annual basis. The sum of food and nonfood expenditures yielded the total value.

Of this total value, on average 56.0 percent (0.56) was the share going to food expenditures, as shown in Table 4. The average share reported by Deaton and Siaway (1988) for the Bloc Joannis area was 53.1 percent. This range is similar to other studies in Haiti as well.

Purchased, Home-Harvested, and Gift Food

In an economy like Haiti's, informal transactions represent a relatively large share of the value of food obtained by the household in a given year. These informal transactions include home-produced and harvested food and the value of food received as gifts. Households were asked the amount they spent on purchased food, and to value harvested or home-produced food, and food received as gifts. The relative share of food from each of these sources reflects the diversity of food transactions.

Tables 5 through 18 report purchased food expenditures, harvest, and gift food by level of expenditure and percentage of total value for each population subgroup. The information comes from the weighted sample; the size and percentage of the sample shows the population distribution in each group. Expenditures are reported in gourdes.

It is important to note that, for several of the categories, the standard deviation is large relative to the mean expenditure level. This may indicate that there were reporting problems for that item in the survey. The ratio, or coefficient of variation, is particularly large for small households, and for the values of harvest and gift foods.

Household Size. The share of total food expenditures derived from purchases was smallest for the smaller household sizes, as shown in Table 5. This is consistent with relatively high costs of food preparation and economies of size for larger households. For these larger households, the share for food purchases was relatively constant, ranging from 83 to 87 percent for households with three or

more members. The value of food expenditures rose for larger households. Within nonpurchased foods, the proportions of food from harvest and gifts in nonpurchased food were fairly constant among all household sizes, with harvested food value representing more than two-thirds of the nonpurchased food value (Table 6).

Expenditure Class. The value of purchased food and total food expenditures vary considerably by household expenditure class (Table 7). Households with high income purchased most of their food, receiving only 6 percent as gift or from harvest (above 20,000 gourdes per year). For those in the lowest expenditure groups, the value of harvest and gift food represented more than 30 percent of the total. Within harvest and gift food, the largest share of gifts were received by those in the lowest and highest expenditure categories; for most households, value of food from harvest was the major component of informal food transactions (Table 8).

Region and Location. Among regions (Table 9), the Port-au-Prince area is distinguished by having the largest share of purchased food, and the lowest share of harvested food value within harvest and gift (Table 10). There was less diversity among other regions, with the north and south regions having the lowest percentage of purchased food expenditures (or alternatively the highest percentage of food valued from harvest and gift). Average food expenditures in Port-au-Prince were nearly three times those of the northern region. The southern region had the largest share of food value received from harvest (Tables 9 and 10).

Urban and rural areas also showed marked differences. Those in urban areas in Haiti used nearly 93 percent of total food expenditures on purchased food (Table 11), whereas those in rural areas purchased only 76 percent of their total food value. Within rural areas, the largest share of nonpurchased food was from harvest (Table 12).

Differences among the urban areas of Haiti were apparent (Tables 13 and 14). Purchased food averaged 5512 gourdes in urban areas other than Port-au-Prince and 7846 gourdes in Port-au-Prince.

More than one-half the informal food transactions were for home-produced and harvested food in other urban locations (Table 14).

Occupation Status. Differences among occupation status are less marked than those for other classifications, as shown in Tables 15 and 16. Agricultural workers purchased relatively less of their food, and harvested a relatively higher share, as expected. Those unemployed or with an unspecified occupation received a relatively high share of their food expenditures as gifts. Those in industry or transport as well as and those in sales or office occupations purchased the highest shares of their food.

Employment Status. The largest share of workers was designated "independent workers." They purchased nearly 80 percent of their food, and of the remaining, harvested nearly 80 percent, as indicated in Tables 17 and 18.

In sum, most food was acquired through direct purchase. Informal transactions, whether by harvest or from gifts, were largest as a share of total food value for small households, low-income households, and those in rural areas. Food obtained through harvest was relatively most important for those in rural areas, especially the north and south regions.

Food Expenditure Patterns

The total value of food expenditures from all three sources was allocated among the 11 food groups: meat, poultry, and fish; dairy products; oils and fats; cereals; starchy roots; vegetables; fruits; sugar; miscellaneous and condiments; beverages; and purchased meals. Tables 19 through 25 report mean expenditures within each food group; Tables 26 through 32 report expenditure shares.

Certain patterns are apparent throughout the tables. Food represented a large expense for most households. Among the food groups, meat, cereals, and vegetables were the most important with cereals and vegetables representing the largest expenditure categories for most Haitian households. As expected, food expenditure values increased with household size and income. With increases in

income (i.e., total expenditures), meat replaced cereals and vegetables in importance as a share of food expenditures. Sugar and sugar products and starchy roots represented relatively higher shares of low income households' food spending than they did for others, although the relative amounts were lower. Purchased meals were a relatively important source of food for small households, a result consistent with relatively higher home preparation costs for small households.

Household Size. Tables 19 and 26 show expenditures and expenditure shares by major food group for households of different sizes. As expected, mean food expenditures increase with household size for all but the largest households; in general, expenditures for cereals were greater than those for meat, and expenditures for vegetables were nearly equal to or greater than expenditures for cereals for most household sizes. Expenditures for purchased meals for one- and two-member households were relatively high, although purchased meals for the largest households represent the highest average value of expenditure.

The food budget shares and food group shares reveal these same patterns. All household sizes had total food budget shares of more than 50 percent, with the lowest food budget share reported for the largest households while others were nearly equal, ranging from 55 to nearly 59 percent (Table 26). For most households, the vegetables group had the largest budget share with nearly one-fourth of food expenditures devoted to this product group. Cereals were next in importance. Spending for dairy products represented a fairly constant share of food budgets for all household sizes.

Expenditure Groups. Mean food expenditures increased for those in groups with higher total expenditures (Table 20). This pattern held for most food groups. Aggregate food budget shares fell as income rose (Table 27). For those in the lowest expenditure groups, food averaged more than 65 percent of the total budget. In comparison, for those with total expenditures above 16,000 gourdes, food expenditure shares were nearly 40 percent of the total. Meat, dairy, and (generally) purchased meal shares increased with total expenditures. Expenditures for fruit remained relatively constant. In

sum, food represented a large share of the total budget, and the share fell with increased total expenditure. Meat, cereals, and vegetables were the most important food groups as measured by total expenditure shares.

Region. Marked differences were apparent when comparing average food expenditure and food share by region (Tables 21 and 28). The lower income level in the north was evident in their food expenditure patterns. An average food expenditure of 3319 gourdes per year in the North was nearly 1,000 gourdes less than that of any other region. Although the food budget shares were more equal among the regions, the lower level of food expenditures showed the relative poverty of the North. The Transversale and South regions were similar in average food expenditures, with the Ouest and Port-au-Prince areas having the highest level of expenditures. As in other comparisons, meat, cereals, and vegetables were the largest items in the food budget, with cereals and vegetables representing a relatively larger share of food budgets for areas other than Port-au-Prince. The meat share was smallest in the North and South, with starchy roots representing relatively larger budget shares in these two regions. Dairy products were relatively more important in the North than in the other regions, except for Port-au-Prince. Oils and fats in the North, while representing the lowest average expenditure among the regions, showed the highest budget share. This is consistent with relatively fixed requirements for oil and fat in food preparation. Purchased meals were least important to households in the North and South. The average annual value for purchased foods was less than 100 gourdes in these two regions, and represented the smallest budget share.

Location. Location is compared in Tables 22, 23, 29, and 30 for the regions, and urban/rural categories. The urban mean food expenditures were larger than those in rural areas, with the highest reported in Port-au-Prince. The reported food budget shares were similar to those from earlier studies. Urban food budget shares were nearly 40 percent (Table 29) with rural budget shares estimated to be 62 percent. The mean expenditure of 8,235 gourdes in Port-au-Prince was nearly

one-third larger than expenditures in other urban areas. Expenditures for almost all food groups were higher in these urban areas than they were in rural areas. Meat, dairy, fruits, and purchased meals represented relatively larger shares of the food budget in all urban areas compared to rural; within urban areas, meat, oils, cereals, starchy roots, vegetables, and sugar had larger budget shares in other urban areas than they did in Port-au-Prince.

Occupation. Among households classified by occupation of household head, variations in food expenditure patterns are most noticeable for the professional/government, industry/transport, and agricultural worker categories. The professional/government and industry/transport workers had highest expenditures on most food products (Table 24) and highest budget shares for meat, dairy products, fruits, and purchased meals (Table 31). On the other hand, agricultural workers had the lowest expenditure levels for food groups, except for higher expenditures for starchy roots. Agricultural workers had the highest overall food budget share, as well as the highest share of food from cereals, starchy roots, vegetables, and sugar.

Employment. Employers and salaried employees had the highest mean food expenditure, and highest mean total expenditure; family workers had the lowest, followed by other independent workers (Table 25). Of particular note were the very low food expenditures by family workers. It was apparent from the food budget shares that family workers spend larger shares of their budget on starchy roots and vegetables (Table 32). The expenditure shares for meats and cereals were relatively more constant. Employers and salaried employees spent relatively higher budget shares on purchased meals; salaried employees spent the highest share of their budgets on meat and dairy products.

Meals Purchased Away from Home

This category represents a small but significant portion of the food budget of Haitian households. There is relatively little known about this source of food; for some households, these expenditures were relatively important. The HECS included a section to indicate spending for meals

and snacks purchased outside of the home, by type of meal. This information is reported in Tables 33 through 39 for those who reported a purchase, and in Tables 40 through 46 for the entire sample. The largest expenditures were for the “dinner” meal; snacks were relatively small. Expenditures were higher for those with high incomes, low for the north and south regions, and low for those in rural areas. For those who made purchases, there was a less specific pattern by household size, a higher amount was spent by those with higher incomes, and the lowest expenditures were in the north and in rural areas. It is important to note that information about purchased meals was collected with a large standard deviation.

Inventories

Little is known about the use of household food stocks or inventories in developing countries. Their use is important because they help provide an accurate measure of food intake during the fixed period of observation, and provide information on food purchase and acquisition behavior. The lack of inventories indicates reliance on nearly daily acquisition of food for consumption.

Drawdowns from existing inventories added to quantities of food obtained through purchase, gift, or harvest yield an estimate of food consumption within the household. Rural agricultural households store home-produced food for the household food supply. Net acquisitions or drawdowns not associated with market transactions indicate use of stocked food for home consumption. Also, all households can purchase more food than can be consumed in one meal. It is additions or subtractions from inventory that balance the observation of food obtained from outside the household with what is available for consumption within the household.

A methodology to gather information on changes of food inventories within the week was incorporated into the survey design. Of the four days of the household interview, information was obtained at the beginning (first day) and at the end (fourth day) of the survey period. During the first day of interview (on Tuesday) households were asked about inventories of food on that day and use

out of inventories on the preceding two days. On the last day of the survey (Sunday) households were asked again about the current availability of food in inventory. The interviewer asked explicitly about four items to assist in recall: ground corn, millet, rice, and cooking oil.

Initial analysis of the inventory data showed several patterns, as reported in Table 47. As recorded in the survey, the majority of households did not hold inventories. However, this initial finding should be viewed with some caution. First, the four specifically named items would be more likely to be recalled by the household than other items. Therefore, other estimates may be biased downward. And second, the interviewers may have been reluctant or uncertain about the need to ask about inventories, given their shortened training. In spite of these potential problems, the survey provided unique evidence on inventory use and household food stocks.

Table 47 includes all items for which 10 or more households reported inventories. The most frequently reported inventory items were rice (item 1012), cooking oil (5001), and salt (9014). Up to 28 percent of households reported inventories of rice during visit 4, and 10 percent reported having rice available on both the first and fourth visits. More than 31 percent reported inventories of cooking oil on the fourth visit, and 13 percent reported inventories on both visits. Salt inventories were reported by more households on the first visit, with 11 percent reporting salt inventories on both visits. Other important inventory items were ground corn, millet, green bananas, dried peas, tomato paste, brown sugar, and other dried condiments. Overall, the percentage of households holding inventories was relatively low for most food items, and less than 33 percent of households for even those items specifically named. In the analyses to date, inventories were not included with other expenditures in calculating annual expenditures.

The information on inventories showed some seasonal variation in their levels. Table 48 shows the month of high inventory levels for the selected, prenamed food items within urban and rural areas based on the household's estimated values of inventories. These months could be considered both

relative to the seasonal patterns of food availability, as well as to political events during the period. For example, availability in rural areas of domestically produced foods would be expected to lead high periods of availability in urban areas; high periods of availability in urban areas would precede those for rural for manufactured or industrial goods.

Important Specific Foods

Some types of food are purchased more frequently than others. Food expenditure patterns for specific food items yield information on foods particularly important as dietary staples. Rank by frequency of occurrence, or in terms of expenditures, provides useful information about the most important food items in the Haitian diet.

In the survey of 2074 households, there were 265 specific food items reported with expenditure, gift, or harvest during the one week of survey. The top 14 items were identified and ranked by frequency of occurrence and by importance in expenditure. These 14 represented 40 percent of all items reported by frequency, and 60 percent of total expenditures. Thus, major shares of food items were covered by looking at a relatively small number of food items.

The top ranked foods are relatively constant in importance throughout Haiti. After the first five food items, the ranking within the 14 becomes much more diverse. These rankings were compared within Haiti, by region, and by location (rural, urban, other urban, and Port-au-Prince).

Although there was some variation among regions and location, the most important food items ranked by frequency were cooking oil, bread, rice, brown sugar, green bananas, dried peas, and tomato paste. Among those ranked by expenditure, the most important were rice, dried peas, cooking oil, green bananas, bread, goat, yam, and chicken. The specific rankings are provided in Tables 49 through 56.

Region. As indicated in Tables 49 through 53, cooking oil was the most frequently purchased item in most regions. More than 90 percent of households purchased cooking oil during a week in all

regions, and cooking oil was surpassed in rank only by bread items in the Port-au-Prince area of Haiti. Other items varied by-region and importance. Bread items were purchased by more than 82 percent of households in each region, and by nearly 95 percent of households in the Port-au-Prince area.

Ranked by value of expenditure, rice was the most important food item in all regions. Goat was among the five most important items by expenditure in the Transversale and Ouest regions. Chicken and bread were among the most important food items by expenditure in the Port-au-Prince region.

Location. The items of most importance by location were similar to those by region, as shown in Tables 54 through 56. The analyses are reported for all urban areas, rural areas, and for other urban areas; the findings for Port-au-Prince are reported in Table 53.

As before, cooking oil, bread, rice, and green bananas were the most frequently acquired food items in all locations. Bread outranked cooking oil as the most frequently purchased item in Port-au-Prince, and solid condiments and tomato paste ranked high in Port-au-Prince as well. Ranked by value of expenditure, rice was most important in all locations followed by dried peas. Goat was important in rural and other areas, with chicken more important in Port-au-Prince. Ranked by expenditure, bread appeared in the top five only for the Port-au-Prince area.

Seasonality. The purchases of food items varied in importance throughout the year depending on availability and use within the household. Those items with relatively constant availability and use maintained a relative ranking throughout the year. Other items, which may have varied more by seasonal availability and therefore price, may have been substituted for others, causing more variation in rank. The relative constancy among top-ranked items suggested that the food item was a dietary staple.

To illustrate the patterns throughout the survey period, these rankings are shown by location over time in Figures 2 through 15 for the 14 food items ranked by frequency of purchase. For

example, Figure 2 reports on crushed corn (item 1005) for the three areas (other urban, Port-au-Prince, and rural) by period. The horizontal axis represents the month of observation, and the vertical axis shows the rank of the product in each of those periods. The horizontal line drawn at the level "14" illustrates when the food item enters the top 14 list, or when it lies above. Only in rural areas (area 3) did crushed corn rank consistently in the top 14 items by frequency of purchase (Figure 2). Purchase patterns indicated less frequent purchases in urban areas. In contrast, Figure 3 illustrates that rice ranked among the top items throughout the year. Bread as well (Figure 4) ranked among the most frequently purchased items, and consistently among the top five. Bread shortages may have occurred in June 1987 in Port-au-Prince. The pattern for onions (Figure 5) shows seasonal effects and considerable variation among the regions. Green bananas (Figure 6), dried peas (Figure 8), tomato paste (Figure 10) for urban areas, and cooking oil (Figure 12) show the relatively stable pattern of staples throughout the period. Green peas (Figure 7), tomatoes (Figure 9), and bananas (Figure 11) indicate marked seasonal effects. These illustrations identify stable and variable patterns in the consumption of specific food products.

Food Expenditures and Income

Fairly consistent patterns relating food expenditures and income (or total expenditure) have been observed in both developed and developing countries. One basic relationship, postulated by Engel in the mid-19th century, is that as total expenditures increase, the proportion of total income spent on food decreases. There is some evidence that, for developing countries, the food expenditure share continues to increase at the lowest income levels. Consumption of food from different food groups may vary with changes in income.

A set of expenditure elasticities was computed using the HECS for Haiti, with separate estimates for urban and rural households. Three Engel specifications were estimated:

linear

$$c_i = m_i [a_i + b_i (\frac{y}{m_o})], \quad (1)$$

semilogarithmic

$$c_i = m_i [a_i + b_i \ln \frac{y}{m_o}], \quad (2)$$

double-logarithmic

$$c_i = m_i A_i (\frac{y}{m_o})^{b_i}, \quad (3)$$

where c_i is the weekly household expenditure on the i^{th} food group ($i = 1, 1, \dots, 15$), y is the weekly total expenditures (income) for the household, m_i is a household size and composition parameter specific to the i^{th} food group (a commodity-specific scale), and m_o is a household size and composition parameter specific to income (an income scale). For this analysis, m_o is set equal to household size.

The specification for determining m_i was:

$$m_i = \sum_{g=1}^6 w_{ig} N_g$$

where w_{ig} is the weight of an individual in the g^{th} age-sex class, measured on a scale appropriate to the i^{th} food group, and N_g is the number of household members in the g^{th} age-sex class. By setting the weight of the adult male equal to 1.0, then m_i is interpreted as the number of equivalent male adults in the household, measured on a scale appropriate to the i^{th} food group.

From estimation of equations (1), (2), and (3), three sets of income elasticities were obtained for each geographical area (see Goungetas 1986). Estimated income elasticities for the linear and semilog

forms depend on the level of weekly income and household size at which they are estimated; estimated income elasticities for the double-logarithmic form are constant across all income and household size levels. The distinction is important. First, the first two forms will yield different values of income elasticities depending on the level of income and household size used in the evaluation. And second, since it is likely that households respond to changes in income (or household size) differently if they have low income as opposed to high income (or small household size as compared to large), it is likely that the assumption of constant income elasticities are not realistic, and can be applied only at estimated mean values.

The estimated income elasticity values, estimated for the (unweighted) sample means of total expenditures and household size, are reported in Table 57 for urban areas and Table 58 for rural areas. The elasticities were estimated for total food, cereals, 10 other food groups, and for specific cereals and grains.

Almost all of the estimated expenditures (income) elasticities were less than unity at the sample mean levels. This indicated that foods are necessities for Haitian households, and the result is consistent with generally observed patterns in other countries. The dairy and meat groups tended to have larger values, consistent with their expenditures being more responsive to income changes.

There was wide variation in the estimates, as seen by comparing the estimated values among the different Engel specifications. Further exploration of the values and estimated functional forms indicated that the divergence in estimates was marked at most income and household size levels. Given the different functional forms, some variation would be expected. However, these differences suggest caution in using these income elasticities without considering the variation in estimates.

For urban Haiti, at average levels of household size and total expenditures, the semilogarithmic specification yielded the lowest estimated values. At the mean levels, the linear and double-logarithmic specifications were similar. For rural Haiti, the linear specification did not perform well.

The semi- and double-logarithmic specifications were similar, with the semilogarithmic estimates higher in value. A recommendation at this point would be to use the semilogarithmic form in each case, at the mean values for the two areas, based on the estimates having properties consistent with values expected a priori.

Summary and Conclusions

The national 1986-87 Haitian Household Expenditure and Consumption Survey provides a new baseline on food consumption patterns and food expenditures in Haiti. The last national level surveys were conducted in 1958 for the whole population (Sebrell et al.) and in 1978 for children (USAID).

The estimated 1986-87 per capita annual total expenditures were \$472. This level is higher than prevailing estimates (World Bank 1985). Differences in methodology may explain part of the discrepancy: estimates from the HECS include value from foods produced and consumed by the household and goods purchased from any sources, including the informal sector. These sources of expenditure are likely to be underreported in aggregate data.

Of the total household expenditures, an average of 56 percent went to food expenditures. Average total household expenditures were considerably lower in rural areas than they were in urban areas. For households in rural areas, 62 percent of total expenditures went to food, compared with 40 percent in urban areas. These levels are consistent with those in earlier Haitian studies, and with estimates from other low-income countries.

Food expenditures varied among food groups as well. Meat, cereals, and vegetables had the largest share of expenditures. As expected, the food expenditure value increased with household size and income. Purchased meals were a relatively important source of food for one- and two-member households, and for households in urban areas.

An analysis of individual food items showed that a relatively small number of foods made up a large share of household purchases when ranked by frequency and share of expenditures. The most

An analysis of individual food items showed that a relatively small number of foods made up a large share of household purchases when ranked by frequency and share of expenditures. The most important individual food items ranked by frequency of purchase were cooking oil, bread, rice, brown sugar, green bananas, dried peas, and tomato paste. Among those ranked by expenditure, the most important were rice, dried peas, cooking oil, green bananas, bread, goat, yams, and chicken. Rice, bread, green bananas, dried peas, and cooking oil ranked consistently among the most important items by expenditures throughout all seasons.

It is especially important to note that among the most frequently acquired foods, bread ranked in the top five in Port-au-Prince, other urban areas, and in rural areas (Tables 53 through 55). During a week, on average, more than 90 percent of households in urban areas and 86 percent of households in rural areas purchased bread products. Since almost all wheat and wheat flour is imported, this indicates a significant contribution of imported food to the diets throughout Haiti.

PERCENT

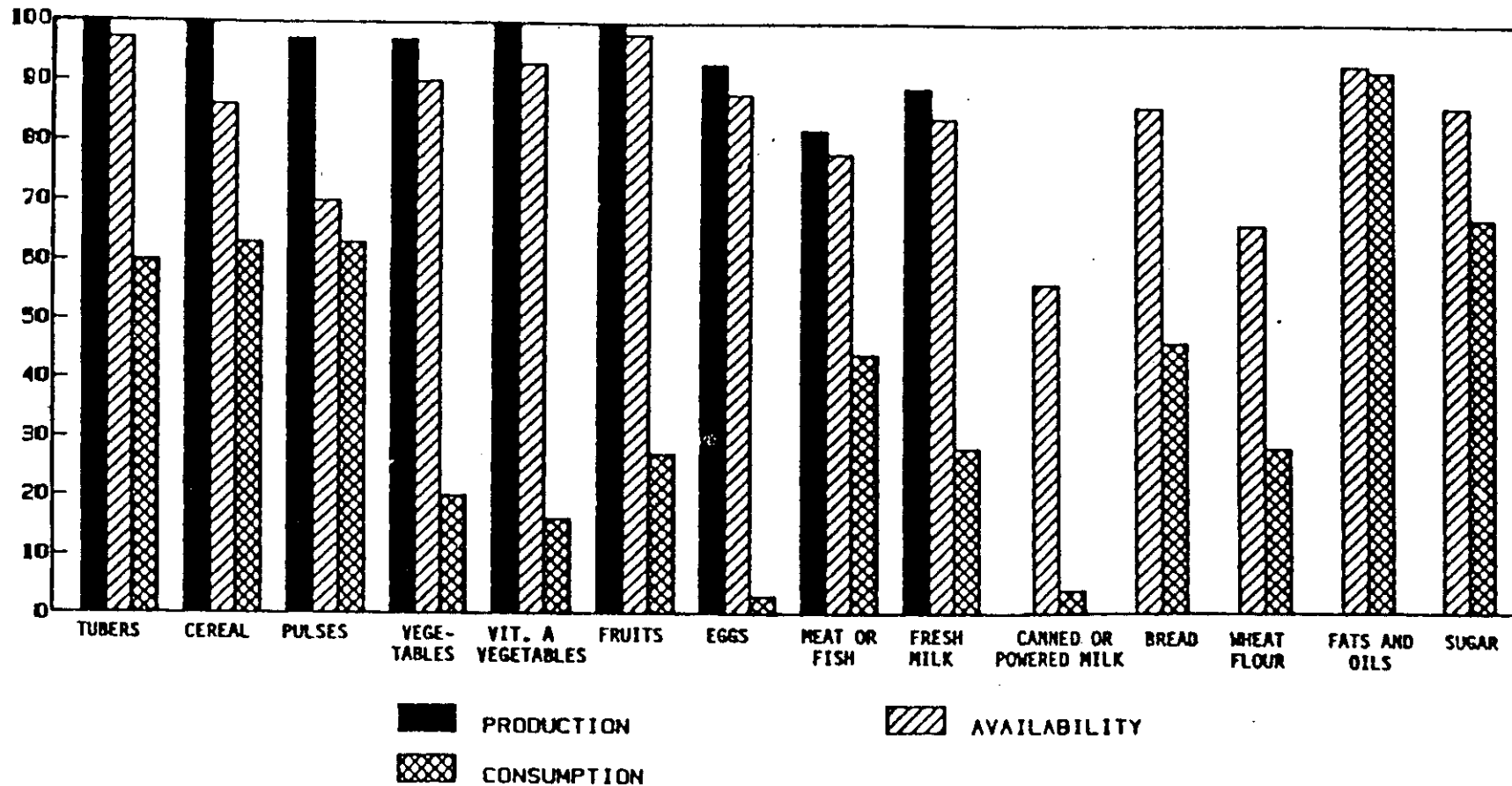


Figure 1. Percentage of rural communities producing a food, percentage in which it is available at the time of the survey, and percentage of children in the rural universe that consume the food

SOURCE: USAID Dietary Survey 1978.

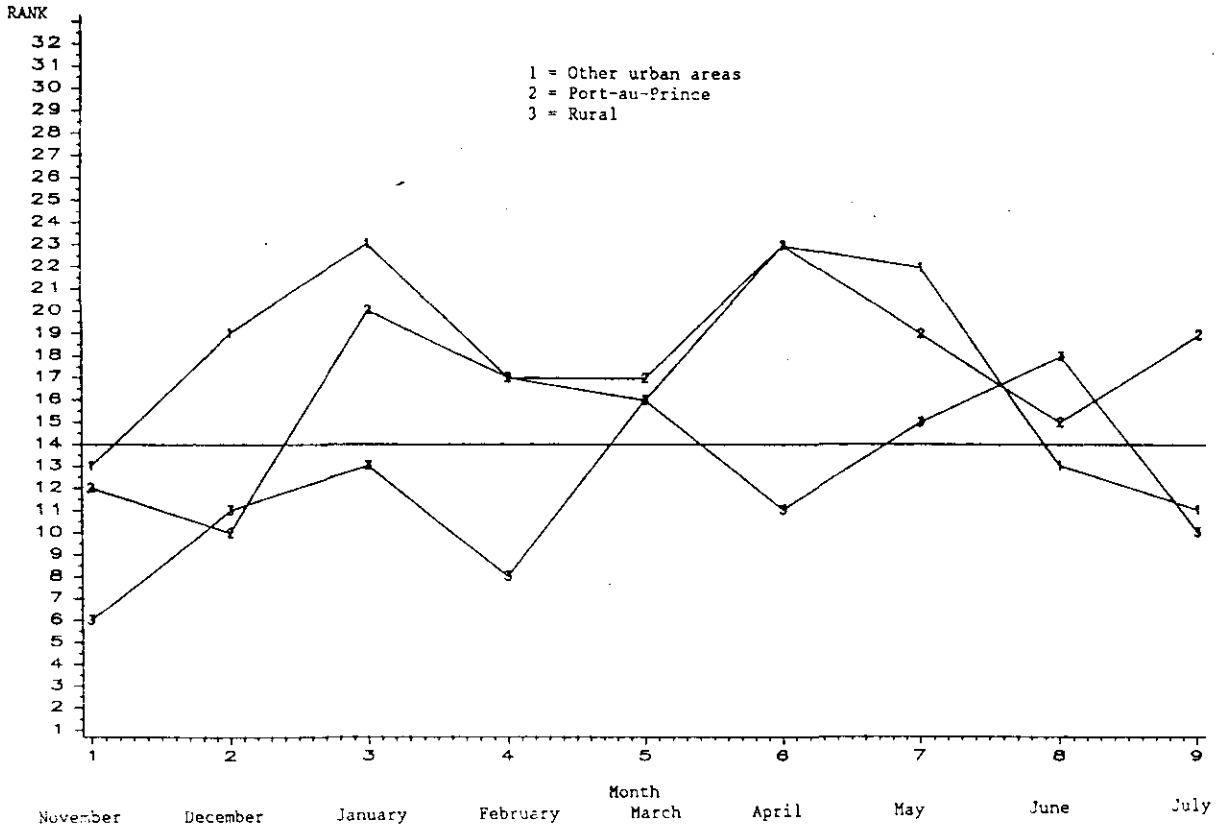


Figure 2. Crushed corn purchase frequency ranked over time

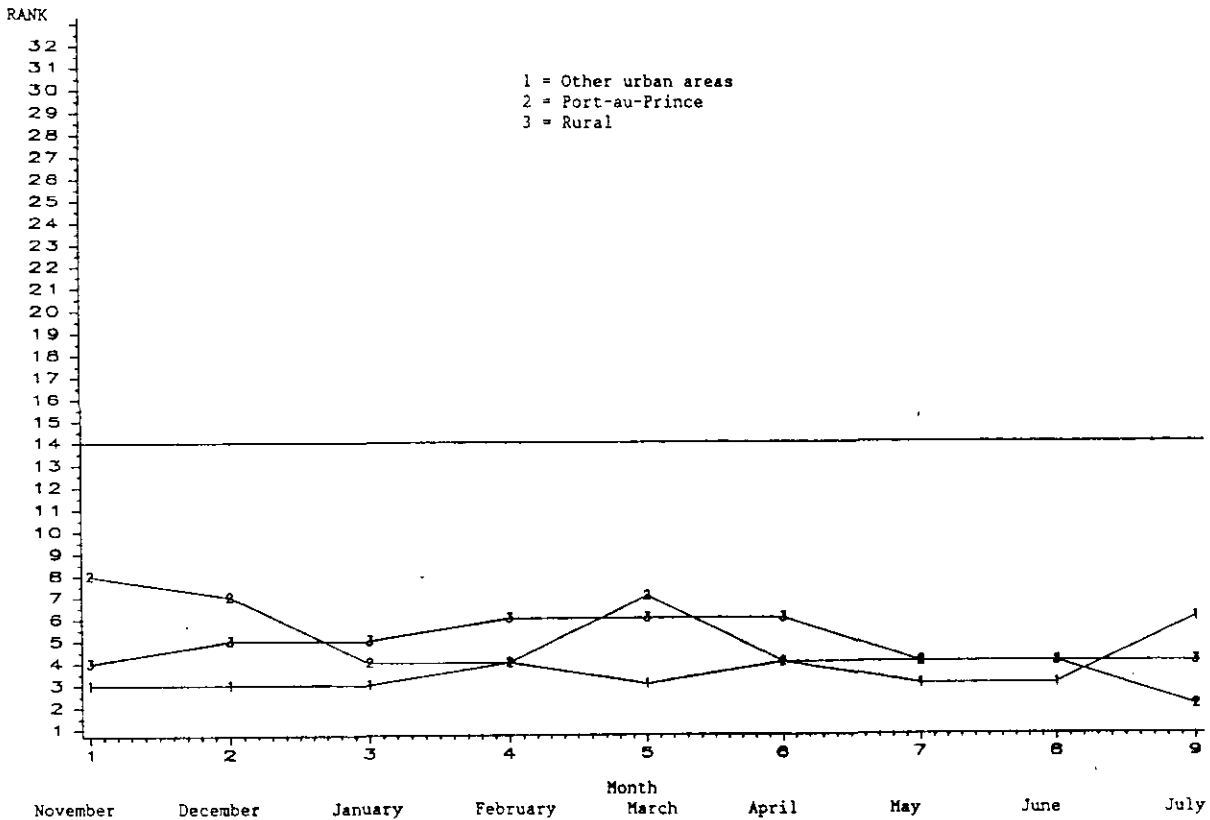


Figure 3. Rice purchase frequency ranked over time

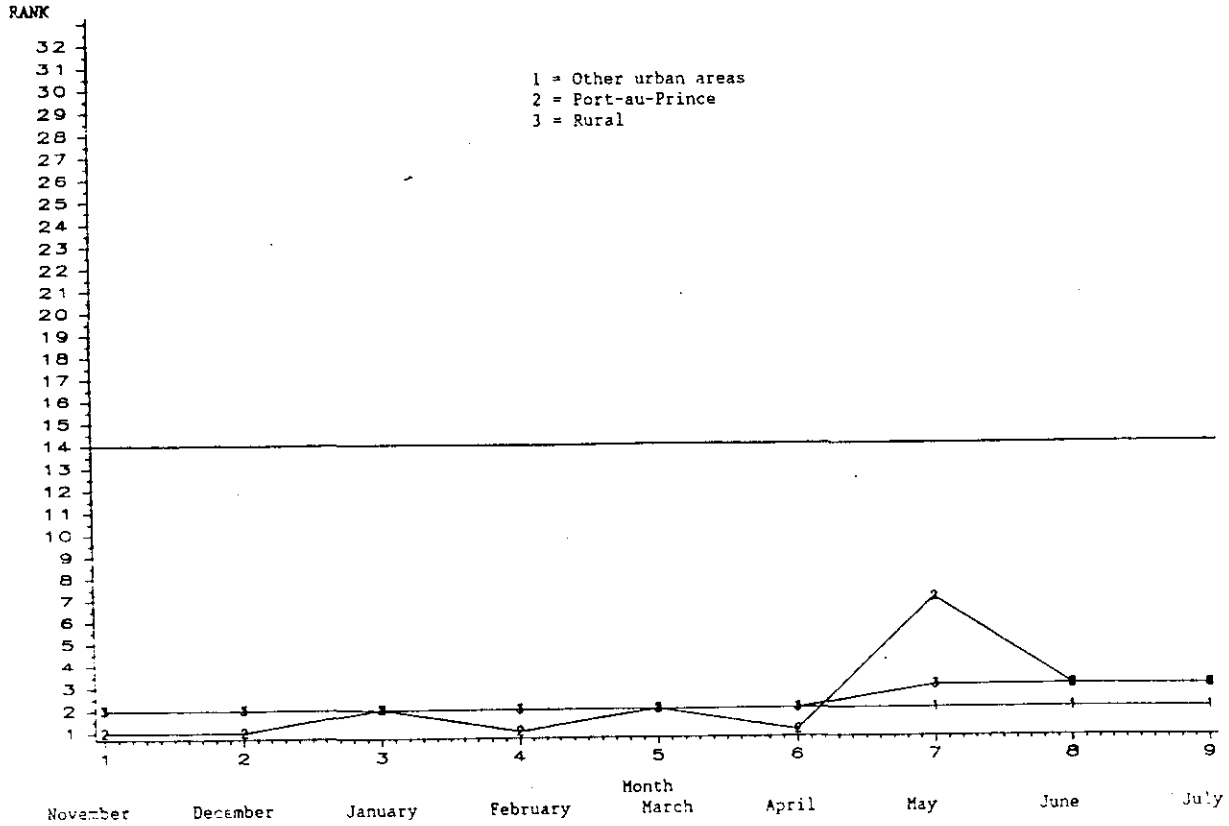


Figure 4. Bread purchase frequency ranked over time

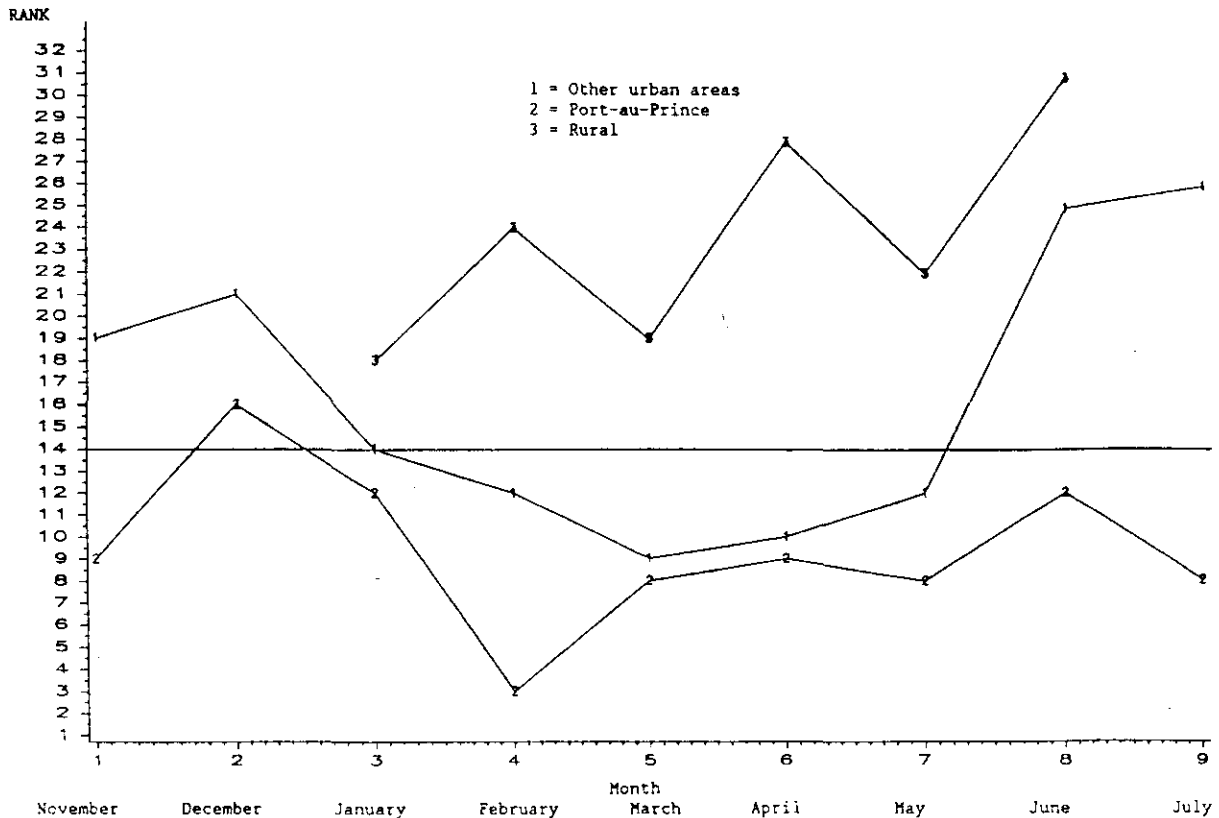


Figure 5. Onions purchase frequency ranked over time

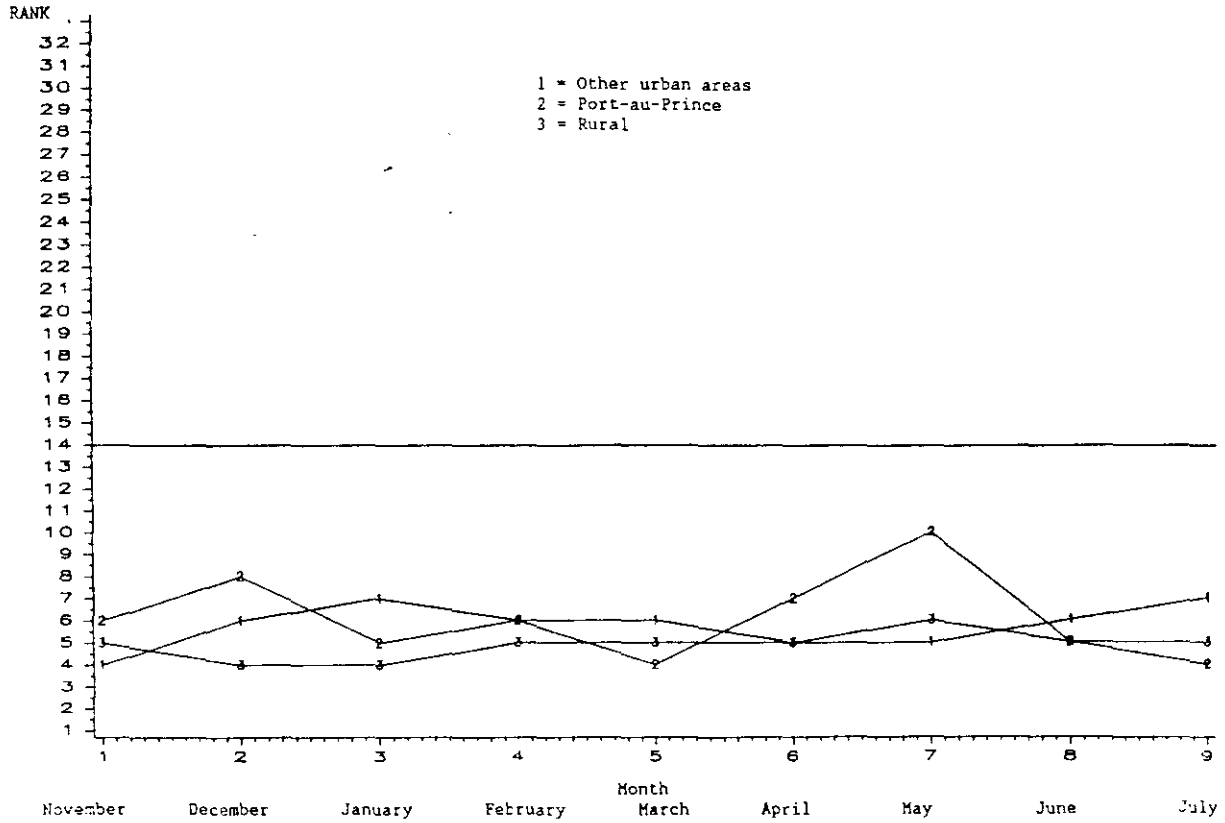


Figure 6. Green bananas purchase frequency over time

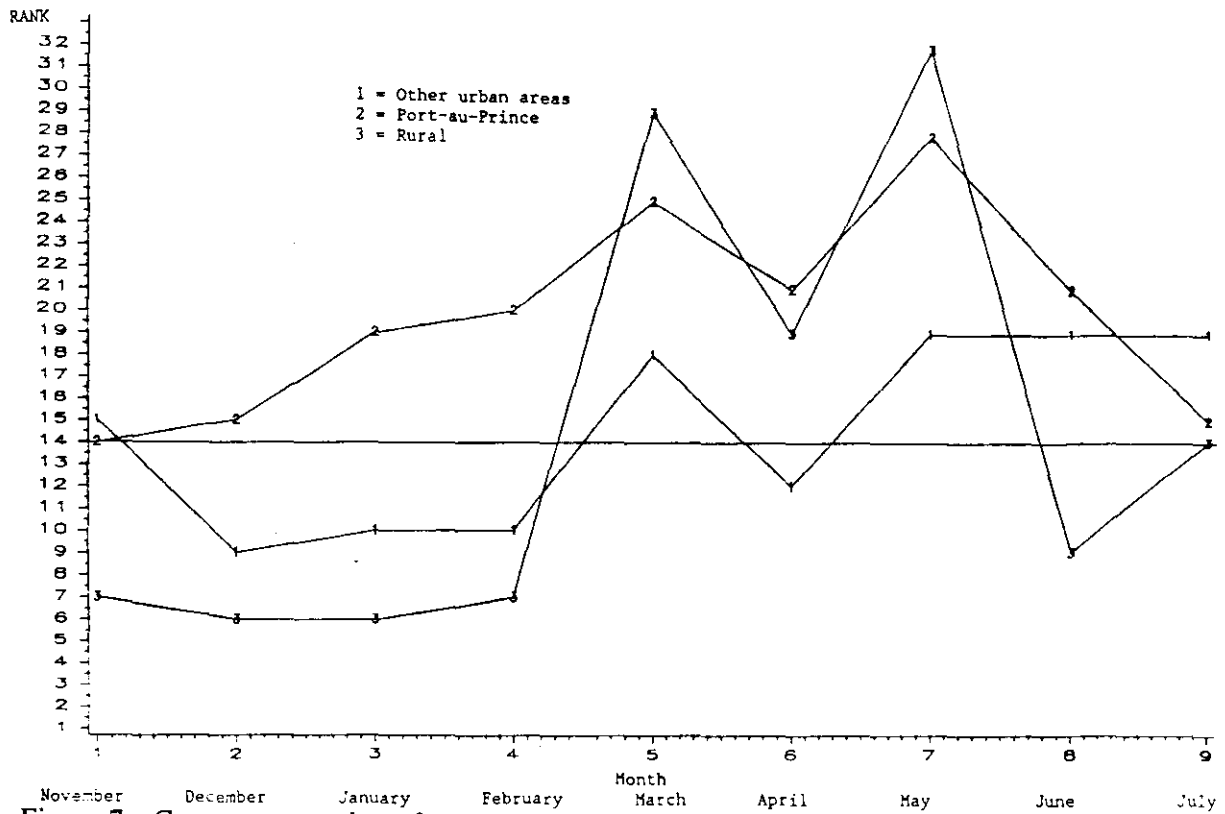


Figure 7. Green peas purchase frequency over time

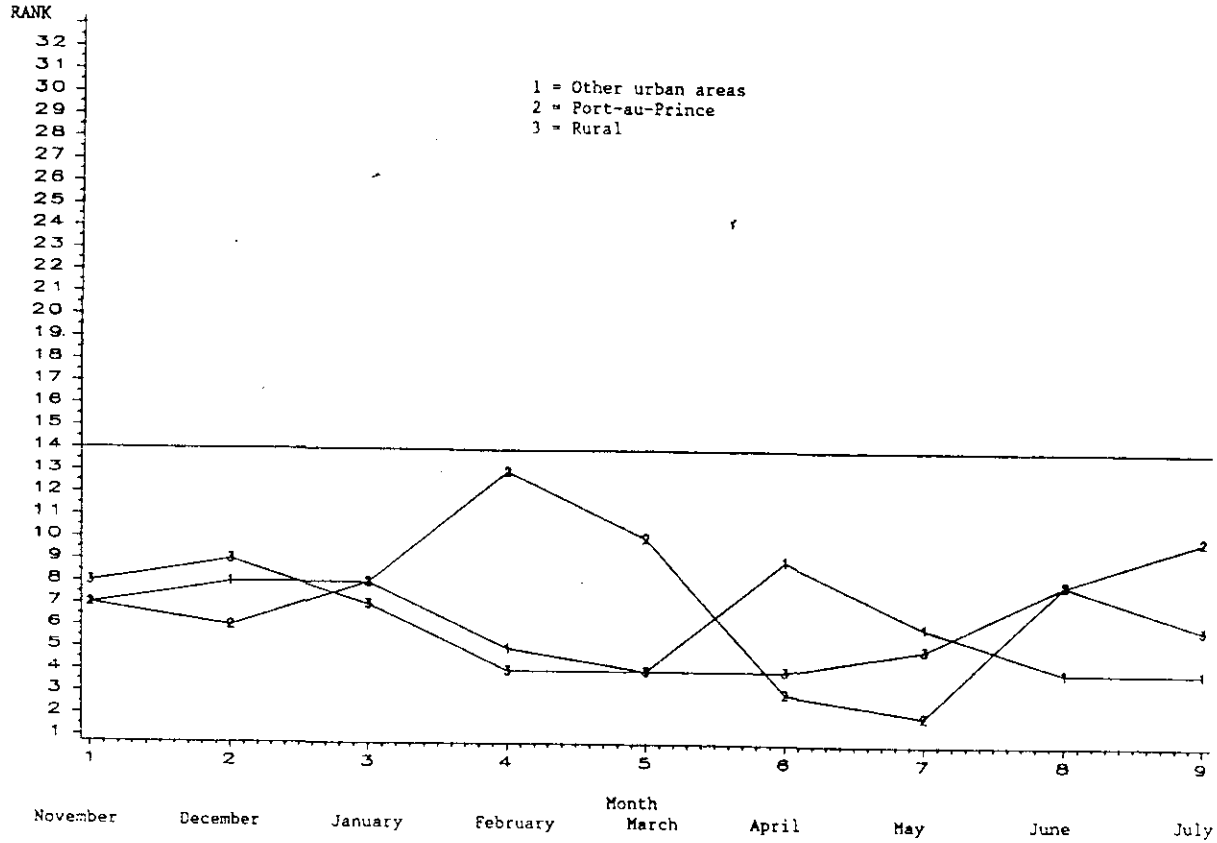


Figure 8. Dry peas purchase frequency over time

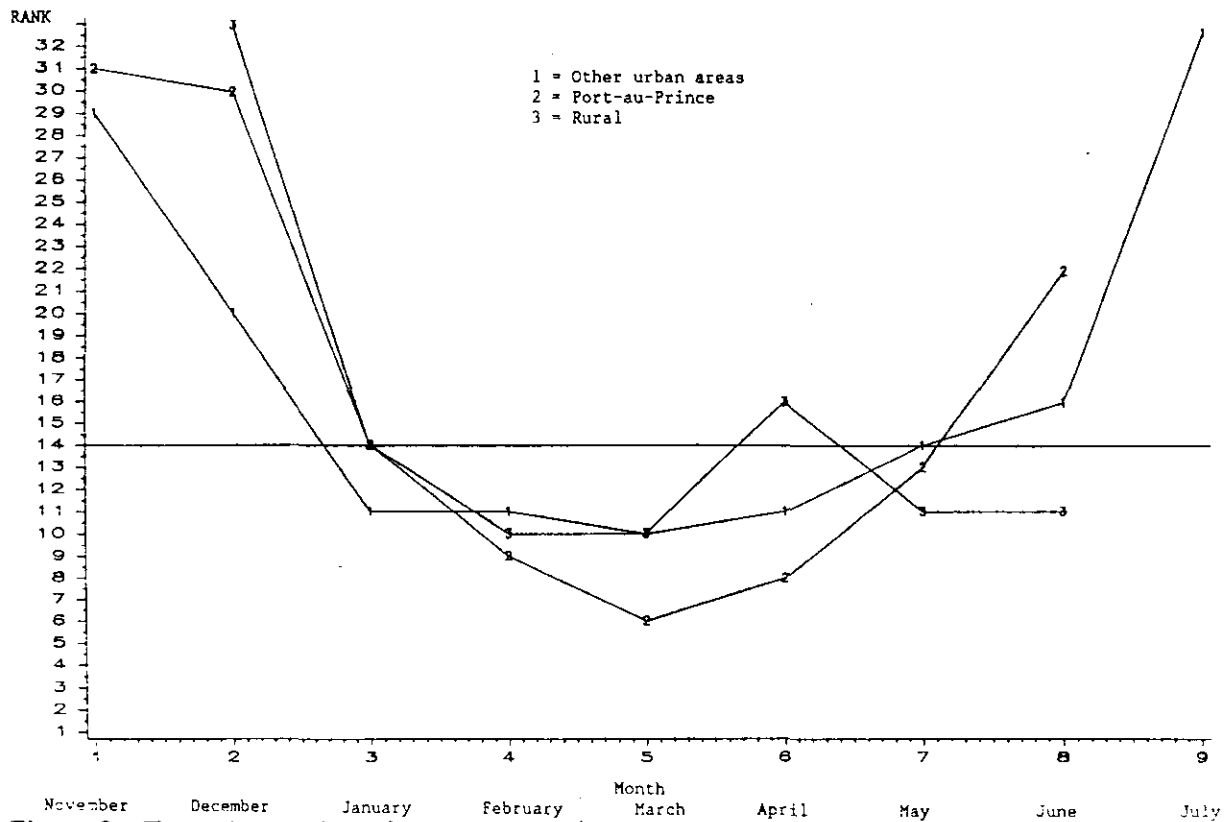


Figure 9. Tomatoes purchase frequency over time

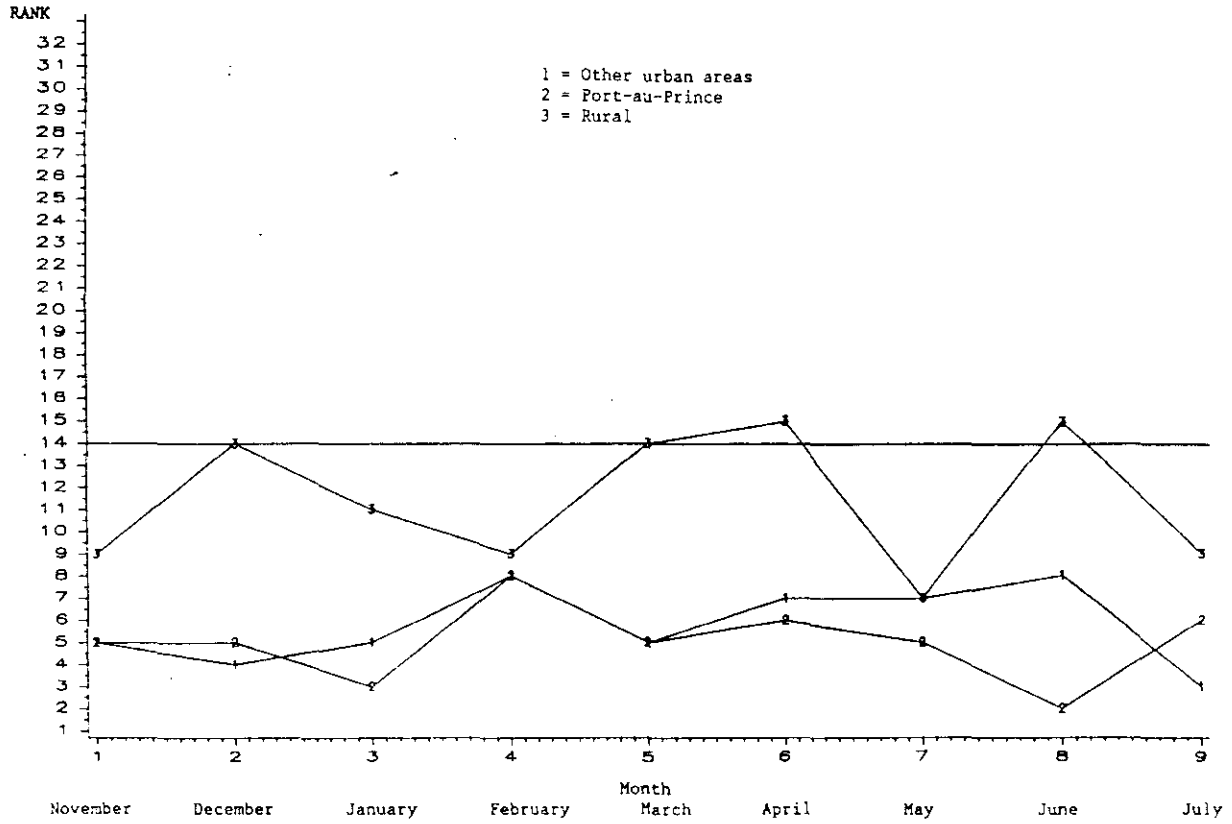


Figure 10. Tomato paste purchase frequency over time

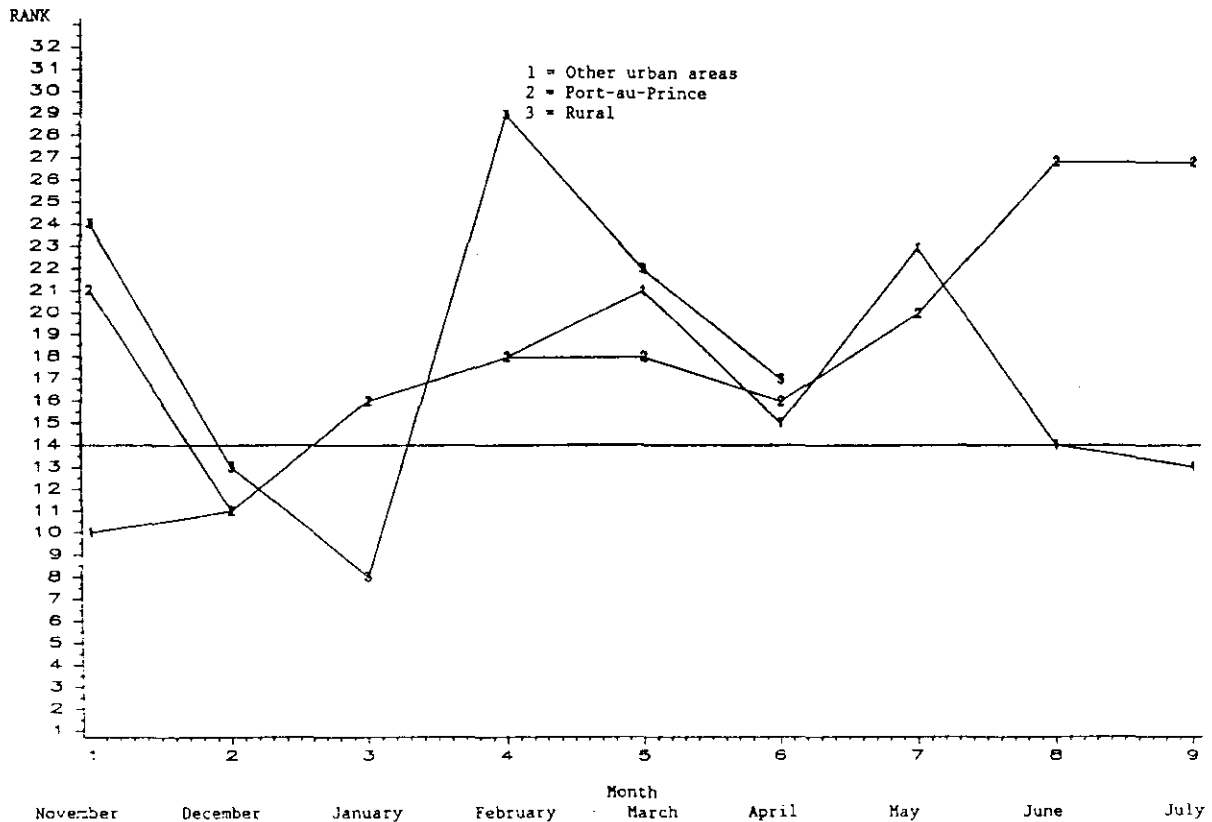


Figure 11. Banana purchase frequency over time

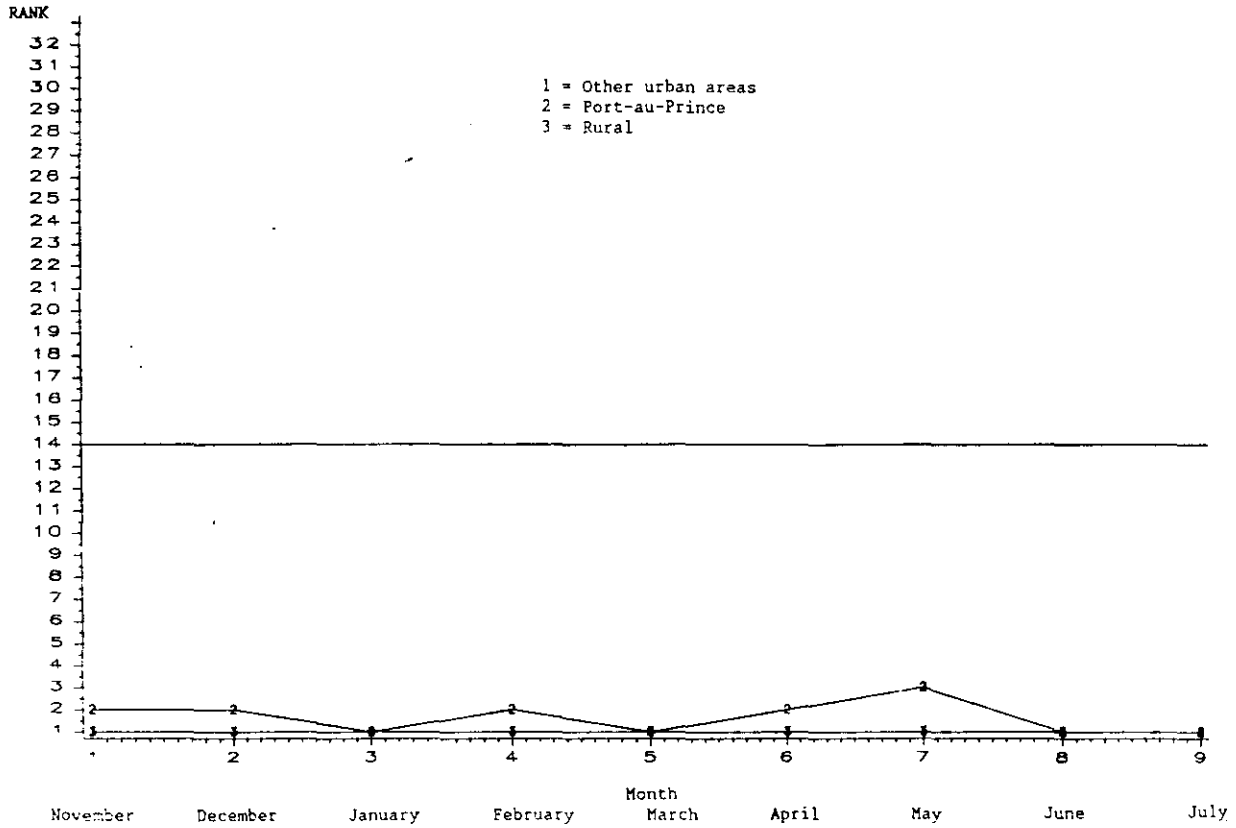


Figure 12. Cooking oil purchase frequency over time

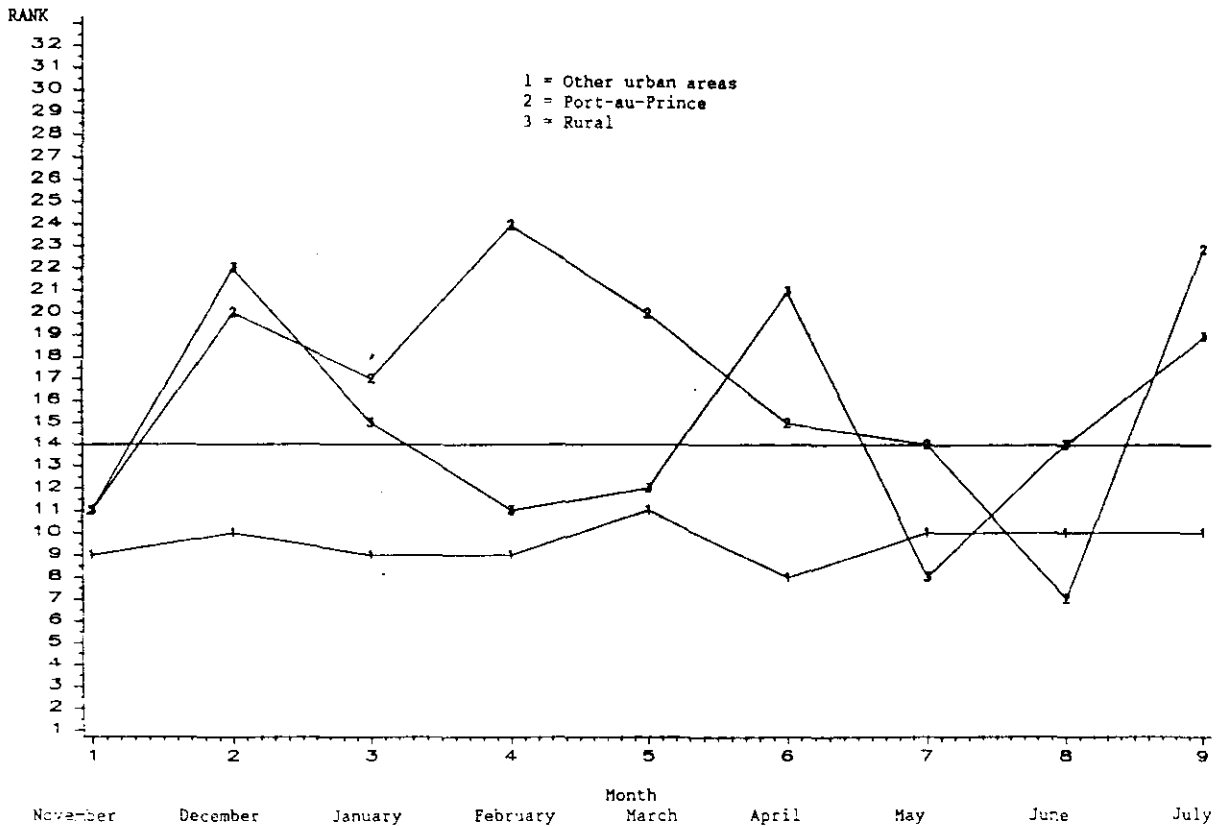


Figure 13. Lard purchase frequency over time

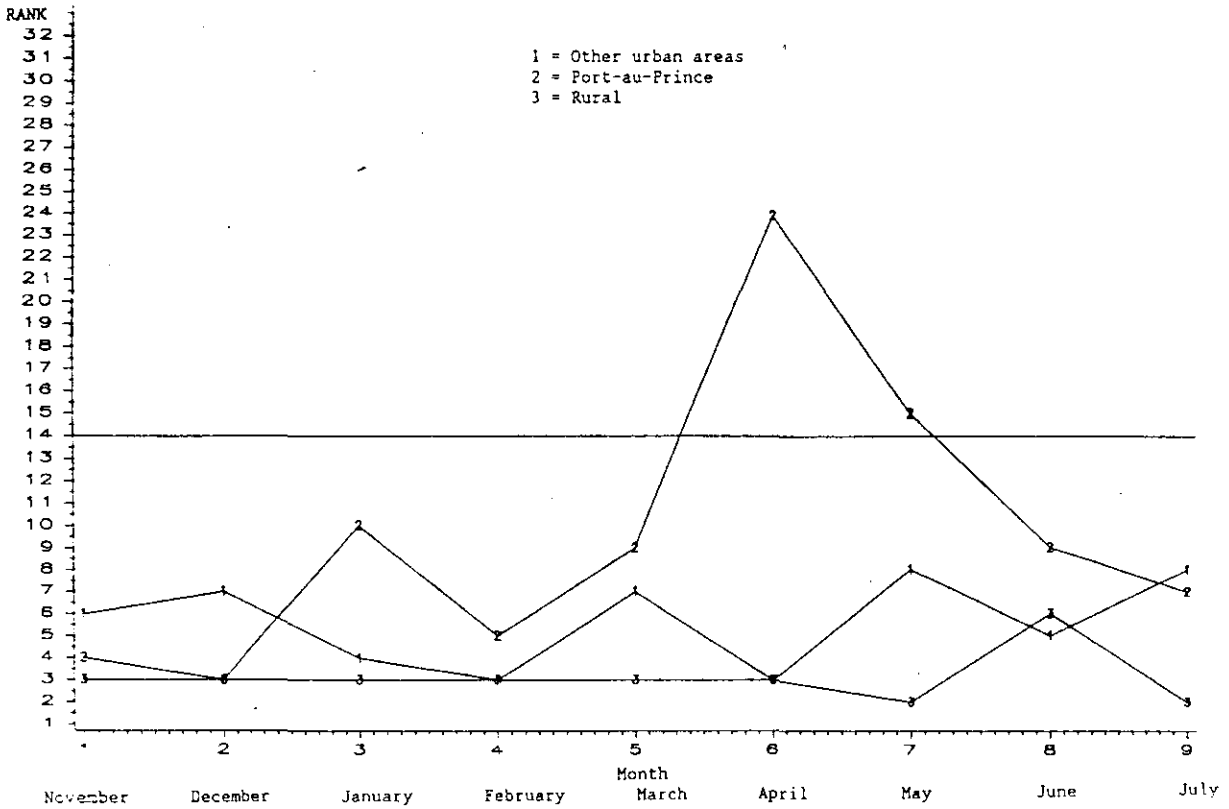


Figure 14. Brown sugar purchase frequency over time

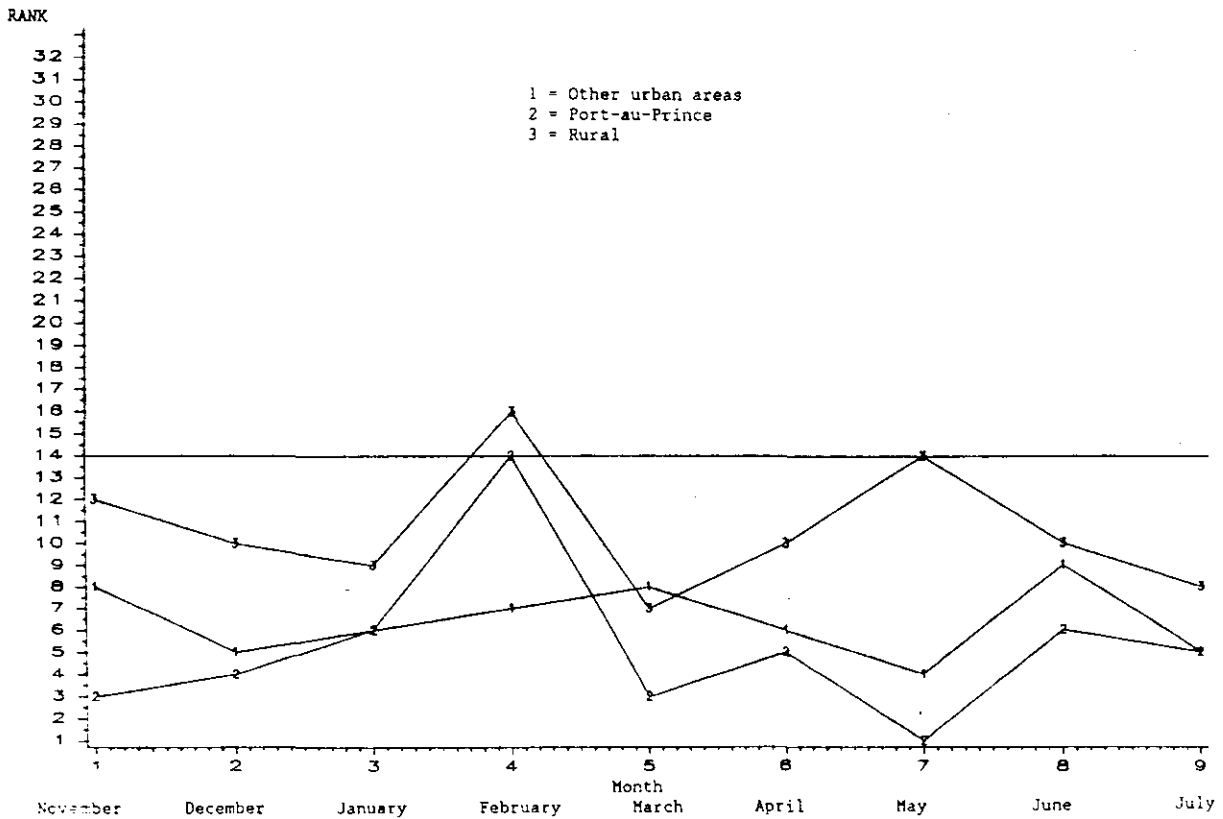


Figure 15. Other solid condiments purchase frequency over time

Table 1. Summary of Haitian food consumption pattern studies

Study	Study Date	Area
Boulos (1954)	1954	LaSaline (Port-au-Prince)
Cesar (1955)	1955	Portail Leogane (Port-au-Prince)
Grant and Groom (1958)	1956	LaSaline (Port-au-Prince)
Sebrell et al. (1959)	1958	national
King et al. (1968)	1964, 1965 1964, 1965 1965 1964, 65	Fond Parisien (rural) Ganthier (rural) Guerin (rural) Les Cayes (rural)
USAID (1979)	1978	national (preschool children)

Table 2. Household Expenditure and Consumption Survey coverage rate of target enumeration areas (SDEs)

Month	Number of Target SDEs	Number of Covered SDEs	Number of Substitutes in Covered SDEs	Coverage Rate of SDEs	SDE Substitution Rate
				----- percent -----	
01	24	24	3	100.0	12.5
02	24	24	2	100.0	8.3
03	24	24	4	100.0	16.7
04	24	24	4	100.0	16.7
05	24	24	3	100.0	12.5
06	24	24	1	100.0	4.2
07	24	24	1	100.0	4.2
08	24	24	1	100.0	4.2
09	24	24	1	100.0	4.2
10	24	23	3	95.8	13.0
11	24	21	6	87.5	28.6
12	24	0	0	0.0	-
13	24	0	0	0.0	-
Totals					
1 thru 11	264	260	29	98.5	11.2
1 thru 13	312	260	-	83.3	-

SOURCE: Bureau of the Census, International Statistics Programs Center 1988.

Table 3. Survey household response rates by month

Month	Number of Eligible Household Units in Attempted Sample		Number of Completed Interviews	Number of Substitutions in Completed Interviews	Response Rate Including Substitution	Substitution Rate
	Original	Reserve				
01	231	30	238	26	91.2	10.9
02	231	21	240	20	95.2	8.3
03	232	29	237	28	90.8	11.8
04	229	22	240	23	95.6	9.6
05	230	14	240	17	98.4	7.1
06	229	27	240	29	93.8	12.1
07	232	20	240	20	95.2	8.3
08	230	20	240	20	96.0	8.3
09	229	26	238	25	93.3	10.5
10	218	36	230	39	90.6	17.0
11	200	29	210	31	91.7	14.8
Totals	2,491	274	2,593	278	93.8	10.7

SOURCE: Bureau of the Census, International Statistical Programs Center 1988.

Note: Target interviews were 240 for each month.

Table 4. Annual Haitian household expenditures

Item	Mean	Standard Deviation	Coefficient of Variation	Standard Error of Mean	Number of Obs.	Sum of Weights
Total Expenditures (gourdes)	11,483	19,792	172.36	433.16	2,079	921,806
Food Expenditures (gourdes)	4,968	4,529	91.16	99.28	2,079	921,806
Food Budget Shares (percent)	.56	.19	34.60	0.004	2,077	921,688
Household Size (number)	4.87	2.56	52.44	0.056	2,079	921,806
Per Capita Total Expenditure (gourdes)	2,360	3,740	158.49	82.03	2,079	4,486,271

SOURCE: Household Expenditure and Consumption Survey, Haiti (weighted sample).

Note: Unless otherwise specified, all tables are a weighted sample from data collected during the HECS, Haiti, November 1986 to September 1987.

Table 5. Purchased and harvest/gift food expenditure shares and average annual food expenditure of households by household size

Household Size	Sample		Purchased Food Expenditure			Value of Harvest/Gift Food			Total Food Expenditure	
			Average Expenditure (gourdes)	Standard Deviation (gourdes)	Percent of Total	Average Value (gourdes)	Standard Deviation (gourdes)	Percent of Total	Average Total (gourdes)	Standard Deviation (gourdes)
	Size	Percent								
One	73442	7.97	1664	2339	63.59	953	1507	36.41	2616	2990
Two	92675	10.05	2672	3098	73.95	942	1384	26.05	3614	3185
Three	129407	14.04	3146	3020	83.01	644	794	16.99	3790	3032
Four	158980	17.25	3955	3633	85.17	688	984	14.83	4643	3679
Five	130093	14.11	3892	4246	82.66	816	1072	17.34	4708	4187
Six	129338	14.03	4436	3683	85.62	745	833	14.38	5181	3622
Seven	75219	8.16	5040	5179	83.58	990	1173	16.42	6030	5290
Eight or more	132652	14.39	7164	6499	87.00	1071	1381	13.00	8235	6486

Table 6. Harvest and gift food value shares and average annual harvest and gift food valuation of households by household size

Household Size	Sample		Value of Harvest Food			Value of Gift Food			Total Harvest and Gift	
			Average Expenditure (gourdes)	Standard Deviation (gourdes)	Percent of Total	Average Value (gourdes)	Standard Deviation (gourdes)	Percent of Total	Average Total (gourdes)	Standard Deviation (gourdes)
	Size	Percent								
One	73442	7.97	654	1363	68.70	298	593	31.30	953	1507
Two	92675	10.05	632	1095	67.08	310	681	32.92	942	1384
Three	129407	14.04	465	709	72.20	179	304	27.80	644	794
Four	158980	17.25	487	852	70.74	201	411	29.26	688	984
Five	130093	14.11	601	1039	73.61	215	356	26.39	816	1072
Six	129338	14.03	585	783	78.57	160	290	21.43	745	833
Seven	75219	8.16	722	1090	72.87	269	431	27.13	990	1173
Eight or more	132652	14.39	772	1185	72.10	299	745	27.90	1071	1381

Table 7. Purchased and harvest/gift food expenditure shares and average annual food expenditure of households by expenditure group

Expenditure Group	Sample		Purchased Food Expenditure			Value of Harvest/Gift Food			Total Food Expenditure	
	Size	Percent	Average Expenditure	Standard Deviation	Percent of Total	Average Value	Standard Deviation	Percent of Total	Average Total	Standard Deviation
			(gourdes)	(gourdes)		(gourdes)	(gourdes)		(gourdes)	(gourdes)
0-2,000	83722	9.08	559	329	58.78	392	291	41.22	951	377
2,001-4,000	193358	20.98	1251	662	64.29	695	615	35.71	1946	602
4,001-6,000	141196	15.32	2128	897	69.68	926	818	30.32	3054	953
6,001-8,000	111032	12.05	3218	1233	77.06	958	1093	22.94	4176	1180
8,001-10,000	77042	8.36	3844	1653	77.90	1090	1381	22.10	4934	1714
10,001-12,000	55091	5.98	4539	1866	86.76	693	1131	13.24	5232	1838
12,001-14,000	55515	6.02	5875	2014	86.65	905	1491	13.35	6780	2114
14,001-16,000	40000	4.34	6053	2578	82.14	1316	1744	17.86	7370	2791
16,001-18,000	21357	2.32	5680	2537	81.98	1248	1841	18.02	6928	2554
18,001-20,000	21223	2.30	7157	2653	85.92	1172	1328	14.08	8329	3046
20,000+	122268	13.26	12112	6467	94.38	721	1486	5.62	12833	6528

Table 8. Harvest and gift food value shares and average annual harvest and gift food valuation of households by expenditure group

Expenditure Group	Sample		Value of Harvest Food			Value of Gift Food			Total Harvest and Gift	
	Size	Percent	Average Expenditure	Standard Deviation	Percent of Total	Average Value	Standard Deviation	Percent of Total	Average Total	Standard Deviation
			(gourdes)	(gourdes)		(gourdes)	(gourdes)		(gourdes)	(gourdes)
0-2,000	83722	9.08	218	220	55.60	174	235	44.40	392	291
2,001-4,000	193358	20.98	476	548	68.50	219	370	31.50	695	615
4,001-6,000	141196	15.32	672	730	72.61	254	374	27.39	926	818
6,001-8,000	111032	12.05	750	1027	78.24	208	314	21.76	958	1093
8,001-10,000	77042	8.36	876	1309	80.39	214	350	19.61	1090	1381
10,001-12,000	55091	5.98	550	1090	79.45	142	356	20.55	693	1131
12,001-14,000	55515	6.02	761	1393	84.0	7144	319	15.93	905	1491
14,001-16,000	40000	4.34	1058	1521	80.35	259	444	19.65	1316	1744
16,001-18,000	21357	2.32	950	1745	76.10	298	646	23.90	1248	1841
18,001-20,000	21223	2.30	1011	1248	86.24	161	385	13.76	1172	1328
20,000+	122268	13.26	344	1050	47.80	376	981	52.20	721	1486

Table 9. Purchased and harvest/gift food expenditure shares and average annual food expenditure of households by region

Region	Sample		Purchased Food Expenditure			Value of Harvest/Gift Food			Total Food Expenditure	
	Size	Percent	Average	Standard	Percent of Total	Average	Standard	Percent of Total	Average	Standard
			Expenditure (gourdes)	Deviation (gourdes)		Value (gourdes)	Deviation (gourdes)		Total (gourdes)	Deviation (gourdes)
North	126276	13.70	2587	2865	77.93	733	825	22.07	3319	2926
Transversale	279083	30.28	3509	3573	80.44	853	1026	19.56	4362	3667
Ouest (w/o PAP)	228077	24.74	4312	4320	83.75	837	1208	16.25	5148	4528
South	152549	16.55	3016	3207	70.26	1277	1298	29.74	4293	3403
Port-au-Prince	135821	14.73	7846	6341	95.28	389	1114	4.72	8235	6443

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Table 10. Harvest and gift food value shares and average annual harvest and gift food valuation of households by region

Region	Sample		Value of Harvest Food			Value of Gift Food			Total Harvest and Gift	
	Size	Percent	Average	Standard	Percent of Total	Average	Standard	Percent of Total	Average	Standard
			Expenditure (gourdes)	Deviation (gourdes)		Value (gourdes)	Deviation (gourdes)		Total (gourdes)	Deviation (gourdes)
North	126276	13.70	530	743	72.35	203	347	27.65	733	825
Transversale	279083	30.28	590	899	69.08	264	455	30.92	853	1026
Ouest (w/o PAP)	228077	24.74	635	1145	75.92	201	352	24.08	837	1208
South	152549	16.55	1054	1250	82.57	223	362	17.43	1277	1298
Port-au-Prince	135821	14.73	130	530	33.32	259	874	66.68	389	1114

Table 11. Purchased and harvest/gift food expenditure shares and average annual food expenditure of households by rural/urban households

Households	Sample		Purchased Food Expenditure			Value of Harvest/Gift Food			Total Food Expenditure	
	Size	Percent	Average Expenditure	Standard Deviation	Percent of Total	Average Value	Standard Deviation	Percent of Total	Average Total	Standard Deviation
			(gourdes)	(gourdes)		(gourdes)	(gourdes)		(gourdes)	(gourdes)
Urban	259244	28.12	6735	5967	93.15	496	1169	6.85	7230	6039
Rural	662562	71.88	3123	3181	76.36	967	1099	23.64	4090	3386

Table 12. Harvest and gift food value shares and average annual harvest and gift food valuation of households by rural/urban households

Households	Sample		Value of Harvest Food			Value of Gift Food			Total Harvest and Gift	
	Size	Percent	Average Expenditure	Standard Deviation	Percent of Total	Average Value	Standard Deviation	Percent of Total	Average Total	Standard Deviation
			(gourdes)	(gourdes)		(gourdes)	(gourdes)		(gourdes)	(gourdes)
Urban	259244	28.12	245	789	49.48	250	748	50.52	496	1169
Rural	662562	71.88	741	1047	76.67	226	348	23.33	967	1099

Table 13. Purchased and harvest/gift food expenditure shares and average annual food expenditure of households by area

Area	Sample		Purchased Food Expenditure			Value of Harvest/Gift Food			Total Food Expenditure	
	Size	Percent	Average	Standard	Percent	Average	Standard	Percent	Average	Standard
			Expenditure (gourdes)	Deviation (gourdes)		of Total	Value (gourdes)		Deviation (gourdes)	Total (gourdes)
Other Urban	123423	13.39	5512	5263	89.99	613	1216	10.01	6125	5348
Port-au-Prince	135821	14.73	7846	6341	95.28	389	1114	4.72	8235	6443
Rural	662562	71.88	3123	3181	76.36	967	1099	23.64	4090	3386

Table 14. Harvest and gift food value shares and average annual harvest and gift food valuation of households by area

Area	Sample		Value of Harvest Food			Value of Gift Food			Total Harvest and Gift	
	Size	Percent	Average	Standard	Percent	Average	Standard	Percent	Average	Standard
			Expenditure (gourdes)	Deviation (gourdes)		of Total	Value (gourdes)		Deviation (gourdes)	Total (gourdes)
Other Urban	123423	13.39	372	983	60.77	240	579	39.23	613	1216
Port-au-Prince	135821	14.73	130	530	33.32	259	874	66.68	389	1114
Rural	662562	71.88	741	1047	76.67	226	348	23.33	967	1099

Table 15. Purchased and harvest/gift food expenditure shares and average annual food expenditure of households by occupation of household head

Occupation of Household Head	Sample		Purchased Food Expenditure			Value of Harvest/Gift Food			Total Food Expenditure	
	Size	Percent	Average Expenditure	Standard Deviation	Percent of Total	Average Value	Standard Deviation	Percent of Total	Average Total	Standard Deviation
			(gourdes)	(gourdes)		(gourdes)	(gourdes)		(gourdes)	(gourdes)
Unemployed/ unspecified	206458	22.40	4232	4255	86.69	650	1046	13.31	4882	4327
Prof./Scientific/ Gov't	34007	3.69	8013	7633	88.60	1031	1640	11.40	9044	7802
Sales/Office/ Household	141789	15.38	5168	4338	93.47	361	610	6.53	5529	4351
Agricultural Workers	445951	48.38	2814	3135	71.52	1120	1123	28.48	3934	3442
Industry/ Transport	93600	10.15	7280	5871	93.29	524	1379	6.71	7803	5798

Table 16. Harvest and gift food value shares and average annual harvest and gift food valuation of households by occupation of household head

Occupation of Household Head	Sample		Value of Harvest Food			Value of Gift Food			Total Harvest and Gift	
	Size	Percent	Average Expenditure	Standard Deviation	Percent of Total	Average Value	Standard Deviation	Percent of Total	Average Total	Standard Deviation
			(gourdes)	(gourdes)		(gourdes)	(gourdes)		(gourdes)	(gourdes)
Unemployed/ Unspecified	206458	22.40	335	758	51.50	315	730	48.50	650	1046
Prof./Scientific/ Gov't	34007	3.69	781	1598	75.76	250	453	24.24	1031	1640
Sales/Office/ Household	141789	15.38	192	458	53.28	169	349	46.72	361	610
Agricultural Workers	445951	48.38	912	1063	81.43	208	316	18.57	1120	1123
Industry/ Transport	93600	10.15	267	1038	50.90	257	689	49.10	524	1379

Table 17. Purchased and harvest/gift food expenditure shares and average annual food expenditure of households by employment status of household head

Employment Status of Household Head	Sample		Purchased Food Expenditure			Value of Harvest/Gift Food			Total Food Expenditure	
	Size	Percent	Average Expenditure (gourdes)	Standard Deviation (gourdes)	Percent of Total	Average Value (gourdes)	Standard Deviation (gourdes)	Percent of Total	Average Total (gourdes)	Standard Deviation (gourdes)
Unemployed/ Unspecified	203513	22.08	4289	4296	86.78	653	1053	13.22	4942	4363
Employer	4452	0.48	4491	3661	84.56	820	662	15.44	5310	3654
Salaried Employee	109629	11.89	7058	6528	91.02	696	1519	8.98	7754	6536
Independent Worker	593616	64.40	3581	3817	79.54	921	1083	20.46	4502	3931
Family Worker	10595	1.15	2157	2434	70.77	891	725	29.23	3048	2752

Table 18. Harvest and gift food value shares and average annual harvest and gift food valuation of households by employment status of household head

Employment Status of Household Head	Sample		Value of Harvest Food			Value of Gift Food			Total Harvest and Gift	
	Size	Percent	Average Expenditure (gourdes)	Standard Deviation (gourdes)	Percent of Total	Average Value (gourdes)	Standard Deviation (gourdes)	Percent of Total	Average Total (gourdes)	Standard Deviation (gourdes)
Unemployed/ Unspecified	203513	22.08	337	763	51.54	317	735	48.46	653	1053
Employer	4452	0.48	696	509	84.91	124	238	15.09	820	662
Salaried Employee	109629	11.89	435	1289	62.54	261	654	37.46	696	1519
Independent Worker	593616	64.40	719	1006	78.05	202	333	21.95	921	1083
Family Worker	10595	1.15	820	697	92.02	71	139	7.98	891	725

Table 19. Annual household expenditures for major food groups by household size

Household Size	Mean Total Exp.	Mean Food Exp.	Standard Dev.	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.-Cond.	Beverages	Purchased Meals
-----gourdes-----														
One	6293	2616	2990	324	196	284	466	147	441	107	221	167	57	206
Two	8067	3614	3185	549	210	368	628	224	764	130	224	211	77	228
Three	7815	3790	3032	652	171	332	718	251	859	135	248	193	82	148
Four	9867	4643	3679	841	282	305	903	284	1032	151	312	239	137	158
Five	9313	4708	4187	760	238	340	998	333	1038	148	325	274	92	162
Six	13456	5181	3622	873	326	382	1037	342	1147	173	356	300	99	147
Seven	13358	6030	5290	1022	331	432	1335	532	1331	225	300	275	115	131
Eight or more	21421	8235	6486	1593	523	569	1597	717	1455	298	472	371	256	383

Table 20. Annual household expenditures for major food groups by expenditure group

Expenditure Group	Mean Total Exp.	Mean Food Exp.	Standard Dev.	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.-Cond.	Beverages	Purchased Meals
-----gourdes-----														
0-2,000	1414	951	377	50	31	101	223	88	270	20	99	47	13	9
2,001-4,000	2970	1946	602	187	48	195	472	181	496	45	176	104	12	30
4,001-6,000	4951	3054	953	366	95	273	680	258	769	78	273	173	34	54
6,001-8,000	7098	4176	1180	628	153	359	940	343	979	110	299	223	49	94
8,001-10,000	9098	4934	1714	784	234	502	908	292	1306	123	333	281	89	83
10,001-12,000	10960	5232	1838	827	221	411	1144	423	1171	163	337	253	111	172
12,001-14,000	13027	6780	2114	1280	392	432	1409	365	1644	239	364	306	245	106
14,001-16,000	14919	7370	2791	1260	419	512	1532	583	1533	278	367	434	170	281
16,001-18,000	16795	6928	2554	1278	443	473	1604	371	1404	229	362	363	140	261
18,001-20,000	19057	8329	3046	1675	615	478	1531	639	1547	334	573	411	199	329
20,000+	41060	12833	6528	2787	1100	798	2093	852	1951	581	648	650	464	909

Table 21. Annual household expenditures for major food groups by region

Region	Mean Total Exp.	Mean Food Exp.	Standard Dev.	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.- Cond.	Beverages	Purchased Meals
-----gourdes-----														
North	6692	3319	2926	506	199	303	652	325	726	104	234	154	47	70
Transversale Ouest (w/o PAP)	7972	4362	3667	780	197	329	892	291	1062	138	251	215	90	118
South	12428	5148	4528	893	249	436	1101	314	1094	142	380	254	145	140
Port-au-Prince	7997	4293	3403	630	172	344	866	517	983	137	309	234	65	36
	25500	8235	6443	1556	772	487	1406	435	1233	401	433	487	273	751

Table 22. Annual household expenditures for major food groups by rural/urban households

Households	Mean Total Exp.	Mean Food Exp.	Standard Dev.	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.- Cond.	Beverages	Purchased Meals
-----gourdes-----														
Urban	20094	7230	6039	1399	621	470	1277	433	1173	335	402	406	218	495
Rural	8118	4090	3386	649	162	342	867	331	982	109	284	202	83	80

Table 23. Annual household expenditures for major food groups by area

Area	Mean Total Exp.	Mean Food Exp.	Standard Dev.	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.- Cond.	Beverages	Purchased Meals
-----gourdes-----														
Other Urban	14145	6125	5348	1226	455	450	1136	431	1107	263	368	318	157	214
Port-au-Prince	25500	8235	6443	1556	772	487	1406	435	1233	401	433	487	273	751
Rural	8118	4090	3386	649	162	342	867	331	982	109	284	202	83	80

Table 24. Annual household expenditures for major food groups by occupation of household head

Occupation of Household Head	Mean Total Exp.	Mean Food Exp.	Standard Dev.	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.- Cond.	Beverages	Purchased Meals
-----gourdes-----														
Unemployed/ Unspecified	11993	4882	4327	887	333	386	906	292	976	179	329	274	120	200
Prof./Scientific/ Gov't	47090	9044	7802	2107	773	770	1375	407	1411	331	455	549	214	651
Sales/Office/ Household	12657	5529	4351	1052	333	401	1082	329	1114	237	305	269	151	256
Agricultural Workers	6791	3934	3442	549	145	312	874	366	988	101	297	199	66	38
Industry/ Transport	18029	7803	5798	1539	654	493	1373	508	1143	348	354	395	304	692

Table 25. Annual household expenditures for major food groups by employment status of household head

Employment Status of Household Head	Mean Total Exp.	Mean Food Exp.	Standard Dev.	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.- Cond.	Beverages	Purchased Meals
-----gourdes-----														
Unemployed/ Unspecified	12139	4942	4363	2035	13	902	340	390	905	297	985	187	335	278
Employer Salaried	18424	5310	3654	4452	704	161	423	1034	295	949	211	377	321	1017
Employee Independent	26053	7754	6536	1096	29	1661	664	548	1263	460	1099	335	360	2646
Worker	8630	4502	3931	5936	16	707	210	345	963	363	1047	139	305	225
Family Worker	5328	3048	2752	10595	416	74	208	593	363	780	104	182	248	3148

Table 26. Annual household expenditure shares for major food groups by household size

Household Size	Sample Size	Food Budget Share	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.-Cond.	Beverages	Purchased Meals
One	73442	55.85	9.79	4.36	12.06	21.31	5.22	16.17	4.50	11.20	7.45	2.47	5.46
Two	92675	58.71	11.83	3.50	11.43	19.21	6.58	23.34	3.10	8.32	6.66	1.61	4.36
Three	129407	57.21	13.36	3.76	9.86	20.44	6.71	23.86	3.24	8.72	5.31	1.41	3.33
Four	158980	55.32	14.35	5.09	7.74	21.16	6.78	24.91	2.72	7.54	4.90	2.17	2.58
Five	130093	57.38	13.41	4.13	7.81	23.52	7.61	24.10	2.52	7.72	5.89	1.48	1.82
Six	129338	58.54	13.57	4.97	8.54	22.30	7.50	24.05	2.72	7.66	5.34	1.36	1.96
Seven	75219	55.28	13.14	4.06	7.79	24.00	9.22	24.78	3.11	5.13	4.67	1.59	1.94
Eight or More	132652	51.75	16.63	4.83	7.33	21.17	10.22	19.95	3.27	6.68	4.31	2.20	3.41

Table 27. Annual household expenditure shares for major food groups by expenditure group

Expenditure Group (Gourdes)	Sample Size	Food Budget Share	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.-Cond.	Beverages	Purchased Meals
0-2,000	83722	67.07	4.65	3.63	10.79	23.22	9.10	26.38	2.16	12.07	5.44	1.56	0.85
2,001-4,000	193358	65.79	9.41	2.44	10.47	24.02	8.98	25.40	2.49	9.30	5.35	0.60	1.54
4,001-6,000	141196	61.87	11.67	2.95	8.92	22.94	7.96	25.01	2.65	8.84	6.02	1.03	1.96
6,001-8,000	111032	59.01	14.50	3.64	8.46	22.89	8.06	22.83	2.79	7.22	5.39	1.30	2.54
8,001-10,000	77042	54.02	15.01	4.74	10.48	19.26	5.73	24.87	2.70	6.65	5.99	1.86	2.72
10,001-12,000	55091	47.78	15.06	4.17	8.33	21.80	8.03	22.32	3.38	6.45	4.74	2.22	3.51
12,001-14,000	55515	52.18	18.47	5.81	6.83	20.56	4.80	24.45	3.55	5.46	4.82	3.68	1.57
14,001-16,000	40000	49.26	16.79	5.40	7.45	20.63	6.90	20.01	3.74	5.11	6.08	2.39	5.50
16,001-18,000	21357	41.19	17.98	6.21	6.89	24.17	4.71	19.03	3.56	6.21	5.46	2.23	3.55
18,001-20,000	21223	43.78	19.81	8.14	5.60	17.96	6.65	17.32	4.01	7.45	5.00	2.66	5.41
20,000+	122268	38.49	20.99	8.44	6.50	16.31	6.27	15.45	4.64	5.42	5.04	3.53	7.41

Table 28. Annual household expenditure shares for major food groups by region

Region	Sample Size	Food Budget Share	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.- Cond.	Beverages	Purchased Meals
North	126276	59.58	11.32	5.00	10.49	20.52	10.58	23.39	2.59	8.91	4.87	0.85	1.49
Transversale	279083	61.00	14.48	3.74	8.60	22.69	6.20	26.11	2.69	6.55	5.06	1.50	2.38
Ouest (w/o PAP)	228077	57.40	13.40	3.91	9.19	23.77	5.38	22.36	2.82	8.92	5.62	2.34	2.23
South	152549	62.48	11.77	2.74	9.23	20.42	13.06	24.11	2.79	8.79	5.25	1.05	0.73
Port-au-Prince	135821	34.08	16.18	7.96	6.64	18.05	4.88	15.72	4.91	6.33	6.63	3.08	9.30

Table 29. Annual household expenditure shares for major food groups by rural/urban households

Households	Sample Size	Food Budget Share	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.- Cond.	Beverages	Purchased Meals
Urban	259244	40.69	16.57	6.99	7.56	19.50	5.78	17.27	4.38	6.82	5.97	2.54	6.37
Rural	662562	62.26	12.41	3.40	9.31	22.42	8.23	25.17	2.53	8.18	5.23	1.48	1.63

Table 30. Annual household expenditure shares for major food groups by area

Region	Sample Size	Food Budget Share	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.- Cond.	Beverages	Purchased Meals
Other Urban	123423	47.97	17.01	5.92	8.58	21.09	6.76	18.99	3.80	7.36	5.24	1.94	3.15
Port-au-Prince	135821	34.08	16.18	7.96	6.64	18.05	4.88	15.72	4.91	6.33	6.63	3.08	9.30
Rural	662562	62.26	12.41	3.40	9.31	22.4	8.23	25.17	2.53	8.18	5.23	1.48	1.63

Table 31. Annual household expenditure shares for major food groups by occupation of household head

Occupation of Household Head	Sample Size	Food Budget Share	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.-Cond.	Beverages	Purchased Meals
Unemployed/ Unspecified	206458	50.51	14.77	5.45	8.91	19.79	6.38	21.47	3.50	8.31	5.89	1.93	3.51
Prof./Scientific/ Gov't	34007	40.19	19.83	7.07	10.74	18.06	5.14	15.20	4.13	6.03	7.00	1.90	4.89
Sales/Office/ Household	141789	51.07	16.23	4.90	8.10	21.40	4.95	21.89	3.72	6.16	5.22	2.61	4.51
Agricultural Workers	445951	63.05	11.05	3.06	9.18	23.05	9.36	25.92	2.38	8.59	5.20	1.16	1.06
Industry/Transport	93600	49.64	16.77	6.87	7.29	20.28	6.21	16.46	3.90	6.00	5.35	3.04	7.83

Table 32. Annual household expenditure shares for major food groups by employment status of household head

Employment Status of Household Head	Sample Size	Food Budget Share	Meat Etc.	Dairy Prod.	Oils & Fats	Cereals Group	Starchy Roots	Veg.	Fruits	Sugar	Misc.-Cond.	Beverages	Purchased Meals
Unemployed/ Unspecified	203513	50.48	14.84	5.50	8.88	19.54	6.42	21.37	3.59	8.40	5.93	1.91	3.54
Employer	4452	55.18	13.43	1.81	9.46	23.26	6.39	18.18	2.56	8.48	7.07	1.37	7.99
Salaried Employee	109629	45.16	18.23	6.46	8.67	18.62	5.64	16.26	4.17	6.01	5.54	2.92	7.09
Independent Worker	593616	60.08	12.33	3.74	8.84	22.86	8.19	24.67	2.68	7.94	5.22	1.54	1.98
Family Worker	10595	62.99	11.53	1.23	7.70	20.89	12.44	28.29	2.48	6.23	6.12	0.69	2.40

Table 33. Annual household expenditures for meals purchased away from home for meal type by household size

Household Size	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
	Size	Percent	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation
-----gourdes-----												
One	20469	10.12	740	994	175	312	415	604	37	78	113	400
Two	18402	9.10	1149	1529	277	581	673	843	69	195	130	358
Three	27929	13.81	685	987	126	266	477	826	61	108	21	71
Four	34806	17.22	721	1500	181	618	379	849	60	118	101	385
Five	18272	9.04	1156	3164	148	363	769	2281	137	423	102	496
Six	24589	12.16	771	1252	308	713	341	565	54	132	68	194
Seven	16725	8.27	591	918	167	324	313	701	87	277	24	79
Eight or more	40986	20.27	1239	1540	330	411	633	1062	85	196	191	578

Table 34. Annual household expenditures for meals purchased away from home for meal type by expenditure group

Expenditure Group	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
	Size	Percent	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation
-----gourdes-----												
0-2,000	7435	3.68	103	74	14	33	55	35	30	56	3	16
2,001-4,000	30181	14.93	192	235	31	75	110	233	47	71	5	28
4,001-6,000	23920	11.83	321	306	62	103	197	221	53	74	9	70
6,001-8,000	18575	9.19	559	661	68	92	434	547	29	52	29	113
8,001-10,000	16138	7.98	395	386	78	167	228	259	56	130	34	180
10,001-12,000	14016	6.93	676	665	94	161	438	511	102	194	42	87
12,001-14,000	9115	4.51	644	572	242	335	358	369	40	92	4	17
14,001-16,000	11091	5.49	1014	917	163	190	744	826	77	137	30	103
16,001-18,000	4022	1.99	1385	1667	280	568	911	1177	87	172	107	247
18,001-20,000	8595	4.25	811	928	271	219	363	612	72	151	106	296
20,000+	59090	29.23	1880	2498	529	770	954	1708	113	328	285	661

Table 35. Annual household expenditures for meals purchased away from home for meal type by region

Region	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
			Average	Standard	Average	Standard	Average	Standard	Average	Standard	Average	Standard
	Size	Percent	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation
-----gourdes-----												
North	24194	11.97	363	976	84	302	150	522	103	165	27	253
Transversale	59903	29.63	551	1240	141	382	338	787	56	100	15	129
Ouest (w/o PAP)	40476	20.02	790	727	283	285	389	509	20	62	98	175
South	10479	5.18	521	778	92	196	272	557	75	209	82	89
Port-au-Prince	67127	33.20	1520	2212	330	687	871	1516	107	304	212	613

Table 36. Annual household expenditures for meals purchased away from home for meal type by urban/rural households

Households	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
			Average	Standard	Average	Standard	Average	Standard	Average	Standard	Average	Standard
	Size	Percent	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation
-----gourdes-----												
Urban	92341	45.67	1391	2165	311	665	796	1442	102	278	182	559
Rural	109837	54.33	481	598	149	235	250	421	47	96	35	91

Table 37. Annual household expenditures for meals purchased away from home for meal type by area

Area	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
			Average	Standard	Average	Standard	Average	Standard	Average	Standard	Average	Standard
	Size	Percent	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation	Expenditure	Deviation
-----gourdes-----												
Other Urban	25214	12.47	1047	1993	259	602	597	1203	90	193	101	364
Port-au-Prince	67127	33.20	1520	2212	330	687	871	1516	107	304	212	613
Rural	109837	54.33	481	598	149	235	250	421	47	96	35	91

Table 38. Annual household expenditures for meals purchased away from home for meal type by occupation of household head

Occupation of Household Head	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
	Size	Percent	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation
-----gourdes-----												
Unemployed/ Unspecified	36782	18.19	1123	1715	305	692	539	954	93	198	185	480
Prof./Scientific/ Gov't	9980	4.94	2220	4065	325	517	1430	3058	273	645	192	520
Sales/Office/ Household	44414	21.97	816	1453	185	592	509	856	64	138	58	217
Agricultural Workers	62405	30.87	269	545	75	172	137	434	46	80	11	115
Industry/ Transport	48598	24.04	1332	1241	365	402	734	859	56	142	177	565

Table 39. Annual household expenditures for meals purchased away from home for meal type by employment status of household head

Employment Status of Household Head	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
	Size	Percent	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation
-----gourdes-----												
Unemployed/ Unspecified	37452	18.52	1103	1705	299	687	527	948	96	197	181	476
Employer	673	0.33	4865	3267	2842	2163	1494	702	34	26	494	376
Salaried Employee	51765	25.60	1458	2301	352	532	854	1643	101	325	151	553
Independent Worker	109769	54.29	553	857	123	233	326	618	52	107	52	226
Family Worker	2520	1.25	203	182	104	107	96	155	2	14	0	0

Table 40. Annual household expenditures for meals purchased away from home for meal type by household size

Household Size	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
			Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation
	Size	Percent	gourdes									
One	73442	7.97	206	621	49	182	116	369	10	45	32	217
Two	92675	10.05	228	821	55	282	134	461	14	91	26	168
Three	129407	14.04	148	538	27	134	103	431	13	56	5	34
Four	158980	17.25	158	763	40	299	83	427	13	60	22	185
Five	130093	4.11	162	1252	21	145	108	896	19	166	14	189
Six	129338	14.03	147	624	59	334	65	280	10	61	13	89
Seven	75219	8.16	131	498	37	168	70	355	19	135	5	39
Eight or more	132652	14.39	383	1030	102	274	196	659	26	116	59	333

Table 41. Annual household expenditures for meals purchased away from home for meal type by expenditure group

Expenditure Group	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
			Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation
	Size	Percent	gourdes									
0-2,000	83722	9.08	9	37	1	11	5	19	3	19	0	5
2,001-4,000	193358	20.98	30	116	5	32	17	100	7	33	1	11
4,001-6,000	141196	15.32	54	174	11	48	33	117	9	36	2	29
6,001-8,000	111032	12.05	94	341	11	45	73	276	5	24	5	47
8,001-10,000	77042	8.36	83	239	16	83	48	150	12	64	7	83
10,001-12,000	55091	5.98	172	446	24	91	111	321	26	107	11	47
12,001-14,000	55515	6.02	106	333	40	163	59	200	7	40	1	7
14,001-16,000	40000	4.34	281	663	45	124	206	548	21	80	8	56
16,001-18,000	21357	2.32	261	904	53	270	172	623	16	82	20	115
18,001-20,000	21223	2.30	329	712	110	192	147	428	29	103	43	195
20,000+	122268	13.26	909	1974	256	597	461	1279	54	235	138	481

Table 42. Annual household expenditures for meals purchased away from home for meal type by region

Region	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper		
			Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	
	Size	Percent	-----gourdes-----										
North	126276	13.70	70	451	16	136	29	236	20	83	5	111	
Transversale Ouest (w/o PAP)	279083	30.28	118	617	30	186	73	390	12	52	3	60	
South	228077	24.74	140	430	50	162	69	261	4	27	17	83	
Port-au-Prince	152549	16.55	36	243	6	56	19	161	5	58	6	54	
	135821	14.73	751	1731	163	510	431	1151	53	220	105	444	

Table 43. Annual household expenditures for meals purchased away from home for meal type by rural/urban households

Households	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper		
			Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	
	Size	Percent	-----gourdes-----										
Urban	259244	28.12	495	1454	111	424	284	942	36	173	65	345	
Rural	662562	71.88	80	302	25	111	41	195	8	43	6	39	

Table 44. Annual household expenditures for meals purchased away from home for meal type by area

Area	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper		
			Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	
	Size	Percent	-----gourdes-----										
Other Urban	123423	13.39	214	995	53	291	122	594	18	94	21	170	
Port-au-Prince	135821	14.73	751	1731	163	510	431	1151	53	220	105	444	
Rural	662562	71.88	80	302	25	111	41	195	8	43	6	39	

Table 45. Annual household expenditures for meals purchased away from home for meal type by occupation of household head

Occupation of Household Head	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
	Size	Percent	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation
-----gourdes-----												
Unemployed/ Unspecified	206458	22.40	200	842	54	314	96	452	17	91	33	215
Prof./Scientific/ Gov't	34007	3.69	651	2423	95	317	420	1780	80	371	56	295
Sales/Office/ Household	141789	15.38	256	897	58	342	159	534	20	83	18	124
Agricultural Workers	445951	48.38	38	224	10	69	19	169	7	34	2	43
Industry/ Transport	93600	10.15	692	1115	189	342	381	720	29	106	92	417

Table 46. Annual household expenditures for meals purchased away from home for meal type by employment status of household head

Employment Status of Household Head	Sample		Purchased Meals		Breakfast		Dinner		Snack		Supper	
	Size	Percent	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation	Average Expenditure	Standard Deviation
-----gourdes-----												
Unemployed/ Unspecified	203513	22.08	203	847	55	317	97	455	18	92	33	216
Employer	4452	0.48	735	2156	430	1320	226	601	5	16	75	230
Salaried Employee	109629	11.89	689	1741	166	406	403	1207	48	229	71	387
Independent Worker	593616	64.40	102	426	23	111	60	294	10	50	10	99
Family Worker	10595	1.15	48	124	25	69	23	86	0	7	0	0

Table 47. Household inventories, percentages, and frequencies, visits 1 and 4

Item	Name	Visit 1		Visit 4		Both Visits 1 and 4	
		Number Reporting Inventory	Percent of Households	Number Reporting Inventory	Percent of Households	Number Reporting Inventory	Percent of Households
1003	Corn grains	*	—	12	.6		
1005	Crushed corn	191	9.2	219	10.5	66	3.2
1007	Wheat	19	.9	13	.6		
1008	Wheat flour	22	1.1	47	2.3		
1009	Oats	21	1.0	13	.6		
1010	Millet	171	8.2	146	7.0	29	1.4
1012	Rice	373	17.9	584	28.1	223	10.7
1015	Spaghetti	13	.6	24	1.2		
1016	Macaroni	14	.7	27	1.3		
1018	Bread and biscuits	54	2.6	63	3.0		
2002	Yam	45	2.2	59	2.8	10	.5
2003	Malanga	*	—	12	.6		
2008	Sweet potato	37	1.8	52	2.5		
2009	White potato	15	.7	48	2.3		
2012	Cassava	21	1.0	25	1.2		
2014	Onion	40	1.9	65	3.1	13	.6
2015	Beets	*	—	21	1.0		
2017	Carrots	20	1.0	47	2.3		
3001	Breadfruit	21	1.0	26	1.3		
3003	Green bananas	135	6.5	240	11.6	50	2.4
3004	Pumpkin	20	1.0	35	1.7		
3005	Mirliton	*	—	15	.7		
3007	Green peas	21	1.0	51	2.5		
3008	Dry peas	180	8.7	331	15.9	84	4.0
3010	Eggplant	*	—	19	.9		
3013	Cabbage	15	.7	19	.9		
3018	Tomatoes	19	.9	60	2.9		
3020	Tomato paste	131	6.3	101	4.9	42	2.0
3023	Other vegetables	*	—	10	.5		
4001	Sweet oranges	20	1.0	32	1.5		
4003	Sour oranges	10	.5	10	.5		
4004	Grapefruit	58	2.8	79	3.8		
4008	Papaya	16	.8	12	.6		
4016	Banana (figue)	27	1.3	31	1.5		
4021	Lemon	*	—	19	.9		
4035	Mango	13	.6	12	.6		
4037	Coconut	11	.5	14	.7		
5001	Cooking oil	497	23.9	652	31.4	272	13.0
5005	Margarine	53	2.6	40	2.0	16	.8
5006	Lard	41	2.0	47	2.3	13	.6
5007	Milk-fresh	*	—	13	.6		
5009	Evaporated milk	48	2.3	45	2.2	17	.8
5011	Powdered milk	42	2.0	44	2.1	18	.9

Table 47. Continued

Item	Name	Visit 1		Visit 4		Both Visits 1 and 4	
		Number Reporting Inventory	Percent of Households	Number Reporting Inventory	Percent of Households	Number Reporting Inventory	Percent of Households
5016	Eggs	44	2.1	44	2.1	11	.5
6001	Beef	18	.9	46	2.2		
6002	Pork	*	—	11	.5		
6003	Goat	11	.5	32	1.5		
6006	Salted meat	*	—	18	.9		
6010	Chicken	18	.9	100	4.8		
7001	Fish	19	.9	32	2.2		
7002	Pickled herring	16	.8	29	1.4		
7003	Salted herring	*	—	14	.7		
7004	Shark	11	.5	*	—		
7006	Sardines	10	.5	*	—		
8001	Brown sugar	95	4.6	159	7.7	28	1.4
8002	Refined sugar	78	3.8	78	3.8	30	1.4
8004	Rapadou	10	.5				
9003	Coffee beans	16	.8	13	.6		
9004	Ground coffee	98	4.7	64	3.1	26	1.3
9009	Cocoa butter	*	—	11	.5		
9010	Powdered cocoa	10	.5	*	—		
9011	Chocolate	13	.6	*	—		
9014	Salt	543	26.1	403	19.4	240	11.6
9015	Pepper	15	.7	12	.6		
9016	Garlic	33	1.6	25	1.2	12	.6
9024	Other condiments	218	10.5	283	13.6	95	4.6
10001	Cola	23	1.1	18	.9		
11053	Code unassigned	11	.5	11	.5	12	.6

* Denotes less than 10 households reported inventory.

Note: HECS unweighted sample was used.

Table 48. Months of peak inventory based on estimated levels

Item	Urban	Rural
Ground Corn (1005)	January	December, May
Millet (1010)	March	March
Rice (1012)	December, February, April, May, July	February, May
Oil (5001)	November, March April, July	May

Table 49. Five most popular food items, North region

Item	Frequency of Acquisition*		Valuation of Expenditure			
	Weighted Frequency of Households	(%) of Households	Item	Weighted Average Expenditure	Standard Deviation	Average Expendi- ture as Percent of Average Total Food
Cooking Oil	119493	94.63	Rice	6.22	6.47	9.95
Bread	109049	86.36	Dry Peas	4.74	5.38	7.58
Rice	104737	82.94	Cooking Oil	4.61	5.49	7.38
Brown Sugar	102973	81.55	Green Banana	4.03	4.90	6.45
Green Banana	100481	79.57	Bread	2.41	2.94	3.86

* Acquired by household during survey week. Gift and harvest included.

Table 50. Five most popular food items, Transversale region

Frequency of Acquisition*			Valuation of Expenditure			
Item	Weighted Frequency of Households	(%) of Households	Item	Weighted Average Expenditure	Standard Deviation	Average Expendi- ture as Percent of Average Total Food
Cooking Oil	275889	98.86	Rice	7.69	8.65	9.42
Bread	229988	82.41	Dry Peas	7.23	7.58	8.86
Rice	227539	81.53	Green Banana	5.82	8.41	7.13
Dry Peas	217683	78.00	Cooking Oil	5.35	6.11	6.56
Green Banana	215433	77.19	Goat	3.78	7.42	4.63

* Acquired by household during survey week. Gift and harvest included.

Table 51. Five most popular food items, Ouest region

Frequency of Acquisition*			Valuation of Expenditure			
Item	Weighted Frequency of Households	(%) of Households	Item	Weighted Average Expenditure	Standard Deviation	Average Expendi- ture as Percent of Average Total Food
Cooking Oil	225402	98.83	Rice	8.70	15.81	9.04
Bread	213578	93.64	Dry Peas	8.19	9.11	8.50
Brown Sugar	204045	89.46	Goat	6.83	10.80	7.09
Dry Peas	174392	76.46	Cooking Oil	6.76	8.63	7.02
Rice	173416	76.03	Green Banana	6.09	8.84	6.32

* Acquired by household during survey week. Gift and harvest included.

Table 52. Five most popular food items, South region

Frequency of Acquisition*			Valuation of Expenditure			
Item	Weighted Frequency of Households	(%) of Households	Item	Weighted Average Expenditure	Standard Deviation	Average Expenditure as Percent of Average Total Food
Cooking Oil	147655	96.79	Rice	6.47	7.09	7.90
Brown Sugar	137787	90.32	Green Banana	5.31	6.63	6.49
Bread	130931	85.83	Cooking Oil	5.21	6.13	6.36
Green Banana	115655	75.81	Yam	5.17	8.55	6.32
Rice	114635	75.15	Dry Peas	5.10	8.12	6.23

* Acquired by household during survey week. Gift and harvest included.

Table 53. Five most popular food items, Port-au-Prince

Frequency of Acquisition*			Valuation of Expenditure			
Item	Weighted Frequency of Households	(%) of Households	Item	Weighted Average Expenditure	Standard Deviation	Average Expenditure as Percent of Average Total Food
Bread	128486	94.60	Rice	12.69	15.89	8.82
Cooking Oil	123901	91.22	Dry Peas	9.70	10.37	6.74
Other Solid Condiments	115260	84.86	Chicken	7.43	14.53	5.16
Tomato Paste	113980	83.92	Cooking Oil	6.65	9.64	4.62
Rice	112015	82.47	Bread	6.46	5.57	4.49

* Acquired by household during survey week. Gift and harvest included.

Table 54. Five most popular food items, all urban areas

Frequency of Acquisition ^a			Valuation of Expenditure			
Item	Weighted Frequency of Households	(%) of Households	Item	Weighted Average Expenditure	Standard Deviation	Average Expenditure as Percent of Average Total Food
Cooking Oil	242821	93.67	Rice	11.71	14.12	9.04
Bread	239646	92.44	Dry Peas	8.94	9.78	6.90
Rice	218402	84.25	Cooking Oil	6.55	8.47	5.06
Tomato Paste	214088	82.58	Chicken	6.20	14.93	4.79
Other Solid Condiments	214075	82.58	Green Banana	6.16	8.41	4.75

^a Acquired by household during survey week. Gift and harvest included.

Table 55. Five most popular food items, rural areas

Frequency of Acquisition ^a			Valuation of Expenditure			
Item	Weighted Frequency of Households	(%) of Households	Item	Weighted Average Expenditure	Standard Deviation	Average Expenditure as Percent of Average Total Food
Cooking Oil	649519	98.03	Rice	6.93	10.50	8.99
Bread	572387	86.39	Dry Peas	6.43	7.75	8.34
Brown Sugar	546563	82.49	Cooking Oil	5.46	6.87	7.08
Rice	513941	77.57	Green Banana	5.38	7.52	6.97
Green Banana	502999	75.92	Goat	3.96	8.22	5.13

^a Acquired by household during survey week. Gift and harvest included.

Table 56. Five most popular food items, other urban areas

Frequency of Acquisition*			Valuation of Expenditure			
Item	Weighted Frequency of Households	(%) of Households	Item	Weighted Average Expenditure	Standard Deviation	Average Expendi- ture as Percent of Average Total Food
Cooking Oil	118920	96.35	Rice	10.63	11.76	9.35
Bread	111160	90.06	Dry Peas	8.11	9.01	7.13
Rice	106387	86.20	Cooking Oil	6.45	6.96	5.67
Green Banana	101029	81.86	Green Banana	6.22	9.08	5.47
Dry Peas	100280	81.25	Goat	5.34	9.88	4.70

* Acquired by household during survey week. Gift and harvest included.

Table 57. Estimated income elasticities of household expenditures on 15 food groups, urban

Food Group	Engel Specification		
	Linear ^a	Semilog ^a	Double-log
Total Food	0.75	0.57	0.75
Cereals and Grains	0.55	0.46	0.57
Corn	0.42	0.32	0.49
Rice	0.59	0.40	0.60
Wheat	0.61	0.42	0.61
Millet	0.26	0.18	0.27
Other Cereals	0.74	0.51	0.69
Vegetables	0.60	0.40	0.62
Tuber	0.65	0.43	0.66
Fruits	0.98	0.59	0.93
Oil	0.62	0.43	0.66
Dairy	1.09	0.66	1.01
Meat	1.02	0.61	0.92
Fish	0.72	0.48	0.73
Sugar	0.62	0.42	0.63
Condiments	0.75	0.46	0.77
Drink	1.15	0.69	0.98

^a Based on sample average household size (5.09) and average weekly household income (331.803).

Table 58. Estimated income elasticities of household expenditures on 15 food groups, rural

Food Group	Engel Specification		
	Linear ^a	Semilog ^a	Double-log
Total Food	0.11	0.55	0.41
Cereals and Grains	0.05	0.50	0.35
Corn	0.08	0.49	0.36
Rice	0.06	0.58	0.38
Wheat	0.09	0.55	0.40
Millet	b	0.26	0.19
Other Cereals	0.76	0.68	0.53
Vegetables	0.06	0.50	0.35
Tuber	0.05	0.44	0.32
Fruits	0.13	0.62	0.44
Oil	0.11	0.55	0.40
Dairy	0.14	0.70	0.46
Meat	0.63	1.19	0.68
Fish	0.08	0.58	0.40
Sugar	0.06	0.46	0.34
Condiments	0.17	0.62	0.45
Drink	0.24	0.80	0.50

^a Based on sample average household size (4.80) and average weekly household income (137.99).

^b Estimate not available.

Note: HECS unweighted sample was used.

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